THE RELATIONSHIP BETWEEN MANAGEMENT INFORMATION SYSTEM (MIS) AND UNIVERSITY MANAGEMENT IN SOUTHWEST NIGERIA

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ABSTRACT
The study assessed the utilization of Management information System (MIS) in decision making and policy making processes in the management of universities. The correlational research design was adopted. Using stratified random sampling technique, universities were first stratified into federal and state, then staff were stratified to teaching and non-teaching staff. A total of 100 participants took part in the study. Data were collected using questionnaire and analyzed using Pearson Product Moment Correlation (r) and t-test statistics. The result revealed that there is a significant relationship between MIS and decision-making and policy making respectively. There was also a significant difference between federal and state universities in the utilization of MIS in their mode of operations. It was recommended that there should be provision of MIS facilities, MIS project should be supported with adequate funds, and the use of MIS should be emphasized in the National Universities Commission (NUC) minimum standards.

Keywords: Management Information System (MIS), University management, Decision making and Policy making.

INTRODUCTION
Education is necessary and it is the most effective tool for growth and development of every individual and society. In Nigeria since the 1960s, university education has expanded in proportional terms. The management of university education required a set of functions which include planning, organizing, coordinating, decision-making, controlling, and supervising. All these functions are necessary to achieve the goals, objectives, and policies of university programmes in order to justify the continued existence of the universities. These can best be achieved through a good Management Information System (MIS).

Information is described as a powerful tool in the present global village (Isah, 2014). The general consensus in the study of information is that it forms the central operations unit of any organization (Isah, Fabunmi, & Emunemu, 2012; Obadara, 2014). Information resource and information management are part of the major issues and
indices in the management of universities. These include recording, storage, retrieval, and use of data meaningfully to plan and make decisions in the operation of universities (Ighofovwe, 2005). Information is central to the management of university education, hence the more complex an institutional structure is, the greater the need for coordination within and between sections and departments. To support this position, the Federal Government of Nigeria made its booster plan of computerizing information in unity schools. Nevertheless, the information resources still present a major issue in university management in Nigeria. The National Universities Commission (2007) affirms that poor management is a bottleneck in the successful management of universities in Nigeria.

According to Emetarom (2001), the universities are expanding and the problems of planning, administration and control are also on the increase. They are confronted with decision making constraints posed by lack of appropriate and organized information. Consequently, the need for increased information management capacity becomes imperative. Ige (as cited in Johnson, 2007) found that MIS has helped to facilitate decision making for effective administration in universities in Nigeria.

The design and development of MIS have been covered in different perspectives leading to various definitions which sometimes depend on authors' prejudices. MIS is an organized method of providing management with necessary information needed for decisions in a form which aids understanding and stimulates actions (Bello, 2008). Baskerville and Myers (2002) defined MIS as “the development, use and application of information systems by individuals, organizations and society” (p. 7). Furthermore, Shah (2013) sees MIS as the process of collecting, processing, storing and transmitting relevant information to support management functions of planning, directing, decision making and policy making. The foregoing definitions of MIS imply that techniques, processes and structures concerned with systematic and accurate data collection, storage, and for retrieval when needed. It is a system which comprises the user, the information, and the enabling environment; thus, it is an integral part of management process within the universities. In the context of this study, MIS is used to refer to the process of accessing and utilizing processed information to support university management in policy making and decision making.

The important role of information to the survival of the university system is very vital; hence, the National Universities Commission (NUC) has supported the initiative of introducing the computerized Management Information System for the Nigerian universities (Ajayi & Omirin, 2007). For instance, the conception of MIS as a viable tool in university management by the NUC has led to their partnering with the Overseas Development Administration (ODA) to initiate MIS projects in four universities in Nigeria since 1980. These are the Federal University of Technology, Minna; University of Ilorin; University of Lagos; and University of Nigeria, Nsukka. According to Adebayo (2007), the essential role of MIS is to transform data into meaningful information that can be used in educational planning and decision making processes, especially on issues affecting human and material resource development and allocations. This points to the fact that MIS can be used at various levels of management, from the top to middle and even by the operational staff, as a support for decision making that aims to meet strategic goals and objectives of the institutions.

In line with the foregoing, the aim of MIS is to develop a viable system to maximize the effective application of modern data approach to management practices and to produce timely and accurate information, not only to decide present and future
operations, but also to pinpoint potential issues that need to be resolved in the management of universities in addition to enhancing policy making, (Ajayi & Omirin, 2007). Furthermore, Obi (2003) posits that information is the basic foundation in planning, policy making, implementation, evaluation, and decision making. Policy making processes involve formulation of plans to guide a definite course of action. Obi further argued that this is a major problem in education as information are not provided as at when needed, and when they are provided, are either inaccurate or poorly scheduled, which without accurate and up-to-date information cannot promote effective decision making. Gathering information is the first step in making rational decisions that will improve the worth of the universities. This view supports Adesina (1988) who pointed out that the quality and quantity of information available for decision making affects the effectiveness of the group. To this end, decision should be based solely on appropriate, accurate and timely information provided by MIS, following the report of Emetarom (2001) that the utilization of computerized MIS in universities does improve their services.

In addition, MIS is required for need assessment, logistics and planning, resource allocation and utilization, operations control, management and evaluation of information. Thus, where the MIS (manual or computerized) is weak, poor, and slow, the decision making capacity at all levels will be ineffective. Hagg, Cummings, and McCubbrey (2002) affirm that for information to be useful in decision making, it must be relevant, accurate, and timely, though MIS does not necessarily imply improved decision making since the accuracy of MIS is not absolute. The quality of information depends on analysis, system maintenance, and cost effectiveness.

Though there have been positive contributions of MIS to management of universities, there are still bottlenecks in its design and utilization. For instance, Nwankwo (1985) noted that the existing MIS have had little success in providing universities management with information that they actually need. This is as a result of lack of management involvement in the design of MIS, inadequate computer system, undue concentration on low level data processing, inadequate knowledge, and management of computer operations. Furthermore, there is poor planning and management in the universities as a result of non-availability of reliable, timely, and up-to-date information, which is attributed to the use of the manual method of collecting, storing, and retrieving data. Other factors affecting success of MIS include poor coordination between technical and user personnel and incapability of MIS to extend to the functional areas in the universities. For example, in many universities, graduate and undergraduate students do not have their results assembled, compiled and published via MIS. Ajayi and Omirin (2007) found out that MIS was not adequately used in making decisions in the universities. In addition, they found that adequate use of MIS is not affected by proprietorship of universities (both federal and state).

Poor management of information system not only leads to inadequate planning and inappropriate decision-making, but it can aggravate defective programming or scheduling of actions. This can happen when there is dearth of information and data to complete actions. The discrepancy between information and proper management of universities is really a matter of concern.
PURPOSE OF THE STUDY

In recent times, the power of technology has transformed the role of information in higher institutions as it has become recognized as the lifeblood of an organization. MIS facilitates managerial functioning and it is an important system because of its content, form, and timing of presentation of data. However, it seems administrative actions can only be effective if the management process is adequately supported by an organised information system. This logic forms the basis for this study, which examines the relationship between MIS and university management.

In the light of the foregoing, this study intends to examine the relationship between MIS and management of university education in terms of decision making and policy making process. Specifically the study aim to do the following.

- Examine the relationship between the use of MIS and decision-making processes in the universities.
- Determine how MIS relates to policy making processes in the universities.
- Ascertain the difference between federal and state universities in their utilization of MIS in their mode of operations.

RESEARCH HYPOTHESES

1. There is no significant relationship between the use of MIS and decision-making processes in the universities.
2. There is no significant relationship between the use of MIS and policy making process in the universities.
3. There is no significant difference between federal and state universities in their utilization of MIS in their mode of operations.

METHODS

Research Design

The study adopted a correlational research design. This design was considered apt for this study as it seeks to elicit information from teaching and non-teaching staff in universities to establish the relationship between MIS and university management.

Participants

The population comprised of both teaching and non-teaching management staff in 14 federal and state universities in Southwest, Nigeria. The universities were stratified into federal and state. Two federal and two state universities were randomly selected for the study. A purposive sample of 25 management staff were selected from each of the federal and state universities to make a total sample size of 100. The management staff comprised both teaching and non-teaching staff at the managerial level who have the responsibility of being the head of department, unit, or directorate in the university. The purposive sampling technique was used because of their peculiar roles as decision makers.

Instruments

The instrument used for the study was a questionnaire titled MISUMQ and it is structured on a 4-point Likert type scale of Strongly Agree (SA=4), Agree (A=3), Disagree (D=2) and Strongly Disagree (SD=1). The instrument contained 26 items based on the two variables that form the research hypotheses. Seventeen items were raised for
the variable Use of MIS while 9 items relate to the variable Decision Making Process. The MISUMQ was validated by experts in the fields of Management Information System (MIS), Information Communication Technology (ICT), and Test and Measurement. Reliability and internal consistency of the instrument were established through the use of test-re test reliability method, and a reliability coefficient of $r=0.721$ was obtained. Each positive item on the MISUMQ was scored in descending order from 4 to 1 while the reversed order was used for negative items.

Procedure for Data Collection
The researchers made use of two trained research assistants in administering copies of the questionnaire to participants in the universities. One hundred copies of the questionnaire were retrieved out of the 120 administered, representing an 83% retrieval rate.

Method of Data Analysis
Data collected were analysed using the descriptive statistics of mean and standard deviation as well as the Pearson Product Moment Correlation ($r$) and t-test statistics at 0.05 level of significance.

RESULTS
The first research hypothesis stated that there is no significant relationship between the use of MIS and decision-making process in the universities. The analysis is presented in Table 1.

Table 1. Correlation between Management Information System and Decision Making Processes in Universities.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>df</th>
<th>r-cal</th>
<th>r-crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Information System</td>
<td>55.28</td>
<td>11.42</td>
<td>100</td>
<td>98</td>
<td>0.487</td>
<td>0.195</td>
<td>Significant</td>
</tr>
<tr>
<td>Decision Making Processes</td>
<td>23.71</td>
<td>4.53</td>
<td>100</td>
<td>98</td>
<td>0.487</td>
<td>0.195</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows that the calculated correlation is greater in magnitude than the critical value. Therefore the null hypothesis was rejected. There is a positive correlation, though weak, between the variables of management information system and decision making process in the universities. This means that as management information system usage increases, decision making process in the universities also increases.

The second research hypothesis stated that there is no significant relationship between the use of MIS and policy making process in the universities. The analysis is presented in Table 2.
Table 2. Correlation between Management Information System and Policy Making Processes in Universities.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>df</th>
<th>r-cal</th>
<th>r-crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Information System</td>
<td>55.28</td>
<td>11.42</td>
<td>100</td>
<td>98</td>
<td>0.538</td>
<td>0.195</td>
<td>Significant</td>
</tr>
<tr>
<td>Policy Making Processes</td>
<td>22.13</td>
<td>4.06</td>
<td></td>
<td></td>
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</tbody>
</table>

Table 2 shows that the calculated correlation is greater in magnitude than the critical value. Therefore, the null hypothesis was rejected. There is a significant positive relationship of moderate strength between management information system and policy making process in the universities. This means that as management information system usage increases, policy making processes in the universities also increases.

The third research hypothesis stated that there is no significant difference between universities that adopt MIS and those that did not in their mode of operations. The analysis is presented in Table 3.

Table 3. t-test Comparing Utilization of Management Information System between Federal and State Universities.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>df</th>
<th>t-cal</th>
<th>t-crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Universities</td>
<td>54</td>
<td>23.04</td>
<td>4.06</td>
<td>98</td>
<td>2.36</td>
<td>1.98</td>
<td>Significant</td>
</tr>
<tr>
<td>State Universities</td>
<td>46</td>
<td>21.91</td>
<td>6.94</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The result in Table 3 shows that the calculated t-value is greater than the critical value. Therefore the null hypothesis was rejected. There is a significant difference between federal and state universities in their utilization of MIS in their operations. Based on the mean scores, the federal universities utilize MIS more than their state counterparts.

DISCUSSION

The study intends to examine the relationship between MIS and management of university education in terms of decision making and policy making processes. The study found that there is a significant relationship between MIS and decision-making processes in the universities. This suggests that MIS provides a valuable function such that collating unmanageable volumes of data into a coherent report useful for decision making. This finding does not pose any surprise considering the role of MIS in effective decision making. It suggests that the university system will not be efficient and effective in its operation without information resources, hence MIS is needed for effective decisions in the universities. The finding supports the finding of Emetarom (2001) that utilization of computerized MIS in universities does improve their services in recent times. On the contrary, it contradicts Emechebe and Garba (2006) who found that MIS is not fulfilling its objectives in its ability to help make quick decisions and also in the day-to-day management of the universities. Also Ajayi and Omirin (2007) found that MIS was not adequately used in making administrative decisions. The reason adduced for this is that important decisions affecting the universities could be delayed or taken with whatever information is available to the management. Hagg, Cummings and McCubbrey (2002) affirm that for information to be useful in decision making, it must be relevant, accurate, and timely. They affirm that MIS does not necessarily imply improved decision making;
this is because the accuracy of MIS is not absolute and the quality of information depends on analysis, system maintenance, and cost effectiveness.

The study also found a significant relationship between the use of MIS and policy making processes in the universities. This has implications not just on planning and management but also on policies guiding the operations of the universities. This implies that university authorities place premium on information in making viable policies as well as implementing the policies. This has constituted one of the potent ways of ensuring quality standards in the universities, hence, the introduction of the computerized MIS in the Nigerian universities by the NUC. However, Obidike (2009) found that policy making processes in the universities are based on other factors other than information at hand. This could be as result of problems encountered in MIS which sometimes delay information needed for making policies.

Finally, the results of this study found a significant difference between the federal and state universities in the utilization of MIS in their mode of operations. This findings point to the fact that most federal universities utilize MIS in their operation to perform functions such as registration of students and courses, lodgment of complaints, notification of results, interactive process, and dissemination of important notices, moreso than their state counterparts. This supports Emetarom (2001) report that the utilization of computerized MIS in universities does improve their services. The reason adduced for this finding is the fact that federal universities tend to be better funded and equipped with necessary MIS facilities than the state universities.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made.

• The university management should educate staff on the benefit of utilizing MIS by management, staff, and students in the universities. This will enable them to process required information for meaningful use. This should go along with training on computer gadgets to facilitate MIS application.

• Considering the importance of MIS in producing reliable information for the management of universities, it is recommended that the government supports MIS projects with adequate funding.

• The NUC should ensure that all universities embrace the use of MIS in management functions.

• There should also be staff involvement and commitment in the use of MIS to bring about significant changes within the university system.

CONCLUSION

In the light of the findings from this study, it is concluded that the role of MIS in the decision making and policy making processes of the universities cannot be overemphasized. Though the various areas of MIS such registration and results collation has made considerable progress in both federal and state universities, the outcome of this study shows that the management of the universities only utilize the information within their reach as processed information do not get to them as at when needed apart from the fact that they are not well processed for meaningful use. Consequently, there is need to intensify effort in providing processed information for effective and efficient management of the universities.
REFERENCES


