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DATA ANALYTICAL TOOLS AS A PRECUSOR TO JOB MARKET SKILLS OF BUSINESS EDUCATION GRADUATES IN TERTIARY INSTITUTIONS IN RIVERS STATE

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ABSTRACT

The study investigated the relationship between data analytical tool and job market 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. 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 data analytical tools integration and market skills of business education graduates in tertiary institutions in Rivers State. The study concluded that the integration of data analysis tools moderately contributes to the development of market 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 data analytical tools in their business education curriculum.

Keywords: Data Analytical Tools, Job Market Skills, Business Education Graduates

INTRODUCTION

The workplace in this technological era is in need of workers with proficient knowledge of technology and the ability to adapt to new tools and systems. These skills not only give prospective job seekers a competitive edge in the job market but also enable them to contribute effectively to the digital transformation happening in various industries. According to Abraham-Ibe (2021), job market skill is defined as the combination of knowledge, abilities, and personal attributes that individuals possess and can effectively apply in the workplace. It encompasses both technical skills specific to a particular job or industry, as well as transferable skills that can be applied across various professions. However, Oladunjoye (2016) highlighted that for business education graduates, these skills include technological and financial literacy skills, as well as communication, problem-solving, and critical thinking skills. These skills are essential for business graduates to navigate the rapidly changing and competitive business landscape.

Consequently, related studies like those of Anihenya and Agah (2021), which investigated the impact of technology integration on student engagement and achievement in English and mathematics in Mubi South Local Government Area of Adamawa State, and the study of Umeano and Ifi (2019), which investigated the extent of integration of new technologies for teaching in business education, courses in tertiary institutions in North-East Nigeria. These studies, among others, show a gap in knowledge when compared to the present study. Thus, this study aims to fill this gap by examining the relationship between technology integration and job market skills of business education graduates in tertiary institutions in Rivers State.

Business education is not just about learning how to do business; it also equips graduates with the knowledge to work as educators. Furthermore, business education graduates are trained with the hope that they can fit into various roles within the business industry, such as

management, marketing, finance, and entrepreneurship. That can be attributed to the reason why Azih and Wagbara (2018), define business education as "an education for the acquisition and development of skills and competencies, attitudes, and attributes that are essential for the efficiency of the economic system." Thus, the integration of technology into business education has become increasingly important in order to prepare graduates for the evolving demands of the industry. With advancements in technology, businesses are relying more on digital platforms and data analysis to make informed decisions and stay competitive. Therefore, incorporating technology into the business education curriculum equips students with the necessary skills to navigate this digital landscape and effectively contribute to the success of businesses in today's fast-paced world.

The utilization of data analysis tools in business education at the tertiary level has become increasingly important in recent years. These tools allow students to gain practical experience in manipulating and interpreting data, which is a crucial skill in today's data-driven world. Additionally, the use of data analysis tools helps students develop critical thinking and problem-solving skills as they analyze and draw insights from complex datasets. According to Liverpool, Marut, Ndam, and Oti (2016), data analysis tools are tools that enable students to explore, visualize, and analyze data in a more efficient and effective manner. These tools provide students with the ability to identify patterns, trends, and correlations within datasets, which can then be used to make informed business decisions. Moreover, the use of data analysis tools also prepares students for careers in fields such as finance, marketing, and operations management, where data-driven decision-making is essential for success.

Gunawan (2014) opined that, more like learning management systems when it comes to managing data, data analytics plays a vital role in extracting valuable insights and making well-informed decisions. Through the utilization of diverse statistical methodologies and algorithms, data analytics empowers enterprises to uncover distinctive patterns, trends, and correlations within their extensive volumes of data. The procedure entails gathering, purifying, and arranging information from various sources, guaranteeing its precision and dependability. After the data has been prepared, it becomes possible to analyze it using cutting-edge tools and technologies like machine learning and artificial intelligence. Utilizing these analytical methods enables businesses to acquire a more profound comprehension of their customers inclinations, streamline operations, detect potential hazards or prospects, and elevate overall effectiveness.

Among the technologies used to teach business education are multimedia tools, online learning, and data analysis tools. Nwokocha et al. (2020) defined multimedia tools as any technology that combines different forms of media, such as text, images, audio, and video, to enhance the learning experience. Also, Grand-Clement (2017) defined online learning tools as any digital platforms or applications that facilitate remote learning and interaction between teachers and students. These tools can include virtual classrooms, video conferencing software, online discussion boards, and interactive learning modules. While Ezenwafor and Okoli (2014) defined data analysis tools refer to software or programs that are designed to collect, organize, and analyze large sets of data in order to extract meaningful insights and patterns. These tools often use statistical algorithms and machine learning techniques to identify trends, make predictions, and support decision-making processes. The integration of the foregoing, technologies is not just expected to improve the chance of business education graduates finding employment, but also to enhance their performance and productivity in the workplace.

Purpose of the Study

1. Investigate the relationship between data analysis tools integration and financial literacy skills of business education graduates in tertiary institutions in Rivers State.

Research Question

1. What is the relationship between data analysis tools integration and financial literacy skills of business education graduates in tertiary institutions in Rivers State?

Hypothesis

1. There is no significant relationship between data analysis tools integration and financial literacy skills of business education graduates in tertiary institutions in Rivers State.

Data Analysis Tools

As stated by Gantz and Reinsel (2012), the concept of data analytics involves the thorough analysis of extensive and diverse datasets in order to discover patterns, correlations, and valuable insights that can be utilized to support decision-making. It encompasses the utilization of sophisticated statistical methods, algorithms for machine learning, and tools for visualizing data in order to derive valuable insights from unprocessed data. Additionally, in their study, Wamba et al. (2015) provide a comprehensive definition of data analytics. They say it is a complete strategy for dealing with, manipulating, and analyzing the 5 Vs (volume, variety, velocity, veracity, and value) in order to get practical insights that help provide long-term value, evaluate performance, and find competitive advantages.

The preceding explanations indicate that data analytics is a diverse discipline that involves a range of techniques and resources to discover significant patterns and valuable insights from extensive and varied datasets. The process entails utilizing sophisticated statistical methods, like regression analysis, hypothesis testing, and clustering, to detect patterns and correlations within the data. Machine learning algorithms have a significant impact on data analytics as they facilitate automated identification of patterns, predictive modeling, and the detection of anomalies. The algorithms have the ability to acquire knowledge from past data in order to generate precise forecasts or categorize novel cases by utilizing acquired patterns. Moreover, the utilization of data visualization tools assists in presenting intricate data in user-friendly and dynamic visual formats, enabling analysts to efficiently investigate and convey valuable findings.

Through the utilization of these strategies and resources, accountants have the opportunity to acquire valuable knowledge from extensive quantities of financial information. By utilizing their capabilities, they are able to recognize patterns, uncover instances of deceit, and arrive at well-informed choices in order to enhance their financial outcomes (Mabed & Kohler, 2012). As an illustration, machine learning algorithms have the capability to examine past financial data in order to anticipate forthcoming revenue and expenses, thereby assisting accountants in projecting budgets and distributing resources with greater effectiveness. Data visualization tools are also capable of assisting accountants in presenting financial information in a visually captivating manner, thereby facilitating stakeholders' comprehension and interpretation of the data. Moreover, these strategies can aid in recognizing possible hazards and possibilities, empowering accountants to take proactive measures and seize upon emerging patterns. In general, the incorporation of data analytics into accounting practices enables accountants to become more strategic and forward-thinking in their decision-making procedures, ultimately leading to the achievement of organizational triumph (Choo & Rahmat, 2013).

As stated by Martin (2016), data analytics in accounting encompasses various important areas such as (1) analyzing financial statements; (2) detecting and preventing fraud; (3) assessing and managing risks; (4) evaluating internal controls; (5) creating budgets and forecasts; (6) measuring and evaluating performance; (7) planning and executing audits; (8) analyzing and optimizing costs; and (9) planning for taxes and ensuring compliance. These areas highlight the diverse range of applications for data analytics in accounting. By leveraging advanced data analysis techniques, organizations can gain valuable insights into their financial operations and make informed decisions to drive growth and profitability.

Job Market Skills

According to Sakina (2016), job market skills are likened to employability skills, which are the set of skills, knowledge, and attitudes that make individuals more likely to gain employment and be successful in their chosen career. These skills are highly valued by employers as they demonstrate an individual's ability to not only perform the tasks required for a job but also contribute to the overall success of an organization. By continuously improving these skills, individuals can increase their employability and open up new opportunities for career growth. Therefore, from this perspective, job market skills and employability skills will be used interchangeably throughout this discussion.

It is important to note that job market skills encompass technical knowledge and expertise specific to a particular field, while employability skills refer to transferable skills such as communication, problem-solving, and teamwork that are applicable across various industries. Both sets of skills are crucial for individuals to thrive in today's competitive job market and secure long-term career success. Shuga (2010) explained that the main purposes for introducing business studies into the secondary school curriculum were to provide students with the knowledge, skills, and attitudes necessary to achieve success in their place of work, tertiary education, or training, as well as in their daily business lives.

Empirical Review

Kehinde and Olatunde (2022) conducted a study to ascertain the digital skills needed by business education graduates for unemployment reduction in the 21st century in Ogun State, Nigeria. A self-designed four-rating scale questionnaire titled Digital Skills for Employment Questionnaire (DSEQ) was used for data collection. The instrument was validated by experts and was also subjected to internal consistency testing using Cronbach's alpha, and the reliability coefficient obtained was 0.83. The population of the study comprised 470 business education students, 165 males and 305 females, in three colleges of education in Ogun State. The sample of the study comprised 216 (male 76 and female 140) respondents determined by using Yaro Yemen's model and proportionate sampling technique. The mean and standard deviation were used to analyze the data and find answers to the research questions, while the t-test was used to test the research hypotheses. The findings of the study suggested that e-commerce, digital business analysis, and digital communication skills are needed for unemployment reduction among business education graduates. The results of hypotheses testing revealed that there is no significant difference in the mean score of male and female business education graduates on e-commerce-related skills; there is no significant difference in the mean score of business education graduates in federal and state-owned colleges of education on digital business analysis-related skills; and there is no significant difference in the mean score of business education graduates in public and private colleges of education on digital communication skills needed by business education graduates for unemployment reduction in the 21st century.

Ile and Chibuzo (2022) investigated the financial skill level of business education students in tertiary institutions in Anambra State. The study was a descriptive survey. One research question was answered, and two null hypotheses were tested at the 0.05 level of significance. A population of 163 business education students in public tertiary institutions in Anambra State participated in the study. The instrument for data collection was a structured questionnaire adapted from the Bureau of Consumer Financial Protection's Financial Skill Scale (2018). The reliability of the instrument was established using the Cronbach alpha (α) reliability test, which yielded a reliability coefficient of 0.78. Data was collected through physical administration and the use of Google Forms. The collected data were analyzed using the mean and standard deviation, while the hypotheses were tested at the 0.05 level of significance using the independent samples t-test and Kruskal-Wallis test. Findings from the study revealed that business education students possess many financial skills. The study also

found that female business education students possess a statistically higher level of financial skills than their male counterparts.

Anihenya and Agah (2021) examined the impact of technology integration on student engagement and achievement in English and mathematics in Mubi South Local Government Area of Adamawa State. The study adopted survey research design. The study randomly sampled 250 SS II students from total population of 14,982 SS II in Mubi South LGA, Adamawa State. Data was collected through questionnaire and were analysed using mean, standard deviation as well as t-test analytical tool. It was found 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. Likewise, there is no significant difference between the academic engagement as well as academic achievement of male and female students when exposed to technology integration in both English language and mathematics. The study concluded that technology integration is highly important for student engagement and achievement in schools as well as catered for gender difference among students.

Amesi and Taiger (2021) investigated modern office skills possessed by Business Education graduate-students for effective job performance in Business Organizations in Rivers State. Two specific objectives, research questions and hypotheses guided the study. Descriptive survey design was used for the study. Population of the study was 96 Doctor of Philosophy (PhD) and Masters Students from Rivers State University and Ignatius Ajuru University of Education, Port Harcourt. The entire population was used for the study. Instrument used for data collection was a structured questionnaire titled "Modern Office Skills Possessed by Business Education Graduate Students in Business Organizations". Reliability index of 0.87 was obtained using Cronbach Alpha method. Research questions were answered using descriptive statistics (mean and standard deviation) while z-test statistics was used to test the hypotheses at 0.05 level of significance. Findings from the study 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. Based on the findings, conclusions were made, and recommendations made among others that curriculum planners should liaise with business organizations which are prospective employers of graduates to ensure that their demands and needs are duly considered during curriculum planning and implementations, and that Government should make available adequate fund for Business Education department as to acquire necessary equipment that would aid the acquisition of necessary competencies required by Business Education students during the course of their programme.

RESULTS

Research Question one: What is the relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State?

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

Variables	Mean	Std. Dev	n	r	Decision
Data analysis integration	15.020	2.635	351	0.795	Strong
Market skills	15.000	2.328			

Source: SPSS Computation, 2024

Table 4.6 shows the relationship between data analysis integration and market skills of business education graduates in tertiary institutions in Rivers State. However, the result indicated that the relationship that exists between data analysis integration and financial literacy skills of business education graduates in tertiary institutions in Rivers State is strong ($r = 0.795$, $r \geq \pm 0.60$ to ± 0.79). This result implies that data analysis integration strongly relates to the development of market skills of business education graduates in tertiary institutions in Rivers State.

Hypothesis 1: There is no significant relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State.

Table 2: simple linear regression of the relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State

Variables	Coefficients	Std. Error	T	Sig.
(Constant)	4.449	0.437	10.181	0.000
Data Analysis Tools Integration	0.703	0.029	24.514	0.000*
R	0.795[a]			
R-squared	0.633			
Adjusted R-squared	0.632			
F-statistic	600.955			
P-value	0.000[b]			
df	350			

a. Dependent Variable: Market Skills
b. Independent Variable: Data Analysis 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 0.795 indicates a strong relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State. The r^2-value of 0.633 indicated roughly a variation of 63% in the relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State. Furthermore, since, F-statistic = 600.955, t = 24.514, at df = 350, and $p = 0.000 < 0.05$, hence, null hypothesis six is rejected at the 0.05 level of significance. Therefore, there is a significant relationship between data analysis tools integration and market skills of business education graduates in tertiary institutions in Rivers State.

Discussion of Findings

The result in table 1 shows that data analysis integration strongly relates to the development of financial literacy 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 data analysis tools integration and financial literacy skills of business education graduates in tertiary institutions in Rivers State. This finding is consistent with the study of Ile and Chibuzo (2022) which revealed that business education students possess many financial skills.

CONCLUSION

Based on the findings, it can be concluded that the integration of data analysis tools moderately contribute to the development of market skills for business education graduates in tertiary institutions in Rivers State. Furthermore, institutional policies must be put in place

to maximize the benefits of these integrations and to ensure that graduates are well equipped with the necessary skills for the job market.

RECOMMENDATIONS

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

1. The management of tertiary institutions in Rivers State should prioritize the integration of data analysis tools into the curriculum to enhance the technological skills of business education graduates. This can be achieved through the inclusion of relevant courses and workshops that focus on data analysis tools and their application in real-world business scenarios
2. Tertiary institutions in Rivers State should consider incorporating data analysis integration into their business education curriculum to enhance the markt skills of their graduates. This can be done by offering courses or modules specifically focused on data analysis and its application in the context of financial literacy.
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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