

Management Information System and Effective Planning of Tertiary Institutions in Rivers State

Nweke, Emmanuel Onyekachi PhD¹; Joyce, A. Barth-Nengia (CIN)²; and Felix, Nwokogba³

¹Department of Office Technology, Captain Elechi Amadi Polytechnic, Rumuola Port Harcourt, Rivers State, Nigeria. ²Department of Library and Information Science, Captain Elechi Amadi Polytechnic Rumuola, Rivers State, Nigeria. ³Affiliate, Rivers State University, Nkopolu, Oroworukow, Port Harcourt, Rivers State, Nigeria.

Corresponding author: emy1242000@yahoo.com

Abstract

The study investigated management information system and effective planning of tertiary institutions in Rivers State. The study adopted the correlational research design in which the variable of management information system was operationalized into institutional repository, students' information and manpower information to correlate effective planning. The target population was 835 which comprised of administrative staff in tertiary institutions in Rivers State which are Captain Elechi Amadi Polytechnic, Port Harcourt, Rivers State University (Nkpolu-Oroworokwo), Ignatius Ajuru University of Education (Rumuolumini) and Ken Saro Wiwa Polytechnic, Bori. Stratified random Sampling technique was used to arrive at 120 in which 30 administrative officers were chosen from each of the institutions. The instrument used for data collection was questionnaires, titled: "Management Information System and Effective Planning (MISEP). Out of the 120 copies of questionnaires distributed, 100 copies representing 83% which were duly completed and returned was used for the analysis. The findings of the study revealed that there is significant relationship between management information system and effective planning in tertiary institutions in Rivers State. The reliability of the instrument was ascertained using Cronbach Alpha (SPSS version 23) and .987>.71 obtained which showed that the instrument was highly reliable. Mean and standard deviation was used in answering the research questions at mean benchmark of 2.5 criterion while Pearson Product Correlation Coefficient (PPMC) was used to test the null hypotheses at .05 significance level. The study concluded that management information system is important in the areas of manpower information, students' information and institutional repository for decision making which translates into effective planning in tertiary institutions in Rivers State. It recommended among others that management of tertiary institutions in Rivers State should ensure the availability of online or hard copy repositories to rate the quality of researches and documentation readiness required for effective planning.

Keywords: Management Information System, Planning, Students' Information, Manpower Information, Institutional Repository.

Introduction

Information constitutes the most important tool and indeed the very essence of the management function in education. Information is indeed required for all types of decision

making at all levels of our educational system. According to UNESCO (1979) and cited by Nweke (2022) information gives the possessor power and influence and above the authority he may be legally vested with. In any organization, power, that is, the ability to get things done flows into the hands of those who have the most up-to-date information. People are more likely to be guided by those who know more and better.

Thus, a first principle in achieving managerial effectiveness in the pursuit of quality education is to have access to the most reliable and up-to-date information (Amachree, 2021). Indeed, most of the problems of policy making and management of the educational system in Nigeria may be traced back to the problems of poor management of information. In each Ministry of Education, Schools Board, Commission or Educational Institution, there are a wide variety of information in the form of correspondence, data, accounting documents, circulars, memoranda, minutes of meetings, staff records, list of courses, inventory of facilities, official reports, examination records, budgetary allocation, expenditure and so on. Accurate and timely availability and use of the information would reduce the common problems facing education and training in Nigeria.

The study limits itself to institutional repository, in tertiary institutions in Rivers State. This may include the academic researches of teaching staff, academic brief, other staff related information at a glance. This would help guide the institutions in their strengths of researches and possible areas to improve upon. Management may therefore create Information flow system in this regard. Effective manpower information gathering in terms of age, skill levels, skill gaps are relevant in gathering information concerning staff for effective planning in tertiary institutions in Rivers State.

Student enrollment rate can be matched with available facilities if appropriate planning and information system is put in place. Gary (2019) asserts that any institution that lacks information pathway is bound to be truant in its major decision. This therefore calls for caution in the path of management on the way its managements information relevant to its planning and implementation. However, this study aggregates information in the tertiary institutions in Rivers State to include, number of graduates in their areas of profession, education inputs such as teaching or instructional facilities, quality of staff and enrollment. Management refers to school administrators and government in the case of government established tertiary institutions. Management is expected to have a specific or definite Management Information Management flow. Every unit of function is expected to be equipped with the right or appropriate information management facilities. Information gathered by staff and advanced to management are expected to guide management in their decision-making regarding staff, facilities, learning process and planning (Andre, 2019).

There appears not to be so much researches on Management Information System as it regards education system in Nigeria or parts of Nigeria. However, Adeyemi (2017) carried out a study on educational information and students' academic performance in Lagos State, Nigeria, Dike-oke (2010) carried out a study on Education and information gathering in Nigeria. There has not been any study such as Management Information System and

effective education planning in Rivers State. The present study is therefore geared to bridging the gap.

Statement of the Problem

Management information system is required to enable administrators plan the inputs and outputs of education very effectively. It is crucial in any decision making that will lead to effective planning and policy implementation. However, it has been observed that most managements in tertiary institutions in Rivers State, lack adequate or up-to-date information management system. The institutions under study appear not to have a repository of teaching staff research index. This could be useful in determining the research strength of the staff. Most articles or publications are only displayed during appraisals or promotion exercise. It is suspected that tertiary institutions in Rivers State lack comprehensive records regarding its facilities. Facilities such as classrooms, laboratories, workshops and matched with the number of students to be enrolled and admitted. Effective manpower information gathering equally appears ineffective. There ought to be a balanced list and information of number of staff in the incumbent, the number, quality, projected for the future. There have been cases where some institutions in Rivers State have repeated employment process for blatant show of lack of management information system. This study is therefore set to investigate the relationship between Management Information System and effective planning in tertiary institutions in Rivers State.

Aim and Objectives of the Study

The aim of the study is to investigate the relationship between Management Information System and effective planning in tertiary institutions in Rivers State; with the following specific objectives:

1. To investigate the relationship between institutional repository and effective planning in tertiary institutions in Rivers State.
2. To determine the relationship between manpower information and effective planning in tertiary institutions in Rivers State.
3. To find out the relationship between student information and effective planning in tertiary institutions in Rivers State.

Research Questions

The research questions guided the study:

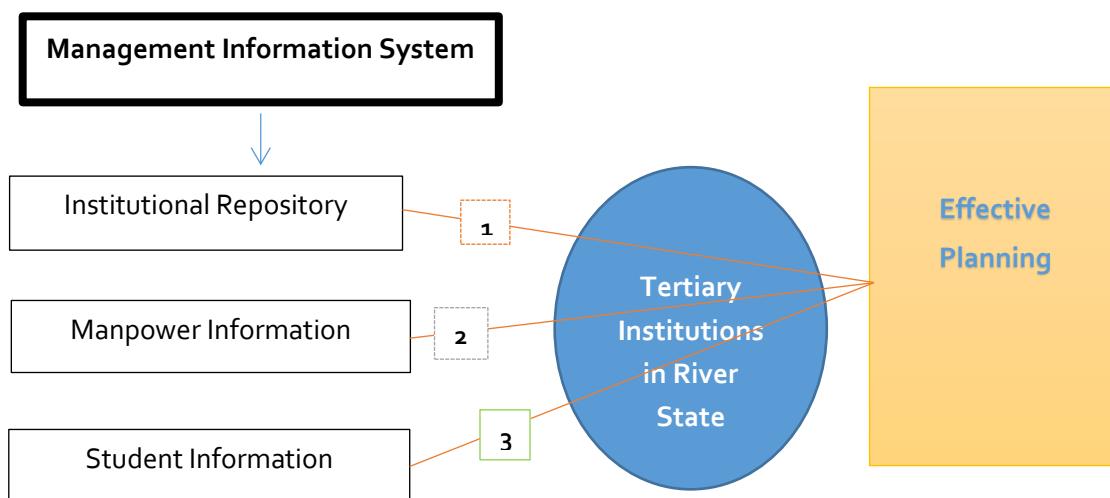
1. To what extent does institutional repository relate to effective planning in tertiary institutions in Rivers State?
2. To what extent does manpower information relate to effective planning in tertiary institutions in Rivers State?
3. To what extent does student information relate to effective planning in tertiary institutions in Rivers State?

Null Hypotheses

The following null hypotheses guided the study:

1. There is no significant relationship between institutional repository and effective planning in tertiary institutions in Rivers State.
2. There is no significant relationship between manpower information and effective planning in tertiary institutions in Rivers State.
3. There is no significant relationship between student information and effective planning in tertiary institutions in Rivers State.

Conceptual Clarification



Management Information System (MIS)

There is no universally accepted definition of management information system and those that exist have become almost synonymous with computer-based data processing. Notwithstanding other scholars are busy with the distinction between such concepts as Electronic Data Processing (EDP), Decision Support System (DSS) and Management Information System (MIS). According to Lucey (2019) MIS is the combination of human and computer-based resources that results in the collection, storage retrieval, communication and use of data for the purpose of efficient management of operations and for business planning. Similarly, the World Book Encyclopedia (2017) described MIS as computer system designed to assist executives who run businesses, government agencies and even education organizations and institutions to make complex business decisions (Navarathan, 2019).

The position of this paper, however, is that Management Information System is not the same as computerization. It can be manual or computerized depending on the size, complexity and nature of information, as well as on the user objectives, the nature of the activities, and all the available facilities. The computer is an information processing gadget, equipment or facility and does not by itself constitute Management Information System

(Nwankwo, 2017). Indeed, there can be a good Management Information System without a computer, although a computer can assure a more efficient Management Information System. It might not be wrong therefore, to agree with Lucey (2022) that MIS is a system using formalized procedures to provide management at all levels in all functions with appropriate information, based on data from both internal and external sources, to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. The emphasis from the definition seems to be on the uses to which the information is put and not on the means by which the information processed. In other words, it is the end use of the information which is important and not the intermediate processing stage.

By implication, there is the need for increased information management capacity among educational administrators, planners and policy makers. It should not be forgotten however that information is the very substance of the management transaction and is therefore an integral part of the meaning and achievement of educational institutions' activities. In an era of information explosion, today's organizations require managers/executives who can get at, interpret and appropriately, use information. To get, analyse and use information speedily and appropriately, a good MIS becomes a sine-qua-non. Perhaps, this and many more reasons explain why modern management regards information consciousness as one of the most important attributes of good manager of any organization (Stuart, 2024).

Effective Planning

Planning in educational system requires information. Information ranging from staff and academic researches may serve as guides to providing valuable management decision making and policy implementation. Promoting education quality is a complex task and involves the simultaneous examination of multi-level, mutually integrating variables. According to Stuart (2024) researchers do not even fully agree on an accepted definition of planning, but is it processes broken down into layers of attainment within the available information. Nweke (2022) insists that some of what should be planned in schools includes students' information, manpower and researches. The majority of research, however, focuses on academic instruction and school outcomes.

Institutional Repository and Effective Planning

Institutional repositories are open access, electronic stores of manuscripts and articles written by the lecturers or teachers at specific institutions. Unlike the traditional publishing model, these repositories allow researchers to retain their copyrights to their manuscripts. Institutional repository according to Nwankwo (2022) forms part of planning process of any institution as institutions are able to house their strong areas of research. Institutional repository constitutes part of institutional planning as teaching staff intellectual activities are archived or stored for future reference. Intellectual wherewithal of staff of tertiary institutions in Rivers State are part of the planning indicators of institution (UNESCO, 2023).

Manpower Information and Effective Planning

Manpower or human resources planning helps identify the available talent, such as skilled workers within the workforce, to further chalk out a development plan for such workers. It also supports the growth and diversification of your business, as through manpower planning, you can best utilize available human resources. Human resources is a very critical aspect of planning in any institution. Essink (2019) sees manpower planning as an indicator of how bright or gloomy the future is in any organization. In planning for any institution including educational organizations, manpower planning is principal in carrying all other resources along. The principal resource in any institution is the human resource (Lucey, 2019).

Students Informaton and Effective Planning

A student information management system is designed to store and monitor various aspects of students' academic workload, personal details, grades, records, and more. It also involves keeping student's enrollment record Effective planning in tertiary institutions includes students records, enrollment another students details required for their upkeep and training within the campus and training span (Navarathan, 2019). It serves as a tool for simplifying tasks and organizing all student-related data into a unified system rather than scattered across multiple records. Additionally, a student information management system can facilitate performance monitoring at the district level.

While many schools currently utilize electronic student records to some degree, the information contained within these records is often limited in scope, typically comprising only grades and faculty notes accessible solely to parents and students. Other pertinent student information may be dispersed among different educators and departments (Soitair, 2012)

Theoretical Framework

This study was anchored on the Managerial Skills Base theory. Skills theory is somewhat similar to behavioral theories of management. Managerial skills are an essential component in positioning executives to make thoughtful decision about their organizations mission and goals, and properly allocate resources to achieve those directives. Valuable managerial skills include the ability to delegate, inspire and communicate effectively. Leaders also require traits to function well. Some managerial traits include honesty, confidence, commitment and creativity (Stuart, 2024). Managerial skills are the strengths and abilities leaders demonstrate that help to oversee processes, guide initiatives and steer their employees toward the achievement of goals while managerial traits are managerial characteristics or attributes. This study is linked to the theory because it sees management information system as a skill which is required in helping management form critical decisions regarding the day to day running of the institution.

Methodology

This study adopted correlational design. This is because the researcher attempted to establish the relationship between management information system and effective planning in tertiary institutions in Rivers State. The target population of the was 835 which comprised of administrative staff in tertiary institutions in River State which are Captain Elechi Amadi Polytechnic, Port Harcourt, Rivers State University (Nkpolu-Oroworokwo), Ignatius Ajuru University of Education (Rumuolumini) and Ken Saro Wiwa Polytechnic, Bori.

Capt. Elechi Poly: Staff (admin staff) - 30

Total - 30

(Source: www.staff.uph.edu.ng)

RSU: Staff (Admin staff) - 250

Total - 250

(Source: Wikipedia, 2019)

IGAUE: Staff (admin staff)- 310

Total - 310

(Source: www.edu.resourcecentre.com)

KEN POLY: Staff (admin staff)- 245

Total - 245

(Source: www.edu.resourcecentre.com)

Therefore, total population is **835**.

Sampling technique was used to arrive at 120 in which 30 administrative officers were chosen from each of the institutions. The instrument used for data collection was questionnaires, Titled: "Management Information System and Effective Planning (MISEP). Out of the 120 copies of questionnaires distributed, 100 copies representing 83% which were duly completed and returned was used for the analysis. The reliability of the instrument was ascertained by using Crombach Alpha (SPSS version 23) and .987>.71 which showed that the instrument was highly reliable. Mean and standard deviation was used in answering the research questions at mean benchmark of 2.5 criterion while Pearson Product Correlation Coefficient (PPMC) was used to test the hypotheses at .05 significance level using the SPSS version 23.

Results

Research Question 1: To what extent does institutional repository relates to effective planning in tertiary institutions in Rivers State?

Table 1: extent institutional repository relates to effective planning in tertiary institutions in Rivers State

Descriptive Statistics				
S/N/Items	N=100	Mean	Std. Deviation	Remark
1. There is a designated website for staff researches		1.61	1.58	Very Low Extent
2. There is a centre in charge of staff researches		1.88	1.70	Very Low Extent
3. There is existing directory of staff researches where management gets information from.		1.16	1.01	Very Low Extent
4. Staff researches are sought for in individual basis.		3.78	1.49	High Extent
Grand Mean		2.10	1.44	Very Low Extent

Table 1 showed in item 1 mean score of 1.61 and SD 1.58 which implied low extent that there is a designated website for staff researches. In item 2 mean score of 1.88 and SD 1.70134 showed very low extent that there is a centre in charge of staff researches. In item 3 mean score of 1.16 and SD 1.01723 which showed that very low extent that there is existing directory of staff researches where management gets information from. In item 4 showed in item 4 3.78 and SD 1.49464 which showed high extent that Staff researches are sought for in individual basis.

Thus, aggregate mean score of $2.10 > 2.5$ which showed low extent that institutional repository relates to effective planning in tertiary institutions in Rivers State.

Research Question 2: To what extent does manpower information relates to effective planning in tertiary institutions in Rivers State?

Table 3: extent manpower information relates to effective planning in tertiary institutions in Rivers State

Descriptive Statistics				
S/N ITEMS	N=100	Mean	Std. Deviation	Remark
5. There is five year projection of number of staff required		1.28	.45	Very Low extent
6. There is projection of number of staff to retire on annual basis		1.54	.50	Low Extent
7. There is staff audit on annual basis		1.48	.87	Very Low Extent
8. Every department has required skills expected of skill on annual basis.		2.76	1.45	High Extent
Grand Mean		1.76	.832	Low Extent

Table 2 above showed in item 5 mean score of 1.2800 and SD .45126 which proved that very low extent that there is five-year projection of number of staff required. In item 6 mean score of 1.54 and SD .50 showed low extent that there is projection of number of staff to retire on annual basis. In item 7 mean score of 1.48 and SD 1.45 showed low extent that there is staff audit on annual basis. Item 8 mean score of 2.76 and STD 1.45 showing high extent that every department has required skills expected of skill on annual basis. Thus, aggregate mean score of $1.76 < 2.5$ showed low extent does manpower information relates to effective planning in tertiary institutions in Rivers State.

Research Question 3: To what extent does student information relates to effective planning in tertiary institutions in Rivers State?

Table 3: To what extent does student information relates to effective planning in tertiary institutions in Rivers State

Descriptive Statistics				
S/N ITEM	N=100	Mean	Std. Deviation	Remark
9. There is students' database for enrollment		2.62	1.14	High extent
10. Students' results are available on both hard and soft copies		2.76	1.55	High Extent
11. Students' continuous assessment is available for management		1.86	1.04	Low Extent
Grand Mean		2.61	1.18	High Extent

Table 3 above showed in item 8 mean score of 2.61 and SD 1.14 which showed high extent that there is students' database for enrollment. In item 9 mean score of 2.76 and SD 1.55 showed high extent that students results are available on both hard and soft copies. In item 10 mean score of 2.76 and SD 1.04 showed high extent that students results are available on both hard and soft copies. Item 11 showed low extent with mean score of 1.18 and STD 1.04 that students results are available on both hard and soft copies.

Thus, aggregate mean score of $2.61 > 2.50$ showed that low extent that student information relates to effective planning in tertiary institutions in Rivers State.

Test of Hypotheses

H₀₁: There is no significant relationship between institutional repository and effective planning in tertiary institutions in Rivers State.

Table 7: PPMC Test of the relationship between institutional repository and effective planning in tertiary institutions in Rivers State

Correlations					
Variables		Institutional Repository			
Effective Planning	Pearson Correlation	1	.083**	-.151**	.544**
	Sig. (2-tailed)		.002	.000	.000
	N	100	100	100	100
	Pearson Correlation	.083**	1	.600**	.475**
	Sig. (2-tailed)	.002		.000	.000
	N	100	100	100	100
	Pearson Correlation	-.151**	.600**	1	.039
	Sig. (2-tailed)	.000	.000		.150
	N	100	100	100	100
	Pearson Correlation	.544**	.475**	.039	1
	Sig. (2-tailed)	.000	.000	.000	
	N	100	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

Table 7 above showed N-value of 100, correlation coefficient (Spearman rho) value of .039, p-value of $.002 < .05$ which showed that there is relationship between institutional repository and effective planning in tertiary institutions in Rivers State. The null hypothesis is therefore rejected.

H₀₂: There is no significant relationship between manpower information and effective planning in tertiary institutions in Rivers State.

Table 8: PPMC Test of the relationship between manpower information and effective planning in tertiary institutions in Rivers State

Correlations					
Variables		Manpower Information			
Effective Planning	Correlation Coefficient	1.000	.048	.613**	.805**
	Sig. (2-tailed)	.	.001	.000	.000
	N	100	100	100	100
	Correlation Coefficient	.048	1.000	.576**	.113**
	Sig. (2-tailed)	.001	.	.000	.000
	N	100	100	100	100
	Correlation Coefficient	.613**	.576**	1.000	.540**
	Sig. (2-tailed)	.000	.000	.	.000
	N	100	100	100	100
	Correlation Coefficient	.805**	.113**	.540**	1.000
	Sig. (2-tailed)	.000	.000	.000	.
	N	100	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

Table 8 above showed N-value of 100, coefficient value of .805, p-value of .001<.05 which showed that there is a relationship between manpower information and effective planning in tertiary institutions in Rivers State. The null hypothesis is therefore rejected.

H03: There is no significant relationship between student information and effective planning in tertiary institutions in Rivers State

Table 9: PPMC test of significant relationship between student information and effective planning in tertiary institutions in Rivers State

Correlations					
Variables		Student Information			
Effective Planning	Correlation Coefficient	1.000	-.056*	.127**	.652**
	Sig. (2-tailed)	.	.040	.000	.000
	N	100	100	100	100
	Correlation Coefficient	.056*	1.000	.780**	.026
	Sig. (2-tailed)	.000	.	.000	.000
	N	100	100	100	100
	Correlation Coefficient	.127**	.780**	1.000	.233**
	Sig. (2-tailed)	.000	.000	.	.000
	N	100	100	100	100
	Correlation Coefficient	.652**	.026	.233**	1.000
	Sig. (2-tailed)	.000	.003	.000	.
	N	100	100	100	100
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 9 above showed n-value of 100, coefficient value of .652, p-value of .003<.05 which showed that there is a significant relationship between student information and effective planning in tertiary institutions in Rivers State. The null hypothesis is therefore rejected.

Summary of Finding

The findings of the study are hereunder itemized:

1. There low extent on how institutional repository relates to effective planning in tertiary institutions in Rivers State.
2. There is low extent on how manpower information relates to effective planning in tertiary institutions in Rivers State.
3. There is high extent on how student information relates to effective planning in tertiary institutions in Rivers State.
4. There is a significant relationship between institutional repository and effective planning in tertiary institutions in Rivers State
5. There is a significant relationship between manpower information and effective planning in tertiary institutions in Rivers State

6. There is a significant relationship between student information and effective planning in tertiary institutions in Rivers State.

Discussion of Findings

The findings of the study are hereunder discussed:

Institutional repository and effective planning

The findings of the study revealed that there is a significant relationship between institutional repository and effective planning in tertiary institutions in Rivers State. The findings of the present study are buttressed by Nwankwo (2022) stating that Institutional repository forms part of planning process of any institution as institutions are able to house their strong areas of research. Institutional repository constitutes part of institutional planning as teaching staff intellectual activities are archived or stored for future reference. Intellectual wherewithal of staff of tertiary institutions in Rivers State are part of the planning indicators of institution.

Manpower information and effective planning

The study revealed that there is a significant relationship between manpower information and effective planning in tertiary institutions in Rivers State. Essink (2019) sees manpower planning as an indicator of how bright or gloomy the future is in any organization. In planning for any institution including educational organizations, manpower planning is principal in carrying all other resources along. The principal resource in any institution is the human resource.

Student information and effective planning

The result of the study showed that there is a significant relationship between student information and effective planning in tertiary institutions in Rivers State. Navarathan, (2019) stated that a student information management system is designed to store and monitor various aspects of students' academic workload, personal details, grades, records, and more. It also involves keeping student's enrollment record Effective planning in tertiary institutions includes students' records, enrollment other students' details required for their upkeep and training within the campus and training span (Navarathan, 2019). It serves as a tool for simplifying tasks and organizing all student-related data into a unified system rather than scattered across multiple records.

Conclusion

The study investigated management information system and effective planning in tertiary institutions in Rivers State. The findings of the study revealed that management information system is important in the areas of manpower information, students' information and institutional repository for effective decision making which translates into effective planning. Manpower information enables tertiary institutions in Rivers State to

plan its staff in terms of required number, attitude, skill sets in the present and future. Students' information would aid management to have handy information about students' details and how to plan for them. Institutional repository would ensure that staff researches, academic brief and other intellectual activities or institutional documents are available for effective planning and improvement of quality and standards.

Recommendations

Based on the findings of the study the following recommendations have been made:

1. Management of tertiary institutions in Rivers State should ensure the availability of online or hard copy repositories to rate the quality of researchers and documentation readiness.
2. Students' information should be made to trail from all units of the institution including students, departments and with a designated centres for collation of relevant students' information.
3. Administrators of tertiary institutions in Rivers State should ensure adequate planning of manpower or staff as they constitute major resource of any institution that foster or manage any other planning process.

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