



DATA ANALYTICAL ENTREPRENEURIAL SKILLS ACQUIRED BY BUSINESS EDUCATION STUDENTS FOR DECENT WORKS IN TERTIARY INSTITUTIONS IN RIVERS STATE

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Abstract

This study investigated data analytical entrepreneurial skills acquired by Business Education students for decent works in tertiary institutions in Rivers State. Descriptive survey research design was adopted. The population was 1,013 with a sample size of 279, using Krechie and Morgan Table for determining a sample of a known population. Self-developed questionnaire of five-point rating scale was used. Face and contents validity were established using the opinions of three experts with trial-test on 20 Business Education students. Data collected were analyzed using Cronbach Alpha which yielded a coefficient value of .89. Out of 279 copies of questionnaire distributed, 250 were correctly filled, retrieved, and used for data analysis. Arithmetic mean and standard deviation were used to answer the research question and determine the spread in respondents' views. Inferential statistics of Analysis of Variance (One-way ANOVA) was used to test the null hypothesis. Findings revealed that the level of data analytical skills acquired was at a very low level. Also, Business Education students differed in their mean rating due to personal factors like good ICT background before admission, digital entrepreneurial skills experience and funding. Among other things, it was recommended that students should ensure that they obtain private certificates in ICTs with root in data analytical skills and work experience with support from parents/sponsors for decent works upon graduation.

Keywords: *Data analytical entrepreneurial skills, Business Education, students, decent works, tertiary institutions in Rivers State*

Introduction

Entrepreneurial skills are globally acknowledged as an instrument for achieving economic growth and development through employment creation for decent works. Consequently, entrepreneurship skills development is emphasized in many parts of the world such as USA, UK, Malaysia, Japan, China, Singapore and a host of others. In a country like Nigeria where unemployment and poverty are extremely high, the importance of entrepreneurial skills cannot be undermined. Entrepreneurial skills are the individual's ability to translate ideas into action. It encompasses creativity, innovativeness and calculated risk taking, as well as ability to plan and direct action towards the achievement of goals (Ken, 2013). Akpotohwo, Watchman and Ogeibiri (2016) saw it as the process of bringing together creative and innovative ideas, combining them with management and organizational competencies in order to combine people, money and resources to meet an identified need and thereby create wealth via decent works.



Business Education as an integral part of vocational education is aimed at equipping the students to become entrepreneurs with relevant digital entrepreneurial skills for purpose of making them functional in the society. Business education focuses on skills acquisition in different areas such as Office Technology and Management, Management Information System, Management, Marketing, Digital Marketing, Entrepreneurship, Cooperative Studies, Insurance, Accounting among others. It is therefore expected that the various components of Business Education courses that formed different skills are effectively delivered to the learners to become entrepreneurs via digital entrepreneurial skills (Ukata& Amini, 2022; Oyerinde, Onajite& Aina, 2020).

Digital entrepreneurial skills are skills that give entrepreneurs the ability to find, evaluate, utilize, share, and create contents using information and communication technologies and the internet anywhere, anytime and any day to sell their products and services. Digital entrepreneurial skills involve the use of automation in managing to achieving effective communication, branding, marketing and getting the targeted audience for the supply of products and services (Afrodigital, 2021). Digital entrepreneurial skills are a core part of business owner's toolkit, whether you are in charge of a multinational corporation or operating a local business from home. The five top digital entrepreneurial skills needed to succeed by today's entrepreneurs and acquire decent works are cloud computing, cyber security, data analysis, social media marketing and user experience (UX) design skills (Martinez, 2021). However, the contents scope of this study is limited to data analysis and social media marketing digital entrepreneurial skills.

Data analysis entrepreneurial skills are technical entrepreneurial skills that Business Education graduates need as a data analysts to report insights and analyze data in an organization (Indeed Editorial Team, 2022). Today, data is the heart of modern business strategy. Data analyst with data analysis entrepreneurial skills extracts trends, statistics, and actionable insights from raw data. Data analysis entrepreneurial skill is used to set pricing strategy, forecast demand, measure marketing effectiveness, reduce costs and inefficiencies, and take informed business decisions (Martinez, 2021).

According to Martinez, (2021), data analysis entrepreneurial skills enable the data analyst organizes and retrieve data to enable a company improve on production, efficiency and other valuable aspects of its operations. Data analysis entrepreneurial skills lead to decent works in personalizing the customer experience with informed business decision-making, streamline operations, mitigate risk and handle setbacks and enhance security (Stitchdata, 2022).

Decent employments or decent work are "productive works for women and men in conditions of freedom, equity, security and human dignity" (International Labour Organization, 2022). Decent employments involve opportunities for work that are productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men (Ukata& Okafor, 2022). Decent employments can easily be gotten via digital entrepreneurial skills (International Labour Organization, 2022).

Chinwokwu (2013) lamented that graduates of vocational education (including business education) in Nigeria are not establishing and running their own small businesses for self-reliance as expected due to inadequate digital entrepreneurial skills. Chinwokwu further stated that business education graduates lack relevant digital entrepreneurship competencies in the areas of financial management, self-management, ICT, marketing and leadership needed to operate their chosen businesses. He concluded that this is the cause of high rate of business failure, unemployment and lack of decent works.

The moderating factors are students personal and governments' factors. The students' personal factors are those factors that emanated from the students (undergraduates) which may affect and influence their data analytical entrepreneurial skills. They are factors that may or may not be under their control but are related to them and their family background. Factors such as commitment, personal training, and provision of laptop, data, and good ICT background before admission may influence and affect students' digital entrepreneurial skills. Also, personal factors such as age,



gender, education, vicarious experience, funding, and experiences of change to a variety of attributes influence conviction and digital entrepreneurial skills intentions (Amofah & Saladrigues, 2022; Trivedi, 2017).

The governments factors are those factors that are caused either by the state or federal governments. They also include factors from the managements of the state and federal universities, polytechnics and colleges of education. The governments' factors include provision of good policies and implementation, adequate funding, good quality teachers, provision of digital entrepreneurial skills facilities such as laboratories, classrooms, equipment, hardware and software, good working conditions, better job security, training and retraining with certifications programmes (Ukata& Udeh, 2022; Enyekit&Ukata, 2022). The institutions management factors include providing enabling teaching and learning environment, shaping entrepreneurial intention among students, nurturing with specific entrepreneurship education (data analytical entrepreneurial skills), sponsorships to conference, certifications, workshops, and training the trainer programmes among others. The role of tertiary institutions (universities, polytechnics, and collages of education) as provider and creating enabling and conducive environment to nurture entrepreneurial intention, leading to new venture creation cannot be overstressed. The responsibilities of institutions management includeshaping entrepreneurial intention among students, nurturing with specific entrepreneurship education (digital entrepreneurial skills), sponsorships in conference, certifications, workshops, and organizing training the trainer programmes for staff (Amofah&Saladrigues, 2022; Trivedi, 2016).

The governments' roles and factors appears to be prominent in acquiring digital entrepreneurial skills. This may be the reason US government has driven innovation and data economy via open government data, data security, and Google's search engine. The recent violation of data privacy by Facebook, among other major platforms, and the frequent hacking of customers' information of major corporations are heightening awareness of the tradeoffs and risks involved in leaving the cyber space unprotected and unregulated for entrepreneurs with digital entrepreneurial skills and their customers (Mazzucato, 2013).. Also, for emerging economies, the digital economy that is based on digital skills and competencies presents similar challenges where governments play varying activist roles, not only in innovation and adaptation of new waves of digital technologies but also in the assimilation and diffusion of these technologies across the whole economy in partnership with business. This to promote a dynamic ICT ecosystem, create a highly networked system of actors, and invest in the platforms and human capital required for the digital economy for entrepreneur with digital skills to acquire decent works (Hanna, 2018).

There is historical evidence that these governments have broaden and deepened their entrepreneurial and innovation roles, harnessing successive strategies and patient investments to build a dynamic digital transformation ecosystem, ubiquitous Internet access, digital platforms, digital literacy, digital leadership, and sustained commitment to transform (Mazzucato, 2013).

The features of Singapore e-transformation journey are openness of the economy, openness to global knowledge, committed political and public service leadership, cumulative institutional learning, public-private collaboration, investment in a competitive information infrastructure, early attention to ICT literacy and user learning capability, clear cyber policies, and dynamic governance based on results orientation and accountability (Hanna & Knight, 2011). Singapore adopted a holistic approach to developing and using ICT for its economic transformation. For example, ICT applications in the public sector have been planned and evolved, supported by complementary developments in information infrastructure. IT literacy and capability development, ICT industry sector, and ICT governance and institutions. E-government programs have been also based on a common foundation of shared infrastructure and services and deepened by sector-specific ICT-enabled transformations through e- logistics, e-business, e-education, and e-health (Hanna, 2018)

The justification for this topic "Data analytical entrepreneurial skills acquired by Business Education students for decent works in tertiary institutions in Rivers State"was because the study addressed the types, level as well as the influencing factors of data analytical entrepreneurial skills



acquired by Business Education students for decent works which have not been exactly addressed before. So, data digital analytical entrepreneurial skills is a brand new path of study.

Statement of the Problem

The unemployment rate among Nigerian graduates seems to have continued to escalate. Therefore, there is need for appropriate measures to curb the menace especially among Business Education graduates through digital entrepreneurial skills for them to acquire decent works. Chinwokwu (2013) reported that graduates of vocational education (including Business Education) in Nigeria are not establishing and running their own small businesses and without decent works for self-reliance as expected due to inadequate digital entrepreneurial skills and competences. This supports the earlier position by Ekpenyong and Ojo (2008), that Business Education graduates appears to lack relevant digital entrepreneurship skills and competencies in the areas of financial management, self-management, ICT, marketing, leadership, social medial digital marketing, and data analysis needed to operate their chosen businesses. The authors concluded that this may be the cause of high rate of unemployment and lack of decent works. The problems assumed here are that, the Business Education students seemed not to have been adequately and sufficiently prepared with data analytical entrepreneurial skills to enable them acquire decent works. The problem of this study is that, despite the fact that entrepreneurship training and education have been included in Business Education programme for years now, the rate of unemployment of Business Education graduates without decent works is very high seems to continue. This is the reason this study "Data analytical entrepreneurial skills acquired by Business Education students for decent works in tertiary institutions in Rivers State" was conceived.

Research Question

The following research question guided the study:

1. What is the level of data analytical skills acquired by Business Education students for decent works in tertiary institutions in Rivers State?

Research Hypothesis

The following research hypothesis was formulated and tested at 0.05 level of significance:

1. There is no significant difference in the mean rating on the level of data analytical skills acquired by Business Education students for decent works based on their personal factors in tertiary institutions in Rivers State.

Methodology

Descriptive survey research design was adopted for the topic, "data analytical entrepreneurial skills acquired by Business Education students for decent works in tertiary institutions in Rivers State". Survey research design was deemed appropriate since it sought to obtain the views of Business Education students on the level of data analytical entrepreneurial skills acquired for decent works. The population of this study was 1,013 which consisted of Year 4 students of Rivers State University, Ignatius Ajuru University of Education, Federal College Technical Omoku and Ken Saro-wiwa polytechnic, Bori, (Higher National Diploma (HND 2). Rivers State University had a total of 368 and Ignatius Ajuru University of Education was 346, Federal College Technical Omoku (FCTOMOKU) was 149 and Ken Saro-wiwa Polytechnic (KENPOLY), Bori had 150 (Departments of Business Education (FCTOMOKU, 2022); OTM Dept. KENPOLY, 2019; &Ukata, 2019).

The targeted population was chosen from the four tertiary institutions in Rivers State offering Business Education programme as course or an option in Office Technology and Management (OTM). Years 1, 2, 3; Higher National Diploma Year 1 and National Diploma years 1 and 2 students of the four tertiary institutions were not included in the population of this study because they may not be able to provide a fair assessment on the level of data analytical entrepreneurial skills acquired for decent works. Captain Elechi Amadi Polytechnic runs Office Technology and Management as a course but was not included because it does not have Higher National Diploma Programme. The sample size



was 279, using Krechie and Morgan Table 1979 for determining a sample of a known population of 1013 (Appendice A, page 8). The instrument for data collection was a self-developed questionnaire based on the reviewed related literature and research questions posed. The instrument was titled: "Data analytical entrepreneurial skills acquired by Business Education students (DAESABES)", with five point rating scale of the following options: Very High Level (5), 4.50 - 5.00, High Level (4), 3.50-4.49, Moderate Level (3), 2.50-3.49, Low Level (2) 1.50-2.49 and Very Low Level (1) 0.50-1.49. The face and contents validity of the instrument were established using the opinions of three experts from the departments of Business Education of Rivers State University and Ignatius Ajuru University of Education. The questionnaire was trial-tested using 20 Business Education students of University of Uyo. Data collected were analyzed using Cronbach alpha and Coefficient value of .89 was obtained.

The high reliability value indicated that the instrument was reliable for the study. The researcher personally administered copies of the questionnaire to the respondents in their schools with the help of four research assistants. The research assistants were adequately briefed on the modalities for administration and collection of the questionnaires. On the spot completion and time gap of one week were used for those who could not fill the questionnaire immediately. Out of 279 copies of questionnaire distributed, 250 copies representing 90% of the sample size were correctly filled, retrieved, and used for data analysis. The arithmetic mean and standard deviation were used to analyze data from research questions and determine the homogeneity and heterogeneity of respondents' views, while the inferential statistics of Analysis of Variance (One-way ANOVA) was used to test the only null hypothesis. The justification for adopting Analysis of Variance (One-way ANOVA) was because the null hypothesis has one categorical independent variable with three levels. A null hypothesis was accepted where the calculated significant (Sig.) value, (p- value) was greater than or equal to (\geq) the alpha value of 0.05. Otherwise, the null hypothesis was rejected.

Result Presentation, Analysis and Discussion

Research Question 1

What is the level of data analytical skills acquired by Business Education students for decent works in tertiary institutions in Rivers State?

Table 1: Respondents' mean ratings on the level of data analytical skills acquired by Business Education students for decent works.

| SN | Item on data analytical skills | \bar{X} | SD | Remarks |
|-----------------------|--|-------------|-----|-----------------------|
| 1 | Ability to recognize data and their types | 1.10 | .40 | Very Low Level |
| 2 | Ability to present data for decision making | 1.02 | .45 | Very Low Level |
| 3 | Ability to analyze data | 1.01 | .41 | Very Low Level |
| 4 | Ability to interpret data | 1.01 | .46 | Very Low Level |
| 5 | Ability to report insights about data to management | 1.00 | .50 | Very Low Level |
| 6 | Ability to extract data from primary & secondary sources | 1.10 | .43 | Very Low Level |
| 7 | Ability to use Excel and SPSS | 1.00 | .50 | Very Low Level |
| 8 | Ability to use T-test statistical tool | 1.00 | .51 | Very Low Level |
| 9 | Ability to use ANOVA statistical tools | 1.01 | .45 | Very Low Level |
| 10 | Ability to secure data for future use | 1.02 | .46 | Very Low Level |
| 11 | Ability to make informed recommendation with data | 1.02 | .47 | Very Low Level |
| 12 | Good data management skills | 1.01 | .48 | Very Low Level |
| Aggregate Mean | | 1.02 | | Very Low Level |

Table 1 shows that all the 12 listed items as data analytical skills have mean scores ranged within 1.00 to 1.10. This means very low level. The aggregate mean was 1.02, meaning very low level also. This means that the level of data analytical skills acquired by Business Education students for decent works was at a very low level. The standard deviations for the 12 listed items ranged within 0.40 to 0.51 which shows that respondents were homogeneous in their views that the level of data



analytical skills acquired by Business Education students for decent works in tertiary institutions in Rivers State was at a very low level.

Testing of Null Hypothesis Hypothesis 1

There is no statistical significant difference in the mean rating on the level of data analytical skills acquired by Business Education students for decent works based on their personal factors (good ICT background before admission, digital entrepreneurial skills experience and funding) in tertiary institutions in Rivers State.

Table 2: Summary of ANOVA on the level of data analytical skills acquired by Business Education students for decent works.

| Sources of Variance | Sum of Squares | Df | Mean Square | F-cal. | Sig. (P-value) | Decision |
|---------------------|----------------|------------|-------------|--------|------------------|--------------------------|
| Between Groups | 9.182 | 2 | 5.641 | 5.433 | .074 Significant | H ₀₁ Accepted |
| Within Groups | 65.980 | 252 | 2.248 | | | |
| Total | 84.062 | 254 | | | | |

Data on Table 2 shows a calculated F-value of 5.43 with a significant (sig.) p-value of 0.07 which is greater than the alpha value of 0.05 ($0.07 > 0.05$) at degrees of 2 and 252. Therefore, the null hypothesis (H₀₁) was accepted. This means that there is no significant difference in the mean rating on the level of data analytical skills acquired by Business Education students for decent works based on their personal factors (good ICT background before admission, digital entrepreneurial skills experience and funding) in tertiary institutions in Rivers State.

Discussion of Findings

Findings of the study showed that the level of data analytical skills acquired by Business Education students for decent works was at a very low level. Finding of this study agrees with the views of Chinwokwu(2013) who lamented that graduates of vocational education (including business education) in Nigeria are not establishing and running their own small businesses for self-reliance as expected due to inadequate digital entrepreneurial skills. Chinwokwu (2013) further added that Business Education graduates lacked relevant digital entrepreneurship competencies in the areas of financial management, self-management, ICT, marketing and leadership needed to operate their chosen businesses. The authors concluded that this is cause of the high rate of business failure, unemployment and lack of decent works.

The fact that all the (12) listed as data analytical skills acquired by Business Education students for decent works indicated a very low level and the clustered mean also indicated a very low level. It shows that the level of data analytical skills acquired by Business Education students for decent works in tertiary institutions in Rivers State was at a very low level. This implies that learners may not be able to get decent works and that the high rate of unemployment will continue in Nigeria.

The findings of this study also disclosed that there is no significant difference in the mean rating on the level of data analytical skills acquired by Business Education students for decent works based on their personal factors (good ICT background before admission, digital entrepreneurial skills experience and funding) in tertiary institutions in Rivers State. This findings disagrees with the study of



(Amofah&Saladrigues, 2022; Trivedi, 2017) which revealed that factors such as commitment, personal training, provision of laptop, data, good ICT background before admission influence and affect students` digital entrepreneurial skills of learners. Also, personal factors such as age, gender, education, vicarious experience, funding, and experiences of change to a variety of attributes influence conviction and digital entrepreneurial skills intentions of the learners.

Conclusion

From the summary of the findings, it was concluded that the level of data analytical skills acquired by Business Education students for decent works was at a very low level. Also, Business Education students differed in their mean rating due personal factors such as (good ICT background before admission, digital entrepreneurial skills experience and funding) in their level of data analytical skills acquired for decent works in tertiary institutions in Rivers state.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Students should ensure that they go into private certificates programmes in ICTs with root in data analytical skills. Parents should ensure that good experience is acquired to enable learners get a very high level of data analytical skills for decent works. These can be achieved with commitment and funds from sponsors and internship services.
2. Management of tertiary institutions with Business Education programme should seriously engaged in and encourage data analytical skills with good policies on good ICT background before admission, creating conducive environment for digital entrepreneurial skills experience as well as funding through internally generated revenue (IGR).
3. States and federal governments should also ensure that there are good policies and adequate implementation, conducive teaching and learning environment and funding of data analytical skills for decent works. More so, adequate hardware, software facilities, laboratories, standard offices and welfare packages should be provided to support teaching and learning of data analytical entrepreneurial skills for learners to acquire decent employments in tertiary institutions in Rivers state.

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