Digital Information Resources and Business Education Delivery in Tertiary Institutions in Bayelsa State

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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.

INTRODUCTION

One of the basic goals of tertiary education is to provide an enabling environment for the conduct of research and dissemination of knowledge for societal development. Failure to attain this goal creates a shortfall in human resources that can lead to a lack of innovation, low levels of human development, economic stagnation, and the failure of society to achieve sustainable development. To achieve this, access to information is imperative to the successful conduct of research in tertiary institutions and the dissemination of knowledge to learners, which will increase their probability of becoming active members of society and enable them to put the acquired knowledge to the best use.

Moon et al. (2012), in discussing the role of access to information for educational purposes, opined that access to relevant information is necessary for academic staff to take efficient decisions in their research and instructional delivery. As such, the provision of timely information for both students and lecturers can be facilitated with the utilization of modern ICT infrastructure, which has been reported to prove crucial in addressing social issues that require efficient decision-making and information sharing between academic staff and students.

Interestingly, the emergence of the digital age has brought about a great dependency on information and communication technologies (ICTs) in teaching by lecturers in tertiary institutions (Byamugisha, 2010; Ngulube, 2014). With the adoption, diffusion, integration, and application of information and communication technologies in tertiary institutions in Nigeria, access and use of information are now done electronically by academic staff for teaching and research purposes. Thus, there has been a rapid transition from traditional to digital education systems, especially because virtually all tertiary institutions in Nigeria are committed to this new reality. Today, information can be collected, stored, exchanged, interpreted, and processed in digital formats. Gone are the days when our information was gathered from various primary sources and sent to libraries for storage, from where it could be obtained by lecturers and students for teaching and learning purposes. However, due to digitalization, information can be created, stored, exchanged, interpreted, and processed in digital formats, which can be accessed with ease, in real-time, and can be transmitted to various users at different locations around the world. The foregoing can be viewed as one of the "elements" of digital information resources.

Digital Information Resources (DIRs) are information resources that were previously in print but are now available in non-print form (soft copy) and can be accessed via computer machines and other corresponding ICT tools (Obaseki et al., 2010). Similarly, Digital Information Resources (DIRs) include music, games, stories, magazine articles, published journals, books, encyclopaedias, pamphlets, cartographic materials, and other soft-copy published resources. They frequently include sound, animated graphics, pictures, and movies as well. The goal of digitising library materials is to preserve them while also making them accessible to students, researchers,
and other users. According to Fabunmi et al. (2016), digitization improves access to library resources. By digitising library collections, information will be accessible to all rather than a select group, such as lecturers, while students will need to benefit from the lecturers' knowledge. Users can search for collections quickly and comprehensively from anywhere at any time using information stored digitally. Digitization makes the previously invisible visible. Multiple users can access the same material at the same time with no difficulty. It also eliminates the issue of distance by eliminating the need for users to travel to libraries that have hard copies of library materials before they can access and use them. The dimensions of DIRs used in this work are briefly addressed in the preceding paragraph.

An e-book is a short form of an electronic book. It is a digital file containing a body of text and images suitable for distributing electronically and displaying on-screen like a printed book. E-books can be created by converting a printer’s source files to formats optimized for easy downloading and on-screen reading, or they can be drawn from a database or a set of text files that were not created solely for print. According to Okello-Obura (2010), e-book resources can be used by business educators in any number of ways, from providing access to library collections and e-textbooks to offering reference services for students in the classroom. An e-journal is an electronic journal. It is a short review article, study, or essay about a specific topic that has a specific title and appears as an article in an e-journal that is designed to be downloaded as a pdf or linked to the text of the article. Electronic journals help business educators improve the quality of teaching and the effectiveness of their work (Ellis & Oldman, 2005).

Web-based resources are a paperless, print-free model that has dramatically changed the research environment, giving researchers and educators tools to communicate and collaborate directly with their peers around the world (Koehler, 2012). Web-based resources can bring readers together from around the world, allowing them to share, debate, and network with others who have similar research interests. As such, business educators are increasingly utilizing web-based resources as a vehicle for collaboration and information sharing. CD-ROM technology has enabled libraries to provide instant, easy, and convenient access to a substantial amount of relatively current and retrospective information at a fixed or predictable cost. Due to the availability of CD-ROM databases, libraries have reported an increase in the use of journal collections, interlibrary loan services, and microfiche collections (Shuling, 2007).

Bibliographic databases contain a descriptive record of an object, but the item itself is not included. Author, title, subject, publisher, and other information about the item are provided (Al Fadhli & Johnson, 2016). This type of DIR can be very useful to the delivery of business education instruction in the sense that it can provide students and lecturers with a more reliable and professional resource of information.
Business education is a vocational program that equips the recipients with the 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. However, 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.

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 of 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:

2. Determine the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State.
3. Ascertain the relationship between web-base 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 e-book resources and business education delivery in tertiary institutions in Bayelsa State?
2. What is the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State?
3. What is the relationship between web-base 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 e-book resources and business education delivery in tertiary institutions in Bayelsa State.
H02: There is no significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State.
H$_{03}$: There is no significant relationship between web-base 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. **E-Book**
An electronic book is defined as any book that can be downloaded and read on a computer or personal device. Sometimes e-books are the electronic versions of print books, and they have an easy search facility, which the reader can see visually, and they can be saved on a pen drive, CD, etc. and transferred to a CD-ROM. The content is indistinguishable with the exception that there are additional features such as bookmarks and links between issues and solutions. E-books also offer the convenience of portability since they can be stored in a personal library of E-books on computers, laptops, and other handheld gadgets. E-books are available in many formats, including Adobe PDF, Microsoft Reader, eReader, Mobipocket Reader, Kindle, iPad, etc.

ii. **E-Journal**
An e-journal is a very important part of every library collection. e-Journals (electronic journals) are scholarly journals or intellectual magazines that can be accessed via electronic transmission (Ellis & Oldman, 2005). Some journals are "born digital" in that they are solely published on the web and in a digital format, but most electronic journals originated as print journals which subsequently evolved to have an electronic version while still maintaining a print component. Online journal articles are a specialized form of electronic documents. Rowley (2006) opined that the purpose of providing material for academic research and study, and they are formatted approximately like journal articles in traditional printed journals. (Correia & Neto, 2006)

iii. **Web-based Resources**
The Macmillan Dictionary of Information Technology defines "a database as a collection of interrelated data stored so that it may be accessed by authorised users with simpler user-friendly dialogues". Databases store large quantities of information (Berners-Lee, 2009). The larger the mass of information, the greater the benefit of using a database. Databases make it easy to retrieve information quickly and flexibly. Databases help to organize and reorganize information. A user can quickly switch between schemes. Databases provide facilities to print and distribute information in a variety of ways. (Koehler, 2012). The World Wide Web is a complex information medium. It is both a repository for information and a transmission vehicle. It provides free public access and increasingly fee-based access to an immense body of digital material.
Digital Information Resources Utilization by Tertiary Institutions

Several studies have discovered that online databases are commonly used by lecturers in Nigerian universities for their research (Uzuegbu et al., 2012; Ezema, 2015). Akin to this, Ani et al. (2015) reported that e-books, e-journals, online databases, CD-ROM databases, e-conference papers, e-theses and dissertations, and e-newspapers and e-magazines are predominantly used by lecturers in research. They also added that institutional repositories have been developed in universities for sustainable access to relevant DIRs in research. A number of these e-resources (online databases/digitized local journals) are accessible via the National Virtual Library, which is sponsored by the National Universities Commission.

UNESCO (2015) found open educational resources as another category of DIRs used by lecturers in learning from diverse course content of institutions of learning. Slightly different, Iroaganachi and Izuagbe (2018) found that academic staff of private universities are more proactive in the use of DIRs for research than their counterparts in federal and state universities. This revelation comes to terms with the submission of Izuagbe, Hamzat and Joseph (2016), who observed that high technology acceptance and deployment in private universities would possibly make them dominate Nigerian higher education, including the aspect of using DIRs.

Effective use of DIRs depends absolutely on the availability of computers and Internet access, network connectivity, highly skilled personnel, and a steady power supply (Simon & Ogom, 2015). Iroaganachi and Izuagbe (2018) broke silence by opining that when these variables are harnessed, use of DIRs by lecturers results in improved quality of discussions at conferences, workshops, and symposia; enhanced community service participation; increased research publications; and amplified leadership and other relevant skills, among others. This shows that ineffective use of DIRs by lecturers instigates severe harm to the intellectual system of every university. The intellectual output of lecturers is grossly affected and their image becomes tainted on account of a lack of proper harmonization of variables that results in the effective utilization of DIRs.

It is a known fact in this digital era that any student at the higher level who intends to better achieve and go further in academics should have the ability to explore the digital environment. Adeyinka, Adedeji, Ayen, and Omoba (2008) stated that students’ ability to find and retrieve information effectively is a transferable skill useful for their future life as well as enabling the positive and successful use of digital resources while at school. Students’ use of information systems can be in the form of communicating or posting information or material by way of electronic mail, bulletin boards, the world wide web, or other such electronic tools (Mischnick, 2000). Digital information resources serve as a motivating factor for students as they provide them with the opportunity to transmit, acquire or download, process, and disseminate information on a subject of interest. Digital information resources offer today's students greater opportunities that are quite different from their predecessors (Ray & Day, 2003).
This review is thus presented in the conceptual framework below:

![Conceptual Framework](image)

**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 technology acceptance model (TAM) by Davis (1989).

**The Technology Acceptance Model (TAM)**

The technology acceptance model (TAM) is a theory of information systems that describes how people come to accept and use technology. Davis (1989) proposed the theory to explain the factors that influence user acceptance of a variety of enduser computing technologies. Davis discovered two theoretical elements in TAM that influence system use intention: perceived usefulness (PU) and perceived ease of use (PEOU). Fred Davis defined perceived usefulness (PU) as "the degree to which a person believes that employing a certain system would improve his or her job performance." It denotes whether or not someone considers the technology to be useful for the task at hand. Davis defined perceived ease-of-use (PEOU) as "the degree to which a person believes that using a specific system would be devoid of effort" (Davis 1989). If the technology is simple to use, the hurdles will be overcome.
The Implications of the Technology Acceptance Model for the Study is that the two theoretical constructs of TAM, perceived usefulness (PU) and perceived ease of use (PEOU), majorly determine the digital information resources in the educational setting. ICT adoption is based on perceived usefulness and perceived ease of use, without which management will have no business adopting ICT. Hence, the adoption and use of ICT-based resources has helped institutions achieve growth by becoming more efficient, effective, innovative, and globally competitive (Rahayu & Day, 2017; Tarut & Gatauti, 2014). The ease of use of ICT-based resources is an influential factor in business instructional delivery. Therefore, digital information resources have the capacity to facilitate and encourage management and lecturers to embrace the utilization of digital information resources as part of their core instructional delivery strategies for teaching business education.

**Empirical Review**

Mohammed et al. (2018) examined access to digital materials on research output in some selected federal university libraries in northern Nigeria. To achieve the goals, three objectives guided the study. A quantitative method and survey design were adopted to elicit data from lecturers and ICT librarians using a close-ended questionnaire. A multi-stage sampling technique was used in selecting respondents from each institution. The data collected were analysed descriptively and the results were presented using frequency counts, mean and aggregate mean scores in tables. The findings revealed that access to digital materials influenced the research output of library users, particularly the number of journal articles, conference papers presented, books, and chapters in books published. The choice of metadata type is determined by the number of modules such as administrative, technical, and preservation so as to resolve militating technical factors, promote information availability, the interactive nature of technology, and portability of digital content. It could be concluded that access to digital materials and use immensely contributed to research output and metadata types. Technical factors moderate access, adoption, use and research output in the selected federal universities in northern Nigeria.

Amesi and Yellowe (2018) examined the availability and utilization of information and communication technology gadgets in faculties of education in Rivers State Universities. A descriptive survey design was adopted and the population was comprised of 237 lecturers and 9,945 students, giving a total population of 10,182. A sample was drawn from the study and analysis was done with 168 lecturers and 232 students who returned their instruments. A test retest method was used for the reliability test, which yielded a co-efficient of 0.90. A mean and standard deviation were used to analyze the research questions, while a z-test was used to test the hypotheses. Findings from the study revealed that information and communication technology gadgets available are moderately and also not effectively utilized for teaching and learning in faculties of education in Rivers State Universities as there were no significant differences in the responses of the respondents on the availability and utilization of information and communication technology gadgets in Rivers State Universities.
Elogbo (2017) determines the extent to which information and communication technology are utilized in the instructional delivery of business education by lecturers in federal universities in south-south Nigeria. In order to carry out this study objectively, five specific objectives, five research questions, and five null hypotheses were formulated to guide the study. A descriptive survey design was adopted for the study. The population of the study comprised 814 business education students in federal universities in south-south Nigeria. A simple random sampling technique was used in selecting a sample of 408 business education students. A questionnaire with 50 structured items designed by the researcher was used for data collection for this study. The questionnaire was face validated by three experts in the Faculty of Education, University of Uyo. Cronbach’s Alpha Technique was used in determining the reliability of the instrument, and a correlation coefficient of 0.87 was obtained. The mean was used in answering the research questions. The t-test statistics were used in testing the null hypotheses at the.05 level of significance. The findings of the study reveal that there is no significant difference between the mean ratings of male and female students on the extent of utilization of the World Wide Web, e-mail, spreadsheets, Power Point, and word processing packages and the teaching of business education in federal universities in South South, Nigeria. This implies that there is a significant linkage between the utilization of information and communication technology tools like web-based resources and the teaching of business education in federal universities in southern Nigeria. Based on the findings, it was concluded that the utilization of ICT resources in the teaching of business education programs in universities facilitates the knowledge acquisition and dissemination of information by students and teachers in various disciplines.

Adeleke and Nwalo (2017) investigated the availability, awareness, and use of electronic resources to provide access to authoritative, reliable, accurate, and timely information. The use of electronic information resources (EIRs) can enable innovation in teaching and increase timeliness in the research of postgraduate students, which will eventually result in the encouragement of the expected research-led inquiry in this digital age. The study adopted a descriptive survey design. Samples of 300 postgraduate students from seven out of 13 faculties were randomly selected. Data were collected using a questionnaire designed to elicit a response from respondents, and the data were analyzed using descriptive statistics methods such as percentages, means, and standard deviation. Results indicated that the internet was ranked as the most available and used resource in the university. The low level of usage of electronic resources, in particular full-text databases, is linked to a number of constraints: Interrupted power supply was ranked highest among other factors such as speed and capacity of computers; retrieval of records with high recall and low precision; retrieval of records relevant to information needs; lack of knowledge of search techniques to retrieve information effectively; non possession of requisite IT skills; and problems accessing the internet.
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 Otouke, 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 e-book resources and business education delivery in tertiary institutions in Bayelsa State?
Table 1: Pearson Product Moment Correlation analysis on the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
<th>r</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-book resources</td>
<td>14.560</td>
<td>2.081</td>
<td>52</td>
<td>0.393</td>
<td>Weak</td>
</tr>
<tr>
<td>Business Education Delivery</td>
<td>15.500</td>
<td>2.100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 1 shows the extent of the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State. However, the result indicated that the relationship that exist between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak (r = 0.393). The implication of this result is that the extent of relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak.

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

Table 2: Pearson product moment correlation analysis on the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
<th>r</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-journal Resources</td>
<td>15.290</td>
<td>2.515</td>
<td>52</td>
<td>0.896</td>
<td>Very Strong</td>
</tr>
<tr>
<td>Business Education Delivery</td>
<td>15.500</td>
<td>2.100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 2 shows the extent of the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State. However, the result indicated that the relationship that exist between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong (r = 0.896). The implication of this result is that the extent of relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong.

Research Question 3: What is the relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State?
Table 3: Pearson product moment correlation analysis on the relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
<th>r</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web-base resources</td>
<td>14.710</td>
<td>2.468</td>
<td>52</td>
<td>0.879</td>
<td>Very Strong</td>
</tr>
<tr>
<td>Business Education Delivery</td>
<td>15.500</td>
<td>2.100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 3 shows the extent of the relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State. However, the result indicated that the relationship that exist between web-base resources and business education delivery in tertiary institutions in Bayelsa State is very strong \( r = 0.879 \). The implication of this result is that the extent of relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State is very strong.

Presentation of Hypotheses

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

Table 7a: Summary of simple linear regression on the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.393a</td>
<td>0.154</td>
<td>0.137</td>
<td>1.951</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-book Resources


Table 7b: Regression coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficientsa</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.732</td>
<td>1.930</td>
<td>5.041</td>
</tr>
<tr>
<td></td>
<td>E-book Resources</td>
<td>0.396</td>
<td>0.131</td>
<td>0.393</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery

Table 7c: Summary of ANOVA on the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>34.671</td>
<td>1</td>
<td>34.671</td>
<td>9.108</td>
<td>0.004b</td>
</tr>
<tr>
<td>Residual</td>
<td>190.329</td>
<td>50</td>
<td>3.807</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>225.000</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery
b. Predictors: (Constant), E-book Resources


Table 7a shows that r-value of 0.393 indicated a weak contribution of e-book to business education delivery in tertiary institutions in Bayelsa State. The $r^2$-value of 0.154 indicated roughly the contribution of 15.4% to business education delivery in tertiary institutions in Bayelsa State by the independent variables – e-book resources. The result of in Table 7b shows that any increase in e-book resources will lead to an enhancement to the extent of business education delivery ($t_{cal} = 3.018$, $t_{crit, 50} = 2.009$, Sig = 0.004). Furthermore, Table 7c indicated that there is a significant relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State ($F_{1, 50} = 9.108$, P = 0.004). 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 one was rejected at 0.05 significant levels. Therefore, there is a significant relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State.

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

Table 8a: Summary of simple linear regression on the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.896a</td>
<td>0.803</td>
<td>0.799</td>
<td>0.941</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), E-journal Resources

Table 8b: Regression coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficientsa</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>4.058</td>
<td>0.811</td>
<td>5.002</td>
<td>0.000</td>
</tr>
<tr>
<td>E-journal Resources</td>
<td>0.748</td>
<td>0.052</td>
<td>0.896</td>
<td>14.291</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery


Table 8c: Summary of ANOVA on the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>180.747</td>
<td>1</td>
<td>180.747</td>
<td>204.221</td>
<td>0.000b</td>
</tr>
<tr>
<td>1 Residual</td>
<td>44.253</td>
<td>50</td>
<td>0.885</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>225.000</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery
b. Predictors: (Constant), E-journal Resources


Table 8a shows that r-value of 0.896 indicated a very strong contribution of e-journal resources and business education delivery in tertiary institutions in Bayelsa State. The r²-value of 0.803 indicated roughly the contribution of 80.3% to business education delivery in tertiary institutions in Bayelsa State by the independent variables – e-journal resources. The result of in Table 8b shows that any increase in e-journal resources will lead to an enhancement to the extent of business education delivery \((t_{cal} = 14.291, > t_{crit} (50 = 2.009), \text{Sig} = 0.000)\). Furthermore, Table 8c indicated that there is a significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State \((F(1, 50) = 204.221, P =0.000)\). 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 \((\text{Sig}) < 0.05\), hence, null hypothesis two was rejected at 0.05 significant levels. Therefore, there is a significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State.

Hypothesis 3: There is no significant relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State.
Table 9a: Summary of simple linear regression on the relationship between web-based resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Web-based Resources


Table 9b: Regression coefficients

<table>
<thead>
<tr>
<th>Coefficients&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery


Table 9c: Summary of ANOVA on the relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State

<table>
<thead>
<tr>
<th>ANOVA&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Regression</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Business Education Delivery
b. Predictors: (Constant), Web-based Resources


Table 9a shows that r-value of 0.879 indicated a very strong contribution of web-base resources and business education delivery in tertiary institutions in Bayelsa State. The r<sup>2</sup>-value of 0.773 indicated roughly the contribution of 77.3% to business education delivery in tertiary institutions in Bayelsa State by the independent variables – web-base resources. The result of in Table 9b shows that any increase in e-journal resources will lead to an enhancement to the extent of business education delivery (t<sub>cal</sub>= 13.060, > t<sub>crit</sub>, 50 = 2.009), Sig = 0.000). Furthermore, Table 9c indicated that there is a significant relationship between web-base resources and business education delivery.
in tertiary institutions in Bayelsa State (F1, 50 = 170.576, 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 three was rejected at 0.05 significant levels. Therefore, there is a significant relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State.

**DISCUSSION OF FINDINGS**

**Relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State**
The result in Table 1 shows that the extent of relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak. Furthermore, the result of table 7 indicated that there is a significant relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State. This finding is in agreement with the study conducted by Agim et al. (2020) which revealed that the availability of e-book resources is a positive factor in students' interest and contributes significantly to the delivery of the business education program.

**Relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State**
The result in table 2 shows that the extent of relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong. While, the result of table 8 indicated that there is a significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State. This finding is consistent with the study carried out by Agim et al. (2020) which revealed that the availability of e-journal resources is a positive factor in students' interest and contributes significantly to the delivery of the business education program.

**Relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State**
The result in table 3 shows that the extent of relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State is very strong. While the result of table 9 indicated that there is a significant relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State. This finding is in agreement with the study of Elogbo (2017) which revealed that there is a significant linkage between the utilization of information and communication technology tools like web-based resources and the teaching of business education in federal universities in southern Nigeria.
FINDINGS

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

1. The extent of relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak.
2. The extent of relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong.
3. The extent of relationship between web-base resources and business education delivery in tertiary institutions in Bayelsa State is very strong.
4. There is a significant relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State.
5. There is a significant relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State.
6. There is a significant relationship between web-base 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. However, some of the results of the study revealed that the relationship between e-book resources and business education delivery in tertiary institutions in Bayelsa State is weak. The implication of this result is that e-books are not frequently utilized in the instructional delivery of business education across the institution used for the study. As such, the attention given to e-book resources may not be uniform across tertiary institutions in Bayelsa State. Furthermore, the relationship between e-journal resources and business education delivery in tertiary institutions in Bayelsa State is very strong. This result shows that e-journals are one of the resources used by lecturers at tertiary institutions to improve the level of business education delivered to students.

Based on the findings, the study concluded that digital information resources are 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 e-journals and web-based 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. Lecturers of tertiary institutions in Bayelsa State should 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.
2. 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.
3. The relationship between web-based resources and business education delivery in tertiary institutions in Bayelsa State is reinforced by the establishment of appropriate policies, structures, and procedures to improve tertiary education in the state.
4. 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.

**ACKNOWLEDGEMENT**

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**REFERENCES**


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