

UTILIZING DIGITAL INFORMATION RESOURCES ON TEACHING OF BUSINESS EDUCATION IN TERTIARY INSTITUTIONS IN BAYELSA STATE.

Dr. Warriwei Ebiere Rosemary and Dr. Banabo Ekankumo

Email:rewariowe@gmail.com,banaboalex@yahoo.com

**Department Of Business Education, Isaac Jasper Boro College of Education Sagbama
Bayelsa State, Nigeria**

ABSTRACT

The study investigated the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. The study determined the relationship between the dimensions of digital information resources and business education delivery; thus, six objectives, research questions, and hypotheses guided the study. A correlational research design was used to carry out the study. The population of this study consisted of fifty-two (52) lecturers in business education from the three tertiary institutions in Bayelsa State. The census sampling technique was used in selecting the sample size of 52 business education lecturers for the study. The questionnaires for the study were developed based on the research objectives. The questionnaire was titled "Digital Information Resources and Business Education Delivery Questionnaire (DIRBEQ)." The questionnaire was subjected to face and content validity. The pilot-test approach was used to determine the reliability of the instrument. Cronbach's alpha was also used to measure internal consistency. A reliability coefficient of 0.807 was obtained. This was considered sufficient for the study. The instrument was distributed by the researcher. Fifty-two copies of the questionnaire were filled out and collected. The research questions were answered using Pearson's product-moment correlation, while simple linear regression analysis and analysis of covariance were used to test the hypotheses at the 0.05 significance level. The study revealed that the extent of the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak, while the extent of the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong, among others. Furthermore, the study disclosed that there is a significant relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State and that there is a significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State. The study concluded that digital information resources are an integral instructional delivery tool that can improve the quality of business education delivered to students at tertiary institutions in Bayelsa State. It was recommended that lecturers of tertiary institutions in Bayelsa State be trained in the use of e-book resources as well as the use of digital mediums in business education delivery, so that appropriate delivery of the lecture materials is ensured, and management of tertiary education in Bayelsa State should establish appropriate e-journal information management strategies that can foster lecturers' research skills, attitude, and competence for information literacy, effective e-journal use, and professional practices, among others.

KEYWORDS: E-Book, E-Journal, Web-Base, CD-ROM, Bibliographic Database, Business Education, Digital Information Resources.

INTRODUCTION

In business education, the utilization of digital information resources in the delivery of business education instruction has been an issue of great importance. This is because technology can change the way business instruction is delivered and promote active learning as it helps in developing an appropriate level of capability in learners. According to Azih and Nwosu (2012), most business enterprises depend on digital technology (including the internet, mobile phones, ICT, etc.) to carry out their daily business transactions with little or no use of paper documents. As

a result, the clamour for the use of digital information resources in the delivery of business education instruction is increasing, particularly by institutes of higher learning.

Expectedly, traditional information resources like books, folders, notebooks, and chalk boards are gradually becoming a thing of the past in tertiary institutions in Bayelsa State as lecturers and students are now accessing information through their electronic devices. The speed with which digital information resources have taken over in the delivery of business education instruction is due to the problem associated with the traditional information environment, which is virtually dominated by printed sources and is also dominated by the "availability" of information without its corresponding "accessibility". But with the availability and accessibility of digital information resources at the doorsteps of lecturers and learners, it makes it much easier for them to engage with information on the internet and interact with each other, thereby giving rise to knowledge transfer and efficient instructional delivery.

Osinulu (2020), examined awareness and use of electronic information resources (EIR) among students in the College of Health Sciences, Sagamu, Nigeria. The objectives were to establish the types of resources available, determine the level of awareness, the extent of the use of e-resources and the problems faced. Also, Owolabi et al. (2016) evaluated the utilization of electronic information resources by undergraduates in the Faculties of Education and Social Sciences at the University of Ibadan. The objectives of the study included finding out the types of electronic resources available for undergraduate students' use at the University of Ibadan; evaluating the extent to which the undergraduates make use of the electronic sources of information at the University of Ibadan; and others. In contrast to the foregoing, there is little or no evidence that studies exist with the same content, geographical, and unit of analysis scope as the present study. Therefore, it is based on the observed gap that the present study is set to fill. As such, the investigation into the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State becomes relevant to the purpose of the study.

STATEMENT OF THE PROBLEM

The increasing clamor for tertiary education lecturers to use digital technologies for the delivery of business education programmes can be connected with the mammoth benefits offered by digital information resources. However, Agber and Agwu (2013) reported that the effective use of digital information resources by lecturers is not yet a success story in tertiary institutions. As such, there seems to be a lacuna in the use of digital technologies by business educators.

Many institutions in Bayelsa State may be in lack the necessary equipment for the integration of technology into business education programs. More worrisome is the fact that many business education departments in the State and Federal tertiary institutions are yet to develop a blueprint for the use of digital information resources in business education, which stands in sharp contrast to the proactive attitudes adopted by other disciplines like health and medical sciences, chemistry, computer science and engineering, etc.

Based on personal observation by the researcher, most business education laboratories seem to be overcrowded with manual typewriters and other out-dated equipment, which is not in tune with the modern technological prerequisites for the adoption and utilization of digital information resources like computers, video players, CD-ROMs, computer networks, and databases. Even some institutions that have computer laboratories seem to be lacking most of the other technologies needed for carrying out teaching and learning using electronic media. In most cases, learners are exposed to notional pictures of technologies they will use in modern offices without any practical skills. All these things negate the basic principle of business education, which holds that business education laboratories and classrooms should be a replica of the office environment, and they also impede the integration of business education with digital technologies.

In the 21st-century work environment, there are usually upgrades to digital platforms and the use of various kinds of technologies in most modern offices, but in our tertiary educational institutions, there is no corresponding exposure of learners to such platforms. As a result, business education graduates turn out to be unfit for employment in an office work environment. More worrisome is that, since business education also prepares its recipients for a teaching career, there also seem to be challenges for such graduates to make use of digital information resources for instructional delivery. These scenarios call for an assessment of the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

RESEARCH OBJECTIVES:

The general objective of the study is to investigate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. However the specific objectives are to:

1. Determine the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State.
2. Examine the relationship between bibliographic database resources and business education delivery in tertiary institutions in Bayelsa State.
3. Ascertain the extent to which management policy moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

RESEARCH QUESTIONS

The study will be guided by the following research questions:

1. What is the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State?
2. What is the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State?
3. To what extent does management policy moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State?

RESEARCH HYPOTHESES

The following hypotheses were formulated and will be tested at the 0.05 level of significance.

H₀₁: There is no significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State.

H₀₂: There is no significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State.

H₀₃: Management policy does not significantly moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

LITERATURE REVIEW

Conceptual Review

Digital Information Resources:

Digital Information Resources (DIRs) are information resources that were formerly in print form but are now available in non-print form (soft copy) and are accessible via computer machines and other associated ICT tools (Obaseki et al., 2010). Similarly, DIRs contain music, games, stories, magazine articles, published journals, novels, encyclopaedias, pamphlets, cartographic materials, and other soft-copy published resources. They frequently feature sound, animated graphics, photos, and movies as well.

Nkanu and Okon (2010) referred to digital information resources as a new wave of air blowing through many libraries around the world, simply because an increasing volume of information is

now available in digital form, which is anticipated to have important implications for information retrieval. Abstracts and indexes are available online, and there is quick access to computer-held material, as well as the option of incorporating music and video. Consequently, for many additional reference tools, the digital format has a significant advantage over print. According to Singh and Sharma (2012), the majority of digital academic publishers, trade publishers, information aggregators, suppliers, and information disseminators currently operate globally to supply electronic information (e-information) over the Internet. DIRs, according to Singh and Sharma, also comprise full text archives or databases of journals, books, patents, standards, or technical reports from a certain publisher or set of publishers.

Digital or electronic information resources are digital representations of information which can be accessed via electronic systems and computer networks (Johnson *et al.*, 2012). Similarly, Agber and Agwu (2013) viewed DIRs as "those resources that are found on computer networks of organizations (Intranets) or on the global network of millions of computers (Internet)". For his part, Konappa (2014) considered DIRs as "materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device." Additionally, Ani *et al.* (2015) defined DIRs as information stored in electronic format on a computer or computer related facilities (CD-ROMs, digital libraries, or the Internet)". Concisely, the International Federation of Library Associations (IFLA, 2015) defined DIRs as materials that are computer-controlled, including materials that require the use of peripherals connected to a computer. From the above definitions, it can be noted that DIRs are presented, stored, and accessed electronically. This implies that they are the equivalent of print resources in content but dissimilar in format and require appropriate electronic systems to be accessed.

In another account, Haridasan and Khan (2009) and Sejane (2017) highlighted that digital information resources are both data-based (numbers, letters, graphics, images, and sound or a combination thereof) and program-based (instructions for processing data). They are modified by the computer (Thanuskodi, 2012; Pawar & Moghe, 2014). This is the major selling point of DIRs. Born digital are materials available on the Internet and CD-ROMs, whereas digitized materials are converted from other formats to digital formats. In regard to the method of access, Shidi and Uganneya (2013) factually submitted that DIRs are either accessed freely under the Open Access Initiatives or subscribed to (proprietary) by commercial vendors. DIRs have economic value, but proprietary resources restrict people from largely benefiting from the intellectual outputs of others.

Dimensions of Digital Information Resources

i. CD-ROM databases

CD-ROM databases allow users access to relevant databases without robust Internet connectivity in libraries. It is therefore more cost effective than online databases as information can be accessed off-line without paying for telecommunications fees (Afolabi, 2007). Besides, CD-ROM databases are of immense value over print if the system is networked, as patrons at their terminals can access information without coming to the library.

The information revolution brought forth by advances in information and communication technology has enabled universities and colleges around the world to take advantage of these developments. New modes of teaching, learning, and accessing information have emerged as a result of the Internet and World Wide Web (Darkwa *et al.* 2007). CD-ROM databases are important tools for identifying the bibliographic details of potentially useful documents and ensuring easy access to large volumes of literature for research.

ii. Bibliographic database

A bibliographic database provides a descriptive record of an item such as author, title, subject, publisher, etc. Rather than complete monographs, bibliographic databases generally contain rich descriptions in the form of short summaries or abstracts, keywords, etc. in electronic format. There are many dictionaries, almanacs, and encyclopaedias, which are available on reference databases.

Though the Internet has provided wider access to global information resources such as online databases, e-journals, e-prints, and other sources of digital information, these resources are not effectively utilized due to varying factors. According to Missen et al. (2015), the Internet poses an equal footing challenge for African universities to gain equal footing with their sister institutions in more developed countries. It is imperative that African universities be connected if they are not to be rendered irrelevant in the modern academic world. The Internet is very useful as a communication tool in universities among librarians and library clientele. It is the most efficient means of electronic document delivery (Al Fadhli & Johnson, 2016).

Digital Information Resources and Business Education Delivery

Business education laboratories in most tertiary institutions lack basic e-learning facilities. Therefore, there is a need for infrastructural improvement for effective teaching and learning of courses, especially those related to office administration. Achilike (2012) noted that laboratories for business education should be improved to equip graduates of the program with the relevant information processing skills expected of business education graduates. These skills include: telecommuting, e-cottage, storing and forwarding of voice systems, teleconferencing, computer output microfilm, and facsimile, to mention but a few. These skills will help them with packaging messages, disseminating messages and receiving messages in modern offices. In light of the above, business education programmes should implement some innovations to equip learners with modern learning techniques that could familiarize them with modern office technologies. This change calls for the adoption and maintenance of positive attitudes towards e-learning by everyone involved in the planning and implementation of business education programmes.

Business education is a vocational program that equips the recipients with knowledge, skills, attitudes, knowledge, and understanding needed for effective participation and contribution as producers and/or consumers of business products. It therefore means that business education prepares individuals who will adequately participate in business activities and also equips individuals with business knowledge and skills. Azih and Nwosu (2012) posited that business education at all levels is aimed at providing training which equips the recipients with the business skills needed to function effectively in a working environment as well as contribute to inclusive societal development. One of the aims of business education is to produce graduates that are equipped with the vocational skills and competencies required in modern offices and schools, but the relevance of business education classrooms and laboratories in this regard is questionable. But this aim could be achieved when business education classrooms and laboratories are modified to suit modern offices and schools' technological needs. In support of the above, Amoor (2008) observed that graduates of business education have problems using technologies in a work environment due to their inadequate exposure to information systems, modern office technologies, and other rudiments of managing modern offices. He stressed that the lack of these office technologies affects the nature of the programme offered to learners.

In business education, the utilization of digital information resources in teaching and learning of any program will promote active learning as it helps in developing an appropriate level of capability in learners by making it possible for instructions to be learner centered. E-learning is learner centered as it helps the learner learn new knowledge directly as well as acquire new computer skills. According to Azih and Nwosu (2012), computer resources available in business education laboratories could be used for record keeping, typing of question papers, accessing materials from the internet etc. With the use of computer resources in e-learning platforms, both learners and lecturers can advance their knowledge by having access to a variety of information, thereby improving the quality of the educational programme.

This review is thus presented in the conceptual framework below:

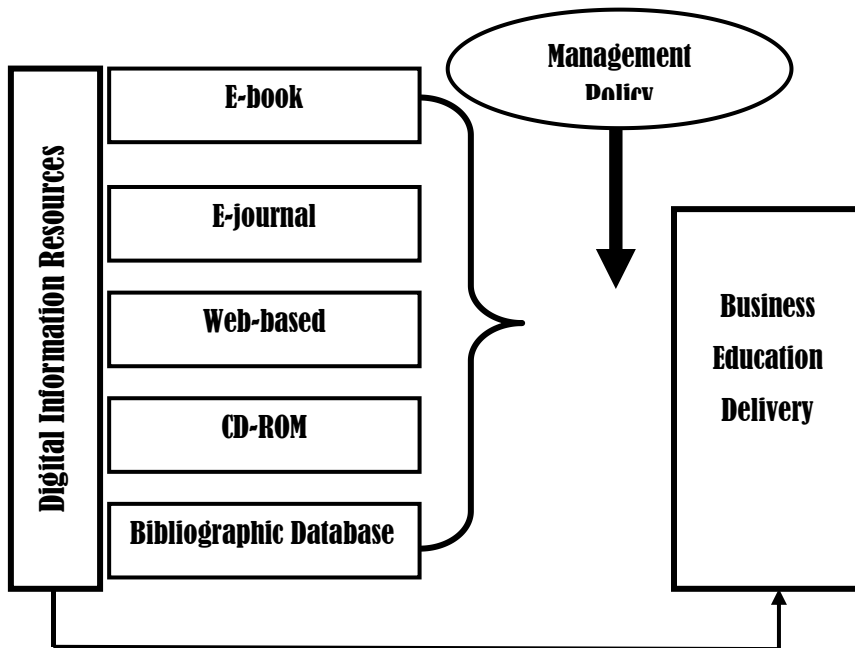


Figure 2.1: Conceptual Framework showing the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

Source: Researchers' Design, 2023.

Theoretical Review

The major theoretical framework underpinning this study is innovation diffusion theory by Everett Rogers (1962).

i. Innovation Diffusion Theory

The theory of the diffusion of innovations aims to explain how, why, and at what rate new ideas and technology spread. Everett Rogers popularized this thesis in his 1962 book, *Diffusion of Innovations* (Rogers, 2003). According to Everett Rogers, diffusion is the process through which an innovation is shared over time among members of a social system. The origins of the theory of the spread of innovations are diverse and span numerous disciplines. Rogers' (2003) Innovation Diffusion Theory (IDT) has been used to evaluate individual and business technology uptake. The primary purpose of IDT is to comprehend innovation adoption in terms of four diffusion elements: innovation, time, communication channels, and social systems. According to IDT, an individual's technology adoption behavior is also influenced by judgments of the relative advantage, compatibility, complexity, trialability, and observability of the innovation, as well as social norms (Rogers, 2003).

The Implications of Innovation Diffusion Theory for the Study is that the utilization of digital information resources in education faces more complex adoption possibilities than technology because they are both an aggregate of individuals and their own system with a set of procedures and norms. Three organizational characteristics match with the corporate characteristics above: tension for change (motivation and ability), innovation-system fit (compatibility), and assessment of implications (observability). Educators in the teaching profession can feel pressured by a need for change to achieve operational efficiency, including the adoption of digital information resources in the delivery of business education instruction. If the institutional situation is untenable, it will be motivated to adopt an innovation to change its fortunes. Where an innovation

is diffusing through the organization's environment for any reason, the organization is more likely to adopt it. Hence, innovations that are intentionally spread, including technological development, are also likely to diffuse quickly. This theory was therefore adopted in the present research to measure the relationship between the use of digital information resources and business education delivery.

Empirical Review

Osinulu (2020) examined awareness and use of electronic information resources (EIR) among students in the College of Health Sciences, Sagamu, Nigeria. The objectives were to establish the types of resources available and determine the level of awareness, extent of the use of e-resources, and problems faced. A descriptive survey design with a real-time observation method was used to collect data using a structured questionnaire. The population comprised 2000 students in the college, and a purposive sampling technique was used to select a sample of 200 registered library users for the 2019/2020 academic session. The data was analyzed using descriptive statistics. The findings revealed that the majority of the students were not aware of the available EIR. It also revealed low frequency usage. The finding indicated that few respondents used EIR for academic purposes.

Agim et al. (2020) examined the availability of new technologies in the delivery of business education content in tertiary institutions in Cross River State. A descriptive survey design was adopted for the study. The researchers adopted a census sampling technique since all the respondents in the study were used for the study. A total of 92 business educators were selected from four tertiary institutions such as the University of Calabar, Cross River University of Technology, Calabar, the College of Education Akmapka, and the Federal College of Education Obudu. A checklist titled "Assessment of New Technology Scale (ANTS)" was used for data collection. The instrument was validated by experts in business education, measurement, and evaluation, and the researchers collected the data. The data were analyzed using descriptive statistics (simple percentages, bar graphs, and the mean score). The findings indicated that the availability of e-book and e-journal resources is a positive factor in students' interest and contributes significantly to the delivery of the business education program. The study, however, concluded that new technologies for the delivery of business education content in tertiary institutions in Cross River State are inadequate.

A study was conducted by Abiodun-Oyebanji, Olatoye, Dairo, and Faremi (2019) which investigated the availability and utilization of e-learning facilities among secondary school students and teachers by examining the extent of utilization of these facilities in teaching and learning in secondary schools in the Ibadan Metropolis. This study adopted the descriptive survey research design. The multi-stage sampling procedure was adopted whereby a simple random sampling technique was adopted to select three (3) local government areas from the total population (Ibadan North, Ibadan North-East and Ibadan South West). 30% (of the total population of 23 schools) was selected out of 77. 10% of public senior secondary school students were selected, which is 634, while 56 teachers were selected through a purposive sampling technique from the sampled senior secondary schools in Ibadan Metropolis. The instrument used for the study was a questionnaire designed by the researcher titled "Students' E-Learning Questionnaire" (STELQ). with $r = 0.82$. Findings of the study revealed that there is no significant difference in the utilization of e-learning facilities between teachers and students in Ibadan Municipal secondary schools in Oyo State. Again, the result revealed that there is a significant difference between students' and teachers' $p(t(118) = -3.262, p 0.05)$ in e-learning utilization and availability. Again, there is no significant difference in the utilization of e-learning facilities between teachers and students in Ibadan secondary schools. Finally, a significant difference was established between students' and teachers' utilization of ICT ($t(118) = -3.262, p 0.05$). The outcome of the study shows that due to inadequate e-learning facilities, there is limited access to e-learning facilities among senior secondary school teachers and students. Hence, it was recommended that stakeholders in

secondary school education in Ibadan Metropolis should make concerted efforts to provide basic e-learning facilities in secondary schools within the study area.

Nwafor et al. (2018) examined the extent of use of electronic information resources for reference and information services in the Nnamdi Azikiwe Library, University of Nigeria Nsukka. A descriptive research design was employed for the study, and four objectives and four research questions were formulated to guide the study. The population consisted of all the nine hundred and seventy five (975) registered postgraduate students of the University of Nigeria Nsukka and the four reference staff of the University Library, respectively. The purposive sampling technique was adopted to select 98 respondents from the postgraduate students while there was no sampling for the four (4) reference staff working in the library, making it a total of one hundred and two (102) respondents, respectively. The instruments used for data collection were a questionnaire and an interview. Descriptive statistics, including frequency tables and mean, were used to answer research questions. The result revealed that both staff and students used most of the electronic information resources in the reference information service to a great extent. The reference staff and students sampled agreed that out of the eighteen types of electronic information resources in use in the university library, only six (6) were mostly used. However, both staff and students agreed that power outages, lack of information technology skills, inadequate subscriptions in the user's field of study, low bandwidth, low speed connectivity, and lack of user awareness of new electronic resources, among others, were the problems hindering the use of electronic information resources for reference and information services in the library. The implication of the study is that some of the strategies for improving the use of electronic information resources based on the challenges encountered by their use for reference and information services include the provision of affordable infrastructure to promote e-learning, information policies that will attract donors, creation of awareness for opportunities offered by the use of electronic information resources, and the provision of constant power supply, among others.

Yalusa et al. (2018) investigated the utilization of digital information resources (DIR) for academic development in the School of Health Information Management, ABUTH, Zaria. Two hundred and thirty six (236) structured questionnaires were administered using the stratified random sampling technique. The data collected was analyzed using frequency and simple percentage statistics. The study revealed that while e-Text books (53.6%) and Internet facilities (38.0%) are the most frequently used digital resource materials, irregular power supply (31.8%) and poor network services (24.8%) are the top challenges faced in accessing DIR by the respondents. 52.6% of the respondents accessed DIR materials by subscription. 26.0% is by loan, while 20.7% is by purchase. This finding suggests that there is under-utilization of DIR because of infrastructural changes.

METHODOLOGY

A correlational research design was used for the investigation. The population of this study consisted of fifty-two (52) lecturers of business education from the three tertiary institutions in Bayelsa State. They include Federal University Otuoke, Niger Delta University Yenagoa, and Isaac Jasper Boro College of Education (**Source:** Heads of Department of the Tertiary Institutions in Bayelsa State, 2023).

The study adopted the census sampling technique. In other words, the entire population was sampled because they were considered small enough to be managed by the researcher. According to Nwankwo (2013), a census sampling technique is appropriate when the survey population is sufficiently small to make random sampling feasible, hence the sample of the study consisted of fifty-two (52) lecturers of business education from the tertiary institutions in Bayelsa State used for the study (**Source:** Heads of Department of the Tertiary Institutions in Bayelsa State, 2023). The instrument for data collection was a self-structured 35-item questionnaire titled, "Digital Information Resources and Business Education Delivery Questionnaire (DIRBEQ), which was used as a yardstick for measuring the relationship between digital information resources and business

education delivery in tertiary institutions in Bayelsa State. The questionnaire was divided into two sections: A and B. Section "A" covered the respondent's demographic information while Section "B" covered the instructions guiding the filing of the instrument and the items of the instrument. Section B was structured into seven (7) clusters based on the objectives of the study. Out of the 52 copies of the questionnaire distributed to the respondents, 52 copies, representing 100% of the questionnaire distributed were retrieved from the respondents. The retrieved copies were properly filled and thus, used for further analysis. Pearson's Product Moment Correlation was used to answer the research questions while the null hypotheses were tested using simple linear regression analysis and Analysis of Covariance at the 0.05 significance level. The data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 22.

PRESENTATION OF RESULTS

Presentation of Research Questions

Research Question 1: What is the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State?

Table 1: Pearson Product Moment Correlation analysis on the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State

Variables	Mean	SD	n	r	Remark
CD-ROM resources	15.330	1.833	52	0.644	Strong
Business Education Delivery	15.500	2.100			

Source: SPSS Computation, 2023.

Table 1 shows the extent of the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State. However, the result indicated that the relationship that exist between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State is strong ($r = 0.644$). The implication of this result is that the extent of relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State is strong.

Research Question 2: What is the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State?

Table 2: Pearson Product Moment Correlation analysis on the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State

Variables	Mean	SD	n	r	Remark
Bibliographic resources	14.850	2.313	52	0.759	Strong
Business Education Delivery	15.500	2.100			

Source: SPSS Computation, 2023.

Table 2 shows the extent of the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State. However, the result indicated that the relationship that exist between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State is strong ($r = 0.759$). The implication of this result is that the extent of relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State is strong.

Research Question 3: To what extent does management policy moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State?

Table 3: Regression analysis on the relationship of the extent to which management policy moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.866 ^a	0.750	0.740	1.071

- a. Dependent Variable: Business Education Delivery
- b. Predictors: (Constant): Digital Information Resources
- c. Moderating Variable: Management Policy

Source: SPSS Computation, 2023.

Table 3 shows the extent to which management policy moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. It further indicated that r-value of 0.866 indicated a very strong contribution of the independent variable (digital information resources) to the dependent variable (business education delivery) as moderated by management policy. The implication of this finding is that management policy very strongly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

Presentation of Hypotheses

Hypothesis 1: There is no significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State.

Table 4a: Summary of simple linear regression on the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.644 ^a	0.415	0.403	1.623

- a. Predictors: (Constant), CD-ROM Resources

Source: SPSS Computation, 2023.

Table 4b: Regression coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.191	1.913		2.191	0.033
	CD-ROM Resources	0.738	0.124	0.644	5.954	0.000

- a. Dependent Variable: Business Education Delivery

Source: SPSS Computation, 2023.

Table 4c: Summary of ANOVA on the relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93.339	1	93.339	35.447	0.000 ^b
	Residual	131.661	50	2.633		

Total	225.000	51
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a. Dependent Variable: Business Education Delivery

b. Predictors: (Constant), CD-ROM Resources

Source: SPSS Computation, 2023.

Table 4a shows that r-value of 0.644 indicated a strong contribution of CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State. The r^2 -value of 0.415 indicated roughly the contribution of 41.5% to business education delivery in tertiary institutions in Bayelsa State by the independent variables – CD-ROM resources. The result of in Table 4b shows that any increase in CD-ROM resources will lead to an enhancement to the extent of business education delivery ($t_{cal} = 5.954$, $> t_{crit, 50} = 2.009$), Sig = 0.000). Furthermore, Table 4c indicated that there is a significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State ($F_{1, 50} = 35.447$, $P = 0.000$). Since, the result satisfy the decision that; when the t_{cal} and F-ratio are greater than the table value (2.009) with degree of freedom ($df = 50$) and the Significant/P-value (Sig) < 0.05 , hence, null hypothesis four was rejected at 0.05 significant levels. Therefore, there is a significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State.

Hypothesis 2: There is no significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State.

Table 5a: Summary of simple linear regression on the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.759 ^a	0.576	0.567	1.381

a. Predictors: (Constant), Bibliographic Database Resources

Source: SPSS Computation, 2023.

Table 5b: Regression coefficients

Model		Coefficients ^a				
		Unstandardized Coefficients		Standardize d Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.268	1.257		4.192	0.000
	Bibliographic Database Resources	0.689	0.084	0.759	8.240	0.000

a. Dependent Variable: Business Education Delivery

Source: SPSS Computation, 2023.

Table 5c: Summary of ANOVA on the relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	129.575	1	129.575	67.893	0.000 ^b
	Residual	95.425	50	1.909		
	Total	225.000	51			

a. Dependent Variable: Business Education Delivery

b. Predictors: (Constant), Bibliographic Database Resources

Source: SPSS Computation, 2023.

Table 5a shows that r-value of 0.759 indicated a strong contribution of bibliographic resources and business education delivery in tertiary institutions in Bayelsa State. The r^2 -value of 0.576 indicated roughly the contribution of 57.6% to business education delivery in tertiary institutions in Bayelsa State by the independent variables – bibliographic resources. The result of in Table 5b shows that any increase in bibliographic resources will lead to an enhancement to the extent of business education delivery ($t_{cal} = 8.240, > t_{crit, 50} = 2.009$), Sig = 0.000). Furthermore, Table 5c indicated that there is a significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State ($F_{1, 50} = 67.893, P = 0.000$). Since, the result satisfy the decision that; when the t_{cal} and F-ratio are greater than the table value (2.009) with degree of freedom ($df = 50$) and the Significant/P-value (Sig) < 0.05, hence, null hypothesis five was rejected at 0.05 significant levels. Therefore, there is a significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State.

Hypothesis 3: Management policy does not significantly moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

Table 6: Summary of Analysis of Covariance on the relationship of the extent to which management policy moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State

Tests of Between-Subjects Effects

Dependent Variable: Business Education Delivery

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	171.053 ^a	6	28.509	23.780	0.000
Intercept	0.055	1	0.055	0.045	0.832
Management Policy	146.844	1	146.844	122.490	0.000
Error	53.947	45	1.199		
Total	12718.000	52			
Corrected Total	225.000	51			

a. R Squared = .760 (Adjusted R Squared = .728)

Source: SPSS Computation, 2023.

Table 6 indicated that management policy significantly moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State ($F_{1, 45} = 122.490, p = 0.000$). Since, the result satisfy the decision that; when F-ratio is greater than the table value (2.009) with degree of freedom ($df = 45$) and the Significant/P-value (Sig) < 0.05, hence, null hypothesis six was rejected at 0.05 significant levels. Therefore, there management policy significantly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

DISCUSSION OF FINDINGS

Relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State

Table 4a shows that the extent of relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State is strong. Furthermore, the result of Table 4b indicated that there is a significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State. This finding is consistent with the study of Owolabi et al. (2016) which revealed that the utilization of CD-ROMs for instructional delivery significantly influenced academic success of university undergraduates in the faculties of education.

Relationship between bibliographic database resources and business education delivery in tertiary institutions in Bayelsa State

The result in table 5a shows that the extent of relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State is strong. Furthermore, the result of table 5b indicated that there is a significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State. This finding is in agreement with the study conducted by Mmeremikwu-Fiac and Onwukwe (2016) which revealed that business education in tertiary institutions utilizes e-learning applications and bibliographic resources in most aspects of educational service delivery.

Extent to which management policy moderate the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State

The result in table 6a shows that management policy very strongly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. Furthermore, the result of table 6b indicated management policy significantly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. This finding is consistent with the study of Nwagwu and Azih (2016), which revealed that the management policies of the tertiary institutions moderated the linkages between the integration of electronic learning and effective instructional delivery to a high extent.

FINDINGS

The findings from the research question and hypotheses are summarised as follows:

1. The extent of relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State is strong.
2. The extent of relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State is strong.
3. Management policy very strongly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.
4. There is a significant relationship between CD-ROM resources and business education delivery in tertiary institutions in Bayelsa State.
5. There is a significant relationship between bibliographic resources and business education delivery in tertiary institutions in Bayelsa State.
6. Management policy significantly moderates the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State.

CONCLUSION

The study investigated the relationship between digital information resources and business education delivery in tertiary institutions in Bayelsa State. The analysis of the data gave results from which the objectives of the study were accomplished.

Based on the findings, the study concluded that digital information resources is an integral instructional delivery tool that have the capability to improve the quality of business education delivered to students at tertiary institutions in Bayelsa State. As such, the utilization of CD-ROM resources and bibliographic database resources in business education delivery should be sustained to ensure that lecturers have a wider range of access to information as far as instructional delivery and research are concerned.

RECOMMENDATIONS

Considering the findings, discussion and conclusions of this study, the following recommendations are made:

1. The Directorate of Vocational and Technical Education and the management of tertiary institutions in Bayelsa State should consider the use of CD-ROM as a means to ensure consistent delivery of business education in Bayelsa State. This will ensure that the gap between the utilization of CD-ROM resources and teaching practices in tertiary institutions in Bayelsa State is narrowed.
2. Business education lecturers should be sensitized to the technological changes that have affected their field, especially the utilization of bibliographic resources, and that they should adopt information retrieval techniques effectively for quality research and instructional delivery.
3. Management policy of tertiary institutions in Bayelsa State should be geared towards encouraging and supporting the use of digital information resources at the tertiary institutions in Bayelsa State for quality and cost-effective delivery of business education.

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