

INFORMATION SYSTEM COMPETENCY IN DATA STORAGE AND JOB PERFORMANCE OF BUSINESS EDUCATION GRADUATES IN RIVERS STATE CIVIL SERVICE

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ABSTRACT

The study investigated the information system competencies and job performance of business education graduates in Rivers State Civil Service. Three objectives, three research questions, and three null hypotheses guided the study. The study adopted the descriptive survey design. The population of the study was 2,290 business education graduates working as civil service staff in Rivers State, which was drawn from Ignatius Ajuru University of Education, Port Harcourt, Rivers State University, Rivers State Universal Basic Education, Rivers State Senior Secondary Schools Board and Rivers State Civil Service Commission (main stream), while the sample size consisted of 340 respondents. Data collection was done through a researcher-designed instrument titled "Information System Competency and Job Performance of Business Education Graduates Questionnaire (ISCJPQ). With the aid of SPSS version 21, frequency, percentage, and mean were used to answer the research questions, while Pearson Product Moment Correlation was used to test the null hypotheses at the 0.05 level of significance. The result of the study, among others, revealed that there is a strong and significant relationship between data storage and effective communication among business education graduates in Rivers State, mainly in terms of storing relevant information for supervision purposes. Data storage affects task accomplishment by collecting relevant information to do jobs. Data storage affects effective communication by making important information available. Data storage affects supervision in terms of using important data and information to determine what should be done. Based on the findings, the study recommended, among others, that business education graduates need to update their learning facilities, endeavour to adhere to information system principles, and lecturers/teachers should be provided with scholarship on (ICT) training in order to record high competency in their job performance in organisations and parastatals.

KEYWORDS: Information System Competency, Data Storage, Job Performance, Business Education Graduates, Civil Service and Rivers State

Introduction

Before now, managing information in various offices and departments has only involved the filing cabinet for storage of documents, the manual or electric typewriter for production of documents, and the mailing or postal system for the distribution or sharing of documents. Gunning and Worley (2019) affirmed that new knowledge, skills, and behaviours are required from employees owing to changes in the management of information within and outside organizations. In other words, the suitability of graduates, business education graduates inclusive, not only depends on paper qualifications but on meeting specific job requirements of the time.

As suggested by several authors, business education embraces information and communication technology skills. Modern information systems utilise information technology to undertake the activities of data gathering, processing, storage, retrieval, and dissemination (Kanini, 2008). Data needed for certain purposes (education) is collected from different sources through appropriate input devices. Data processing is the stage whereby data collected or gathered is transformed through computing, updating, and re-organizing the data, while data storage involves the safe keeping of raw or processed data for future use. However, for various decision-making purposes, data can be shared through a process of data distribution. Getting back information is called data retrieval. These are the information systems and technology or ICT competences and mastery needed for effective job performance by business education graduates (Jim, 2017).

Nwosu (2003) identified how ICT competencies can help business education graduates in different work organisations in various areas, namely; marketing and distribution, secretarial and accounting education. Here, competency means being able to perform a task or work role to a defined standard. In terms of information system competency, it is about how and what the computer/information technology or ICT does by ensuring real-time information management, increased efficiency, reduced cost, and increased employment performance. The use of information systems/technology for business education requires that an aspect of it be developed specifically for teaching and learning purposes. Such equipment/technology as interactive boards, over-head project zoom, You-Tube etc., have been developed for physical and virtual classrooms. Conversely, information systems/technology in education implies the adoption of general components of ICT in the teaching and learning process. These technologies, if developed for education and not used in the instructional process, will not enhance performance.

An information system has been described as an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products. It suggests a computer system or set of related components, typically including hardware and software, system users, and the data itself.

Involving information in education requires that the teachers have the ability, skill, and expertise in terms of communication, task accomplishment, and supervision of staff to incorporate ICT into teaching and learning. As a result, business educators and graduates are professionally trained teachers of business subjects or courses who are competent in teaching the content of the business education curriculum in secondary schools, faculties of education in universities, and colleges of education. Their acquired knowledge and skills of the information system as well as their ability to handle its various functions are crucial to their job performance.

The need at the time is high for business education graduates since it is concerned with education for and about business. In other words, the job opportunities available to its graduates are numerous, including in private business life. They are mainly found in institutions of learning where they train students in pre-vocational and vocational subjects and courses. The Nigerian government included business education programmes in tertiary education curricular with specialties in marketing and distribution education, secretarial education, and accounting education (Jim et al., 2017; Ezeani, 2012). A series of innovations have been put in place in the business education curriculum geared towards preparing graduates for gainful employment or self-reliance. Based on the foregoing, there is a need to conduct an investigation into how business education graduates have been able to perform their jobs while taking advantage of the information system competencies. Therefore, it is the focus of this study to investigate the information system competencies and job performance of business education graduates in Rivers State.

Statement of the Problem

In one way or the other, every graduate in Nigeria has experienced a form of business education, especially as Business Studies in Junior Secondary School as a pre-vocational subject. At the secondary level, the subject content includes information and communication technology (ICT). The tertiary level of education has business education as a department with an option in response to changes in the globalised workplace. Onokpaunu and Ezenwa (2017) It has been observed that currently, globalised workplace skills consist of both technology and soft skills. Central to this technology skill is information technology, which uses the assets of a computer and its accessories, but it is sad to observe that in the curriculum of some universities, ICT courses are lacking. According to Okoli, Ohaegbulam and Oduma (2011), many ICT-related courses were not enshrined in the business education curriculum. Thus, a very high percentage of business education graduates are ineffective in imparting information technology skills to their students. This is based on the fact that someone cannot offer what he or she does not have. These scenarios and negativities have led to poor job performance of business graduates in the use of information systems to gather, process, store, retrieve, and disseminate data. Consequently, poor job performance of business education graduates has become the bane of business education departments in our universities and colleges

of education as well as pre-vocational and vocational departments in our secondary schools. The researcher was worried if business education graduates do not understand that information systems are designed to enhance their job performance. This question explains the reason for the study to investigate how job performance of business education graduates is being enhanced using information systems competencies.

Aims and Objective

The main aim of the study was to investigate the information system competency and job performance of business education graduates in Rivers State Civil Service. Specifically, the Study achieved the following objectives;

1. To ascertain how data storage affects the effective communication among business education graduates in Rivers State Civil Service.
2. To ascertain how data storage affects task accomplishment among business education graduates in Rivers State Civil Service.
3. To ascertain how data storage affects supervision of staff among business education graduates in Rivers State Civil Service.

Research Questions

1. How does data storage affect the effective communication among business education graduates in Rivers State Civil Service?
2. How does data storage affect task accomplishment among business education graduates in Rivers State Civil Service?
3. How does data storage affect supervision of staff among business education graduates in Rivers State Civil Service?

Hypotheses

Ho₁: There is no significant effect of data storage on effective communication among business education graduates.

Ho₂: There is no significant effect of data storage on task accomplishment among business education graduates.

Ho₃: There is no significant effect of data storage on supervision of staff among business education graduates.

Research Design

Nworgu (1991) stated that a research design provides the procedures for the conduct of any given investigation. The study adopted the survey research design. This research design involves the use of a sample from the entire population where the information

collected from the same is used to make inferences about the entire population. As a survey study, it used a questionnaire for data collection. Therefore, in this study, the descriptive survey design was adopted because of the large size of the area of study. According to Wali (2002), the descriptive survey design is concerned with the description and interpretation of the current status of events or facts about a given population. It aimed at describing and interpreting the job performance of business education graduates using the information systems competencies at their various places of work, particularly secondary and tertiary institutions in Rivers State at the time of the study. Sample were collected from the large population of business education graduates, in Rivers State civil service on whom questionnaires were administered.

Population for the Study

The population of the study comprises of 2,290 lecturers in the business education department in the tertiary institutions in Rivers State Civil Service, business education graduates in the Senior and Junior Secondary Schools in Rivers State, and Rivers State civil service commission working at the main streams/parastatals of the government as follows; 35 lecturers in the department of business education, Rivers State University. 45 lecturers from the business education department in Ignatius Ajuru University of Education. 295 teachers from Rivers State Universal Basic Education. 240 senior secondary school teachers teaching in the vocational department across all the senior secondary schools in Rivers State and 1,675 business education graduates working in the main streams/parastatals of the government.

The study examined the current state of business education graduates in Rivers State civil service which include lecturers in the tertiary institution, teachers in the secondary schools and workers in the civil service commission in the main stream/parastatals.

Finally, the scope of the study consisted of lecturers and other civil service staff drawn from the department of business education from selected ministries

Sample and Sampling Techniques

A sample size of 340 was adopted for the study. This study adopted the Taro Yamen formula tables to determine the sample size; as such, for the population of 2,290 business education graduates in Rivers State Civil Service, the sample size formula stipulated that 340 was used. The study adopted two sampling techniques to determine the samples for the study. The multi-stage sampling technique allows for two or more sampling techniques to be used in research, and as such, the study employed both purposive and stratified random sampling techniques in collecting the respondents.

Validity of Instrument

The content and face validity method was adopted to ensure the validity of the questionnaire by three experts from the Department of Business Education at Ignatius

Ajuru University. Each of the experts was given a copy of the questionnaire to check the adequacy and correctness of the questionnaire items. The instrument was scrutinised alongside with the objectives of the study. Suggestions and criticism from the experts helped the researcher in modifying the instrument.

Reliability of Instrument

Reliability is the degree of consistency between two or more measures of the same thing (instrument). For the purpose of assessing or determining the reliability of the instrument of the study, the test-retest method was used. By this method, twenty-five copies of the instrument were administered to a sample (business education graduate) outside the sampled area and they were advised to complete them for analysis and recording. After two weeks, the same but fresh instruments were administered to the same (respondents) and were expected to complete them for the second analysis and recording. The scores of the two sets of tests were correlated to determine their reliability using the Pearson Product Moment Correlation. The reliability coefficient was 0.81, which indicates that the instrument was reliable enough to be used for the collection of data.

Administration of the Research Instrument

The instrument was administered by hand and face-to-face method whereby the researcher or research assistants reached out to the sampled civil servants. Two research assistants were used in administering and retrieving the instruments where the researcher may not have been able to reach. However, the researcher thoroughly educated the research assistants on how to administer and retrieve copies of the questionnaire from the respondents. Some of the instruments were completed and retrieved on the spot, while others were not completed, but were retrieved after an interval of two weeks.

Method of Data Analysis

Data collected from the respondents was analysed to answer the research questions and test the hypotheses. Frequency, percentage, mean and standard deviation were employed to answer the research questions. On the other hand, the Pearson Product Moment Correlation was used to test the null hypotheses at 0.5 level of significance. The Statistical Package for Social Sciences (SPSS) version 21 was used to analyse the collected data.

Results and Discussion of Findings

Table 1: Frequencies on Item of Data storage

S/N	ITEMS		SA 4	A 3	D 2	SD 1	TOTAL	MEAN	REMARK
1.	Important data useful for decision making are stored in a computer hard disk drive	f	189	101	40	10	340	3.37	Agree
		%	55.5	30.0	11.7	2.80	100.00		
		fx	756	303	80	10	1149		
2.	The office store data in flash memory drive for future use of the data.	f	200	90	36	14	340	3.40	Agree
		%	59.8	27.4	10.5	2.30	100.0		
		fx	800	270	72	14	1156		
3.	Qualitative data are also saved in floppy disk as a back up to those stored in hard disk	f	166	94	69	11	340	3.22	Agree
		%	49.8	28.6	20.2	1.40	100.0		
		fx	664	282	138	11	1095		

Source: Researcher's Field Survey, 2021

Table 1 show that the respondents agreed on each of the items of Data storage (mean scores greater than 3.0 mean criterion or approximately). The grand mean is equally greater than 3.0 grand mean criterions. This revealed that the overall agreement of the respondents agreed that items of data storage have a positive connection with Information System Competency.

In the item (1) "Important data useful for decision making are stored in a computer hard disk drive .," 189 respondents represented 55.50% who strongly agreed that Important data are useful for decision making are stored in a computer hard disk drive, 101(30.00%) respondents agreed that Important data useful for decision making are stored in a computer hard disk drive., 40(11.70%) of the respondents where indecisive about whether Important data useful for decision making are stored in a computer hard disk drive or not whereas 10(2.80%) of the respondents disagreed that Important data useful for decision making are stored in a computer hard disk drive with the functions of mean = 3.37 making it apparent that the respondents had positive affirmation about the items used to measure the constructs.

In the statement item (2) "the office store data in flash memory drive for future use of the data.," 200 respondents represented 59.80% who strongly agreed that the office store data in flash memory drive for future use of the data., 90 (27.40%) respondents agreed that The office store data in flash memory drive for future use of the data., 36(10.50%) of the respondents where indecisive about whether The office store data in flash memory drive for future use of the data., or not while 14 (2.30%) of the respondents disagreed that the office store data in flash memory drive for future use of the data., with functions with mean = 3.40 making it apparent that the respondents had positive affirmation about the items used to measure the constructs. In the statement item (3) "Qualitative

data are also saved in floppy disk as a back up to those stored in hard disk,” 166 respondents represented 49.8% who strongly agreed that qualitative data are also saved in floppy disk as a back up to those stored in hard disk 94 (28.6%) respondents agreed that Qualitative data are also saved in floppy disk as a back up to those stored in hard disk, 69 (20.2%) of the respondents where indecisive about Qualitative data are also saved in floppy disk as a back up to those stored in hard disk or not while 11 (1.40%) of the respondents disagreed that Qualitative data are also saved in floppy disk as a back up to those stored in hard disk and functions with mean = 3.22 making it apparent that the respondents had positive affirmation about the items used to measure the constructs.

Table 2: Frequencies on Item of supervision

S/N	ITEMS		SA 4	A 3	D 2	SD 1	TOTAL	MEAN	REMARK
1.	You have the courage to supervise the most challenging task.	f	220	84	26	10	340		
		%	65.0	25.0	8.40	1.60	100.00	3.51	Agree
		fx	880	252	52	10	1194		
2.	Your feeling of being a lower staff help's you to work effectively with people of different department	f	192	88	55	5	340		
		%	55.40	28.0	17.1	5.00	100.0	3.37	Agree
		fx	768	264	110	5	1147		
3.	You hardly understand how work with different people in your office	f	231	79	26	4	340		
		%	68.0	23.2	7.60	1.20	100.0	3.57	Agree
		fx	924	237	52	4	1217		

Source: Researcher's Field Survey, 2021

Table 2 show that the respondents agreed on each of the items of supervision (mean scores greater than 3.0 mean criterion or approximately). The grand mean is equally greater than 3.0 grand mean criterions. This revealed that the overall agreement of the respondents agreed that items of supervision have a positive connection with Information System Competency. In the item (1) “You have the courage to supervise the most challenging task.,” 220 respondents represented 65.00% who strongly agreed that You have the courage to supervise the most challenging task, 84 (25.00%) respondents agreed that You have the courage to supervise the most challenging task, 26 (8.400%) of the respondents where indecisive about whether You have the courage to supervise the most challenging task, or not whereas 10(1.60%) of the respondents disagreed that there You have the courage to supervise the most challenging task and functions of mean = 3.51 making it apparent that the respondents had positive affirmation about the items used to measure the constructs.

In the statement item (2) “Your feeling of being a lower staff help's you to work effectively with people of different department,” 192 respondents represented 55.4% who strongly agreed that Your feeling of being a lower staff help's you to work effectively with people

of different department, 88(28.00%) respondents agreed that Your feeling of being a lower staff help’s you to work effectively with people of different department, 55 (17.1%) of the respondents where indecisive about whether Your feeling of being a lower staff help’s you to work effectively with people of different department, or not while5 (5.0%) of the respondents disagreed that Your feeling of being a lower staff help’s you to work effectively with people of different department with functions with mean = 3.37 making it apparent that the respondents had positive affirmation about the items used to measure the constructs.

In the statement item (3) “You hardly understand how work with different people in your office,” 231 respondents represented 68.00% who strongly agreed that You hardly understand how work with different people in your office 79 (23.2) respondents agreed that You hardly understand how work with different people in your office, 26 (7.60%) of the respondents where indecisive about You hardly understand how work with different people in your office or not while 4 (1.20%) of the respondents disagreed that You hardly understand how work with different people in your office functions with mean = 3.57 making it apparent that the respondents had positive affirmation about the items used to measure the constructs.

In summary, there were more graduate students’ in university of education agreed supervision as a part of the instruments used to measure the adaption of information system competency and job performance of business education graduate in rivers state; this is evidenced in grand mean (i.e. 4.12) which is > 3.0.

Ho₁: There is no significant effect of data storage on effective communication among business education graduates in Rivers State Civil Service.

Correlations

		Data Storage	Effective Communication
Data Storage	Pearson Correlation	1	.621**
	Sig. (2-tailed)		.000
	N	340	340
Effective Communication	Pearson Correlation	.621**	1
	Sig. (2-tailed)	.000	
	N	340	340

** . Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS Output

From the SPSS table above, the probability value is 0.000 (PV < 0.05) while the correlation value is 0.621 which implies strong significant effect of data storage on effective communication among business education graduates in Rivers State Civil

Service. Hence, we reject the null hypothesis and accept the alternative hypothesis which states that there is no significant effect of data storage on effective communication among business education graduates in Rivers State Civil Service

Ho₂: There is no significant effect of data storage on task accomplishment among business education graduates in Rivers State Civil Service.

Correlations

		Data Storage	Task Accomplishment
Data Storage	Pearson Correlation	1	.685**
	Sig. (2-tailed)		.000
	N	340	340
Task Accomplishment	Pearson Correlation	.685**	1
	Sig. (2-tailed)	.000	
	N	340	340

** . Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS Output

From the SPSS table above, the probability value is 0.000 ($PV < 0.05$) while the correlation value is 0.685 which implies there is strong significant effect of data storage on task accomplishment among business education graduates in Rivers State Civil Service. Hence, we reject the null hypothesis and accept the alternative hypothesis which states that there is a no significant effect of data storage on task accomplishment among business education graduates in Rivers State Civil Service

Ho₃: There is no significant effect of data storage on supervision of staff among business education graduates in Rivers State Civil Service.

Correlations

		Data Storage	Supervision
Data Storage	Pearson Correlation	1	.634**
	Sig. (2-tailed)		.000
	N	340	340
Supervision	Pearson Correlation	.634**	1
	Sig. (2-tailed)	.000	
	N	340	340

** . Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey Data, 2021, SPSS Output

From the SPSS table above, the probability value is 0.000 ($P < 0.05$) while the correlation value is 0.634 which implies there is significant effect of data storage on supervision of staff among business education graduates in Rivers State Civil Service. Hence, we reject the null hypothesis and accept the alternative hypothesis which states that there is no significant effect of data storage on supervision of staff among business education graduates in Rivers State Civil Service

Discussion of Findings

The result from the seventh hypothesis revealed that data storage has a positive linear notable correlation with effective communication based on the P-value less than 0.05 (P-value = $0.000 < 0.05$) and r value of $=0.621$, which implies that data storage and effective communication are moving on the same positive direction. Thus, items of effective communication items i.e. There is freedom for employment to share ideas about their job orally/make complain or request in the office., Interpersonal and interdepartmental/units communications are mainly by writing, and Taking turns in communication is a practice in your office. Thus, respondents positively affirm that effective communication items and as a dimension on the predictor axis correlated with data storage and could be positively associated with information system competency and job performance of business education graduate in rivers state

Additionally, result from the three hypothesis revealed that data storage has a positive linear notable correlation with task accomplishment based on the P-value less than 0.05 (P-value = $0.000 < 0.05$) and r value of $=0.685$, which implies that data storage and task accomplishment are moving on the same positive direction. Thus, items of data storage items i.e. Important data useful for decision making are stored in a computer hard disk drive, The office store data in flash memory drive for future use of the data, and Qualitative data are also saved in floppy disk as a back up to those stored in hard disk relate positively with data storage. Thus, respondents positively affirm that exclusive data storage and as a dimension on the predictor axis correlated with task accomplishment and could be positively associated with information system competency and job performance of business education graduate in rivers state

Furthermore, result from the ninth hypothesis revealed that data storage has a positive linear notable correlation with supervision of staffs based on the P-value less than 0.05 (P-value = $0.000 < 0.05$) and r value of $=0.634$, which implies that data storage and supervision of staff are moving on the same positive direction. Thus, items of supervision of staff items i.e. You have the courage to supervise the most challenging task, Your feeling of being a lower staff helps you to work effectively with people of different department and hardly understand how work with different people in your office relate positively with supervision of staff. Thus, respondents positively affirm that data storage items and as a dimension on the predictor axis correlated with supervision and could be positively associated with information system competency and job performance of business education graduate in Rivers State.

Information system competencies has a positive partial correlation with job performance based on the P-value less than 0.05 (P-value = 0.000<0.05) and r value of =0.781, which implies that information system competencies, job performance and moving on the same positive direction. Thus, items of data processing i.e. Relevant data are usually collected of effectively accomplish jobs., Data related to certain jobs, No decision must be taken until data are adequately processed and stored for clear understanding of task requirement relate positively with information system competency and job performance of business education graduate in Rivers State.

Furthermore, the positive correlation of information system competency and job performance of business education graduate in rivers state including the moderating effect on their relationship could be said to be attuned with findings of Ibelegbu, (2013). Data was analyzed using t- Test statistical tool to test the significance between the observed variables and the underlying construct. The results showed that the adaption of information system and job performance have higher preference in making graduate competencies stable in work environment. The results proved that there are positive links between Data storage, Communication and supervision measured in terms of task accomplishment.

The study revealed that the best information system depends on the competency of the users and the operational environment. It also indicated that the emergence and explosion of the internet and other information communication technologies has greatly affected graduates. The study concludes that information system and job performance requires a high degree of management skill, synchronization and integration with the overall organization, as it will be one of the major components in achieving a sustainable competitive advantage.

Similarly, Frampson, (2010) conducted a study on “competency model for the information technology workforce: Implications for association for training and selection” This research adopted a descriptive research design. The researcher used a questionnaire as the primary data collection instrument. A pilot test was conducted to detect weakness in design and instrumentation and to provide proxy data for selection of a probability sample. The findings indicate that 85.7% of the responses were of the opinion that the strategies used ensured availability of the products to the intended graduates while 14.3% were of the opinion that the strategies used did not ensure availability of the information system to the intended graduates. The study findings revealed that most of the respondents were of the opinion that information technology ensures graduates convenience job performance as a source of civil service advantage. As regards the extent to which information technology affected job performance; majority were of the opinion of moderate which still correlates with the present findings that information technology strategy holds the highest correlation with job performance of graduates of business education.

Conclusion

The study investigated the relationship between information system competency and job performance of business education graduates in Rivers State Civil Service. The analysis of the data gave results that provided findings for the study. The study revealed that data storage affect effective communication among business education graduates in Rivers State Civil Service mainly in documentation and recording, data storage affects supervision of staff in terms of storing relevant information for supervision purpose, task accomplishment by storing relevant information to do jobs, data storage affect effective communication by making important information available, data storage affects supervision in terms of using important information to determine what should be done.

Recommendations

Based on the findings of the study, the researcher highlighted some recommendations as follows:

- 1) Business education graduates in Rivers State civil service should endeavor to adhere to information system principles if they wish to record high competencies.
- 2) Job performance could be increase by enhancing the engagement of information system in their work activities.
- 3) Business education graduates in Rivers State should invest more on information system as these have been proven to have more positive correlation with job performance.
- 4) Lecturers/teachers should be provided with scholarship on Information Communication Technology (ICT) training to ensure that information's are available for working activities in order to record high competency on their job performance in different organization/parastatals.

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