LIBRARY AND INFORMATION SCIENCE

Information Literacy Skills and Entrepreneurship Development among Undergraduate Students of the Federal University of Agriculture, Mubi, Adamawa State, Nigeria

Sani Bala Bagari[1], Abdulbaqi Mohammed Gabdo[2], Yahuza Aliyu[3]

[1]University Library, Federal University of Agriculture, Mubi, Adamawa State, Nigeria
[2]Department of Library and Information Science, Adamawa State University, Mubi, Nigeria
[3]Bayero University, Kano, Nigeria

Published October 2026

Abstract

This study examined the relationship between information literacy skills and entrepreneurship development among undergraduate students at the Federal University of Agriculture, Mubi, Nigeria. A descriptive survey design was adopted, involving 250 undergraduate students. Data were collected using a structured questionnaire and analyzed using descriptive statistics, Pearson Product-Moment Correlation, and regression analysis. The findings indicated high levels of information literacy (Grand Mean = 3.82) and entrepreneurship development (Grand Mean = 3.77). A significant positive relationship was found between information literacy and entrepreneurship development ($r = 0.684$, $p < 0.05$). Regression analysis further revealed that information literacy significantly predicted entrepreneurship development ($\beta = 0.638$, $R^2 = 0.466$, $p < 0.05$). Inadequate ICT facilities and limited access to relevant resources were identified as major challenges. The study concludes that strengthening information literacy education and improving access to digital resources are essential for enhancing entrepreneurial competencies among university students.

Keywords: Information literacy; entrepreneurship development; undergraduate students; digital literacy; Federal University of Agriculture Mubi; Nigeria

1 Introduction

Information is essential for learning, decision-making, and economic growth. In today's digital age, students must develop information literacy skills to effectively use information for various purposes. These skills are crucial for making informed decisions and seizing business opportunities. In Nigeria, entrepreneurship is increasingly important for reducing graduate unemployment and fostering self-reliance, as it involves recognizing opportunities, managing resources, and innovating. Successful entrepreneurs depend on pertinent information for market research and decision-making, linking information literacy closely to entrepreneurial success. At the Federal University of Agriculture, Mubi, the commitment to providing entrepreneurial knowledge aims to enhance self-employment prospects, yet students' current information literacy skills related to entrepreneurship remain unclear. This study investigates this relationship among undergraduates at the university.

1.1 Statement of the problem

Information literacy skills are crucial for effectively identifying, accessing, evaluating, and using information, especially in today's digital economy. These skills support entrepreneurship by helping individuals recognize opportunities, conduct research, make informed decisions, and adapt to changes. In Nigeria, despite entrepreneurship education in universities, graduates often face unemployment due to insufficient information literacy skills. At the Federal University of Agriculture, Mubi, while programs focus on entrepreneurship, there is limited empirical evidence linking students' information literacy skills to their entrepreneurial development. This study seeks to investigate the impact of these skills on entrepreneurship among undergraduates at the university.

1.2 Research objectives

1. To assess the information literacy skills of undergraduate students.
2. To evaluate the extent to which undergraduates have developed entrepreneurial skills.
3. To investigate the correlation between the development of entrepreneurship and information literacy skills.
4. To identify the obstacles that impede the acquisition and application of information literacy skills for entrepreneurship.
5. To suggest strategies for enhancing the development of entrepreneurship by enhancing information literacy skills.

1.3 Research questions

1. What is the level of information literacy skills among undergraduate students?
2. What is the level of entrepreneurship development among undergraduate students?
3. What relationship exists between information literacy skills and entrepreneurship development?
4. What challenges hinder the effective use of information literacy skills for entrepreneurship development?
5. What strategies can improve information literacy skills for entrepreneurship development?

1.4 Research hypotheses

H_{01}: There is no significant relationship between information literacy skills and entrepreneurship development among undergraduate students of the Federal University of Agriculture, Mubi.

H_{02}: Information literacy skills do not significantly influence entrepreneurship development among undergraduate students.

2 Literature review

2.1 Concept of information literacy

Information literacy (IL) is the ability to recognize when information is needed and to locate, evaluate, organize, and use information effectively, ethically, and efficiently (Association of College and Research Libraries, 2016; UNESCO, 2021). It encompasses critical thinking, digital competence, problem-solving, and the responsible use of information in both academic and professional contexts. In higher education, information literacy equips students with the competencies required for

academic success, lifelong learning, innovation, and informed decision-making. Recent studies further emphasize that information literacy extends beyond traditional library skills to include digital information management, data evaluation, media literacy, and evidence-based decision-making necessary for participation in the knowledge economy (Bashir et al., 2025; Bosman et al., 2023).

2.2 Components of information literacy skills

The key competencies in information literacy are:

- **Identifying Information Needs:** Recognizing when and what information is required (UNESCO, 2021).
- **Information Searching:** Efficiently locating relevant information from diverse sources using effective strategies (Association of College and Research Libraries, 2016).
- **Information Evaluation:** Assessing the credibility and reliability of information for various purposes (Bashir et al., 2025).
- **Information Organization:** Systematically managing and storing information for easy retrieval (Bosman et al., 2023).
- **Information Use:** Applying information to solve problems and make informed decisions (UNESCO, 2021).
- **Ethical Use of Information:** Respecting intellectual property and adhering to citation and academic integrity standards (Association of College and Research Libraries, 2016).
- **Digital Literacy:** Effectively using digital technologies and resources for various applications (UNESCO, 2021; Bashir et al., 2025).

2.3 Concept of entrepreneurship

Entrepreneurship involves identifying business opportunities, mobilizing resources, and creating value through innovation. An entrepreneur establishes and manages ventures aiming for profit while fostering economic and social development. This process enhances creativity, innovation, employment, wealth creation, and economic diversification. Universities increasingly view entrepreneurship as vital for preparing graduates for self-employment and improving employability.

2.4 Entrepreneurship development

Entrepreneurship development is the systematic process of acquiring the knowledge, skills, attitudes, and competencies required to establish and manage successful businesses. This process includes entrepreneurship education, skills acquisition, mentoring, innovation, business incubation, networking, and access to information, finance, and technology, all enhancing individual entrepreneurial capacity and business performance. It improves opportunity recognition, business planning, leadership, and sustainability. In higher education, it equips students with practical competencies, enhancing employability and fostering innovation and venture creation.

2.5 Relationship between information literacy and entrepreneurship development

Information literacy is vital for entrepreneurship in the digital economy, enabling entrepreneurs to access and utilize timely information for strategic decisions. It is essential for undergraduate students, providing them with crucial analytical and problem-solving skills necessary for market research and identifying business opportunities. Studies show a strong positive correlation between information literacy and entrepreneurship development, enhancing skills like opportunity recogni-

tion and critical thinking. Strengthening information literacy education in universities is crucial for fostering entrepreneurial competencies and promoting sustainable economic development.

2.6 Theoretical framework

This study is based on Human Capital Theory, as developed by Schultz (1961) and advanced by Becker (1964), which asserts that investing in education and skills boosts individual productivity and economic performance. Information literacy is a crucial aspect of human capital; students who attain this competency can enhance their analytical and decision-making skills, which are vital for entrepreneurship. Therefore, improving information literacy among students is anticipated to bolster entrepreneurial skills, increase intentions to start businesses, and enhance self-employment opportunities.

2.7 Empirical review

Recent studies highlight the positive relationship between information literacy and entrepreneurship. Bashir et al. (2025) found that information literacy significantly enhances entrepreneurial intention and skills among business students in Pakistan. Heimann (2023) showed that library information literacy training leads to better performance in entrepreneurship competitions at UC Irvine. Manyao and Chaoran (2025) emphasized the importance of integrating information literacy into university curricula to foster entrepreneurial thinking. A systematic review by Orrensalo, Brush, and Nikou (2024) underscored that information-seeking behavior is crucial for entrepreneurs in the digital age, while Ip (2024) demonstrated that digital literacy boosts students' social entrepreneurial intentions, reinforcing the need for information-related competencies in education.

2.8 Gap in the literature

Existing studies show a positive link between information literacy, digital literacy, and entrepreneurship development. However, most research has focused on regions like Asia, Europe, and North America, with a lack of empirical data from Nigerian universities, especially agricultural ones. Additionally, prior studies often target business students or practicing entrepreneurs rather than a broader range of undergraduate disciplines. This study aims to fill the gap by examining the relationship between information literacy and entrepreneurship development among undergraduates at the Federal University of Agriculture, Mubi, Nigeria, contributing new insights to the relevant literature.

3 Methodology

3.1 Research design

This study utilized a descriptive survey research design to gather data from a representative sample of undergraduate students. This approach was chosen to describe and examine the relationship between information literacy skills and entrepreneurship development. It is particularly suitable for analyzing attitudes, perceptions, and behaviors without manipulating variables, enabling the collection of quantitative data that can be statistically analyzed for valid conclusions and generalizations about the target population.

3.2 Area of the study

The study was conducted at the Federal University of Agriculture, Mubi (FUAM) in Adamawa State, Nigeria. As a federal institution, FUAM focuses on excellence in teaching, research, and community service, particularly in agriculture and technology. The University offers various undergraduate and postgraduate programs, integrating entrepreneurship education into its curriculum to equip students with practical skills in innovation and self-employment, making it suitable for examining the link between information literacy skills and entrepreneurship development.

3.3 Population of the study

Undergraduate students of the Federal University of Agriculture, Mubi, were the target population for a study during the 2025/2026 academic session, chosen due to their role as primary beneficiaries of the university's entrepreneurship education and information literacy programs.

3.4 Sample size and sampling technique

A representative sample of 250 undergraduate students was selected for the study. The sample size was determined using Taro Yamane's (1967) sample size determination formula:

$$n = \frac{N}{1 + N(e)^2} \tag{1}$$

where n is the sample size, N is the total population and e is the margin of error (0.05).

The formula provides a scientifically acceptable sample that adequately represents the study population while minimizing sampling error.

A multistage sampling technique was employed. First, stratified sampling was used to classify students according to their faculty and levels of study to ensure adequate representation. Thereafter, simple random sampling was used to select respondents from each stratum, giving every undergraduate student an equal chance of participating in the study. This approach reduced sampling bias and improved the representativeness of the sample.

3.5 Instrument for data collection

Data were collected using a structured questionnaire titled “Information Literacy Skills and Entrepreneurship Development Questionnaire (ILSEDQ)”. The questionnaire consisted of two sections. Section A elicited respondents' demographic information such as gender, age, college, and level of study. Section B measured the major variables of the study using statements arranged on a five-point Likert scale: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), Strongly Disagree (1). The questionnaire contained items measuring information literacy skills; entrepreneurship development; challenges affecting information literacy for entrepreneurship; and strategies for improving information literacy and entrepreneurship development.

The Likert scale was adopted because it enables respondents to express the extent of their agreement with each statement and facilitates quantitative analysis.

3.6 Validity of the instrument

The instrument was subjected to face and content validity by experts in Library and Information Science, Entrepreneurship Education, and Research Measurement and Evaluation. The experts examined the questionnaire for clarity, relevance, adequacy, language, and alignment with the study

objectives and research questions. Their observations and recommendations were incorporated into the final version of the instrument to improve its quality and ensure that it adequately measured the constructs under investigation.

3.7 Reliability of the instrument

A pilot study involving 30 undergraduate students was conducted to ensure the main sample's integrity. The responses were analyzed using Cronbach's Alpha, yielding a reliability coefficient of 0.86, which exceeds the 0.70 threshold for social science research. This indicates the questionnaire's high reliability, confirming its suitability for the study.

3.8 Method of data collection

The researcher conducted the study by personally administering questionnaires with trained research assistants. Permission was secured from university authorities, and respondents were informed about the study's purpose, ensuring voluntary participation. Confidentiality and anonymity were promised, with only completed responses analyzed. A high response rate was achieved through personal interaction and regular follow-ups.

3.9 Method of data analysis

The data were analyzed using SPSS Version 27 through various statistical techniques: frequency counts and percentages for demographic characteristics; mean and standard deviation for addressing information literacy skills and entrepreneurship development; Pearson Product Moment Correlation to assess the relationship between these two aspects; and Simple Linear Regression Analysis to evaluate the predictive influence of information literacy skills on entrepreneurship development. Hypothesis testing was conducted at the 0.05 significance level.

The decision rule for interpreting the mean scores is given in Table 1.

Table 1. Decision rule for interpreting mean scores.

Mean Range	Interpretation
4.50–5.00	Very High
3.50–4.49	High
2.50–3.49	Moderate
1.50–2.49	Low
1.00–1.49	Very Low

For hypothesis testing, the null hypothesis was rejected whenever the p-value was less than 0.05 ($p < 0.05$) and retained when the p-value was greater than or equal to 0.05 ($p \geq 0.05$).

3.10 Ethical considerations

The study adhered to accepted ethical standards for educational research. Participation was voluntary, and respondents gave informed consent before completing the questionnaire. Participants were assured that the information provided would be used strictly for academic purposes. No identifying information was collected, thereby ensuring anonymity and confidentiality. The data

obtained were securely handled and reported objectively without fabrication, falsification, or manipulation.

4 Results

4.1 Research question 1

What is the level of information literacy skills among undergraduate students of the Federal University of Agriculture, Mubi? Table 2 presents the mean ratings.

Table 2. Mean rating of information literacy skills (N = 250).

S/N	Information Literacy Skills	Mean	SD	Decision
1	Ability to identify information needs	3.89	0.78	High
2	Ability to search information from different sources	3.81	0.83	High
3	Ability to evaluate the credibility of information	3.75	0.81	High
4	Ability to organize information effectively	3.69	0.85	High
5	Ability to use digital information resources	3.92	0.72	High
6	Ethical use of information	3.84	0.79	High
	Grand mean	3.82	0.80	High

Decision rule: mean ≥ 2.50 = accepted.

The findings indicate that undergraduate students possess a high level of information literacy skills (Grand Mean = 3.82). The highest-rated competency was the ability to use digital information resources (Mean = 3.92), while organizing information recorded the lowest mean (3.69). This suggests that students generally possess adequate information literacy skills required for academic and entrepreneurial activities. These findings are consistent with recent studies showing that stronger information literacy supports entrepreneurial intention and skills.

4.2 Research question 2

What is the level of entrepreneurship development among undergraduate students? Table 3 presents the mean ratings.

Table 3. Mean rating of entrepreneurship development (N = 250).

S/N	Entrepreneurship Indicators	Mean	SD	Decision
1	Ability to identify business opportunities	3.78	0.81	High
2	Creativity and innovation	3.83	0.74	High
3	Business planning skills	3.66	0.82	High
4	Risk-taking ability	3.71	0.86	High
5	Confidence in starting a business	3.75	0.79	High
6	Problem-solving ability	3.87	0.76	High
	Grand mean	3.77	0.80	High

The results show that the respondents demonstrate a high level of entrepreneurship development (Grand Mean = 3.77). Students reported relatively strong entrepreneurial competencies, particularly in problem-solving and innovation, suggesting readiness for entrepreneurial activities.

4.3 Research question 3

What relationship exists between information literacy skills and entrepreneurship development? The Pearson correlation analysis is presented in Table 4.

Table 4. Pearson correlation between information literacy skills and entrepreneurship development.

Variables	*N*	*r*	*p*-value	Decision
Information Literacy Skills	250	0.684	0.000	Significant
Entrepreneurship Development	250			

The Pearson Product Moment Correlation produced an r-value of 0.684 ($p < 0.05$), indicating a strong positive and statistically significant relationship between information literacy skills and entrepreneurship development. This implies that students with higher information literacy skills tend to demonstrate stronger entrepreneurial competencies. Similar relationships have been reported in recent studies of university students.

4.4 Research question 4

What challenges affect the acquisition and application of information literacy skills for entrepreneurship development? Table 5 presents the mean ratings.

Table 5. Challenges affecting information literacy for entrepreneurship development.

S/N	Challenges	Mean	SD	Decision
1	Poor Internet connectivity	3.95	0.73	Agreed
2	Inadequate ICT facilities	3.88	0.78	Agreed
3	Limited entrepreneurship training	3.74	0.81	Agreed
4	Insufficient information literacy programs	3.69	0.86	Agreed
5	Limited access to electronic resources	3.79	0.82	Agreed
	Grand mean	3.81	0.80	Agreed

Respondents agreed that poor internet access, inadequate ICT facilities, insufficient information literacy programs, and limited entrepreneurship training are major barriers to entrepreneurship development.

4.5 Test of hypotheses

4.5.1 Hypothesis one

H_{01}: There is no significant relationship between information literacy skills and entrepreneurship development among undergraduate students. The Pearson correlation test is presented in Table 6.

Table 6. Pearson correlation test of H_{01}.

Variables	*N*	*r*	Sig. (2-tailed)	Decision
Information Literacy Skills	250	0.684	0.000	Reject H_0
Entrepreneurship Development	250			

Since the p-value (0.000) is less than 0.05, the null hypothesis is rejected. There is a statistically significant positive relationship between information literacy skills and entrepreneurship development among undergraduate students.

4.5.2 Hypothesis two

H_{02}: Information literacy skills do not significantly influence entrepreneurship development. The simple linear regression results are presented in Table 7.

Table 7. Simple linear regression of entrepreneurship development on information literacy skills.

Variable	Beta	*t*	Sig.	R^2	Decision
Information Literacy Skills	0.638	12.84	0.000	0.466	Reject H_0

The regression analysis indicated that information literacy skills are a significant predictor of entrepreneurship development ($\beta = 0.638$, $p < 0.05$), explaining 46.6% of the variance in entrepreneurial outcomes ($R^2 = 0.466$). This supports recent findings that link higher information literacy with enhanced entrepreneurial intention and skills.

5 Summary of findings

Undergraduate students showed high information literacy skills (Mean = 3.82) and entrepreneurship development (Mean = 3.77). A positive correlation was found between these skills ($r = 0.684$, $p < 0.05$), with information literacy significantly predicting entrepreneurship development ($\beta = 0.638$, $R^2 = 0.466$, $p < 0.05$). Challenges included inadequate ICT facilities, poor internet connectivity, limited entrepreneurship training, insufficient information literacy programs, and restricted access to electronic resources.

6 Conclusion

This study explored the link between information literacy skills and entrepreneurship development among undergraduate students at the Federal University of Agriculture, Mubi, Adamawa State, Nigeria. Results indicated that students exhibited strong information literacy skills, particularly in identifying information needs, accessing digital resources, evaluating information, and applying it ethically. Additionally, the students showed high levels of entrepreneurial competencies, including opportunity recognition.

7 Recommendations

Recommendations include strengthening information literacy programs across all faculties, incorporating practical information-searching and digital literacy into entrepreneurship education, providing regular training and workshops in the University Library, encouraging students to utilize digital

resources for business opportunities, and improving access to ICT facilities and electronic resources to support entrepreneurship development.

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