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MULTIMEDIA INTEGRATED AND TECHNOLOGICAL SKILLS OF BUSINESS EDUCATION GRADUATES: A MEDIATING ROLE OF ICT POLICY IN TERTIARY INSTITUTIONS IN RIVERS STATE

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ABSTRACT

The study investigated the relationship between multimedia integration and technological skills of business education graduates in tertiary institutions in Rivers State. A correlational research design was used to carry out the study. The population of the study consisted of 3,763 undergraduates from tertiary institutions in Rivers State. The sample size consisted of 351 undergraduates. Simple random sampling technique was used to select the respondents. A Technology Integration and Job Market Skills Acquisition Questionnaire (TIJMSAQ) was used for data collection. The instrument was validated and tested for reliability, with a reliability index of 0.882 derived through Cronbach's alpha. Pearson's Product Moment Correlation was used to answer the research questions, while the null hypotheses were tested using regression analysis at the 0.05 significance level. The findings of the study revealed, among other that, there is a significant relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State. The study concluded that the integration of multimedia tools contributes to the development of technological skills for business education graduates in tertiary institutions in Rivers State. The study, therefore, recommended, among others, that there is a need for tertiary institutions in Rivers State to prioritize the integration of multimedia tools in their business education curriculum to enhance the technological skills of business education graduates.

Keywords: Multimedia Integration tool, Technical Skill, Business Education Graduates

INTRODUCTION

The utilization of multimedia tools in the teaching and learning of business education has become increasingly popular in recent years. These tools, such as videos, interactive presentations, and online simulations, can enhance student engagement and understanding of complex business concepts. Additionally, multimedia tools provide opportunities for students to develop important digital literacy skills that are essential in today's technology-driven society. Multimedia refers to the amalgamation of various forms of media, including but not limited to textual content (alphabetic or numeric), symbols, visuals, images, audio, video, and animations. These elements are typically utilized with the assistance of technology to improve comprehension or retention (Guan et al., 2018).

Verbal instruction is enhanced through the utilization of visualization technology, which incorporates both static and dynamic images, resulting in improved expression and comprehension (Alemdag and Cagiltay, 2018; Chen and Liu, 2008). According to Kapi et al. (2017), multimedia technology includes the hardware and software used in the creation and execution of multimedia applications. Multimedia technology possesses distinct qualities such as amalgamation, variety, and engagement, which empower individuals to convey information or concepts through a combination of digital and printed components. In this particular context, the digital and print components pertain to various applications or tools that utilize multimedia to effectively convey information to individuals, aiding in their comprehension of different concepts.

The rapid advancement of technology has changed the traditional ways of doing things in various sectors, including education. With the integration of technology into classrooms, teaching and learning methods have been transformed, offering new opportunities for both educators and

students. However, while technology has brought numerous benefits to education, it has also become a litmus test for the effectiveness of teaching practices in the 21st-century classroom. As technology continues to evolve, graduates from various disciplines, including business education, are now expected to possess not only a strong foundation in their respective fields but also proficiency in utilizing technology for their professional development. However, the extent to which business education graduates are equipped with the necessary technological skills is likely to vary, and such variance is likely to influence their exploitation in the job market.

Technology is frequently misunderstood to refer solely to technical skills or knowledge related to specific tools or software. However, in today's digital age, technology includes the ability to adapt to new technologies, analyze data, and effectively communicate via digital platforms. As a result, it is critical for business education graduates to have not only technical skills but also an understanding of the strategic implications of technology in their respective industries. Ile et al. (2015) define technology as the modification, use, and knowledge of tools, machines, techniques, crafts, systems, and organizational methods in order to solve a problem. The integration of technologies like computer applications and software, multimedia tools and resources, online learning platforms and virtual classrooms, data analysis and management tools, communication and collaboration tools, educational games, and simulations can greatly enhance the problem-solving processes of business education students.

Purpose of the Study

1. Examine the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State.

Research Question

1. What is the extent to which institutional policy moderate the relationship between technology integration and job market skills of business education graduates in tertiary institutions in Rivers State?

Hypothesis

1. There is no significant extent to which institutional policy moderate the relationship between technology integration and job market skills of business education graduates in tertiary institutions in Rivers State.

Concept of Multimedia

Truly, the arrival of information and communication technology (ICT) is causing significant changes in multiple areas of human endeavor, particularly in the field of education. ICT encompasses the utilization of both physical components and digital programs to gather, manipulate, retain, showcase, and distribute data in various formats. Multimedia technology plays a crucial role in the field of ICT, focusing on the digital representation and presentation of information through various mediums, including text, audio, video, and more (Guan et al., 2018). It encompasses the fusion of multiple technologies to deliver information in optimal formats, packages, and dimensions.

Multimedia or digital learning resources help learners effectively engage with mental representations by utilizing various media elements that enhance information processing. Digital learning resources utilize a combination of text, images, videos, and audio to present information, including content and learning activities. Research has shown that learners who utilize both pictures and words in their learning experience tend to achieve more favorable outcomes compared to those who rely solely on words (Chen and Liu, 2008; Mayer, 2008). According to Eady and Lockyer (2013), various teaching approaches were employed through the utilization of digital materials. In their research, the authors showcased their ability to introduce various subjects to students, effectively demonstrate concepts, foster group participation, provide access to diverse text formats, and actively involve students through interactive methods.

In a broad sense, the classification of multimedia technology for educational purposes can be based on whether it is employed for instructional or educational purposes. Eady and Lockyer (2013) provide a comprehensive list of various multimedia or digital learning resources. Moreover, as

highlighted by Guan et al. (2018), numerous research endeavors have emphasized the significance of multimedia technologies in the field of education and the extensive integration of multimedia resources. The utilization of technology is typically associated with multimedia, and the extensive integration of multimedia applications in education can be attributed to their numerous advantages (Almara'beh et al., 2015). The advantages of using multimedia application tools for educational purposes can be outlined as follows: (1) The skill to transform abstract ideas into tangible content (2) The capacity to deliver substantial amounts of information efficiently within a restricted timeframe (3) The ability to ignite students' curiosity and engagement in the learning process (4) Equips teachers with the capability to assess students' progress and understanding

Multimedia created for educational purposes involves constructing cognitive representations through the utilization of diverse textual and visual elements within various settings. According to Alemdag and Cagiltay (2018), these tools are specifically created to support learning in various settings such as presentations, classrooms, laboratories, simulations, e-learning, computer games, and virtual reality. This enables learners to engage with information through both verbal and visual means. A solid grasp of various theories is necessary when it comes to creating educational multimedia. One such theory is the cognitive theory of multimedia learning, which outlines three assumptions that explain how individuals acquire knowledge from instructional multimedia materials. The assertions made by Alemdag and Cagiltay (2018) can be expressed as dual-channel, restricted capacity, and engaged processing.

Technological Skills

Technology has become an integral part of the instructional process, resulting in the development of new concepts in the logistics of instruction. The use of information and communications technology (ICT) resources has made teaching and learning easier, more concrete, more real, and more result-oriented. Since the introduction of ICT, there has been a growing concern for the use of new technologies such as the Internet, computers, scanners, e-mail, and projectors for teaching and learning. Technology is defined by Redmann and Kotrlik in Ile, Udegbunam, and Odimmega (2015) as the modification, usage, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization in order to solve a problem. Technology improves a pre-existing solution to a problem, achieves a goal, handles an applied input or output relationship, or performs a specific function.

Many are just beginning to explore the true assistance technology offers for teaching and learning. When properly used, technology helps students acquire the skills they need to survive in a complex, highly technological, knowledge-based economy. Thus, technologies are applied in classroom situations to enhance teaching and learning processes. In the teaching and learning of business education, technology can be used to simulate real-world business scenarios, allowing students to practice problem-solving and decision-making skills in a safe and controlled environment. Additionally, technology can provide access to up-to-date information and resources, enabling students to stay current with industry trends and developments.

According to Dukes (2019), workplace technology has undergone a significant transformation in recent decades. According to Kolaski (2018), the utilization of the Internet and the introduction of innovative technologies have revolutionized various facets of our daily existence. According to Williams (2009), having a strong grasp of technology literacy is crucial for achieving success in the modern workplace of the twenty-first century. In today's society, technology has become an essential component of both our professional endeavors and our daily routines (Capella University, 2017). According to Williams (2009, p. 4), technology literacy refers to the skill of effectively utilizing technology to access and communicate information, perform physical tasks using computer software, and determine the most suitable technology for various circumstances. To ensure that students remain competitive in the international job market, it is imperative for business educators to equip them with the technological proficiencies that are anticipated by the business and industry sectors (Brown & Finnell, 2020).

ICT Policy in Education

The Nigerian government is not oblivious to the role of ICT in higher education. As part of her education reform effort, ICT was implemented at all levels of education to improve teaching and learning, enhance higher education research, enhance collaboration, and improve the overall quality of education (Asiyai, 2013). As Odukoya et al. (2018) revealed, the Federal Executive Council approved a national IT policy in March 2001 and established the National Information Technology Development Agency (NITDA), charged with the responsibility of implementing the policy in the country.

The Federal Ministry of Education is responsible for the implementation of ICT policies in education and is advised by the National Council on Education, which is made up of the Federal Minister for Education, the State Commissioners of Education, and a Joint Consultative Commission on Education, who are essentially education officials. As stated in the policy document, some of the objectives include:

i. To integrate ICT into the national education curriculum.
ii. Introduce mandatory training and appropriate courses for ICT at all tiers of education.
iii. Foster an ICT-driven educational administration environment.
iv. Promote the development of instructional materials in electronic format.

To meet the objectives, the strategies outlined include:

1. Provide personal computers in public places (e.g., post offices, schools, public libraries, etc.) in small and large communities to help low-income segments of society gain access to the internet and for educational purposes.
2. Promote the incorporation of ICT within the education curriculum at all levels.

However, due to the challenges in the system, such as the lack of proper infrastructure to support the use of ICT in Nigerian schools (Egoeze et al., 2014), the implementation of these policies is unsustainable.

Technology Acceptance Model (TAM) (Davis, 1986)

TAM is a widely used theoretical framework in the field of information systems and technology research. It was developed to understand and predict individuals' acceptance and usage of new technologies. Fred Davis created TAM in 1986, and various researchers have since developed it. According to the model, perceived usefulness and perceived ease of use are the two main factors that affect people's acceptance of technology (Davis, 1986; cited in Mailizar et al., 2021).

Perceived usefulness: according to Davis (1986), cited in Mailizar et al. (2021), refers to the extent to which an individual believes that using a particular technology will enhance their job performance or make tasks easier to accomplish. This factor takes into account the individual's subjective assessment of the benefits and advantages that the technology can provide.

Perceived ease of use: according to Davis (1986), cited in Mailizar et al. (2021), refers to the extent to which an individual believes that using a particular technology will be free from effort or require minimal mental and physical exertion. It takes into consideration the individual's perception of how easy it is to learn and operate the technology, as well as their confidence in their ability to use it effectively.

These two factors, perceived usefulness and perceived ease of use, are key determinants of an individual's intention to adopt and use technology (Davis, 1986, cited in Mailizar et al. 2021). Consequently, the perceived usefulness and ease of use of a technology play a crucial role in its adoption and utilization by individuals. If a technology is perceived as highly useful and easy to use, individuals are more likely to embrace it and incorporate it into their daily lives. On the other hand, if a technology is seen as difficult to learn or operate, individuals may be hesitant to adopt it and may seek alternatives that require less effort (Marbán & Mulenga, 2019).

Implications of the Technology Acceptance Model for the Study

The study investigates the relationship between technology integration and job market skills of business education graduates in tertiary institutions in Rivers State. As such, TAM provides a useful framework for understanding the factors that influence individuals' acceptance and adoption of technology in the teaching and learning process. By applying TAM, the study aims to identify the specific barriers and facilitators that impact business education graduates' willingness to adopt technology in their future careers.

Business education graduates are expected to possess a strong foundation in both business principles and technological proficiency. In today's digital age, employers are increasingly seeking candidates who can effectively utilize technology to enhance productivity and innovation in the workplace. Therefore, it is crucial for business education graduates to be equipped with the necessary skills and knowledge to seamlessly integrate technology into their job roles. Additionally, staying updated with the latest technological advancements is essential for remaining competitive in the job market. Therefore, the adopted theory is considered to be a driving force behind the need for business education programs to incorporate technology-focused coursework and training.

Research Question One: What is the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State?

Table 1: Pearson's Product Moment Correlation analysis on the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State

Variables	Mean	Std. Dev	n	r	Decision
Multimedia tools integration	15.590	2.687	351	0.590	Moderate
Technological skills	15.420	1.905			

Source: SPSS Computation, 2024.

Table 1 shows the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State. However, the result indicated that the relationship that exists between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State is moderate ($r = 0.590$, $r \geq \pm 0.40$ to ± 0.59). This result implies that multimedia tools integration moderately relates to the development of technological skills of business education graduates in tertiary institutions in Rivers State.

Presentation of Hypotheses

Hypothesis One: There is no significant relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State.

Table 2: Summary of simple linear regression of the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State

Variables	Coefficients	Std. Error	t	Sig.
(Constant)	8.901	0.484	18.375	0.000
Multimedia tools integration	0.418	0.031	13.658	0.000*
R	0.590[a]			
R-squared	0.348			
Adjusted R-squared	0.346			
F-statistic	186.538			
P-value	0.000[b]			
Df	350			

a. Dependent Variable: Technological skills
b. Independent Variable: Multimedia tools integration
c. *Items show a significant relationship with the dependent variable at the 0.05 level of significance

Source: SPSS Computation, 2024.

The result of table 2 shows that an r-value of 0.590 indicates a moderate relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State. The r^2-value of 0.348 indicated roughly a variation of 35% in the relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State. Furthermore, since, F-statistic = 186.538, t = 13.658, at df = 350, and p = 0.000 < 0.05, hence, null hypothesis one is rejected at the 0.05 level of significance. Therefore, there is a significant relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State.

Discussion of Findings

The result of Table 1 shows that multimedia tools integration moderately relates to the development of technological skills of business education graduates in tertiary institutions in Rivers State. Furthermore, the result of Table 2 indicated that there is a significant relationship between multimedia tools integration and technological skills of business education graduates in tertiary institutions in Rivers State. This finding is in agreement with the study conducted by Anihenya and Agah (2021) which revealed that that students from highly technology integration schools had high level of academic engagement: significantly than those from less technology integration school. Students from highly technology integration schools had high level of academic achievement significantly than those from less technology integration school. Furthermore, the study is corroborated by Amesi and Taiger (2021), which revealed that revealed that Business Education graduate students to a moderate extent, were equipped with managerial and performance skills needed to carry out office functions for effective job performance in Business Organizations, and that Business Education graduate students were to a high extent, able to demonstrate basic knowledge of certain networking system skills.

CONCLUSION

Based on the findings, it can be concluded that the integration of multimedia tools, moderately contribute to the development of technological skills for business education graduates in tertiary institutions in Rivers State. Therefore, it has become imperative that tertiary institutions in Rivers State should consider integrating these tools into their curriculum to enhance the technological of their graduates.

RECOMMENDATIONS

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

1. There is a need for tertiary institutions in Rivers State to prioritize the integration of multimedia tools in their business education curriculum. This can be achieved through the provision of adequate resources and training for both educators and students to effectively utilize these tools in enhancing technological skills
2. Tertiary institutions in Rivers State should prioritise the integration of multimedia tools into their business education curriculum. This can be achieved through the provision of adequate resources and training for educators to effectively incorporate multimedia tools into their teaching methods

3. The management of these tertiary institutions should review and revise their institutional policies to better support technological integration and the development of job market skills among undergraduates.

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