Data Management Issues and Lecturers' Effectiveness of State Tertiary Institutions in North Central Nigeria

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Abstract. The study examined data management issues and lecturers' effectiveness of State Tertiary institutions in North Central Nigeria. A descriptive survey research design was adopted for the study. The population for the study was 3070 respondents, comprising of the head of Department Level Adviser, Examination Officers, Admission Officers, Store Keepers in the 65 State Tertiary institutions in the North Central Nigeria. A sample of 1300 population using stratified random sampling technique, four research questions were raised and three hypotheses are formulated to guide the study. The instrument for data collection was a self-designed instrument tagged Data Management Issues for lecturers' Effectiveness Questionnaire (DMILEQ). The instrument was statements items and was validated by the experts in Test and Measurement and educational Management. Split-half reliability index of .79 after subjected to spearman ranking order statistics at .05 significance level. The result showed that the instrument is reliability for use. All the research questions were answered using descriptive statistics like mean scores and standard deviation at 2.5 decision level Pearson product moment correlation statistics was used to test all the hypotheses at .05 significance level. The findings revealed that data management, availability and utilization have positive significant influence on the record keeping teaching research, enrolment projection, graduation rate, students' academic performance and lecturers' effectiveness in State Tertiary Institutions in North Central Nigeria. It was however recommended that the lecturers should be exposed to the training on the data management issues like data availability storage and utilization methods through Workshops, Conference, in service training and method of managing available data towards enhancing lecturers' effectiveness in State Tertiary Institutions in North central Nigeria.

Keywords: Data Management Issues, Lecturer Effectiveness State Tertiary Institution and North Central Nigeria.

1. Introduction

The major problem confronting educational planning process in Nigeria is negligence of data usage by the educational planners. Many educational however, observed that they are planning without adequate data at their disposal. Witham (2002) faulted the pronouncement of Universal Basic Education programmeby former president Olusegun Obasanjo in 1999 as devoid of effective planning process in Nigerian education, became the former president did not

take into consideration all the necessary data to be managed in order to make the programme to succeed. However, the author observed that data management issues are very essential for effectiveness and efficiency in Nigerian educational programme.

Data can be defined as a numerical measure of educational phenomena especially in the school system at a particular point in time in order to aid effective decision making process, effectiveness, and efficiency in administration. Afolabi (2004) also described educational data as the collection of quantitative and qualitative information that are necessary for planning and administrative function in the school settings. For effective planning and administrative functions the need for Data management issues are called for. The data management issues of consideration are data classification, types of data needed for school administration, data availability usage, the data management challenges and solution. However, data cannot be effectivelyused without the knowledge of the stakeholders that will use them and without the availability of data the lecturer will not be effective in their administration. Durosaro (2007) classified needed educational data into quantitative and qualitative data. The author described quantitative data as those countable physical and human resources that their stock can be taken for manipulation in order to aid effective decision making process in the school settings. Qualitative data according to the author are those data relating to decision making communication skills, interpersonal human relation and delegation of authority. It should be noted that for effectiveness in data management to be enhanced, there is the need for efficiency in data collection storage and analysis. The data should be reality available for collection; the data collected should be appropriate and accurately analysed. The data availabilityfor collection, stored and analysis therefore, constitute effective data management in the school administration (Ofo (2000). The rationale for this study is to examine the data management issues like types of data, data source, collection, storage and analysis as influence the lecturer effectiveness indicators like teaching research,

community services and record keeping in state tertiary institution in North Central Nigeria.

2. Statement of problems

In the recent time, data availability collection storage and analysis are essential and veritable tool for effective planning process in Nigeria educational system. No educational planning can succeed without having effective data management (Akinsol 2005), be it primary or secondary data at the disposal of the planners. However, for the lecturers in state tertiary institutions of North central Nigeria to be effective in their teaching research communist services and record keeping, there is the need for adequate data management as relate to data availability, collection, storage, organization and analysis. Therefore, the problem of investigation therefore centered on the relationship between data management issues and lecturers' effectiveness of state tertiary institutions in North Central Nigeria

3. Aims and objective

The study aimed at examining the relationship between data management issues and lecturers' effectiveness of state tertiary institution in North central Nigeria. Specifically, the objectives of the study are to:
i.   find out the influence of data management issues on lecturer effectiveness of state tertiary institution in North Central Nigeria.
ii.   examine the types of data necessary for lecturers' effectiveness in state tertiary institution in North Central Nigeria.
iii.   investigate the level to which necessary data are available for lecturers' effectiveness in state tertiary institution
iv.   examine the efficiency in the data organization for enhancing lecturersjob effectiveness in state tertiary institution in North Central Nigeria.

4. Research questions

The following research questions are raised to guide the study.
RQI: What are the types of data to be managed for assuring lecturers' effectiveness

instate tertiary institution of North Central Nigeria?

RQ2: To what extent do the data availability influence lecturers' effectiveness in state tertiary institution in North Central Nigeria?

RQ3: To what extent do the data utilization aid lecturer job effectiveness ins state tertiary institution in North Central Nigeria?

RQ4: what are the problems militating against effective data management for lecturers' job effectiveness in state tertiary institution in North Central Nigeria?

5. Research hypotheses

The following research hypotheses were for militated for the study:

H_{01}: There is no significant relationship between data management and lecturers' and lecturers' job effectiveness of state tertiary institutions of North Central Nigeria.

H_{02}: There is no significant relationship between data availability and lecturers' job effectiveness of state tertiary institution in North Central Nigeria.

H_{03}: There is no significant relationship betwee3n data utilization and lecturer's job effectiveness of state tertiary institutionin North Central Nigeria

6. Methodology

The study adopted a descriptive research design which was carried out in expost-facto design. The population of the respondents was 3070 comprising of head of departments level advisers, examination officers, store keepers, in all the 65 state tertiary institutions in North Central Nigeria. A stratified random sampling techniques was used to selected 1300 respondents from the tertiary institutions. The respondents from state polytechnics, colleges of education, Universities and Health institutions. Five research questions and three research hypotheses were generated to guide the study. The instrument was a self-designed instrument tagged Data Management issues for Lecturers' effectiveness questionnaire (DMILEQ). The instrument was validated by the experts in statistics, Test and measurement and Educational management. Split-half reliability index of .79 after subjecting it to spearman Ranking order statistics at .05 significance level.

The research questions were answered using descriptive statistics like, means score and standard deviation at 2.50 decision level of agreement. The hypotheses were tested using Pearson product correlation statistics at .05 significance level. Find below the results.

RQ1: what are the available types of data to be managed for lecturer's effectiveness of state tertiary institution in North Central Nigeria?

Table 1: The availability types of data for lecturers' job effectiveness in tertiary institutions in North Central Nigeria.

S/No	Types of data	$\bar{x}$	Sd	Decision
1.	Students enrolment	20.24	2.01	Agreed
2.	Infrastructure facilities	22.21	2.57	Agreed
3.	Instructional facilities	18.29	2.72	Agreed
4.	Number of teaching staff	14.86	2.54	Agreed
5.	No of non-teaching staff	18.21	2.66	Agreed
6.	Number of buildings	29.16	2.72	Agreed
7.	Capacity of classrooms	12.42	2.62	Agreed
8.	Number of programmes	11.82	2.55	Agreed
9.	Graduation rates	12.21	2.61	Agreed
10.	Progression rates	18.12	2.57	Agreed
11.	Number of science equipment	22.61	2.81	Agreed
12.	No of technological equipment	16.11	2.59	Agreed
13.	Library facilities	21.2	4.61	Agreed
14.	Sporting equipments	24.6	20.73	Agreed
15	Internet facilities	20.61	2.55	Agreeds

Table 1 shows that the available data in education system are students' enrolment, physical facilities instructional facilities, teaching and non-teaching staff, buildings, the capacity of classroom number of

programme, flow and stock statistics such as graduation and internet facilities. However, the effective management of the agreed data definitely aid lecturers' job effectiveness especially supported by Durosaro (2000) which noted that the availability and effective planning in Nigeria it is therefore, essential for lecturer the data to be effective managed towards effectiveness.

RQ2: to what extent do the data availability influence lecturers' effectiveness in state tertiary institution of North Central Nigeria?

Table 2: Influence of data availability on lecturers' effectiveness of tertiary institution in North Central Nigeria

S/No	Statements	$\bar{x}$	Sd	Decision
1.	Lecturers makes use of available data for their planning purpose	11.72	2.96	Agreed
2.	The available data and efficient record keeping	14.86	2.72	Agreed
3.	Lecturers job performance are enhanced with the knowledge of available data	13.26	2.66	Agreed
4.	The availability of library science facilities aid career guidance	14.58	2.83	Agreed
5.	The capacity of the available buildings aid lecturers' activities on community services	15.52	2.62	Agreed
6.	The availability of data enables the lecturers to monitor their progression their jobs.	13.36	2.77	Agreed
7.	Awareness of the available data encourage expansion of the institutional programme	12.44	2.69	Agreed
8.	Data availability evaluation	41.29	2.70	Agreed
9.	Through the availability data progression rate is determine which aid lecturer's commitment	12.43	2.56	Agreed

Table 2 answer the question that relate to the extent to which the effective data availability influence lecturers' job effectiveness in North central Nigeria, the respondents however, agreed that the lecturers in the tertiary institution make use of availability data for their planning purpose, that the availability aid effective record keeping, it develop the lecturers' in their institutions, with the choice of subjects is entrenched, the availability of data on the capacity of building determine the types of commonly services that the institutions could be involved and thereby lead to expanded programme. The knowledge of available data enable the lecturer to determine their progression rate of the students and thereby aid lecturers' commitment in the school system therefore, the availability of data is essential for lecturers' job effectiveness in tertiary institutions.

(one 2012).

RQ3: To what extent do the data utilization aid lecturers' effectiveness of state tertiary institutions in North Central Nigeria?

Table 3: Data utilization and lecturers' effectiveness of state tertiary institutions in North central Nigeria?

S/No	Statement	$\bar{x}$	Sd	Decision
1.	Enrolment data helps teachers to have accurate records	19.46	2.92	Agreed
2.	Effective data analysis of the data collected created awareness or students progression rates	18.64	2.59	Agreed
3.	Number of physical resource availability encouraged planning processes	21.52	1.65	Disagreed
4.	The number of students determine the number of teachers to be recruited	16.39	1.56	Disagreed
5.	The record of programmes at the institutions determine number of library facilities required	18.32	2.62	Agreed

Table 3 examined the extent to which the available data in tertiary institutions are utilized in a bid to enhance lecturer's effectiveness of tertiary institutions in North central Nigeria. The respondents agreed that the utilization enrolment data aid accuracy and stability of the school records. The awareness of the

data available and analysis helps the lecturers to be aware of progression rate in the school system. The respondents also disagreed on the fact that number of the physical facilities in tertiary institutions is the major determinant of planning process. Also, the respondents also disagreed on the fact that number of student enrolment determine the number of staff recruited; the respondents disagreed that number of the programmes determine the number of library to be provided. The opinion however negate the recommendations of United Nation Education Scientific Commission which stated the teacher-student rates of 1:40. The record of students need to be determined for effective planning processes but it is not used in North Central Nigeria (FGN, 2013).

RQ4: What are the problems militating against lecturers' effectiveness of tertiary institutions in North Central Nigeria?

Table 4: Problems militating against data management for lecturers effectiveness of tertiary institution in North Central Nigeria.

S/No	Statement	$\bar{x}$	Sd	Decision
1.	High rate of figure falsification	15.52	2.62	Agreed
2.	Poor statistical knowhow affect record keeping	18.32	2.55	Agreed
3.	Political interference on figure need affect usage	22.16	2.63	Agreed
4.	Truncated school calendar affect school records keeping.	24.33	2.69	Agreed
5.	Population explosion of the students affect the learning processes	18.62	2.72	Agreed

Table 4 agreed that the following factors militate against effective utilization of the available data for enhancing lecturers' job effectiveness in the state. Institutions in North Central Nigeria such problems are falsification of data, poor statistical knowhow, political interference, population explosion which made the data to be unstable and truncated school calendar.

Hypotheses Testing

The following hypotheses were tested using Pearson Product Moment Correlation Statistic at .05 significance level.

Ho$_1$:   There is no significant relationship between data management and lecturers' job effectiveness of state tertiary institutions in North central Nigeria.

Table 5: Data management issued and lecturers' effectiveness of state tertiary institutions in North Central Nigeria.

Variables	No	$\bar{x}$	Sd	df	Calculated r-value	Critical r-value	Decision
Data management	1300	58.63	12.11				Ho$_1$
				1299	.56	.196	
Lecturers' effectiveness	1300	72.32	6.21				Rejected

Table 5 shows that the calculated r-value of .56 is greater than the critical r-value of .196 at degree of freedom of 1299 and tested at .05 significance level. Hence, the null hypothesis which stated that there is no significant relationship between data management and lecturers' effectiveness in state tertiary institutions in North Central Nigeria is therefore rejected. It however, showed that effective management of data are influencing lecturers' job effectiveness especially in the state tertiary institutions. The result is in line with Ogundele and Oparinde (2012) which opined that the availability of data enhance effective monitoring of the teachers efficiency and effectiveness in the educational institutions.

Ho$_2$: There is no significant relationship between data availability and lecturers' effectiveness of state tertiary institutions in North central Nigeria.

Table 6: Data availability and lecturers' effectiveness of state tertiary institutions in North Central Nigeria.

Variables	No	$\bar{x}$	Sd	df	Calculated r-value	Critical r-value	Decision
Data availability	1300	61.44	13.62				Ho$_2$
				1299	.63	.197	
Lecturers' effectiveness	1300	72.32	6.21				Rejected

Table 6 indicates that the calculated r-value of .63 is greater than the critical r-value of .197 at the degree of freedom of 1922 and tested at .05 significance level. Therefore, the null hypothesis which stated that there is no significant relationship between the data availability and lecturers' effectiveness of state tertiary institutions in North Central Nigeria is therefore rejected. It means that the availability of data in the state institutions and effectiveness of lecturers in the tertiary institutions. The result is therefore supported with the findings of Ogundele and Afolabi (2010) which stated that the available records in the school system enable the schools to determine the progression rate, dropout rate, withdrawal and promotion rate in the educational system.

Ho$_3$: There is no significant relationship between data utilization and lecturers' effectiveness of state tertiary institutions in North central Nigeria.

Table 7: Data utilization and lecturers effectiveness of state tertiary institutions in North Central Nigeria.

Variables	No	x	Sd	df	Calculated r-value	Critical r-value	Decision
Data utilization	1300	42.66	12.33				Ho$_3$
				1299	.62	.197	
Lecturers' effectiveness	1300	72.32	6.21				Rejected

Table 3 shows that the calculated-value of .62 is greater than the critical r-value of .197 at the degree of freedom of 1299 and tested at .05 significance level. Hence the null hypothesis which stated that there is no significant relationship between data utilization and lecturers' effectiveness of state tertiary institutions in North Central Nigeria is rejected.

The result shows that high significant relationship existed between the data utilization and lecturer job effectiveness especially in state tertiary institutions in North central Nigeria. The result shows that the utilization of the available data that aid lecturers effectiveness in the areas of teaching research and community services especially in the North Central Nigeria. The result however, supported Nwachukwu (2014) which stated that effective utilization of data aid lecturers effectiveness in their teaching and participation in the community services and there research activities in the tertiary institutions especially in Nigeria.

7. Conclusion

Based on the discussion of findings, data availability is an essential instrument for enhancing lecturer job effectiveness especially in state tertiary institutions in North Central Nigeria. The information received encourage effective planning process by the lecturers. It could be concluded that effective management of the available data will ameliorate the associated problems in the institutions emanated from data management in state tertiary institutions in North Central Nigeria.

8. Recommendations

Based on the results of findings and the conclusion made, the following recommendations are proffered:

Provision of related data for effective planning: Data related to the educational planning and administration process should be adequately provided for effective teaching-learning process of the state tertiary institutions' lecturers in North Central Nigeria.

Lecturers' should be trained in areas of data management:

The lecturers' should be trained in the areas of data availability and utilizations for enhancing lecturers and administrative effectiveness of Nigerian institutions.

Data banks should be established for tertiary institution usage:

Also, every institution should establish data banks in their school and such data in the safe should be made open for usage to the staff, enhancing lecturers' job effectiveness in the state tertiary institutions in North Central Nigeria.

Enforcement of the data for effective record keeping in the schools.

Finally, the institution administrators should ensure that the lecturers are making use of available data for their record. Keeping provision of essential services and monitoring of the internal efficiency of the students which are the indicators of lecturer effectiveness of state tertiary institutions in North Central Nigeria.

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