THE ROLE OF COMPUTERS IN MANAGEMENT INFORMATION SYSTEMS

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ABSTRACT

The aim of this work is to figure out the role of computers in management information systems. Cognitive studies have observed and confirmed the importance of understanding the cognition of users and information systems (IS) professionals. These works agree that organizational cognition is far too critical to be ignored as it can impact on IS outcomes. expounds on the potential of this technique to IS researchers by considering the variety of ways. To quickly understand the varieties of this work and how computers are been used in management information system. A management information system (MIS) is a computer system consisting of hardware and software that serves as the backbone of an organization's operations.

An MIS gathers data from multiple online systems, analyzes the information, and reports data to aid in management decision-making. Computers are also the benchmark of management and data analysis to provide accurate emphasis on design, develop, manage, and use information with insight and innovation, support decision making and create value for individuals, organizations, communities, and societies.
A Management Information System is a formal computer assisted organizational function designed to provide managers with information to help their decision making. The management information system helps the managers to make planning and control decisions. MIS is a system to support the decision-making function in the organization. From the analysis of findings, the following were found out.

The role computers play in management information system is significant and not negligible though it cannot be compared to the human brain. The cost of acquiring the computer is very high but the result is very encouraging. That smaller organizations which have the intention to get their business computerized could go ahead to do so. That the introduction of computer even with its numerous advantages still leads to reduction of manpower that initial reaction of the workers during the introduction of the computers is always negative for fear of losing their jobs though their reactions will change for better in future and they are given adequate assurance and job security.

PROPOSAL
Management information system is the formal method by which management gathers, compares analyses, processes, stores and retrieves accurate information in a timely, effective, and efficient manner to aid in the decision-making process of an organization. It is made up of three concepts: namely, of old, data processing was done manually, but with

the introduction of computers, data is processed with the use of computers. This does not however totally displace human processing abilities.

Hence the hypothesis of this project work are as follows:

That the role of computers in management information system is negligible.

smaller organizations should not be encouraged to use computers in their business except it I most relevant.

The disadvantages of the use of computers in general are negligible.

SOURCES OF DATA
1. The Closed Questionnaire
2. The Open Questionnaire
3. The Face-to-Face interview

OBJECTIVES OF THE STUDY TO FIND OUT:

What management information system is all about.

What are the difficulties usually encountered in trying to gather necessary data for management usage?

What role has the computer come to play in the management of information systems?

Whether to encourage or discourage companies in using computers for processing their data.

How a computer-based management information system could be installed.

To find out the problems usually associated with the management of information and how it could be overcome.

To survey other types of information system and their different characteristics

To find out the role of management in the development, implementation, and use of computerized information systems.

To find out the attitude of the users of the computerized system.

To examine different application packages that could be used in processing, storage, and retrieval of information for management consumption.

CONCLUSION
Based on the findings and recommendations, it has been found out that the role computer plays in management information system is significant because the result is encouraging though it cannot be compared to the human brain.

This is even though the use of computers in data processing also has some disadvantages such as high cost of acquiring and reduction in manpower.

Hence smaller organizations which have the intention to get their business computerized have been advised to go ahead though some recommendations have been made to guide them in computerization. Such recommendations are: -

Carrying out feasibility study report before delving into it. This will enable them to find out if they need computers or not, which areas are needed and how much it will cost them to acquire one. They incorporate the workers into the plan to dispel their negative reactions towards the new change to adopt the parallel change-over technique where the manual method (old method) will run hand in hand with the computer method. This is to enable with the computer method. This is to enable them to compare the two methods before choosing the best.

The case study has also been advised to try as much as possible to get all their personnel

trained on the use of computers since they already have a training school, this will help reduce the excessively off in manpower.

1.0 Introduction

For as long as men store to accomplish task, make decision about scares resources in uncertain situations management will continue to need information. In this managerial world of increasing uncertainty due to rapid change, information becomes the key to management effectiveness. Today's manager faces a confusion of potential sources of information, he must determine what information he needs. This is now a new and crucial management function. The idea of an information system to support management and decision-making pro-dates the use of computers, which have extended the organizational capabilities for implementing such a system. One can conveniently discuss management information systems without computers, but it is the power of the computer which makes management information possible. The question is not whether a computer shall be used in management information system but the extent to which various processes shall be computerized.

As organizations have increased in complexity the need for co-ordination of the different parts arises. These parts must be properly coordinated so that it makes a meaning whole. As competition has increased and resource scarcity has left organizations on the premise of failure, the use of efficient information as a criterion for the evaluation of organizational effectiveness has gained momentum. The changing environment of organizations and the resultant uncertainty has brought about renewed effort for effective information management. To achieve this effective information management, the information system must be computer based.

Computers are basically electronic devices which can store data, perform arithmetic and logical operations and specific operations. They are used in such important areas as Accounting, Banking, Business organization etc. It provides information in areas such as payroll, pay slips, stockkeeping and many other information relating to the entire organization. There are various ways in which a computer can be used to provide information for a business organization.
Information provided by the computer can be used in the present day to day.

Running of the business and for futuristic purpose that is predict or for forward looking, for the basis of trends and forecast derived from the use of forecasting technique and it also serve as a means of responding to changes at the right moment. It also serves as a means of providing brother internal, external, strategic operation of the organization.
The idea of a computer-based information system does not mean complete automation. The man-to-machine system concept implies some tasks are best perfumed by man, while others are best done by machine. For many problems, the man and machine form a combined system to get them completely sowed.

The fact that the management information system is computer-based means that designers must have a good knowledge of computers and their use in information processing. The man-to-machine concept means that the designer of management information system should understand human capabilities as information processors and human behaviors in decision making.

1.1   STATEMENT OF THE PROBLEM

Initially, data processing was done manually. This was, however, flawed with a lot of errors and did not keep to time. With the intent of the computer, things changed. Therefore, it is now necessary to know how computers are used in the processing of data and what role they play.
How should the information be provided to help the manager in achieving their set objectives? What is the strength of a computer? These are the cases this study intends to investigate.

1.2   SCOPE AND LIMITATIONS OF THE STUDY

The scope and delimitations of this study is limited to a case study of Kasapreko Company Limited Ghana Even within the company, only those workers whose jobs are in one way or the other related to the use of computers were involved in the interview and the questionnaire. Other information was obtained from textbooks, journals, magazines, and unpublished handouts.

1.3   OBJECTIVES OF THE STUDY

1. The objective of the study is to find out the following.
2. What management information system is all about.
3. What are the difficulties usually encountered in trying to gather data for management usage?
4. what role has the computer come to play in management information system.
5. Whether to encourage or discourage companies from processing their data.
6. To find out the problem usually associated with management information system.
7. To survey other types of information system and their characteristics.
8. To find out the role of management in the development, implementation, and use of computerized information systems.
9. To find out the attitude of users to the computerized system.
10. To examine different application packages that could be used in processing storage and retrieving information for management consumption.

1.4   HYPOTHESIS

1. The role of computers in management of information systems.
2. Smaller organizations should not be encouraged to use computers except it is most relevant.
3. The disadvantages of the use of computers in general are legible.

1.5   THE EVALUATION OF MANAGEMENT INFORMATION CONCEPT

i.   SOURCES OF DATA
Data here is obtained from the following sources.
ii.   THE CLOSED QUESTIONNIRE
Where the respondent's answers will be restricted to the answers provided and a space provided against, which he ticks his answers.
iii.   THE OPEN QUESTIONNAIRE
Where the respondents are allowed to express his or her view about the questions asked. Some spaces will be left for such answers.
iv.   THE FACE-TO-FACE INTERVIEW
This involves only the unstructured interview where the questions emerge from the answers given to the previous questions.
v.   DEFINITION OF TERMS
The management information system is made up of three important concepts, namely MANAGEMENT, INFORMATION AND SYSTEM. Efforts shall be made to define and elaborate on each of these terms.

1.   MANAGEMENT

Management has been defined by several authors in different ways. However, Richard D Brown and George J. Petrillo (1979), defines it as:
The process by which those in authority plan, organize, and control a business to make it successful:
Jerry M. Rosebery (1983), in his book Dictionary of Business and Management defines it under two sub-headings.
GENERAL: The individual or group of individuals responsible for studying, analyzing, formulating decisions, and initiating appropriate actions for the benefit of an organization.

ADMINISTRAION: The above authors have defined management in their diverse ways, but they are all talking about the same thing. Hence management can be defined more embarking as:

"The factor of production, which is responsible for planning, organizing, staffing, directing, and controlling all other aspects of production such as land, labor, capital, machine, and other materials.

2. FUNCTIONS OF MANAGEMENT

The functions of management regardless of the level are as follows:

 PLANNING: This is a mental managerial activity involving the arrangement of multiple linked decisions on ends and on means to accomplish a long-range, or major objective. Planning involves two key concepts. Developing the goals an organization seeks to attain and deciding on the means to achieve them.

ORGANIZING

This involves the development of a structure which groups, assigns and co- ordinates activities by delegating authority, offering responsibilities, and requiring accountability.

i.   STAFFING

Staffing involves selecting, training, and assigning personnel to specific organizational activities.

ii.   DIRECTING

It simply means "putting plans" and people in motion. Outstanding plans and an excellent organization will accomplish nothing unless people are put to work, doing the right job, and doing it correctly.

Directing is a process of guiding and motivating people in the organization to do work needed to accomplish the company goals. It is in dudes telling and showing subordinates what jobs to do and how to do them and detecting errors and seeing that they are corrected.

V.   CONTROLLING

The final function of management is controlling. It is mainly a feedback process. It involves evaluating the performance of the firm and its parts and making changes to improve operations.

3. TYPES OF STSYEMS

i.   PHYSICAL AND ABSTARCT SYSTEM

A physical system is a set of elements which operates together to accomplish an objective.
An abstract system on the other hand is an orderly arrangement of independent ideas or constructs.

ii.   DETERMINISTIC AND PROBABILISTIC SYSTEMS

A deterministic system is one which operates in a perfectly predicable manner. The interaction among the parts is known with certainly. An example of this is a computer program which operates strictly according to instruction.

The probabilistic system can be described in terms of probable behavior, but a certain degree of error is always attached to the prediction of what the system will do. An inventory system is an example of a probabilistic system because the quality of stock at any given time cannot be known but the number of orders can be known.

iii.   CLOSED AND OPEN SYSTEM

A closed system is defined as a set of interacting elements operating without any exchange with the environment in which they exist. A computer program is an example of this because it accepts only previously defined inputs, processes them, and provides a previously defined output.

An open system is the reverse of the closed system because it exchanges and interacts with the external environment.

1.6 DEFINITION OF MANAGEMENT INFORMATION SYSTEM

According to Joseph T. Straub (1979) Management information system is:

"A system which provides managers with information to help them control operations."
it is also defined as:

"A formal method of making available to management the accurate and timely information necessary to facilitate the decision making and enable the organization's to be carried out effectively ".

(James A.F. Stoner)

Harald Koontz and Heinze Wuethrich defines it as:

"Any formed system to gather, integrates, compare, analyze and disperse information internal and external to the enterprise in a timely and external to the enterprise in a timely effective and efficient manner".
For this project work however, Management information system shall be defined as:
"The formed method by which management gathers, compares, analyses, processes, stores and retrieves accurate information in a timely, effective and efficient manner to aid in the decision-making process of an organization".

1.7 STRUCTURE OF THE MANAGEMENT INFORMATION SYSTEM
The four major components of the above model are the internal report system, the management intelligence system, the research system, and analytical system.

i.   THE INTERNAL REPORT SYSTEL

This is the most basic source of information, it concludes reports on orders, sales, inventory levels, receivable, payable. Analysis of information from this source enables management to spot important opportunities and problems.

ii.   THE INTELLIGENCE SYSTEM
This is used by managers to get information about pertinent development in the environment.

iii.   THE RESEARCH SYSTEM
This is done by surveying in a focused study on specific problems and opportunities.

iv.   THE ANALYSIS SYSTEM
This is the most modern source of information retrieved of stored information from computer and the analysis of some via programmed models.

CHAPTER TWO LITERATURE REVIEW

2.1 HISTORICAL BACKGROUND
Amazing progress has been made over the past three decades since computers became commercially available. Electronic computers were first used for commercial processing during the early 1050's and they are based on a technology now referred to as first generation computer. Technology development occurred at a very fast rate and in the late 1950's the second- generation computer became available, in the early 1960's technological development was such that a third-generation computer came into existence and lastly the fourth-generation computer in 1974 (Anderson 1974) p.321.
Small in expensive desk top computer systems have been available since 1975, they provide significant computing power at relatively shower speeds as compared to typical larger computers, those small computers are called.

Microprocessor.
The developing countries of Africa are increasingly turning to the computer to assist in processing data and statistics needed daily for social, political industrial and technological decision making.
The Institute of Chartered Accountants of Ghana (ICAG) devoted the April/June 1987 issue of its journal "The Ghana Accountant" to the in-depth examination of what it calls the "computer revolution" in the editorial, the journal said some of the worst aspects of under development in National term results from the lack of or the failure to properly utilize information (Eze 1987).

Business organizations manufacturing, services commercial, Agriculture, Conglomerates, and constitution are increasingly computerizing their operations. The demands of modern industrial, political, and social organizations have resulted in the compounding of information unimaginably expounded the scope and depth of human

knowledge and rendered the gathering collection, storage, and dissemination of information far beyond the traditional human labor. The computer with its infinite possibilities has been man's aid in technology, was ignored by the developing countries of Africa, more out of lock of human, financial and technical infrastructure needed to support its introduction and aspect. This, in consequences, contributed to lack of unity in national development programmed, as the immense benefits and versatility of the computer could not be applied to national development programmed such as health and educational management population census, communications and technological development.

Happily, the situation is now changing, most big organizations are increasingly turning to the computer to assist – provision of information in the various levels of management especially in Ghana.

2.2 INFORMATION AND ORGANIZATION

Information is essential for planning and controlling business operations both at the strategic and tactical levels of management. Information is playing an even increasing role. In the day-to-day management of business as it provides the means for assessing the business as it provides the means for assessing the results at specific courses of action. It also supplies the facts with which to steer business operations along desired path by making tactical adjustments to achieve desired goals.

Information must be meaningful and understood by the recipient who must appreciate its significance and the action to be taken because of receiving it. Information must be able to inform the receiver of a situation with which he is concerned to enable connective action to be taken, if appropriate, to modify the system to affect its desired state. Information is the output element of a data processing system, and depending on the need, it may be produced as soft or hard copy. It is when displayed on the visual display unit (VDU) and it is hard when printer system.

2.3 HUMAN AS INFORMATION PROCESSORS

The human being is the earliest and still the most prevalent form of data processor. Despite the fantastic growth of computer applications, manual information systems still outnumber them in number of systems and information handled.
Management information system is essentially man –to-machine system. The management information system designs tend to the decision-make very closely to the machine processing system, and clerical functions are performed in a manner dictated by the computer requirements.
A simple model of the human as an information processor consists of sensory receptors (eyes, ears, nose) that pick-up signals and send them to the processing unit (brain, with storage). The results of the processing are output response which may be physical, spoken, or written through effects. The human mind acting as a control and logical unit can perform many operations on data: adding, subtracting, multiplying, dividing, storing resulting, repeating the operations on different sets of data comparing two outputting results in a per-arranged manner and revising the processing operations because of changed instructions.
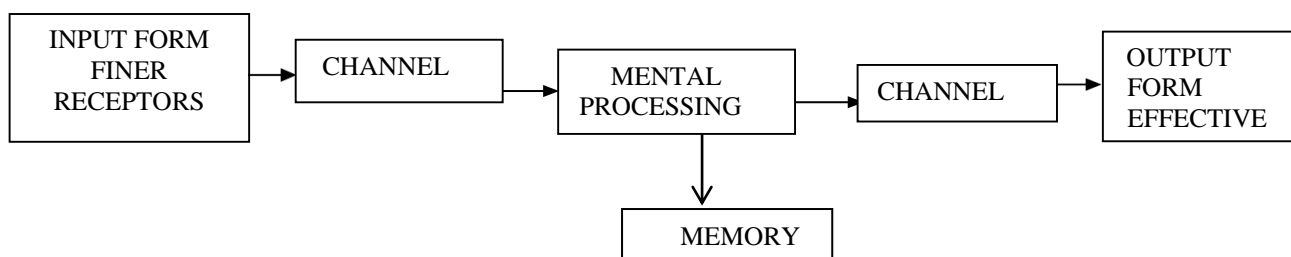
MODEL OF HUMAN AS INFORMATION PROCESSOR: The world provides more input than the human processing system can accept. The human reduces this input to a manageable quality by filtering or a selection process. The memory unit is further divided into three sub0units long term memory, sort term memory and external memory.

Long-term memory has essentially unlimited capacity. It is used for reading and writing. The external memory consists of external media such as a pair of paper or a chalkboard that acts as memory.

HUMAN INFORMATION PROCESSING STRATAGIES

Humans adopt strategies for dealing with their limitations as information processors and for easing the strain of integrating information. Some of the strategies normally adopted are:

i. CONCRETENESS: The concept of concreteness is the decision maker tends to use only information he has available and only in the form in which it is displayed.
ii. ANCHORING AND ADJUSTMENT: The idea of adoring and adjustment is that humans tend to make judgments by establishing an anchor point and adjusting from this point.

2.4 OTHER FORMS OF INFORMATION SYTEM

Apart from management information systems we have other types of information system such as informal information system, and formal information system.

i. INFORMAL INFORMATION SYSTEM

This is information processed from data gotten from informal methods such as rumors, peers, and gossip. At times, the data gotten from this can be true. But in most cases, they are not true and irrelevant. It is a crude way of gathering data.

ii. FORMAL INFORMATION SYSTEL

This is information processed from data gotten from a laid down procedure. Depending on the type of information needed at the end, a procedure is followed by which the necessary data will be accumulated for onward processing.

The fault with this method is that it could be flawed with stereotypes and bias, and if the informant knows what the information will be later used for, he could falsify the answer.

DIFFERENT BETWEEN THE ABOVE-MENTIONED INFORMATION SYSTEM, AND MANAGEMENT IONFORMATION SYSTEM:

1. In recent times, management information systems have been computerized to make processing faster, neater, and more accurate.
2. The data gotten from the management information system is more authentic because it is highly scrutinized before it is processed.
3. The management information system involves the whole organization while the other types could involve specific departments.

DEFINITIONS OF A COMPUTER

Anderson (1978) defined computer as a machine which accepts data from an input device, performs arithmetical and logical operations in accordance with a pre-defined program and finally transfers the processed data to an output device either for further processing or in final printed form such as business documents, schedules, and management control report. 21 Orillia (1982) defined management information system as a computer system integrating equipment procedures and personnel that develops and provides information used by management for decision making. For this purpose, we would use the definition by Hart S. Ibezim which is a computer is: "A machine consisting of electronic circuitry and components which are intelligently tailored together by man to effectively carry out instructions quickly, provided that the right or logical procedures and language are followed in designing and inputting the instructions.

COMPONENTS OF COMPUTER SYSTEM

The component of the computer system is what the computer are made up of:

1. HARDWARE

Computer hardware are the physical components of the machine that can perform data input, data processing, data storage and data output. They include the Microprocessor chips, the Random-Access Memory chip (RAM).

The Read only memory chip (ROM), the input/output unit, the Visual Display Unit (VDU), the printers, the keyboard, and the mouse.

2. THE SOFTWARE

The software is the key to getting the computer system to work. It has been argued that unless a program is prepared and stored in the computer memory, the computer knows absolutely nothing, not even how to accept data or instructions.
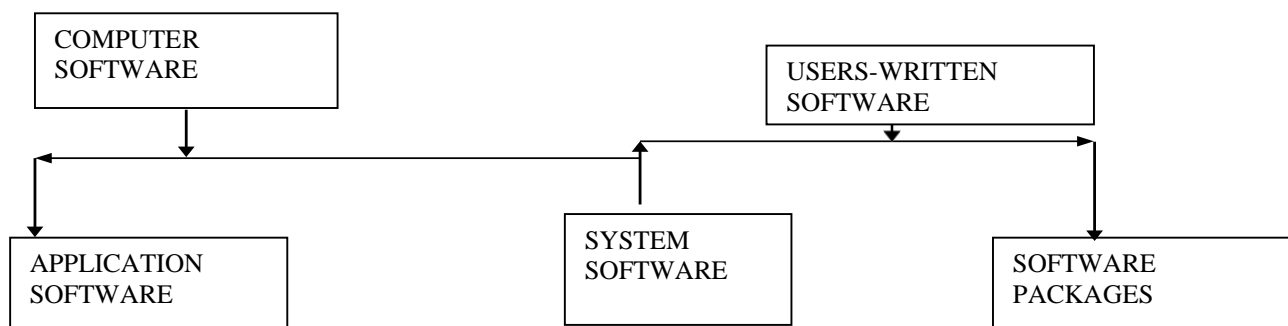
COMPUTER SOFTWARE: Are body of programs written to control the operation of the machine.

A PROGRAM: Is a set of defined instructions given to the computer to carry out a specific task.
There are two main classes of software: The system software and the application software.

APPLICATION SOFTWARE: are programmed writers solve specific problems for individuals or organizations. Programs written in high level languages such as COBO, FORTRAW and basic are known as application software. The language allows people to express their processing requirement in English- Like form. Example of application control program, personnel nominal roll programs.

SYSTEM SOFTWARE: System software is usually referred to as the manufacturer's programs. They come packaged with computer machines. They control and support the effective operation of the machine. In fact, they are responsible for the way the computer operates and even provide facilities which extend the general capabilities of the system.
An example of system software is the operating system. (OS).

USER-WRITER SOFTWARE: Are programs written by the users and programmers of computer-using organizations.

SOFTWARE PACKAGES: Are programs (usually recorded or stored on storage media- magnetic disk or tapes supplied by:
1. Computer manufactures.

2. Independent software companies

3. Other computer users.

They are usually referred to as packages program software packages have several advantages for computer users: -
1. They reduce the need for expensive and time-consuming effort required to develop user-written programs.
2. A non-computer professional can make use of the package after a few weeks of orientation.
3. Because they are menu-driven programs, first time users can learn them with ease. This is because some of the tutorials are written on the computer for the first terms to learn with.

ORGANIZATION OF A COMPUTER

By Organization of a Computer, we mean the logical structure including the central processing unit (CPU) memory unit, arithmetic, and logical unit (ALU) and the input/output unit (1/0) unit. In fact, from an elementary standpoint, almost every general-purpose digital computer from micro-computers to mainframe computers can be described in terms of four basic units.
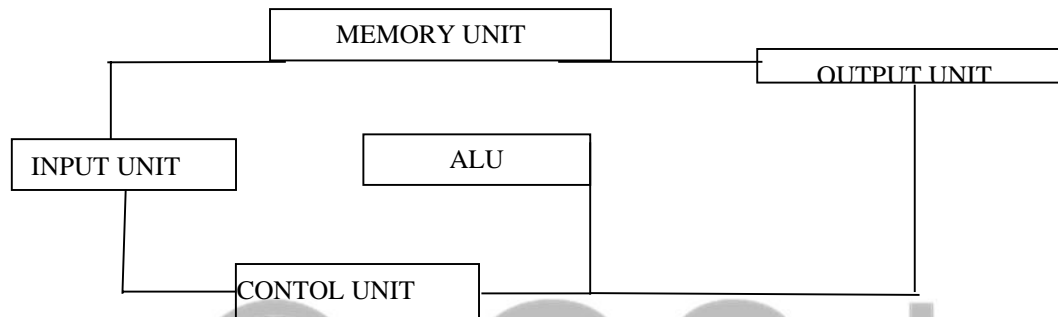
FUNCTIONS PERFORMED BY THE VARIOUS UNITS

INPUT UNIT: The input units are used to supply both the data and d instructions needed by the computer to accomplish a given task. The input capacities vary from machine to machine. Examine are devices like key-boards, magnetic disk, drive, punched cards.

ARTHMETIC AND LOGICAL UNITS: This unit performs the actual work of computation and logical operation using all the fundamental mathematical operators and relational operations.

CONTROL UNIT: This unit overseas information entering and going out of the machine. It decides on how and when to perform arithmetic and logical operations. It interprets stored instructions in sequence and issues command to all units of the computer. The control unit knows when the arithmetic and logical unit has completed circulation and decides on what to do with the results and the nest line of action.

MEMORY UNIT: The unit contains information for the control unit (instructions) and for the arithmetic and logical unit (DATA).

OUTPUT UNIT: The output accepts as records the results of the computer operations. These results may be recorded in a permanent form (Hand Copy) using printer or in temporary form (soft copy) displayed on the Visual Display Units.

METHDO OF PROCESSING DATA BY COMPUTER

Despite the organization or the size, there are only three data processing functions. What differentiates them is the most of processing. The method used in processing depends on the type of data being processed, the expected result and which package the operator or programmer deems fit for the processing at that time. Some of the application packages used are DBASE III + M, DBASE IV, LOTUS, SPREADSHEET, WINDOWS, HARVARD GRAPHICS, WORD PROCESSING.
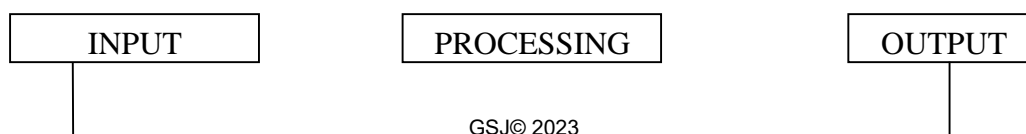
INPUT: This could be described as data recorded on a computer acceptable media to be transferred to computer for subsequent processes. A common example of the input medium is the terminal keyboard, bar code scanners and mouse.

PROCESSING: Processing consists of logical and arithmetic operation performed on input data to produce meaningful result. The central processing unit (CPU) of the computer accomplishes this task.

OUTPUT: This consists of the result of processing of input data in their finished or edited form. The medium used to record this result is known as the output medium. One good example of the output medium is the printer, video screen, plotter tape and disc.

LEVELS OF MANAGEMENT

Information requirements of management will depend on the management level involved:
We can sub-divide management into three major levels.

Strategic (Top Level) management

Tactical (Middle level) management

Operational (Low level) management

STARTEGIC (Top Level) Management
This involves plans or decisions that are made on long term basis. It is regarded as corporate planning because it involves the whole organization because of the types of plans and decisions involved in strategic to level management thus, requires information for long range plans, organization goals, strategies, and policies.

TACTICAL (MIDDLE LEVEL) MANAGEMENT

This has to do with tactics employed to attain organizational growth and objectives. It deals with the amount of money, personnel, and other resources that need be distributed to different departments of the organization. Hence, they require information to formulate budgets, procedures, rules, and tactics to implement strategies.

OPERATIONAL (LOW LEVEL) MANAGEMENT

This is the process of organizing the operation of the business. The purpose of operational planning is to attest to the strength and the capacity of the firm towards the operations of the firm.
The supervisors or low-level managers are involved in operational decision making because they supervise and ensure that the subordinates are performing according to the plans of the top and middle level managers. Therefore, they need information to control operations like production, marketing, financial and accounting, personnel, and administration.

CHAPTER THREE INFORMATION PLANNING
3.1 Information
The purpose of information planning is to enable the organization to plan against unforeseen conditions that may arise within the day-to-day running of the business activities. There are three major stages of information planning that is long-range, short-range, and strategic planning, which are already discussed above. But talking about stages of information planning Anderson (Op city) are above six stages. These are discussed below.

A. FUTURISTIC INFORMATION: It is an attempt made by organizations to assess the future trends of the company with adequate provision for unforeseen circumstances to enable the firm to meet their goals within their available resources. It is a technique adopted by organizations to plan their projected budgets.

B. INFORMATION FOR RESPONDING TO CHANGE: At the right moment requires information which is obtained by adopting an analytical approach to foreseen events which may necessitate change to a particular unit in the organization.

C. INTERNAL ENVIRONMENT INFORMATION: Information at this stage is used to regulate the activities of the organization, it contains the rules and regulations binding individual employees in the organization.

D. EXTERNAL ENVIRONMENT INFORMATION: At this level information are needed for the purpose of identifying threats and opportunities which may arise and to which management must respond either to maintain the organization at that stage or effect some change to meet their set objectives.

E. OPERATIONAL PLANNING INFORMATION: To control the activities of the day- to-day running of the organization, there is a need for operational planning which is typically done at the lower level of the organization. The supervisor and the foremen ensure that the employees do their jobs as scheduled. Information planning is needed to aid the managers with the data necessary to perform their work more effectively.

THE ROLE PLAYED BY COMPUTERS IN THE MANAGEMENT INFORMATION SYSTEM.

1. PROCESSING OF DATA

Management is only responsible for gathering data, but the computer is responsible for processing and analyzing this data into useful information in a timely and accurate manner. Before the incept of computers, gathering, processing and storage of data was done manually. This was flawed with so many errors and delays in relations to time, but with the introduction of computer in management information system, the data can be processed accurately, stored safely, retrieved when and in the manner needed into an output (information) on which management can make adequate and necessary decision. This processing of information is done with the help of the control processing unit (CPU).

2. STORAGE OF PROCESSING DATA

After the data has been processed, it could be after the data help of the computer. This could be done using some storage facilities like the floppy diskette, high density diskette, computer hard disk and punched card. This system of storage as against the old system of fully as the filed document could be susceptible to many damages and misplacements but with the computer storage system, the stored information is very safe if the diskette is not misplaced, there is a backup, and the computer is not infected by virus in the case where the hard disk is used.

3. RETRIEVAL OF INFORMATION The third major role which the computer plays in the management of the information system is that of retrieval of information as and when needed. The retrieval could be done on the screen (the visual display unit), and in the form of a printed document (output). Every copy printed from the computer is an original copy. The information could be printed if anything is needed and just as it is needed if the facility with which it is stored is kept safe and there is an adequate supply of electricity.

OTHER USES OF COMPUTER IN RELATION TO MANAGEMENT INFORMATION SYSTEM

These are highlighted by Davidson Ekeke in a book Data processing and management information system for Bankers Page 23 – 24 and these are the strengths of the computer:

1. ACCURACY: The computer ensures that data is processed, and only accurate information is retrieval. Though this is due to the concept of garbage in garbage out (GIGO).

2. MANAGEMENT INFORMATION: One of the characteristics of a computer is it is possible to increase the level of use of information supplied for effective management control and decision making.

3. CHOICE OF CONFIGURATION: A wide range of optional peripherals are available for many computers system which allow a business to implement those which moats suit its processing requirements. There are also diverse application packages with each specialized in processing of different data. Therefore, the management is faced with a different choice of application packages to use.

4. RELIABILITY: As the main unit in a computer system, the central processor, is constructed from electronic components. It is not so prone to malfunctions from wear and fear are machines of a mechanical nature.

5. FLEXIBILITY: The modern general-purpose computer may be used for a variety of purposes.

6. AUTOMATIC OPERATION: Once data has been impacting to the processor all data processing is automatic under the control of internally stored programmed.

7. SPEED OF OPERATION: The central processor of a computer system operates at electronic speed, that is the speed of light. Therefore, the speed of operation of a computer is very fast.

Computers make work neater and more presentable.

DISADVANTAGES OF USING COMPUTER

As the saying goes "everything that has an advantage must also have a disadvantage". The computer, even with all its advantages (uses), is not exempted from this fast rule. This disadvantage is outlined by Ekene Davidson, page 26 – 27.

a.   The process of installing a computer and transferring work to it inevitably causes disruption and may change the content of people's job. Some people might be laid off as few people are needed to do the job now with the introduction of a computer. Even where the company volunteers train their staff to learn new skills or transfer to new jobs, there might be resistance to change, uncertainty and anxiety. Some staff may prefer to quit to another company.

b.   COST: The cost of acquiring a computer may be quite enormous.

This is even more risky when one considers that the computer may in less than no time become technologically obsolete and may even drain the funds that could have been reasonably available for alternative investments.

CREATING COMPUTER- BASE MANAGEMENT INFORMATION SYSTEM (MIS)

Management must identify the information that need and report from which will be most convenient. This is basic to the system's success. Pertinent data must be automatically routed to the computer and processed into informative reports as a matter of course. These reports are then distributed to people who make control –related decisions –members of management. This arrangement assumes that accurate data of the proper type is gathered and submitted to the computer without delay. Information must be current so that decisions are made under the best possible conditions. A system that provides this kind of efficiency is easier to discuss than implement.

GUIDELINES FOR EFFECTIVE MIS DESIGN

How can these steps in MIS development process be carried out effectively?

1. MAKE THE USER A PART OF THE DESIGN TEAM: Most management writers agree that co-operation between the operating managers (those who use the information) and system designers is not only desirable but necessary. Managers at the various hierarchical levels have differing decisions to make, differing control responsibilities, and differing i9nformation needs, thus, the information system

must be designed to direct appropriate information to each decision maker. However, the management scientists and staff specialists who design this system often do not think like managers and may be unaware of the complexities that enter a management decision.

Unless the operating system managers have a decisive voice as to how an MIS is designed, the information system can fail to provide needed information while simultaneously overloading them with other useless information.

2. CAREFULLY CONSIDER THE COST OF THE SYSTEM: To keep the MIS on track and no budget, designers need to specify how the system will be developed. This component of the design stage is often neglected because managers tend to justify the MIS on cost-saving grounds and may fear that documentation of the system's actual installation costs will discredit the original estimates.

As a result, an unnecessarily expensive system may be implemented. This problem can be overcome by having managers justify the installation of a new system on a cost-benefit basis. In addition, the analysis should be clearly specified in the design stage which units of the organization will be responsible for installing and operating the system. In this way, the appropriate managers can be held accountable for costs.

3. FAVOUR RELEVANCE AND SELECTIVITY OVER SHEER QUANTITY.
    Only the most relevant information should be supplied to the appropriate manager. In addition, the effective MIS will condense information, so what is relevant can be absorbed in a short period of time.

4. PRE-TEST THE SYSTEM B EFORE INSTALLATION: This important step is another one that may be neglected by MIS designers. Even when managers and designers co-operate in the system's development, important factors may be overlooked; if these do not become apparent until the system is finally changed may be necessary.

5. TRAN THE OPERATORS AND USERS OF THE SYTEM CAREFULLY.
    A training programmed for managers and MIS operators is import for two reasons.

First, even well-managed organizations experience turnover, if no provision for training in the operation and use of the MIS is made, then the organization will be at the MIS is made, then the organization will be at loss when experienced personnel leave.
Secondly, operators and users need to be trained so that the management information system can be used effectively. Operators need to understand just how much information managers at different levels need so unnecessary amounts of information will be produced. Perhaps most importantly, managers need to understand how the management information system operates so they can control it rather than letting it control them. Management information system technicians often gain power at the expense of managers when they are the only ones who understand how a system works. If top managers are isolated a lot from other organizational members, the effective implementation of the management information system is likely to be hundred.

HOW THE CHANGE IF IMPLEMENTED: The way changes are designed and implemented can affect how much resistance the changes will encounter.

i. Lack of management knowledge of computer

iii.   Lack top management support.

OVERCOMING THE IMPLEMENTATION PROBLEMS:

a. Ensure that in both designing and implementation on management information system will be user oriented. If the system output fails to meet the user's need with a minimum of adjustment and new learning. They will stick firmly and logically to their own system, thereby reducing their changes that management information system will eventually become useful to them. In addition, designers should

be extremely careful not to burden organization members with a mass of data they cannot use effectively.

b. PARTYICIPATION: Many implementations problem can be overcome (or avoided) if future users participate from the very beginning as a welcome and important member of the management information system team.

c. COMMUNICATION: The aims and characteristics of the system should be clearly defined and communicated.

d. REDEFINITION OF PERFORMANCE EVALUATION: A new management information system may modify a manager's job to the point where old methods of performance evaluation no longer apply. For this reason, a management information system that calls for each job modification must be accompanied by a new and satisfactory reward system if management resistance to management information system is to be avoided or overcome. Otherwise, managers will not know now their accomplishment will be measured and rewarded.

e. NEW CHALLENGES: A new management information system will liberate many middle managers from some of their boring and routine work.

THE OBJECTIVES OF COMPUTER BASED INFROMATION SYSTEM

i. To capture or generate all data pertinent to the origination's operations.
ii. To process data in the most efficient and economical manner, fully utilizing management science techniques feasible.
iii. To produce concise, accurate and timely information as required by each level of management.

SOME AREAS WHERE COMPUTER CAN BE EMPLOYED IN THE ORGANIZATION

1. PERSONNEL ADIMISTRATION:
Organizations must ensure that necessary facts concerning all the personnel are provided in such a way that they can evaluate their performance. Computers provide information on the timecard which enables preparation of wages and salaries such as homework multiplied by the hour rate. It also assists deduction of taxes from wages and salary and provides information relating to their employment to the entire public. All these processes of providing information about every employee in the organization require the keeping of comprehensive records of every employee in the company. From such a record it is easier for organization to produce a wide range of reports such as salary review data, manpower distribution reports and retirement list etc.

PAYROLL
Payroll application of the computer is very popular even those firms that cannot afford the system send their data in raw form to the computer center for onward processing.

There are different rates used for basic hours overtime pay and other means of calculating pay and method of deduction. Most computer operators select payroll as the first step in computer application.
LEDGER.

The computer serves as a means of string data, ledger records are kept in the storage medium for easier retrieval to facilitate reference. It is easier for operators to store data relating to creditors and debtors and to indicate the current position of each account. It holds all the information in the ledger on magnetic tapes to facilitate the actual state of the record, such information includes, name and address, account number, balance due to each employee and so on. Anderson (OP city 237) also identified some areas of application of computer in business organization among which are:

a. SALES MANAGEMENT: - Computer played a pivotal role in the sales management, it is used to access the sales budgets, this is, in terms of quantity and value for each representative, there they may be

compared with the actual results achieved and the various printed out to form the basis of control reports for action by sales management.

b. PRODUCTION MANAGEMENT: It is usually used to monitor the operator performance ratio, the cost of consumable supplies and variance from budget, it is also used to analyze the quantity and cost of scrape analyzed by product and cost of over-time, shift working and departmental overheads, Bird (OP city) also added.

c. STORE MANAGEMENT: A computer system will obviously be used to record stock levels and to maintain a record of the stock levels and to maintain a record of the stock valuation and individual prices. Clarke (P 41) summarized the programming of information into four basic headings which contains many features, and they are as follows:

1. **AN INTEGRATED SALES ACCOUNTING AND INVENTORY CONTROL SYSTEM INCLUDING:**

a. Daily invoice register
b. Periodic sales tax report
C. Daily involving
d. Daily cash receipts journal
e. Daily inventory receipts, orders, and adjustment
f. Buyer's guide report
g. Stock status
h. Age analysis and customer statement
i. Sales and analysis report etc.

2. **PURCHASE ACCOUNTING INCLUDING:**
a. Purchase and distribution journal
b. Cash requirement report
c. Check authorization and adjustment report
d. Payment cheque and payment statement
e. Vendor master file report.

3. **PAYROLL MODULE INCLUDING:**
a. Payroll exceptions
b. Payroll journal and cheque register
c. Employee's pay cheque and statement of earnings
d. Summary payroll total report
e. Labor analysis report etc.

4. **GENERAL LEDGER INCLUDING:**
a. General journal
b. Trial balance and summary trial balance
c.C Daily operation report
d.H Retained earnings summary
e.A Details activity report period
f.P Income statements
g. Balance sheet

CHAPTER FOUR
RESEARCH METHODOLOGY

4.1 METHODOLOGY
In this chapter, the methods by which data was collected for the purpose of this project work will be listed below.

1. THE QUESTIONNARE METHOD

A questionnaire consists of a set of fixed pre-arranged, usually typed questions to which a respondent provides written responses.

Two types of questionnaires were used.

 a. THE OPEN-ENDED QUESTIONNAIRE

This consists of questions asked with some spaces attached where the respondent is allowed to express himself here. The essence of usi8ng this type of questionnaire is to elicit responses of more than a few words. A total of 36 questions were asked under this chapter.

 b. THE CLOSED ENDED QUESTIONNAIRE

Under this respondent were offered a choice of alternative replies from which the given answers. That correspond to their personal views were ticked. The respondent is limited to a particular choice of answers. 12 questions were asked under this section.

2. INTERVIEWS
Some questions which were not included in this questionnaire were asked. The unstructured interview was used.

 a. POPULATRION SIZE
Population is the total of all elements, subjects or members that possess a specified set of one or more common characteristics.

 b. SAMPLE SIZE
A sample is a portion, or a specimen of a larger group selected in such a way that attributes exhibited by the smaller portion are accepted as representative of the whole group.

The double sampling technique was used here. This is a method in which a sample is selected from the target population and the sample is subjected to further sampling. This is because out of the whole population of the case study only the workers whose jobs are related to the use of computers are consulted, even among them, some representatives of each department were administered with the questionnaire.

HYPOTHEISS

1. The role of computers in management of information systems.

2. Smaller organizations should not be encouraged to use computers in their business except when it is most relevant.
3. The disadvantages of the use of computers in general are negligible.

CHAPTER FIVE

PRESENTATION AND ANALYSIS OF DATA DISCUSSION OF FINDINGS

5.1 PRESENTATION AND ANALYSIS OF DATA

In this chapter, data obtained from the field of investigation are presented and analyzed. For the analysis, hypothesis earlier formulated will be used as guidelines and questions relevant to these hypotheses shall be analyzed with the available data.

TABLE 1.   BREAKDOWN OF QUESTIONNAIRE FROM SAMPLED DATA

NAME OF SAMPLES	AREA	NO. GIVEN	NO. RETURNED	RESPONSE RATE
KASAPREKO COMPANY LIMITED, GHANA		76	70	92.11%

HYPOTHESIS 1

The role of computers in management information systems is negligible.

QUESTION I

Do you use the computer as part of your job?

TABLE 2

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	70	100%
NO	-	-
TOTAL	70	100%

From the table above, all the respondents agreed that they use computers as part of their job. This shows that the project work is restricted to only those to whom their job is one or the other related to the use of computers.

QUESTION II

Do you agree with the view that the role computers play in management information system is negligible?

TABLE   3

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	-	0
NO	70	100%
TOTAL	70	100%

QUESTION III

Has the introduction of computers made any significant impact in management data processing storage and retrieval?

TABLE   4

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	70	100%
NO	-	-
TOTAL	70	100%

They all agree that the introduction of computers has made a significant impact in management data processing, storage, and retrieval.

HYPOTHESIS 11 QUESTION IV
Is it cheaper – money and timewise using a computer as compared to the other methods used in processing storing and retrieving of data?

TABLE 5

VARIALE	RESPONDENTS	RESPONSE RATE
YES	70	100%
NO	-	-
TOTAL	70	100%

They all responded that it is cheaper using computers as against the manual method of data processing, storing and retrieval.

QUESTION V
Do you encourage other smaller firms to use computers in the processing, storing, and retrieving of timely and accurate information?

TABLE 6

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	70	100%
NO	-	-
TOTAL	70	100%

They all encourage smaller organizations to use computers in the processing, storing, and retrieving of timely and accurate information.

QUESTION VI
Does the introduction of computers in your organization have any impact on the workers and work method?

TABLE 7

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	70	100%
NO	-	-
TOTAL	70	100%

They all accepted that the introduction of computers has an impact on workers and work methods.
QUESTION VII

What percentage of the workers accept the introduction of computers as relief and improvement in their work method?

TABLE 8

VARIABLE	RESPONDENTS	RESPONSES RATE
0 – 100%	10	14.29 %
20 – 30%	-	-

40 – 50%	20	28.57%
60 and above	40	57.14%
TOTAL	70	100%

From the table above, 14.29 percent of respondents say that 0 – 100% of the workers accept the introduction of computers as a great relief and improvement in their work method.
Nobody accepted that it is between 20 – 30%, 28.57 says the distribution is between 40 -50% between 60 and above.

QUESTION VIII
How does the use of computers cut across the organization?

TABLE 9

VARIABLE	RESPONDENTS	RESPONSE RATE
More of junior staff	-	-
More of lower-level manager	-	-
More of top-level manager	-	-
More of middle level managers	40	57.14
Evenly distributed	30	42.86
Everybody is involved	-	-
TOTAL	70	100.00

From the above, 57.14% say the use of computers is more among the middle level managers while the other 42.56% say it is evenly distributed.

QUESTION IX
Do the people involved in the use of computers in your organization enjoy using it?

TABLE 10
85.17% of the respondent echoes that the workers use the computers because they enjoy using it.

VARIABLE	RESPONDENTS	RESP. RATE
They enjoy using it	60	85.71
They are forced to accept using it	-	-
They use it because it is part of their job	10	14.29
They neither love nor hate using it	-	-
TOTAL	70	100

Not just because it is part of their job. 14.29%, however, say that they use it because it is part of their job.
Do you think there is any better method other than using a computer that could be used to process, store, and retrieve timely and accurate information?

TABLE 11

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	-	-
NO	70	100%

TOTAL	70	100%

They all say they cannot think of any better method that could be used to process storage and retrieve timely and accurate information other than the use of computer.

QUESTION XI
Does the external environment have any effect in management decision making?

TABLE 12

VARIABLE	RESPONDENTS	RESPONSE RATE
T YES	70	100%
h NO	-	-
e TOTAL	70	100%

The external environment influences management decision making.

QUESTION XII
Does the company need any information from external sources before they can make adequate decisions?

TABLE 13

VARIABLE	RESPONDENTS	RESPONSE RATE
YES	60	85.71
NO	10	14.29
TOTAL	70	100

85.71 says the company needs information from external sources before they can make adequate decisions. 14.27%, however, say that if it is decisions relating to computers than they do not need any information from external sources.

ANALYSIS FOF OPEN QUESTIONNAIRE

1. How long have been with the company?

The people interviewed worked for between 4 – 8 years with the company. This shows that they will have some knowledge about the happenings in the company.

2. What are the departments that make –up your organization?

➢ Personnel

➢ Accounting

➢ Logistics stores process

➢ Administration

➢ Engineering

➢ Production

➢ Medical

> Purchasing

> Stores

> Drawing

> Fabrication quality control

> Public relations

> Transportation

> Sales

> Marketing

3. What types of data does management require from each of the departments to aid in their decision making?

The data required depends on the type of decision to be taken at any instance. But some of the data needed are:
From Accountings: - Salary / wages information, Percentage increases and financial costing statistics amongst others.

Production - Production statistics, machine down time and frequency of breakdown.

Personnel - Numbers of employees in the company, number of terminations, resignation, and retirement over a period, what type of training and employee performance, appraisal.

Medical - How many sick people, what type of illness and how many accidents during the job.

Purchasing - What type of materials were bought over a specified period, in what quantities and how much was expended.

Stores - How much quantity of inventory did the store carry and what type over a period?

What type over a period? How much quantity of finished goods was stood.

4. What data is required from the external environment to aid in management decision making?
- Cost of transportation
- Cost of living (this will enable the management to know how much housing allowance grant workers).
- Rate of inflation
- Exchange rate
- Market price (demand and supply)
- Political trend
- Economic data
- Bank functionaries
- Information about raw materials
- Information about competitive strategy of competitors.

5. How is data conveyed to management?
For the internal data, it is conveyed by departmental functionaries through reports, sheets, charts and graphs, computer printouts or orally.
From external data, it is conveyed through mass media, newspapers, business times and telephone conversation.
6. How is the data analyzed and processed?

They are analyzed through specialized programs developed in Kasapreko Company Limited and other standard software packages. Sometimes, specialists in the field are used, other times, committees of experienced personnel are used. The analyses could also depend on need.

7. How is the processed data related back to the different departments?
- Through internal means and other means of communication
- Crew meetings as well as manning meetings are also held.

8. What makes up the external environment of the company?
- Economic (market forces)
- Political (government policies and agencies, legal advisers)
- Technological
- Cultural
- Social
- Competition (effects of actions of other companies)
- Bankers
- Suppliers
- Distribution
- Transporters

9. How does the external environment affect the organization?
There would be no smooth business in the absence of an external environment because the company depends so much on it for its existence. If the political, economic, and social environment is chaotic as was obtained in August 1994, the company will stop production, and would be put out of business. There is no supply and no distribution.

10. What levels of Management are involved in the decision-making process based on the information gotten from both the internal and external sources? The top level of management (Head of department).

11. What roles do you think the computer plays in the processing of data?
- Analytical
- Provision of accurate information, storing and retrieving
- Vital roles
- Processing of data

12. How long has the company been computerized? From more than 1 years now, though initially its use was restricted to selected few.

13. Before the company became computerized, how was it gathering and processing data? Manual.

14. How was it storing and disseminating information? The well-known and common filling system.

15. What are the advantages of using computers in processing, storing, and retrieving of information in your company (if any)?
- Reduces delay.
- Quick and Accurate
- Easier
- Reduction in manpower
- Better presentation of data
- Lesser expenditure in information, processing, storing and retrieval as against the old method.
- Less cumbersome
- Data security

16. What are its disadvantages?
- Reduction in manpower

- High cost of acquiring the computer
- Loss of data if no proper back-up system.

17.   What led the company to consider computer usage? To be in line with technology (Development)
-    Growth of the company
-    Size of the company
-    To save cost
-    Quick reference to information
-    For its faster results and accrued advantage
-    Lack of accurate and timely information, and
-    Too much paperwork under manual system.

18. What was the initial reaction of the workers towards this development?
     90% of the respondents responded that most of the workers were not computer literate and so were afraid of losing their job. The other 105 said that it was a welcomed development knowing what it takes to do job manually. It was a big relief because it was more on the administrative jobs originally.

19.   How did management deal with this initial reaction? The 90% that said the workers were afraid of losing their jobs also said that the management reassured the workers that nobody shall be retrenched or fired, and they retained all staff irrespective of being computerized the management also helped to improve their efficiencies.
The other 10% said since it was positive, and mainly since few interest workers were introduced to their use-management only restricted their use to avoid their misuse and information getting into the hands of those who had no use of such.

20.   How are their reactions now? They all responded that everybody is now aware, so it is a normal thing in the minds of every employee. Everybody is now satisfied with the introduction of the computers into the company.

21.   What are roles played by the different levels of management (i.e., top, middle, and lower-level managers) in their department, manpower and use of computers in management information system?
-    Train the workers on the use of computers
-    The top-level management provides the level management supervises and uses the computers.
-    Ensure their sections are computerized.

22.   How are the personnel trained to acquire knowledge of how to operate a computer?
-    Internal through the Adapt to perfection (AP) training school within the complex.
-    Sometimes external

23.   What was the cost (money and time) of getting the company computerized?
-    They said it was top secret though some said it was close to Ghs1,000,000.00 (one million).

24.   How did the company overcome the cost?
-    Down payment from plough-back investment.

25.   What were the difficulties encountered while getting the company computerized?
-    Trying to get those to be concerned trained.
-    Initial high cost
-    Problem of system and software choice
-    Getting the workers to accept the introduction of computers and seeking their co-operation in this regard.

26.   How does the company cope with the high cost of training their personnel?
-    Personnel are trained internally by computer professionals who are also employees of the company.

27.   How do you maintain your computers?
-    Internally and the computer maintenance center.

28.   What are the application packages used?
- dbase III, IV
- Lotus 123
- Symphony
- AmiPro
- Harvard Graphics
- Windows
- MS – Dos
- MS- Word
- Word perfect

29.   How are they installed?
- By their internal service department.

30.   What do you understand by management information system?
The essence of this question is to find out if they have an idea of what management information is:
A good number of them have a sound idea of what it is, and they all defined it in their various ways.

31.   What role does the computer play in management information systems?
- The computer makes it more efficient.
- Information is stored and called up when necessary.
- For information analysis, storage, organization, and retrieval
- Making information handy and providing faster results.

32.   Of what significance are the roles played? Computers play a significant role in information management but cannot be equated to the human brain.

33.   How do you view the future in relation to the use of computers in the Management information system?
- Computer technology is growing faster, giving rise to more efficient computers, hence more efficient computer-based management information systems.
- The future could be brighter because of the part it plays in controlling costs. Though the negative role is reduction of manpower.
- Progressive (Better)
- The computer shall take most management of future.

34.   What advice do you have for smaller firms that intend to use computers in processing their data?
- They should do it quickly. It is a worthwhile investment that at the initial take-off may not have its enormous results, but later a long-term would enjoy having such investment.
- They can start in stages to avoid high initial capital outlay. It will pay back with great benefit later.
- The earlier they computerized the better.

5.2 DISCUSSION OF FINDINGS

From the analysis of findings, the following were found out.

The role computers play in management information system is significant and not negligible though it cannot be compared to the human brain.

1. The cost of acquiring the computer is very high but the result is very encouraging.
2. That smaller organizations which have the intention to get their business computerized could go ahead to do so.
3. That the introduction of computer even with its numerous advantages still leads to reduction of manpower.

4. That the initial reaction of the workers during the introduction of computers is always negative for fear of losing their jobs, though their reactions will change for the better in future they are given adequate assurance and job security.

5.3 RECOMMENDATION

From the discussions of finds, the following recommendation could be made.

1. The company should try as much as possible to get all their personnel trained in the use of computers since they already have a training school. This will help reduce the excessive lay off in manpower.

2. Smaller organizations with the intention of getting computerized could go ahead to do so. But they should endeavor to carry out a sound feasibility study to ensure that they need it before delving into it and they can maintain it also.

3. While they are getting computerized, they should incorporate their workers into the plans, so that they will feel that they are part of the whole plan. Hence the initial negative reaction of workers to change will be reduced.

4. The parallel changeover techniques should be used. This is a system which permits the organization to use both the old and new system together. This enables them to compare the two before deciding which one is most suitable.

5.4 CONCLUSION

Based on the discussion of finding, and recommendation, it has been found that the roles computer play in management information systems is significant because the result is encouraging though it cannot be compared to the human brain.

This is even though the use of computers in data processing also has some disadvantages such as high cost of acquiring and reduction in manpower. Hence smaller organizations which have the intention to get their business computerized have been advised to go ahead though some recommendations have been made to guide them in computerization. Such recommendations are: -

1. Carrying out a feasibility study report before delving into it. This will enable them to find out if they need computers or not, which areas are needed and how much it will cost them to acquire them/one.

2. They incorporate the workers into the plan to display their negative reactions towards the new change.

3. To adopt the parallel changeover technique where the manual method (old method) will run hand in hand with the computer method. This is to enable them to compare the two methods before choosing the best.

4. The project has also been advised to try as much as possible to get all their personnel trained in the use of computers since they already have a training school. This will help reduce the excessive lay off manpower.

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