

## THE IMPACT OF MANAGEMENT INFORMATION SYSTEM ON UNIVERSITY OF EDUCATION WINNEBA, KUMASI CAMPUS- GHANA

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### ABSTRACT

The study aimed to identify the impact of Management Information System (MIS, hereafter) in University of Education Winneba, Kumasi Campus. Specifically, it assessed the adequacy of available MIS and their utilization by students, lecturers and senior administrative staff of University of Education Winneba, Kumasi campus in support of administrative works, teaching and learning. Overall review of literature highlighted positive impact of MIS on school administration and management including better accessibility to information, more efficient administration, higher utilization of school resources, and reduction in workload, better time management, and improvement in the quality of reports to achieve teaching and learning objectives. Survey designed was used for the study. 100 respondents were purposively selected for the study. Questionnaires and observation were used to collect information from the respondents. Tables and percentage were used to describe the data obtained. It was found that information systems were not fairly adequate in the university. The study recommend effective linkage of all the information systems to enhance its usage to the benefit of all its stakeholders.

**Keywords:** Management Information System (MIS), Information system (IS) University of Education Winneba (UEW).

### INTRODUCTION

The information needs of modern organizations especially university institutions have become quite enormous and challenging to the extent that every institution needs to pay great attention to how information is gathered, stored, disseminated and utilized. This situation has arisen because of factors such as increased organizational size, expanded operational scope, competitive influence and overall environmental challenges. Today's organizations require tools to support quicker and automated decisions, as well as ways to minimize uncertainties and only an effective management information system can ameliorate this challenge. The impact of management information system in University of Education Winneba, Kumasi-campus have to be seen by enhancing communication among the administrative staff, lecturers, security personnel, labourers and students, deliver complex materials throughout the institution, provide an object system for recording and aggregate information, reduce expenses to labour intensive manual activities, support the organizations strategic goals and direction and enhance teaching and learning in the institution.

The term management information systems, popularly abbreviated as MIS according to Lucey (2005) has become synonymous with computer; yet, both concepts are not exactly the same because management information systems existed in the life of pre-modern

organizations long before the advent of the computer technology. This argument is substantiated by the fact that computer was not in use when organizations kept records using traditional and manual mechanisms to manage information. It is important though to pinpoint that the computer takes credit for increased interest in management information systems because it eases and facilitates data processing as well as adds new vistas of interesting career options in MIS (Ottih, 2000). Therefore various organizations or institutions have chosen to apply this group of components to their associations (Spalding, 2010). Consequently, the institutions have decided to implement MIS in order to improve the effectiveness and efficiency of the teaching and learning in schools. Information systems have become a major function area of business administration. The systems, nowadays, plays a vital role in the e-business and e-commerce operations, enterprise collaboration and management, and strategic success of the business (Hevner et al., 2004).

In spite of the fact that management information system supplies decision makers with facts, likewise, it supports and enhances the overall decision making process. MIS also enhance job performance throughout an institution. At the most senior level it provides the data and information to help the board and management to make strategic decisions (top management decisions or long lasting decisions) and at other levels of management MIS provides the means through which the enterprise activities are executed, monitored, controlled and information are distributed to management, supervisors, employees and customers.

### **Statement of the Problem**

The management information systems help to provide the necessary information to make decisions with the effectiveness and efficiency, and as far as accuracy, comprehensiveness and timeliness in the providing information increase the efficiency of those decisions, which leads to improved performance (Al Tai, 2005). The system of Management Information System shows that communication is needed to carry out the managerial functions and for linking the organizations with its external environment. Management Information System provides communication link that makes the activities and responsibilities surrounding management or managers possible. This research sought to find out the impact of management information systems to improve performance in the UEW-Kumasi campus. By knowing the impact would correct the situation in management information systems and make the most of all these systems and to correct mistake, if any, and then be able to update and improve the performance of management in UEW-Kumasi campus.

### **Purpose of the Study**

The study sought to find out the impact of management information system (MIS) in UEW-Kumasi campus.

### **Objectives of the Study**

The specific objectives of the study were to;

1. Identify the Information Systems available at UEW-Kumasi Campus.
2. Find out some of the challenges of MIS utilization in UEW-Kumasi Campus.
3. Find out the impact of Management Information System in UEW-Kumasi campus.

### **Significance of the Study**

The study is significant in a number of ways; first, it will guide the UEW in particular and institutions of higher learning in general as to the kind of MIS that will be effective in their day to day activities. Secondly it will help UEW to identify strength and weaknesses of their

existing MIS and take corrective actions. Finally it will be a vital document for professionals in the IT field regarding the design and implementation of MIS for institutions of higher learning. It will also help to identify the challenges in utilization of MIS in teaching and learning. This study enables the institution to employ pragmatic measures to correct the loopholes in teaching and learning with MIS. It will guide and act as a reference material to support other researchers who would like to make further studies into this field.

## **LITERATURE REVIEW**

### **Definition of System**

According to Longman Dictionary, a system is a group of related parts that work together as a whole for a particular purpose. A system is a group of components that interact to achieve some purpose. The system is capable of converting the collected data from the routine user and machine interactions into the effective information which later on is used by the decision makers to make efficient decisions. In the management information system, the most important entity is system itself which is set of defined and interrelated components which are generally described as all of the direct or indirect complex components or elements that are related in a casual network. Within any particular time period, all of these complex components are related in more or less stable way with at least some other components (Thierauf 1984). So a well-developed and interactive system is one which provides best and useful information to the managers at all levels.

### **Meaning of Information**

Information can be said to be a stream of data that have been processed to the form that makes sense to its users. Succinctly put, information is organized data that has meaning. Information between people and within and outside an organization to achieve organizational goals cannot be over-emphasized. Oguta (1999) observes that the concept of information in an organization is more complex and difficult than its fragment uses. As further elucidated by Oguta (1999), information is made up of facts giving knowledge relating to a specific event or situation which may stand as basis for job performance and decision -making. Equally, Alabi (1999) stressed that information has to do with knowledge acquired and result when data are organized or analyzed in some meaningful ways or convenient form understood by the recipient for easy job performance and decision-making. In institutions such as universities, effective job performance and decision-making cannot be achieved if a well-planned and well organized system of information is not put in place (Fashiku, 2008). Relevant information increases knowledge, reduces uncertainty and satisfies intended purpose (Fashiku, 2008). As observed by Saad (2000), good information to be relevant for a purpose, sufficiently accurate, complete and arising from a reliable source, communicated to the right person in time and which is detailed enough for user's comprehension is crucial in staff job performance. Dan-Isa (2001) stated that in any institution, the administration should evaluate any information received on its quality for improved performance. In the same vain, Stator and Grudints (1983) elucidated that good information should be accurate, quantitative, verifiable, accessible, precise free from bias, timely clear, appropriate and comprehensive.

### **Overview of Information Systems (IS)**

The best system is one that provides useful information and user interaction at all levels. An information system is a collection of activities, procedures, methods, technology and peoples that are organized to get the valuable related data and information. This system must also be able to store this information until it is required by the user. It should be capable of data processing and responding to its end user by providing the answers to all set of queries.

Information systems should best interact and communicate with the end user in order to provide the accurate required information (Knight & Silk, 1990).

Therefore IS is a set of components which interact to produce information, which include hardware, software, data, procedures, and people, whereas these components can be found in every information system (Kroenke, 2007). The main elements of IS consist of hardware, software, data, procedures, and people. Hardware refers to computers, storage disks, keyboards, and communication devices while software is relevant to word-processing programs. Data or information is included texts, words, sentences, and paragraphs in reports. Furthermore, procedures refer to the methods for using the program and involved activities. The last element is people. The important role of the five components is that IS is not only computers, programs, and communication devices, but it also focuses on the assembly of hardware, software, data, procedures, and people; in other words, information system means a system of communication between people (Kroenke, 2007; Davies, 2009). Moreover, Gurbaxani and Whang (1991) claimed that there are many roles of information systems in an organisation, for example to increase an operation's efficiency, to process business transactions, to provide decision support, to monitor and evaluate employees' performance, and to maintain documentation and communication channels.

### **Meaning of Management Information System (MIS)**

Kumar (2006) and Gabriel (2012), respectively converged in opinions that defining management information systems would first require splitting the subject into three facets of: Management, Information and Systems respectively. Accordingly, Kumar (2006), defined management as the process through which planning, organizing, initiating and controlling of operations within business is carried out. Similarly, management was defined as the process that deals with methods and techniques of efficiently and effectively using organization's resources to achieve set results (Ottih, 1995). In furtherance, information refers to stream of data that have been processed to the form that it makes sense to its users. Succinctly put, information is organized data that has meaning. On the other hand, system is an assemblage of different but interrelated and interdependent parts that functions as a whole to achieve common interest (Gabriel, 2013), a set of elements joined together for a common objective (Kumar, 2006). Judging from these views, it is arguable that every system comprises parts, are interrelated and interconnected; becomes one entity and consequently pursues common goal. Drawing from the foregoing, it seemingly appears that defining MIS is now a simple task, but that is not exactly so. Lucey (2005) averred that there is no universally accepted definition of MIS and those that exist reflects the emphasis and prejudices of the particular scholar that offers it. However, the subject has attracted the following definitions: an integrated system of providing information to support operations management and decision making functions in an organization (Ajayi and Omirin, 2007). In their own views, MIS is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support decision making in any organizations (Laudon and Laudon, 2007); a system to convert data from internal and external sources into information; and to communicate that information in an appropriate form to managers at all levels, in all functions to enable them make timely and effective decisions for planning, directing and controlling the activities for which they are responsible (Bee and Bee, 1999).

Another useful definition emanates from Walter J. Kennevan (See Ottih, 1995) who in an international conference defined MIS as: an organized method of providing past, present and projection Information relating to internal operations and external intelligence, It supports the

planning, control and operational functions of an organization By furnishing uniform information in a proper time frame to assist the decision making process.....

Judging from these definitions, several points of convergence are inherent:-

- MIS involves data collection from any available source, processing and eventual usage.
- Such data are collected on past, present or expected future events from within and outside the organization.
- It is made available to those that require them at the right time and right place.
- It ultimately supports decision making process.

However, the success of MIS in any organization has a lot to do with its design. Developing an effective MIS involves the efforts of managers as well as those of specialists. The specialist is saddled with provision of technical expertise. More so, functional specialist must be involved to offer relevant ideas concerning their specialty. For example, an accountant should be part of accounting information systems, likewise marketers, and human resource experts and so on. MIS development also requires knowledge from several disciplines. It draws from such wide and growing range of concepts and techniques to function properly. To have a good and useful MIS, adequate knowledge of the interactions and relationships among these fields is sine qua non. It is important to note that the MIS of any organization can be subdivided in sub systems that are the functional parts of the organization.

### **Objectives of Management Information System**

Professor Robert J. Of Carew school of business, Arizona state university (2000). explain the objectives of management information systems as the provision of information to all levels management at the most appropriate time at an acceptable level of accuracy and at an economical cost, such information is used in the decision making process for modifying the state of system by taking appropriate action. An essential requirement of MIS is feedback which is the process of communicating a system measured output to control system which generates effective control system, normally a manager in respect of business system. It is these factors which allow the state of a system to be modified.

### **Characteristics of Effective MIS**

In literature, there are many characteristics discussed for an effective MIS system (Cassidy and Creswell, 1997). Some of them are listed below:

- MIS system should be composed of integrated sub systems with the ability of forward and backward looking systems.
- MIS system should be capable of planning and controlling the clearly defined business activities.
- MIS system should be capable of generating the reports that can help the management at all level in planning and controlling all of their current and expected business activities.
- MIS system should be able to retrieve the information about the operations control at appropriate time and should allow the transactional data processing.
- For the timely response, MIS system should have the batch processing as well as interactive operational modes.
- In order to store the data that is being frequently accessed, MIS system should use all of the data protection procedures that can assure to authorize user in more protective way.

- In order to extract the relative information quickly, MIS system should have appropriate data storage medium like random or direct access storage. In order to generate the meaningful and affective output for the ongoing control operations, MIS system should enable the standard and custom made model that must have the storage medium for the online data.

According to Kenneth Hamlet (2002) Effective management information system possess numerous qualities among which are the following:

### **Relevance**

This type of information characteristics is of the truth. The overriding quality information must be relevant to the problem being considered; though information may take different forms. Examples are: reports, messages, tabulation etc. The positive effect it has on the problem or needs at hand will mainly be the functions of its relevance otherwise. The absence of this quality relevant will make understanding of the message more difficult and may eventually cause frustration to the user.

### **Accuracy**

Information should be sufficiently accurate for it to be relied upon by those in the management team and for the purpose for which it is intended. Even though absolute accuracy may not be obtainable, yet the level of accuracy must be related to the decision level involved. Also, accuracy should not be confused with precision. Information may be inaccurate but precise or vice-versa.

### **Time**

Good information is that which is communicated in time to be used. The time of regular produced information is essentially important in this regards. In fact, information should be produced at a frequency which is related to the type of decision or actually involved.

### **Details**

Information should contain the least amount of details consistent with effective decision making. The level of details usually varies with the level in the organization.

### **Development and Implementation of MIS**

The implementation of information systems is a significant investment for tertiary institutions. Since information systems are sociotechnical systems, development involves the joint design of activity systems and ICT systems (Davies, 2009). It is important to define the key stages of the information system implementation process. Consequently, Davies (2009) presented information system implementation stages which are concerned with a number of key activities in the process. In addition, this information system implementation process concept is similar to O'Brien (2004) who explained a five-step process called the information development cycle which includes the steps of: investigation, analysis, design, implementation and maintenance. The first phase of information system development process is systems investigation or system conception which is aimed to determine how, based on informatics planning and management, to develop a project management plan and obtain management approval. Systems analysis is focused on identifying the information needs and developing the functional requirements of a system. Systems design is the process of planning a technical artefact and developing specifications for hardware, software, data, people, and network. In addition, this phase involves building the information system to its specifications. System implementation involves delivery of systems, testing the system, training people to use the system, and converting to the new business system. Finally, system

maintenance is the process of making necessary changes to the functionality of an information system (O'Brien, 2004; Davies, 2009). Nonetheless, Zmud and Cox (1979) defined, traditionally, the MIS implementation stage which involves different related activities including: initiation, strategic design, technical design, development, conversion, and evaluation. Each implementation stage can be described as follows: initiation includes project definition and justification; strategic design refers to establishing the scope and requirement of a project (i.e. design attribute visible to the users); technical design involves translating the strategic design into hardware, software, and process specifications (i.e. design attributes not visible to the users); development concerns the acquisition of hardware, the acquisition and construction of software, and the testing of both hardware and software; conversion relates to the insertion of the new information system into the organization; finally, evaluation assesses the effectiveness and efficiency of the MIS.

### **MIS Quality Measures**

One of the most studied dimensions of MIS success is system quality. It refers to measures of the information processing system itself (DeLone and McLean, 1992). System quality is the desirable characteristics of an information system. System quality being measured by ease of use, system flexibility, system reliability, and ease of learning, as well as system features of intuitiveness, sophistication, flexibility, and response times (Petter *et al.*, 2008). High quality management information systems means high quality of information, perceived usefulness, decision makers' satisfaction and increase the quality of managerial decision making. There are a lot of measures for the system quality and these measures differ from one researcher to another. The common measures for system quality that are used and adopted by researchers are ease of use, flexibility, response time and reliability. Ease of use is the degree to which decision makers believes that using MIS for managerial decision making would be free from effort. Low flexibility of the system may cause lower satisfaction of users of the system and effect on the quality of the information. Response time is the length of time taken by a system to respond to an instruction. Decision makers need timely information to make right decision. Lengthy system response times may cause lower satisfaction of decision makers. Reliability is degree to which the user and decision makers can trust the MIS.

### **Role of Management Information Systems in Decision Making**

Efficient organizations require established systems to enable them to make the best possible decisions in the situations they are likely to meet. Thus an organizational information system should collect data, analyze and present this as useful information that can be retrieved as the basis of expert knowledge at the point of decision. Once decisions are made they must be passed on to those who implement them, carried out, and the success or failure of the operation monitored. Increasingly decisions can be automatically implemented using the technology, thus enabling organizational objectives to be achieved with maximum efficiency (Tansey, 2003). Decision making is one of the main functions of management at all levels of managerial and supervisory works in organizations even in everyday life of human. In organizations, top managers direct team or group by decision making and strategic planning, while people at the lower levels make daily decisions on the bases of assigned tasks. As a result, information needs to differ according to levels. For this reason, management information systems do not only support top managers in implementing strategic decisions but enable middle managers to access information for their repetitive or daily decisions (Momeni, 2001). Accordingly, MIS is not only for senior staff members in tertiary institutions but also those at the grass root including students.

### **Educational Management of MIS**

The revolution in the information and communication technologies (ICTs) has greatly influenced the life style of whole world. Over the past several years, ICT infrastructure is considered as a symbol for a country's development. In every way of life, there is a vital role of these Information and Communication Technologies (ICTs) by all means to improve the quality, standardizing the different stakeholders' role and imparting the operating procedures (Ed Crowley, 2003).

In all this competitive ICTs equipped educational institutes there is much more than the quality education that is expected by the students. Students need quality service in all of the required information that is required by them. In order to present their day to day problems, students' needs environment that can facilitate them in every way. Different higher educational institutes are continuously striving to achieve this target. For example when a student require his transcripts after courses finalization then it can take more than a month time when there is conventional system installed in educational institutes. It can take more time because of the limited number of acting staff members that are dealing with the results and transcripts issuing process. There are many other daily issues that can arise every day and this limited number of staff will not be able to prompt instantaneously to all of the students. In order to handle such hectic routine universities used to employ more employees but as it's known that increasing manpower can never solve the problem so another solution is required that can cope up with all such issues. There are many activities that cannot be handled with simple processing applications and they are also much time consuming but these are simple processes like admission, registration, conduction of examination, keeping track of the employees and students and managing both employees and students accounts (Marlon Pierce et al, 2002). In order to manage thousands of its students and employees the best effective way is to use the information and communication technologies in more efficient way.

In literature, there are many definitions and descriptions about the EMIS systems as its being developed over the past several years (EPRD, 1997). Educational management system is a formalized collection of the operational procedures, processes and mutual agreement that are integrated in such a way that it can produce useful information and data for the educational institutes and all of related entities like teachers, students and other management at all levels. All of the data relevant to the concerned entities is aggregated, collected and organized, managed and processed which is then disseminated across the organization and is used by the concerned authorities and management at all levels to take the beneficial decisions for the educational institutes (EPRD, 1997). EMIS contains all of the relevant information that is required by the educational managers at all levels to support all of their activities.

EMIS systems always responds to the consumers for the affective information and serves the needs of end users, therefore it can be said that these information systems are serving on the basis of demand response methodology. In order to get the maximum benefits out of this information system it is very much necessary that the process chain of information management and in the transaction between the end users' demand of information and the system response of information delivery, all of the statistics must be updated and reviewed properly. If this whole chain of information management is not properly maintained then there will be no meaningful information from the data aggregation and processing. The system integration is also much important in EMIS to get the best possible outcome from the system because if there will be any problem with the system integration it will results in irrelevant information delivery that will make whole EMIS as an irrelevant system



### **Functional Aspects of MIS**

Most organizations are structured along functional lines or dimensions of the organization. These functional structures are usually apparent from an organizational chart, which fundamentally shows authorities and responsibilities of organizational members. Typical functional areas in most organizations are: Accounting, Finance, Marketing, Personnel, Research and Development, Operations/ Production and so on. The MIS of an organization can be divided along these lines to produce effective outcomes. We shall briefly discuss a few in the ensuing paragraphs.

Accounting Management Information Systems-AMIS: this is a subset of an organization's MIS that provides accounting and financial information plus other information obtained in routine processing of accounting transactions- aggregate information relating to accounts payable, accounts receivable, payroll, and many other applications. This subsystem is used to produce external reports, decision support, planning and control, etcetera.

Human Resources/Personnel Management Information Systems- HRMIS: the HRIS plays valuable roles in ensuring organizational success through effective handling of information relating to the personnel in the organization. Issues covered herein include: workforce analysis and planning, hiring, reports, training, job task assignments and many more. Outputs of the HRIS are in the forms of reports like human resources planning reports, job application reviews profiles, training and skills inventory reports, scheduling and job placement, wage and salary administration and others.

Marketing Management Information Systems- MkMIS: this function supports managerial activities in product development, distribution, pricing decision, promotional effectiveness and sales forecasting. Within this function are marketing research, product development, promotion and advertisement.

Manufacturing Management Information Systems: MfMIS- this is also known as production information systems. It deals with information relating to production process such as the monitoring and controlling of materials, products and services throughout the organization. We must not hesitate to remark that the effectiveness of any functional part of an organization or the entire organization at large depends largely on the quality of decisions made by every decision making members of the organization.

### **Problem of Implementing a Computer Based Management Information System**

Dickson (2010) identified some major factors that determine whether the implementation of a new MIS will be resisted and to what extent they are:

Disrupting of established departmental boundaries: The establishment of a new MIS often results in change in several organizations units. Participation: In designing and implementing MIS features users should be made members of the MIS team operating managers, in particular they should have a particular say in the item to be included. The disposition of the entire information and possible job modification, if the entire design and implementation process is taken over by technology.

Communication: The aim and characteristics of the system should be communicated to all members of the MIS team as well as the users.

Redefinition of performance measurement: A new MIS may modify a manager's job to the point where old methods of performance evaluation no longer apply or is no longer applicable. For this reason MIS calls for proper evaluation. Therefore, a new MIS may liberate middle managers from many boring and routine task and may also give them the opportunity to use the information provided by the system in more creative and productive ways.

### **Role of Management Information System**

The role of the MIS in an organization can be compared to the role of heart in the body. The information is the blood and MIS is the heart. In the body the heart plays the role of supplying pure blood to all the elements of the body including the brain. The heart work faster and supplies more blood when needed. It regulates and controls the incoming impure blood, processed it and sends it to the destination in the quantity needed. It fulfills the needs of blood supply to human body in normal course and also in crisis.

The MIS plays exactly the same role in the organization. The system ensures that an appropriate data is collected from the various sources, processed and send further to all the needy destinations. The system is expected to fulfill the information needs of an individual, a group of individuals, the management functionaries: the managers and top management.

Here are some of the important roles of the MIS:

- The MIS satisfies the diverse needs through variety of systems such as query system, analysis system, modeling system and decision support system.
- The MIS helps in strategic planning, management control, operational control and transaction processing. The MIS helps in the clerical personal in the transaction processing and answers the queries on the data pertaining to the transaction, the status of a particular record and reference on a variety of documents.
- The MIS helps the junior management personnel by providing the operational data for planning, scheduling and control , and helps them further in decision-making at the operation level to correct an out of control situation.
- The MIS helps the middle management in short term planning, target setting and controlling the business functions. It is supported by the use of the management tools of planning and control.
- The MIS helps the top level management in goal setting, strategic planning and evolving the business plans and their implementation.
- 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.

### **Impact of the Management Information System**

MIS plays a very important role in the organization; it creates an impact on the organization's functions, performance and productivity. The impact of MIS on the functions is in its management with a good MIS supports the management of marketing, finance, production and personnel becomes more efficient. The tracking and monitoring of the functional targets becomes easy. The functional managers are informed about the progress, achievements and shortfalls in the activity and the targets. The manager is kept alert by providing certain information indicating and probable trends in the various aspects of business. This helps in forecasting and long-term perspective planning. The manager's attention is bought to a situation which is expected in nature, inducing him to take an action or a decision in the matter. Disciplined information reporting system creates structure database and a knowledge base for all the people in the organization. The information is available in such a form that it can be used straight away by blending and analysis, saving the manager's valuable time.

The MIS creates another impact in the organization which relates to the understanding of the business itself. The MIS begins with the definition of data, entity and its attributes. It uses a dictionary of data, entity and attributes, respectively, designed for information generation in the organization. Since all the information systems use the dictionary, there is common understanding of terms and terminology in the organization bringing clarity in the communication and a similar understanding of an event in the organization.

The MIS calls for a systematization of the business operations for an effective system design. This leads to streaming of the operations which complicates the system design. It improves the administration of the business by bringing a discipline in its operations as everybody is required to follow and use systems and procedures. This process brings a high degree of professionalism in the business operations.

The goals and objectives of the MIS are the products of business goals and objectives. It helps indirectly to pull the entire organization in one direction towards the corporate goals and objectives by providing the relevant information to the organization. A well designed system with a focus on the manager makes an impact on the managerial efficiency. The fund of information motivates an enlightened manager to use a variety of tools of the management. It helps him to resort to such exercises as experimentation and modeling. The use of computers enables him to use the tools and techniques which are impossible to use manually. The ready-made packages make this task simple. The impact is on the managerial ability to perform. It improves decision-making ability considerably high. Since, the MIS work on the basic system such as transaction processing and database, the drudgery of the clerical work is transferred to the computerized system, relieving the human mind for better work. It will be observed that lot of manpower is engaged in this activity in the organization. Seventy (70) percent of the time is spent in recording, searching, processing and communicating. This MIS has a direct impact on this overhead. It creates information –based working culture in the organization.

### **Importance of MIS**

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 service 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. MIS has assumed all the more important role in today's environment because a manager has to take decisions under two main challenges:

First, because of the 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. This has further enhanced the necessity for such a system.

Second, 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 he 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. It is because of the above cited reasons, that today MIS is considered to be of permanent importance, sometimes regarded as the name 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, the MIS which is not adequately planned for analyzed, designed, implemented or is poorly maintained may provide 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. It has been well understood that MIS enables even small organizations to more than offset the economies of scale enjoyed by their bigger competitors and thus helps in providing a competitive edge over other organizations

## **METHODOLOGY**

### **Research Design**

The design for this study was traditional research that is survey to be specific. The term survey research means the collection and analysis of responses of large samples of people through polls and questionnaires designed to elicit their opinions, attitudes, and sentiments about a specific topic

According to Ordhos (2003) descriptive survey research designs are used in preliminary and exploratory studies to allow researchers to gather information and summarize present and interpret data for the purpose of clarification. The study uses quantitative method, which is designed to get some reviews from customers, telecommunication companies and other organizations on service innovations in the telecommunication industry in Ghana.

In accordance with some scholar, Ghauri and Gronhaug (2005) have reputed surveys as very effective in attaining opinions, attitudes, and descriptions, as well as cause and effect relationships. As a common and popular strategy used in most research, Saunders et al. (2011) mentions that survey is used in answering the 'who, what, where, how, much and how' questions in business and management research. Saunders et al. (2011) additionally posit that the survey strategy is frequently linked to the deductive approach, thus, explaining quantitative data as being analysed using descriptive and inferential statistics Surveys also require selecting populations for inclusion, pre-testing instruments, determining delivery methods, ensuring validity, and analyzing results.

### **Population**

According to Agyedu, Donkor and Obeng (2007) population 'refers to the complete set of individual (subjects), objects or events having common observable characteristics in which the researcher is interested in studying'. Population therefore referred to a selected group of people set aside for a specific purpose. The study is concentrated on the students, lecturers and members' staff of UEW-Kumasi campus. These formed the population under this study. For this study, the population was one thousand, including the administrative staff, lectures and students.

### **Sampling Size and Sampling techniques**

Sample is the process whereby the population is limited to a relatively small portion. It promotes effective and efficient study. Based on the above elaboration, the researcher's sample size was one hundred (100). Of these, fifty (50) were students, thirty (30)

administrators and twenty (20) lecturers. Purposive sampling technique was adopted to select the respondents for the study.

### **Data Collection Instruments**

Questionnaire and observation were the instruments used in collecting data for this study.

**Questionnaire:** A questionnaire is an instrument that shows different kinds of questions or statements known as items that are carefully planned and drafted to solicit responses. The validity and reliability of this technique is to a large extent guaranteed since respondents have enough time to think and supply responses.

**Observation:** An observation is when a person has been put under study for some specific behaviour. The validity and the reliability of this method can also be rest assured because the researcher looks out for specific factors that are related and relevant to the study and would not have any errors.

### **Data Collection Procedure**

Questionnaire and observation were the instruments used in collecting data for this study and the various procedures by which these instruments were used to obtain data for the study.

The questionnaire was carefully prepared, for students and teachers in UEW-Kumasi campus. Fifteen items were prepared on the questionnaire for students and teachers. These questionnaires were carefully designed to seek responses that could help solve the problem at stake.

The researcher also carefully observed students' during registration of courses, paying fees, assessing their students' portal, at lectures, library and even at the notice boards to seek for information to address the problem. This method was used because it provides immediate and reliable feedback about a topic and behaviour under study.

### **Data Analysis**

The analysis of data is the process where one is trying to gather and present the data in such way so it has a good structure and becomes easy to understand (Repstad, 2009). In addition, data analysis is a process of bringing order, structure and meaning to the mass of collected data (Ghauri, 2005). The goal with the analysis is to be able to come up with trustworthy conclusions which are based on the empirical data. The empirical findings and the theoretical framework will be compared by analyzing data which has been collected in relation to existing theories. Data were analysed after all questionnaires were gathered together. SPSS was the main analytical tool for this study since the researcher is very familiar with it.

An opportunity was provided for the results that were gathered using questionnaires and observations to be critically analyzed. The results were carefully analyzed using frequency tables and percentage. The results were discussed in accordance with the research questionnaires orderly. The researcher based the analysis on this technique since it appears simple and requires no technical knowledge to interpret and understand results gathered.

**RESULTS OF THE STUDY**

The personal information or profiles of the respondents were collected for the researcher to know the various types of respondents dealing with. This enables the researcher to understand and be familiar with the background information of the respondents well.

**Table 4.1: Age distribution**

Age group	Frequency	Percentage (%)
Below 20yrs	10	10
21-30yrs	50	50
31-40yrs	20	20
41-50yrs	15	15
51yrs and above	5	5
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.1 shows the terms of age group of the respondents , 10 % of the respondents were below 20years,50% were between 21 to 30years, 20% were between 31 to 40 years,15% were between 41 to 50years and 5 % were 51 years and above.

**Table 4.2: Gender of Respondents**

Gender	Frequency	Percentage (%)
Male	65	65
Female	35	35
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.2 shows that the respondents were hundred (100) in number. In order for the researcher to understand them better, a personal data of the respondents were collected. The table shows that sixty- five (65) of the respondents were male and thirty- five (35) female.

**4.2 Information Systems used in UEW- Kumasi Campus.**

The kinds of MIS used UEW K campus and how often they are used by students, lecturers and the administrative staff in administrative process and teaching and learning. Some selected MIS are itemized and the respondents rated their existence within UEW-K campus. The various types of MIS such as customers' relationship management (CRM), transactional product systems (TPS) and management information system (MIS) were assessed.

**Table 4.3: Type of MIS used in UEW-K**

Type	No of Respondents	Percentage (%)
TPS	25	25
CRM	15	15
MIS	60	60
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018.

Table 4.3 indicates the various types of systems at UEW-K. From the table the researcher has TPS, CRM and MIS. MIS representing 60%, followed by TPS which is 25% and CRM is used in few occasions which represent 15%. These systems are used by the lecturer,

administrators and the students to achieve a set target. There is interrelationship among these MIS system for effective.

**Table 4.4: Easy Accessibility of Information Systems at UEW-K**

Item	No of Respondents	Percentage
Computer	10	10
Telephone	5	5
Wireless Internet Connection	15	15
Library	20	20
Notice Board	50	50
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.4 shows how the respondents get access to the information systems available at UEW-K campus. From the table, easy access to notice board formed 50%, library consists of 20%, wireless internet connection was 15% according to the respondents, and computer was recorded 10% while 5% of the respondents' ticked access to telephone.

#### **Effective Utilization of MIS in Teaching and Learning in UEW- K campus**

The table below shows the effective use of MIS within UEW-K campus. The researcher has three categories of respondents under the study. In teaching and learning, students, teachers and the administrative staff make use of MIS. But whether it is used effectively to achieve their intended objectives is the challenge. Table 4.5 describes the effective utilization of MIS by the categories of respondents mentioned.

**Table 4.5: Effective utilization of MIS in teaching and learning in UEW- K campus**

Group	No of Respondent	Percentage (%)
Administrative staff	30	30
Lecturers	20	20
Students	50	50
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

In Table 4.5, the students which represent 50 is the group that most and effectively use MIS in UEW-K representing 50% followed by the administration which is 30% and lastly the lecturers representing 20%. This means that the students mostly used the MIS within the school.

**Table 4.6: MIS has help achieved my teaching, learning or administration objective**

Items	No of Respondents	Percentage
Yes	80	80
No	20	20
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018.

Table 4.6 it clearly shows that MIS has helped 80% of the respondents in achieving their objectives while 20 of the respondents representing 20% have not able to reach their target. This concludes that MIS is been utilized well within the school because majority of the respondents have satisfy their intended aims

**How MIS Utilization has Improved Teaching and Learning**

The use of MIS has in fact enhances the teaching and learning process in a numbers of ways. It has been used by students and lecturers in these areas of teaching and learning process. Both students and lecturers have benefited from MIS in different forms and many aspects in the university campus.

**Table 4.7: MIS has help in my research project work**

Items	No of Respondents	Percentage (%)
Yes	100	100
No	0	0
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.7 shows how MIS have facilitate completing research works. All the respondents said MIS has helped them in their project work. None of them answered no. This indicates the extent at which MIS is improving teaching and learning.

**Table 4.8: MIS has make class presentations effective.**

Items	No of Respondents	Percentage (%)
Yes	70	70
No	30	30
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.8 above indicates that 70 of the respondents representing 70% said MIS have make class presentation effective. Whiles 30% of the respondents answered no to show how ineffective it has been to them.

**Table 4.9: MIS has make Online Learning Easy**

Items	No of Respondents	Percentage (%)
Yes	80	80
No	20	20
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researcher's Field Study, 2018

Table 4.9 show how MIS have improved teaching and learning through the use of internet facilities within the campus. 80 people of the respondents representing 80 % supported that internet services have really facilitated the registration process and none of them said no to that question item.

**Challenges of the use of MIS in Teaching and Learning**

MIS have several challenges in its application in most institutions that apply it. Most users are not satisfied to some extent and this has been a worried to organizational management. The researcher therefore investigated the strength and challenges of MIS in UEW-K.



**Table 4.2.1: Strength of MIS within UEW-K in teaching and learning**

Items	No of respondent	Percentage (%)
Satisfactory	25	25
Somehow satisfactory	25	25
Not satisfactory	50	50
<b>Total</b>	<b>100</b>	<b>100</b>

The table 4.2.1 indicates the level of satisfaction of MIS by the users within UEW –K campus. Here, majority of the respondent were not satisfied about the strength of MIS within UEW-K campus. Students, lecturers and administrative staff express their level of satisfaction towards MIS within the university campus which was generally low with respect to the percentage indications of 50%, 25% and 25% for satisfy, somewhat satisfy and dissatisfy respectively. This may contribute to the fact that the MIS is not meeting their respective needs

**Table 4.2.2: Inadequate MIS tools Slow Research Work**

Items	No of respondent	Percentage (%)
Yes	70	70
No	30	30
<b>Total</b>	<b>100</b>	<b>100</b>

From table 4.2.2, it shows that 70 of the respondents representing 70% said the inadequate MIS tools have slow down their work whiles 30 of the respondents representing 30% have no problem with the existence of MIS tools. Average it can be concluded that the gnarl inadequacy of MIS is challenge within UEW-K campus due to the increasing number of students .some may also due to depreciation of some MIS materials in the school.

## DISCUSSION

The researcher purposively selected hundred (100) people to respond to the questionnaires. Out of these, 65 were males and 35 were females as depicted in table 4.2 they were predominantly from 21-30 years of age.

The researcher designed questionnaires to identify the availability of information systems in UEW K Campus. From the table the researcher has TPS, CRM and MIS. MIS representing 60%, followed by TPS which is 25% and CRM is used in few occasions which represent 15%. These systems are used by the lecturer, administrators and the students to achieve a set target. There is interrelationship among these MIS system for effective.

It was found in Table 4.4 that access to notice board formed 50%, library consists of 20%, wireless internet connection was 15% according to the respondents, and computer was recorded 10% whiles 5% of the respondents' ticked access to telephone. The result shows that computer which form the basis for management information system is not adequately available and easy to access in the campus. Hardware and software component of MIS have impact of the quality of services and usage of MIS in the university. According to Hiyam (2011), sub-variables (hardware, software, security, and usability) have an impact on MIS. This general inadequacy of MIS equipment does not augur well for effective MIS operations in the university. Ekwere (1990) found that poor input in form of MIS equipment results into poor information output, and that if MIS is to succeed; its operations need considerable

procurement of adequate and appropriate hardware's, software's, and communication equipment. Lowe (1992) also emphasized the need for procurement of equipment to operate computer-based MIS for Ghana universities. Thus, this finding of inadequate MIS equipment in the university does not conform to the standard requirements of effective MIS operations in complex organizations, such as the universities. Absence of such MIS equipment's would interfere with administrative duties, lecturers' research performance and the students' ability to contribute to knowledge in all endeavours. The challenges encounter in MIS implementation within UEW –K campus cannot be over emphasized.

The study also revealed the effective utilization of MIS within the university by the three groups of respondents' namely senior administrative staff, lecturers and students. These results fall in line with the functions performed by these groups' of people within the university system. While lecturers concern themselves mainly with teaching, research and community services the senior administrative staff performs administrative functions such as curriculum planning, budgeting, supervision, evaluation and maintenance of human and material resources within the system. This administrative staffs are thus expected to interact more with the available MIS equipment than the lecturers in carrying out these functions. The students are at the receiving end of the activities of both the lecturers and the senior administrative staff. Hence, they may not have as much access to the equipment as the staff.

MIS has improved teaching and learning and other administrative work within campus. Making research works more flexible and faster. It has make large class presentation so lovely in the way that on can hear from any corner. Documentations, filing, e - mailing, online registration and many others have been successfully and effectively due to MIS

The challenges encounter in MIS implementation within UEW –K Campus cannot be over emphasized. From table 4.2.1 it can be observed that both the students and the lecturers were not satisfied about the usage and the level of MIS on the campus

## **CONCLUSION**

The findings of this study clearly show that MIS has improved teaching and learning and it has also enhanced or modify the learning process. It was also clear that UEW K is inadequately equipped for MIS operations (especially electronic equipment). The available MIS equipment was not sufficient to be utilized by students, lecturers and senior administrative staff within the university campus. To enhance administrative decision processes, so that decision making, policy analysis, formulating, planning, monitoring and management at all levels can be a reality effective MIS operation should be adequately available. Although some challenges were encountered this served as an obstacles in effective utilization of MIS within the campus.

## **RECOMMENDATIONS**

Based on these conclusions, it is suggested that for effective MIS operations in UEW-K campus, computers and their accessories are necessary. Other related technologies of MIS such as telephone system, internet, fax, notice board, suggestion box and e-mail services need to be provided to ensure appropriate and adequate dissemination of necessary information within and outside the university system.

The need to keep pace with technological developments in the field of information systems

quality and to ensure the use of modern equipment, and advanced software due to their positive impact in improving the quality of service, and the rehabilitation and training of personnel in the field of management information systems, and supplying them with the qualified and trained competencies they need to increase the efficiency and effectiveness of these systems in order to keep up with the rapid technological developments in this field.

The governments should assist in providing these MIS equipment in order to perfect the network design, which is the goal of the computerized MIS project between the various universities campuses.

In addition, people within the university should be made aware of the available MIS equipment. This equipment's should be distributed to serve the different categories of university personnel in line with their prescribed roles towards goal attainment. Lecturers in particular should be provided with necessary equipment's and properly trained to use these equipment's for their professional development and academic improvement of their students. These measures would go a long way to improve the standard of university education in Ghana. Students as well as being beneficial from the lectures research could also perform effectively in their various areas of study.

Moreover, effective maintenance system should be adapted to strengthen the operation of MIS in UEW- K campus. Routine programs and contingency measures should be put in place to ensure perpetual existence of the various MIS technologies and its supporting equipment's. This will solve the inadequacy problem within the campus.

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