

**Digital Literacy and Academic Achievement in Principles of Marketing among Business Education Students in Public Universities in Southwest Nigeria**

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**Abstract**

The Post – COVID-19 experience hastening the paradigm shift to e-learning has exposed some structural gaps in many public universities, where limited digital literacy continues to hinder business education students' academic achievement and practical readiness. This paper investigated the influence of Digital Literacy as Determinants of Academic Achievement in Principles of Marketing among Business Education Students in Public Universities in Southwest, Nigeria. A descriptive survey design was used. The population of the study was 4607 Business Education Students with a sample of 363 respondents. Two instruments Digital Literacy Questionnaire (DLQ) ( $r = 0.73$ ) and Principles of Marketing Achievement Test (PMAT) ( $r = 0.82$ ) were used for data collection. Frequencies, Percentages, Means, and Multiple Regression were used for data analysis. The result showed that there is a moderate level of digital literacy (mean = 3.0) and low level of academic achievement in Principle of Marketing (mean = 2.47). The regression analysis revealed that digital literacy significantly influenced academic achievement ( $R = 0.522$ ,  $R^2 = 0.272$ ,  $(1,299) = 111.991$ ,  $p < 0.05$ ). The study concludes there is a gap between students' ability to navigate digital tools and their academic achievement, suggesting that digital literacy alone may not directly translate to higher academic outcomes without targeted support and academic engagement strategies. Recommendations included, integration of blended learning that combine learning tools with traditional teaching, organization of regular digital literacy workshops, and establishment of digital literacy clubs or peer mentoring systems.

**Keywords:** Digital Literacy, Academic Achievement, Business Education, Principles of Marketing

**Word Count:** 233

## **Introduction**

As education continues to change swiftly, the use of digital tools is growing, reshaping the ways learners find and interact with knowledge. While this shift presents exciting opportunities, it also raises questions about its actual impact on learning outcomes. Scholars have noted the advent of digital learning environments has not only transformed how education is delivered, but also sparked debate regarding their influence on students' academic achievement (Ravikumar et al., 2024). Academic achievement in Business Education plays a vital role not only in the success of individual students but also in driving entrepreneurial capacity and socio-economic development. Academic achievement indicates how far a learner or academic institution has progressed in meeting educational targets set over a brief or extended period (Park & Robinson, 2021). Business education equips learners with the managerial, financial, and digital skills needed to identify and exploit business opportunities, fostering self-employment and reducing unemployment (Gidado & Akaeze, 2014). This is particularly important in Nigeria, where unemployment among tertiary institution graduates remains a significant challenge (Olawoyin, 2023). It comprises various courses including accounting, office technology, entrepreneurship, business communication and Marketing. In order to improve students' practical comprehension and preparedness for real-world business challenges, Principle of Marketing in business education programme exposes them to the principles of marketing strategy, customer behavior, and marketing analysis.

The shift toward digital education, especially after the COVID-19 pandemic, exposed even more gaps in the system. Although the use of technology holds great potential for improving academic achievement, inconsistent implementation and a lack of digital literacy among students and lecturers have raised concerns about its effectiveness (Monika, 2017). This digital literacy gap encompasses critical components such as cyber security awareness, information literacy, and technical skills, all which are essential to effectively engage with academic content. In the context of the principle of marketing, these skills are crucial for understanding digital marketing tools, analyzing market data, and adapting to a fast-learning environment. Hence, this study aimed to investigate the influence of digital literacy on academic achievement in Principle of Marketing among business education students in public universities in Southwest Nigeria.

Business education as any academic program that prepares recipients for career advancement in various occupations and professions, equips recipients with the necessary knowledge and skills for an entrepreneurial career, and provides recipients with the skills and

knowledge needed for business ventures (Edokpolor & Egbri, 2017; Edokpolor & Oduma, 2018) Business education has a substantial positive impact on productivity, economic growth, and human resource development; hence it is increasingly being integrated into many countries' national development policies (Oluwasina et al., 2019). Business education is the cornerstone of human resource development, equipping individuals with the knowledge, skills, and insights needed to operate effectively in the business world, whether as consumers or producers of goods and services (Oluwasina, 2024).

Digital literacy means having critical knowledge, intelligent attitudes, and creative skills in using digital media (Oyediran et al., 2020). Digital literacy is described as the skills and knowledge required to use digital media, communication tools, or networks to discover, assess, use, create, and utilize information in a healthy, wise, highly intelligent, careful, precise, and lawful manner in order to foster communication and interaction in everyday life. Digital literacy encompasses both technical and soft abilities like teamwork, creativity, and critical thinking. Digital literacy has become an essential ability for students in postsecondary institutions around the world, and Sub-Saharan Africa is no exception. As the world's reliance on digital technology for communication, education, and work grows, students' ability to properly navigate and use these tools is critical to their academic achievement and future professional opportunities (Aguset al., 2025).

Digital literacy entails reading and writing digitally in a range of media, including text, visual pictures, photographs, audio, video, and other forms. Individuals who have excellent digital literacy are better able to comprehend information offered through technology (Tiernan et al., 2023). As a result, digital literacy is critical for enhancing productivity, decision-making, and managerial effectiveness in many domains, particularly in the corporate world (Ukwatang et al., 2025). The technical side of digital literacy is frequently discussed, but it encompasses much more. Digital skills involve knowing how to operate different hardware and software; however, digital literacy encompasses much more. Being digitally literate means not only understanding information management, copyright laws, ethics, and technical abilities but also knowing how to select and use the appropriate digital tools for tasks like collaboration, communication, and self-expression (Chen & Zainudin, 2024).

Technical skills in digital literacy are the practical talents needed to engage successfully with digital devices, platforms, and applications. These include the capacity to use digital gear and software, popular educational applications, digital file and workflow management, and basic technical troubleshooting. Being digitally literate involves more than just grasping information handling, copyright rules, ethical issues, and technical know-how; it also requires the ability to select and apply the appropriate digital tools for specific tasks like collaboration, interaction, and creative expression (Sari et al., 2022). In the educational environment, while students prefer online learning, they also want to be educated in utilizing digital tools prior to assignments ( Reddy et al., 2020). These abilities are essential for Business Education students who want to interact meaningfully with e-learning. Students must have basic technical capabilities in order to interact effectively with e-learning settings. The key technical skills include: Basic Computer Operations, File Management Skills, Software Application Proficiency, Internet Navigation and Browsing, Troubleshooting and Problem-Solving, Platform Navigation Skills, Device Connectivity and

### **Multimedia Use.**

Information literacy is the ability to recognize the need for information as well as seek, appraise, and use it effectively. Information literacy refers to an individual's ability to critically evaluate and analyze various types of digital information. It goes beyond the technological capacity to access information and instead focuses on how students interact with, evaluate, and ethically use information for academic and professional goals. Students with greater assessment and use of information literacy skills are more likely to interact meaningfully with digital academic content (Chibuwe & Munoriyarwa, 2023). Also, there is significant link between higher literacy levels and increased resource use among students (Tang & Yen, 2016). Students who are more literate in obtaining and assessing information have better levels of engagement with digital learning tools and platforms and they have the capacity to critically analyze and utilize information directly correlates to academic outcomes (Adenariwo & Oketunji, 2023). Information Literacy is the capacity to assess its correctness, importance, and dependability. Information literacy is an important aspect of digital literacy since it includes not just the ability to locate digital resources, but also the ability to critically analyze and correctly apply such information in academic and professional settings.

Cyber security awareness is a critical component of digital literacy, which emphasizes the safe, responsible, and informed use of digital technology. It includes the knowledge and behaviors necessary to secure personal and institutional data, prevent cyber dangers, and navigate online settings safely. As students rely more on digital platforms for learning, cyber security knowledge is crucial in preparing them to utilize these resources efficiently and safely. The Cyber Security Experts Association of Nigeria (CSEAN) stressed the need of cyber security education in decreasing cyber hazards among students and teachers (Mustapha, & Alabi, 2022). Students with strong cyber security knowledge are more likely to confidently use e-learning systems, reduce interruptions caused by intrusions, and assure continuous access to learning resources. As a result, cyber security awareness is more than a technical skill; it is a behavioral and attitudinal part of digital literacy that directly enhances students' academic engagement and accomplishment in digitally connected learning settings.

Embedding digital literacy within academic programs is pivotal in equipping learners to excel in a technology-driven world. As digital innovation evolves rapidly, having a solid foundation in digital competence becomes crucial for continuous personal and professional growth. Within educational contexts, digital fluency allows learners to explore vast online resources, collaborate beyond geographic boundaries, and immerse themselves in dynamic, tech-enabled learning activities. Today's employers not only expect familiarity with digital tools but also value individuals who can think creatively, solve problems using digital solutions, and remain agile amid constant technological shifts. Thus, integrating digital skills into formal education sharpens students' professional edge and supports long-term career development (Aliyu & Chiwar, 2022). Also, the digital world is constantly being reshaped by rapid technological advancement. As new tools emerge and existing platforms are updated, the ways individuals engage with technology also shift. Because of this, the concept of digital literacy must be continually redefined to include current technologies and evolving modes of digital interaction (Bashorun et al., 2022). One major task for educators is to remain informed about these changes and find effective ways to incorporate the relevant digital competencies into their instructional strategies.

Recent studies have increasingly drawn attention to the influence of digital literacy, technical competence, and infrastructural support on Students' academic achievement, particularly in business related subjects. For instance, Ajibola et al. (2023) and Ochiogucha (2023) observed that students with stronger technical and digital skills tend to be more academically engaged, which

leads to improved academic outcomes. In addition, Emechi and Nwosu (2023) highlighted the negative impact of infrastructural challenges and ineffective teaching strategies on students' achievement. Similarly, Okpue and Ito (2025) emphasized the issue of limited student engagement as a critical barrier to improved performance in business related courses.

Self-efficacy is described as the utmost individual belief in one's ability to plan and take actions necessary in handling future conditions and achieve certain goals (Alu, 2021). Self-Efficacy theory is a key component of Bandura's Social Cognitive Theory, influencing how individuals think, behave, and feel in settings of different kinds, including academic achievement and learning (Alexander, 2019; Bandura, 1977). This theory assumes that people with self-efficacy on the high level are more likely to put in sustained effort and persevere through challenges, increasing their chances of success, whereas people with low self-efficacy are more likely to withdraw or avoid tasks they perceive as difficult, resulting in poor performance or failure (Alu, 2021).

Self-efficacy is context-dependent and influenced by four major factors: active mastery experiences, vicarious experiences, social persuasion, and physiological or emotional states (Alu, 2021). Bandura's notion of four types of efficacies; physiological/emotional states, vicarious experiences, verbal persuasion, and mastery experiences, - has found diverse uses in educational and psychiatric settings. Self-efficacy theory has influenced social, developmental, and clinical psychology, resulting in new experiments, measuring methods, intervention programs, and theoretical modifications (Bandura, 1989). Mastery experiences and direct personal accomplishment are seen to be the most influential in the development of strong self-efficacy beliefs. Vicarious experiences, such as seeing others successfully complete a task, can increase efficacy if the observer sees the model as comparable to themselves. Social persuasion entails verbal encouragement or feedback from others, whereas physiological and emotional indicators, such as stress or exhaustion, can either positively or negatively influence self-efficacy evaluations, depending on how individuals interpret these situations (Alu, 2021). It was proposed that the impact of previous experiences on self-efficacy is determined by how individuals interpret the causes of their performance outcomes (Bandura, 2001). Self-efficacy is extremely important in this study, which looks at the impact of digital literacy on academic accomplishment among Business Education students.

Self-Efficacy Theory, with its significant predictive potential and explanatory value, offers an excellent theoretical framework for this study. It describes the psychological and behavioral factors that govern students' interactions with digital tools and learning platforms. By concentrating on learners' perceptions of their abilities, the theory provides insights into how digital literacy may be used to improve academic accomplishment, given that students have the confidence to use their talents effectively.

### **Aim and Objectives of the Study**

The aim of this study is to investigate the influence of digital literacy on academic achievement in Principle of Marketing among business education students in public universities in Southwest Nigeria.

The objectives of this study are to:

- i. determine the level of academic achievement in Principles of Marketing among Business Education students in Public Universities in Southwest, Nigeria;
- ii. ascertain the level of digital literacy of Business Education students with regards to academic achievement in principles of marketing in Public Universities in Southwest, Nigeria.
- iii. examine how digital literacy influence the academic achievement in Principles of Marketing of Business Education Students in Public Universities in Southwest, Nigeria.

### **Research Questions**

1. What is the level of academic achievement of Business Education students in Principles of Marketing in Public Universities in Southwest, Nigeria?
2. What is the level of digital literacy among Business Education students in relation to their academic achievement in Principles of Marketing in Public Universities Southwest, Nigeria?

### **Hypothesis**

**H<sub>01</sub>:** There will be no significant influence of digital literacy on the Academic Achievement of Business Education students.

### **Methodology**

A descriptive survey design was adopted for this study gathering data from 301 respondents, who were business education students from 11 Public Universities in Southwest, Nigeria. Data collection involved a self-constructed Digital Literacy Questionnaire (DLQ) and standardized test titled “Principles of Marketing Achievement Test (PMAT)” which consisted of 20 multiple choice questions. Both instruments were validated, yielding reliability of 0.73 and 0.82 respectively.

## **Results**

**Research Question One:** What is the level of academic achievement of Business Education Students in Principle of Marketing in Public Universities in Southwest, Nigeria?

**Table 1: Frequency Distribution Table showing the level of academic achievement of Business Education Students in Principle of Marketing in Southwest, Nigeria**

<b>Academic Level</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
<b>0-39% (Poor) (0-5)</b>	-	-	48.8
<b>40-59% (Fair) (6-10)</b>	147	48.8	28.2
<b>60-79% (Good) (11-15)</b>	85	28.2	22.9
<b>80% - 100 (Excellent) (16-20)</b>	69	22.9	100.0
<b>Total</b>	301	100.0	
<b>Mean = 2.74</b>	<b>Standard Deviation = 0.809</b>		

*Source: Fieldwork, 2025*

Table 1 presents the academic achievement levels of Business Education Students in Principles of Marketing across public universities in Southwest Nigeria.

Out of the 301 respondents, 147 students (48.8%) fell within the fair category having scored between 6 and 10 marks (40 -59%). 85 students (28.2%) scored between 11 and 15marks (60-79%), placing them in good category. 69 students (22.9%) achieved between 16 and 20 marks (80 – 100%), categorized as Excellent. Notably, no student was recorded in the poor category (0-5 marks, 0-39%), suggesting a minimum level of competence among all respondents.

The mean score of 2.74 (on a 1-4scale) and standard deviation of 0.809 reflect that most students clustered around the “Good” performance level. This distribution shows that while the



5.	I know how to check if the Information I find online is useful and correct	68 (22.6%)	198 (65.8%)	2 (0.7%)	33 (11.0%)	3.0	0.8 21
6.	I can compare different online sources and pick the one that makes the most sense	103 (34.2%)	154 (51.2%)	44 (14.6%)	-	3.2 0	0.6 72
<b>Grand</b>						<b>8.9</b>	<b>2.5</b> <b>9</b> <b>13</b>
<b>Average Mean = 3.00</b>		<b>Decision = Moderate level</b>					
<b>Cybersecurity Awareness</b>		<b>SA (4)</b>	<b>A (3)</b>	<b>D (2)</b>	<b>SD (1)</b>	<b>Me an</b>	<b>Std De v.</b>
7.	I know how to protect my personal information like passwords while using the internet	73 (24.3%)	188 (62.5%)	40 (13.3%)	-	3.1 1	0.6 04
8.	I am careful not to click on suspicious links or messages online	124 (41.2%)	107 (35.5%)	51 (16.9%)	19 (6.3%)	3.1 2	0.9 07
9.	I can tell when a website or email address might be fake or harmful	88 (29.2%)	133 (44.2%)	21 (7.0%)	59 (19.6%)	2.8 3	1.0 59
<b>Grand</b>						<b>9.0</b>	<b>2.5</b> <b>6</b> <b>7</b>
<b>Average Mean = 3.02</b>		<b>Decision = Moderate level</b>					
<b>Weighted Mean (x) = 3.00</b>		<b>Decision = Moderate level</b>					

*Source: Fieldwork, 2025*

**Decision Rule/Threshold for mean interpretation:**

– 1.75 = very low; 1.76 – 2.50 = low level; 2.51 – 3.25 = Moderate level; 3.26 – 4.00 = High Level  
 Table 2 presents a descriptive analysis of the level of digital literacy among business education students based on three major indicators: technical skills, information literacy, and cybersecurity awareness. The findings revealed that business education students possess moderate level of digital literacy across the three key indices with an overall average mean of 3.00.

The students indicated moderate proficiency in using basic computer applications such as Microsoft Word, Excel and PowerPoint for academic purposes (Mean = 2.96). They also reported a slightly higher level of competence in logging in and navigating online learning platforms like Google Classroom, Zoom, WhatsApp, and school portals (Mean = 3.11). However, their ability to

troubleshoot minor issues such as poor audio or video during online classes was the lowest among the items (Mean = 2.92), though still within the moderate range.

**Hypothesis**

**Table 3: Regression Analysis showing the influence of Digital Literacy on Academic Achievement in Principles of Marketing among Business Education Students in Public Universities in Southwest, Nigeria**

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R= .522a  
R2=.272  
Adj.R2=.270  
Std. Error Est.= 3.136

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Models		Sum of Squares	df	Mean Square	F	Sig
1	Regression	1101.162	1	1101.162	111.991	.001
	Residual	2939.947	299	9.833		
	<b>Total</b>	<b>4041.110</b>	<b>300</b>			

Dependent Variable: Academic Achievement of Business Education Students in Principle of Marketing

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**Source: Fieldwork, 2025**

Table 3 presents that the influence of digital literacy on the academic achievement of Business Education Students in Public Universities in Southwest, Nigeria is statistically significant ( $F(1,299) = 111.991, p < .001$ ), which is less than 0.05 alpha level of significance. The result yielded an R-value of 0.522, indicating a moderate positive relationship between digital literacy and students' academic achievement. The  $R^2$  value of 0.272 implies 27.2% of the variation in students' academic achievement is explained by their level of digital literacy. The Adjusted  $R^2$  of 0.270 suggests a slightly reduced explanatory power after adjusting for the predictor in the model. This

indicates that the model reliably predicts students' academic achievement on their level of digital literacy. Therefore, the null hypothesis is rejected.

### **Discussion of Findings**

The findings on the first research question of the study revealed that Business Education students in Public Universities in Southwest Nigeria demonstrated a moderate level of academic achievement in Principles of Marketing. While a portion of the students performed above average, falling into the good and excellent categories, a large percentage remained within the fair performance range. This pattern suggests although there is evidence of academic competence among the students, there is still room for significant improvement. The results are consistent with previous studies that point to infrastructural challenges, ineffective teaching methods, and limited student engagement as key factors influencing performance in business related courses (Emehi & Nwosu, 2023; Okpue & Ito, 2025).

The finding on the second research question revealed that students possessed a moderate level of digital literacy, including technical skills, information literacy, and awareness of cyber security practices. Under the technical skills, many students are moderately comfortable with basic digital tools and tasks, such as using computer tools, logging into platforms, and navigating basic troubleshooting. However, this may indicate a noticeable gap in more advanced technical independence which could influence their academic achievement in business education courses like principles of marketing. In the sense that, limited technical problem-solving skills could affect their ability to fully utilize digital learning environments for their academic work.

In terms of information literacy, students show a fair ability to search for, verify, and compare digital information. This indicates a growing awareness of how to find and evaluate learning materials, a skill essential in business education courses like principles of marketing. However, some students still face challenges in critically analyzing online content, which could influence the depth and accuracy of their academic work. Principle of marketing demands a certain level of independent inquiry and engagement with information. Students are expected to search for and evaluate marketing trends, strategies and draw insights from real-world examples to ensure what is learnt is not just theoretical. These academic tasks rely heavily on information literacy, especially the ability to locate, assess, and apply reliable and relevant digital sources. Where students are unable to effectively assess the usefulness of online content, their coursework such as

assignments, group presentation and discussion may be hindered. Cyber security awareness appears moderately developed. Students are generally cautious about protecting personal information and avoiding suspicious messages or websites. However, a small percentage still lack skills to recognize phishing attempts or fake sites, which could lead to security risks or distractions in the digital learning space.

In essence, while students are not entirely lacking digital literacy, there is a clear need for targeted interventions to help them move beyond basic competence toward advanced digital fluency. Such improvements could enhance their confidence, engagement, and ultimately, their achievement in business education courses like principles of marketing. These findings align with existing literature that noted that students with stronger technical skills are more engaged academically, leading to better academic achievement and another that emphasized that digital literacy significantly enhances student academic achievement, especially in contexts where digital learning is involved (Ajijola et al., 2023; Ochionuoha, 2023). These affirm that a students' ability to access, evaluate and apply digital tools meaningfully contributes to academic achievement.

The findings of the hypothesis shows that digital literacy has significant positive influence on the academic achievement of Business Education Students in Principles of Marketing ( $F(1,299) = 111.991, p = .001$ ). with an R value of 0.522, the result indicates a moderate positive relationship, while  $R^2 = 0.272$  means digital literacy explains 27.2% of the variation in students' academic achievement. This finding support earlier research suggesting that students with stronger digital skills perform better academically, likely due to better access to and use of digital learning resources (Ravikumar et al., 2024; Monika, 2017). It highlights the need to promote digital literacy for improved academic outcomes.

## **Conclusion**

The students demonstrated a moderate level of digital literacy, while their academic achievement in the course was relatively low. This indicates a gap between students' ability to navigate digital tools and their academic achievement, suggesting that digital literacy alone may not directly translate to higher academic outcomes without targeted support and academic engagement strategies.

## **Recommendations**

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

- i. Public Universities should integrate blended learning approaches that combine digital tools with traditional teaching methods, providing students with interactive, accessible, and engaging learning experience that cater to diverse learning styles.
- ii. Public Universities should organize regular digital literacy workshops for students to strengthen their technical skills, information literacy, and cyber security awareness. This will equip them with the necessary competencies to navigate online academic resources and platforms confidently.
- iii. Public Universities should promote the establishment of digital literacy clubs or peer mentoring systems in faculties and departments where students with strong digital competencies can support others. This encourages collaborative learning and reinforces practical application of digital skills.

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