
ASSESSING THE ROLE OF DIGITAL SKILLS IN SHAPING ENTREPRENEURSHIP SUCCESS AMONG VOCATIONAL AND TECHNICAL EDUCATION GRADUATES IN FEDERAL COLLEGE OF EDUCATION (TECHNICAL), GOMBE, NIGERIA

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Abstract

The paper investigated the influence of digital skills on entrepreneurship among vocational and technical education graduates in Gombe State. Two research objectives, corresponding research questions, and hypotheses guided the study. The hypotheses were tested at the 0.05 level of significance. A descriptive survey research design was adopted. The population of the study comprised 252 Business and Technical Education graduates of the 2022/2023 academic session from the School of Science, Vocational and Technical Education, Federal College of Education (Technical), Gombe, Gombe State. A sample size of 152 graduates (48 males and 104 females) was selected using the Research Advisor's Table. A structured questionnaire titled Digital Skills Required by Vocational and Technical Education Graduates in Entrepreneurship Questionnaire (DSRVTEGEQ) was developed by the researchers and validated by two experts in the relevant fields. The reliability of the instrument was established through a pilot test, and the calculation of data using Cronbach's alpha method yielded a reliability coefficient of 0.725. Data were analyzed using regression analysis at the 0.05 level of significance. The findings revealed, among others, that digital skills have a significant influence on entrepreneurship among vocational and technical education graduates in Gombe State. Based on the findings, it was recommended that vocational and technical education stakeholders should partner with NGOs and private organizations to develop and deliver affordable digital skills training programmes for graduates.

Keywords: Entrepreneurship, digital skill, graduate, vocational and technical education, Gombe State

Introduction

Digital skills have become more relevant in the last 20 years, as technological advancements have impacted different spheres of work and life. For example, the use of computers at work increased 64% across all sectors and occupations in fifteen countries of the European Union

between 1995 and 2015 (Bisello et al., 2019). The COVID-19 lockdown measures have made digital skills even more relevant. The use of digital technologies has substantially increased, largely because many people now work and learn from home, and manage health, social life, and household chores (e.g., shopping) in a digital environment. At the same time, the COVID-19 pandemic revealed gaps in digital skills as well as the existing risks and limited knowledge in using a range of digital technologies for different purposes. During lockdown in Spring 2020, teachers, parents, and students found remote schooling extremely challenging, partly due to their low level of digital skills (not to mention the inequalities in access to digital devices and infrastructure) (Carretero et al., 2021). Skills related to topics such as online collaboration, communication, critical thinking and evaluation are also common parts of digital literacy models.

ICT proficiency element is at the center of the proposed Framework and is used as a basic tool for all other skills. In many digital literacy structures, different literacy areas such as ICT, computer, information, media, and visual and technology literacy are emphasized and their relationship with digital literacy is stated. Entrepreneurship graduates need to possess the necessary digital skills for their profitability.

Entrepreneurship encompasses those aspects that focus on values, beliefs, and attitudes, as these play a critical role in shaping one's attitude towards entrepreneurship, entrepreneurship intentions, or inclination (Rudhumbu et al., 2016). As a matter of behavior, entrepreneurship education relates to specific skills such as identifying and seizing opportunities, making informed decisions, and developing social skills to be able to communicate well with stakeholders. As a matter of creating specific situations, it also relates to the influence of entrepreneurship in the creation of new ideas, new firms, and enterprises. If people are to be interested in entrepreneurship and entrepreneurship education, the main focus of entrepreneurship education should therefore be the development of skills on how to start and run a business, not merely knowledge of how to plan for it (Rudhumbu et al., 2016).

Entrepreneurship education should be a form of empowerment that not only develops but also supports entrepreneurial activities, behaviors, and mindsets. Primarily, the establishment of different programs on entrepreneurship education aims at producing graduates who are able not only to identify opportunities but to turn those opportunities into businesses, and entrepreneurship education programs give them enough knowledge and skills to successfully start their own businesses.

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Federal Republic of Nigeria (FRN) (2014) in the National Policy on Education (NPE), used the nomenclature: Technical and Vocational Education and Training (TVET) to conceptualize vocational and technical education (VTE). FRN (2014:24) describes TVET as “those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life.” From this definition, VTE can be seen as a process of education which combines both liberal and practical training in the development of individuals towards various occupations. According to Oketch (2014), vocational education is no longer simply training to facilitate job entry, but a way to facilitate vocational-specific skills over a lifetime.

Vocational education refers to the acquisition of skills and knowledge that are required for employment in any respective occupation. It provides opportunities for students to be employable in various occupations. It is also offered in secondary schools and technical colleges. Technical Vocational Education and Training refers to education and training that prepares students for gainful employment (Adefuye & Ayeoribe, 2014). Okoro in Olofintoye and Olaoye (2018) stated that the aim of vocational education is not to give certificates but to acquire skills and knowledge for employment in any respective occupation.

Statement of the Problem

Vocational and technical education (VTE) programs are designed to equip graduates with the skills necessary to pursue careers in specific trades or occupations. However, in today's increasingly digital world, graduates may also need strong digital skills to be successful entrepreneurs. This study aims to investigate the influence of digital skills on entrepreneurship among Gombe State's vocational and technical education graduates.

In the past, vocational and technical skills may have been sufficient for graduates to start their own businesses. However, the rise of e-commerce, online marketing, and other digital technologies has made it essential for entrepreneurs to have a strong digital skillset. This study is necessary to understand the following: the level of digital skills possessed by Gombe State's VTE graduates; how these digital skills influence graduates' decisions to pursue entrepreneurship; and the specific digital skills that are most beneficial for VTE graduates who want to become entrepreneurs.

Objectives of the Study

The following specific objectives sought to:

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1. Identify the specific digital skills needed for entrepreneurial success among Gombe State's vocational and technical graduates.
2. Determine the challenges faced by vocational and technical graduates in acquiring the necessary digital skills for entrepreneurship.

Research Questions

The following research questions guided the study:

1. What are the digital skills most relevant for entrepreneurial success among Gombe State's vocational and technical graduate?
2. What are the challenges faced by vocational and technical graduates in acquiring the necessary digital skills for entrepreneurship?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. The digital skills most relevant for entrepreneurial success among vocational and technical graduates in Gombe State do not significantly influence their success.
2. The challenges faced by vocational and technical graduates in Gombe State do not significantly influence their acquisition of digital skills for entrepreneurship.

Methodology

The survey adopted a descriptive survey research design. The population comprised 252 Business and Technical Education graduates of the 2023/2024 academic session from the School of Science, Vocational and Technical Education, Federal College of Education (Technical), Bichi, Gombe State. From this population, a sample size of 152 graduates (48 males and 104 females) was selected using the Research Advisor's Table.

A structured questionnaire titled Digital Skills Required by Vocational and Technical Education Graduates in Entrepreneurship Questionnaire (DSRVTEGEQ) was developed by the researchers.

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The instrument was validated by two experts in the relevant fields and further subjected to a reliability test, which produced a reliability coefficient of 0.725.

The questionnaire was administered to the respondents, and all 152 copies distributed were successfully retrieved. Data were analyzed using mean and standard deviation to answer the research questions, while regression analysis was employed in testing the hypotheses. A decision rule of not less than 2.50 was adopted for the research questions. Similarly, for any null hypothesis to be accepted, the calculated value had to be less than the significance level of 0.05.

Results

Research Question 1: What are the digital skills most relevant for entrepreneurial success among Gombe State's vocational and technical graduate?

Table 1: Mean rating and Standard Deviation Score on the digital skills for entrepreneurial success among vocational and technical graduates, Gombe State.

S/N	Item Statement	Mean	SD	Remark
1	Do you utilize digital skills in your entrepreneurial activities since graduating from vocational or technical training	3.32	1.40	Agree
2	Digital skills have contributed to the success of your entrepreneurial activities	3.15	0.69	Agree
3	I uses social media marketing, website development, data analysis in my business	3.10	1.27	Agree
4	Application of digital skills impacted the growth and profitability of your entrepreneurial endeavors	2.78	0.85	Agree
5	I received any formal training or education in digital skills specifically for entrepreneurial purposes	2.99	0.77	Agree
Grand Total		3.06	0.99	Agree

Source: Field survey, 2024

Table 1 shows that items 1 to 5 have mean ratings between 2.78 and 3.32, exceeding 2.50. This suggests strong agreement among respondents that all these digital skills are necessary for vocational and technical graduates to achieve entrepreneurial success.

Research Question 2: What are the challenges faced by vocational and technical graduates in acquiring the necessary digital skills for entrepreneurship?

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Table 2: Mean rating and Standard Deviation Score on the challenges faced by vocational and technical graduates in acquiring the necessary digital skills for entrepreneurship.

S/N	Item Statement	Mean	SD	Remark
6	Students resist adopting new digital technologies due to fear of technology.	2.91	0.45	Agree
7	Insufficient technological infrastructure hinder the effective implementation of digital transformation.	3.20	1.23	Agree
8	Students lack the necessary digital skills and competencies to effectively utilize digital tools.	3.41	1.11	Agree
9	Rapid pace of technological advancements lead to challenges in digital transformation.	3.45	0.98	Agree
10	Increasing reliance on digital platforms raises concerns about ethical use of technology.	3.22	1.21	Agree
Grand Total		3.23	0.99	Agree

Source: Field survey, 2024

Table 2 shows that items 1 to 5 have mean ratings between 2.91 and 3.45, all exceeding 2.50. This indicates strong agreement among respondents that vocational and technical graduates face challenges in acquiring the necessary digital skills for entrepreneurship.

Hypotheses

The null hypotheses were tested as follows:

Hypothesis 1: The digital skills most relevant for entrepreneurial success among vocational and technical graduates in Gombe State do not significantly influence their success.

Table 3: Regression Analysis on significant influence of digital skills most relevant for entrepreneurial success among vocational and technical graduates in Gombe State

Summary Model	B	Standard Error	T	Rical	R ²	Adjusted R	Sig
	1.439	0.166	8.654	0.455	0.207	0.204	0.000
	0.468	0.056	8.355				

Source: Field survey, 2024

P<.05

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The regression analysis presented in Table 3 reveals a constant beta value of 1.439 (representing the impact of digital skills) alongside a t-value of 8.654. This stands in contrast to the coefficient value of 0.468 (vocational and technical graduates' entrepreneurship success). The R-squared value is 0.207, indicating that 20.7% of the variance in vocational and technical graduates' entrepreneurship success can be explained by digital skills (calculated as R-squared * 100). This suggests a significant positive relationship between digital skills and entrepreneurship success, supported by the p-value of 0.000. In other words, entrepreneurs with stronger digital skills are more likely to succeed. Therefore, the null hypothesis, which likely stated no relationship between digital skills and entrepreneurship success, is rejected. This implies that digital skills significantly influence the success of vocational and technical graduates as entrepreneurs in Gombe State.

Hypothesis 2: The challenges faced by vocational and technical graduates in Gombe State do not significantly influence their acquisition of digital skills for entrepreneurship.

Table 4: Regression Analysis on significant relationship between the challenges faced by vocational and technical graduates in Gombe State and acquisition of digital skills for entrepreneurship.

Summary Model	B	Standard Error	T	Rical	R ²	Adjusted R	Sig
	2.551	0.082	31.120	0.203	0.410	0.037	0.001
	0.084	0.025	3.380				

Source: Field survey, 2022

P<.05

The regression analysis in Table 4 shows a constant beta value of 2.551 (representing the challenges faced by vocational and technical graduates in acquiring digital skills for entrepreneurship) with a t-value of 31.120. This stands in contrast to the coefficient value of 0.084 (vocational and technical graduates' entrepreneurship success). The R-squared value is 0.410, indicating that 41% of the variance in vocational and technical graduates' entrepreneurship success can be explained by the challenges they face in acquiring digital skills (calculated as R-squared * 100). The p-value of 0.000 suggests a significant negative relationship between these factors. In other words, greater challenges in acquiring digital skills correspond to lower entrepreneurship success. Therefore, the null hypothesis, likely stating no relationship between these factors, is rejected. This implies that challenges faced by vocational and technical

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graduates in acquiring digital skills significantly influence their entrepreneurship success in Gombe State.

Discussions of Findings

Digital skills have a significant positive impact on the success of vocational and technical graduates as entrepreneurs. This is inline the studies conducted by Wardana *et al.* (2023), Montiel (2019) and Ghobakhani *et al.* (2016) which all explores the positive correlation between digital literacy and vocational students' entrepreneurial intentions.

The challenges faced by graduates in acquiring these digital skills significantly influence their entrepreneurial success. This is in line with studies conducted by Ismail *et al.* (2020), Fayolle *et al.* (2015) and Wong *et al.* (2015), they explores the challenges faced by graduates in developing entrepreneurial skills, highlighting the potential gap between university education and the digital skills required for entrepreneurial success.

Conclusion

The findings reveal that digital skills significantly and positively contribute to the entrepreneurial success of vocational and technical education graduates, as evidenced by the positive beta coefficient and R-squared value reported in Table 3. Conversely, the difficulties associated with acquiring these skills exert a substantial negative effect on their entrepreneurial performance, as demonstrated by the negative beta coefficient and R-squared value in Table 4.

Recommendations

1. Stakeholders in vocational and technical education should work closely with curriculum planners to embed digital skills for entrepreneurship into school curricula.
2. Regular needs assessments should be carried out by stakeholders to track the changing digital landscape and update curricula accordingly. This will help ensure that graduates acquire the most relevant skills demanded by the labor market.
3. Vocational and technical institutions should build partnerships with organizations such as NGOs and technology companies. Through these collaborations, they can access resources, training programs, and mentorship opportunities that support graduates in overcoming challenges.

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4. The management of vocational and technical institutions should spearhead awareness campaigns highlighting the importance of digital skills in entrepreneurship. These campaigns can take the form of workshops, seminars, or media engagements targeting graduates, educators, and policymakers.

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