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An assessment of entrepreneurial skills of undergraduates of library and information science students of Northwest University, Kano, Nigeria

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Abstract
Entrepreneurship education has become a critical strategy for addressing graduate unemployment and enhancing employability among university students. This study examined the level of entrepreneurship skills possessed by library and information science (LIS) students, the impact of these skills on employability, and the challenges encountered in acquiring entrepreneurial competencies. A descriptive survey research design was adopted for the study. Data were collected using a structured questionnaire administered to 255 LIS students, and the responses were analyzed using frequency and percentages. Findings revealed that a majority of the respondents had been exposed to entrepreneurship education, with 87.45% having taken entrepreneurship-related courses and 68.63% participating in entrepreneurship training or workshops. The results further indicated that students possessed a relatively high level of entrepreneurship skills, including creativity, innovation, opportunity identification, business plan preparation, digital entrepreneurship skills, and confidence in starting small-scale businesses after graduation. Additionally, the study showed that entrepreneurship education had a significant positive impact on employability, as most respondents agreed that it enhances self-reliance, leadership skills, problem-solving ability, job creation potential, and reduces graduate unemployment. Despite these positive outcomes, the study identified, inadequate training facilities, limited instructional time, financial constraints, mentorship opportunities as challenges to effective entrepreneurship skills acquisition. The research concluded that while entrepreneurship education positively influences employability and self-reliance among LIS students, its effectiveness is constrained by structural and institutional challenges. It therefore recommended that university management and relevant academic authorities should strengthen the practical components of entrepreneurship courses by incorporating hands-on training, that would increase the skill of undergraduate students, project-based learning, and real-life business simulations tailored to Library and Information Science. Adequate training facilities and instructional materials should be provided to support effective entrepreneurship education. This includes access to digital tools, innovation hubs, and entrepreneurship laboratories that would give more impact to students. Curriculum planners should allocate sufficient time within the academic programme for entrepreneurship training to ensure that students can balance academic responsibilities with skill acquisition which will help in minimizing some of the challenged.

Keywords: Assessment; entrepreneurial; skills; undergraduates; library; information; science; students, Kano, Nigeria

Introduction
Entrepreneurship is the process of identifying and pursuing opportunities to create value through innovation, calculated risk-taking, and effective resource management. Entrepreneurs mobilize financial, human, and material resources to develop new products, services, or processes that address market gaps or societal needs (Hisrich *et al.,* 2017). It is both a mindset and an activity that contributes significantly to personal development, economic growth, and technological advancement. Entrepreneurship extends beyond the creation of new businesses. It encompasses intrapreneurship (innovation within existing organizations), social entrepreneurship (addressing social and community-based challenges), and digital entrepreneurship

(leveraging technology for business innovation) (Kuratko, 2016). It plays a vital role in national economic development and social transformation. By creating employment opportunities, fostering innovation, reducing poverty, and promoting self-reliance, entrepreneurship is regarded as a driver of sustainable development. According to Onuoha (2007), entrepreneurship involves starting new ventures, revitalizing existing enterprises, and exploiting opportunities that serve societal needs. In contemporary economies, entrepreneurial initiatives contribute to economic diversification, wealth generation, and inclusive growth.

In developing countries like Nigeria, the persistent problem of youth and graduate unemployment has prompted a shift in focus toward entrepreneurship education, especially at the tertiary level. Increasingly, entrepreneurship is seen not only as a tool for self-employment but also as a catalyst for national innovation, economic empowerment, and poverty alleviation. Students in higher institutions are therefore encouraged to acquire entrepreneurial competencies that can enable them to create value in diverse sectors.

The field of library and information science (LIS) has undergone a transformation, moving beyond its traditional roles of cataloging, reference services, and information management. The emergence of Information and Communication Technology (ICT) has opened new frontiers for LIS professionals to explore entrepreneurial ventures such as digital archiving, electronic publishing, data curation, content creation, and information consultancy (Aina, 2020). These ICT-driven opportunities empower LIS graduates to establish their own businesses in areas such as private libraries, digital repositories, e-publishing firms, training and research support services, knowledge management centers, and digital content management. They may also specialize in book marketing, indexing and abstracting, and the provision of information literacy training (Omekwu & Ugwuanyi, 2021). In this evolving professional landscape, equipping LIS undergraduates with entrepreneurial skills is essential for enhancing their employability, promoting innovation, and supporting national development goals.

At Northwest University, Kano, undergraduate students of Library and Information Science face increasing competition in the labor market. Many of them are confronted with the realities of limited job opportunities in conventional library settings. Therefore, entrepreneurship education and practical skills training are indispensable in preparing these students to create and manage business ventures in both information-related and other sectors.

This study aims to examine the contribution of entrepreneurship skills to the career prospects, self-employment potential, and economic empowerment of LIS undergraduate students at Northwest University, Kano. It investigates the availability of entrepreneurial opportunities, the benefits of entrepreneurial training, and the major challenges hindering effective acquisition and application of these skills among students.

Objectives of the study

The main objective of this study is to assess the contribution of entrepreneurship skills to undergraduate students of Library and Information Science at Northwest University, Kano. The specific objectives of the study are to:

1. examine the level of entrepreneurship skills possessed by undergraduate students of library and information science;

2. assess the impact of entrepreneurship skills on the employability of LIS undergraduate students; and
3. identify the challenges faced by LIS students in acquiring entrepreneurship skills during their academic program.

Research questions

The following research questions are addressed in the study:

1. What is the level of entrepreneurship skills possessed by undergraduate students of library and information science?
2. How do entrepreneurship skills contribute to the employability of LIS undergraduate students?
3. What challenges do LIS students face in acquiring entrepreneurship skills during their studies?

Literature review

Entrepreneurship has been defined in different ways by scholars depending on the context and discipline. Broadly, it refers to the recognition, evaluation, and exploitation of opportunities to introduce new goods and services, organize markets, or develop new production processes (Shane & Venkataraman, 2000). Drucker (2014) describes entrepreneurship as the systematic innovation process that involves purposeful search for opportunities to bring about change in the society. In the African context, entrepreneurship is often linked with self-reliance, creativity, and poverty alleviation (Okafor & Iroanya, 2019).

Within higher education, entrepreneurship is increasingly understood as a pedagogical approach that equips students with the mindset, knowledge, and competencies required to identify opportunities and create value for society (Fayolle & Liñán, 2014). Thus, beyond business creation, entrepreneurship is a life skill that fosters adaptability, innovation, and resilience.

In developing countries such as Nigeria, entrepreneurship is not merely an economic activity but a socio-economic necessity. Unemployment and underemployment remain critical issues, with millions of graduates unable to secure jobs in the saturated labour market (National Bureau of Statistics ([NBS], 2022). As such entrepreneurship is promoted as a strategy for employment generation, poverty reduction, and sustainable development (Akinwale, Dada, & Oluwadare, 2019).

Entrepreneurship education is therefore embedded in Nigerian universities' curricula, following the directive of the National Universities Commission (NUC) in 2006, to prepare graduates with practical skills for self-employment (Olawale & Garwe, 2010). For Library and Information Science (LIS) students, this policy aligns with the diversification of professional roles in response to digital transformation. Entrepreneurship in higher education is significant because it bridges the gap between the theoretical knowledge and real-world application. According to (Kuratko, 2017), universities are no longer just centers of knowledge dissemination but also hubs of innovation, enterprise, and economic development. Embedding entrepreneurship in academic programs cultivates graduates who can create jobs rather than solely depend on limited employment opportunities.

In Nigeria, entrepreneurship education has been shown to enhance students' employability, critical thinking, and problem-solving abilities (Osakwe & Omodero, 2021). For LIS undergraduates, this significance is twofold: first, it enables them to transition into innovative information service roles; second, it equips them with the resilience and creativity needed to compete in both local and global information economies.

The field of LIS has traditionally been associated with library routines such as cataloguing, reference services, and classification. However, the rise of digital technologies has expanded the profession into new entrepreneurial domains, (Aina, 2020). Modern LIS professionals are expected to provide services according to (Aina, 2020): these includes:

- Digital publishing and e-learning platforms
- Abstracting and indexing services
- Information brokerage and consultancy
- Online content marketing and database management

Omekwu and Ugwuanyi (2021) emphasize that these opportunities enable LIS graduates to contribute to the knowledge economy while ensuring financial independence. This makes entrepreneurship particularly significant for LIS students, as it empowers them to become innovators and active problem-solvers in society.

At the macro level, entrepreneurship is crucial for socio-economic growth. Schumpeter's (2017) innovation theory underscores that entrepreneurs are agents of "creative destruction," introducing innovations that transform industries and stimulate development (Schumpeter, 2017). In Nigeria, fostering entrepreneurship among graduates contributes to achieving the Sustainable Development Goals (SDGs), particularly SDG 4 (quality education) and SDG 8 (decent work and economic growth) (United Nations, 2020).

By equipping LIS graduates with entrepreneurial skills, universities not only address unemployment but also foster the creation of knowledge-based enterprises that support digital literacy, access to information, and economic competitiveness. Thus, the significance of entrepreneurship in LIS extends beyond individual career success to broader societal transformation.

Entrepreneurship skills are the collection of knowledge, competencies, and attitudes that enable individuals to identify opportunities, establish ventures, and sustain them in competitive environments. For Library and Information Science (LIS) undergraduates, these skills are particularly critical, as the profession now extends beyond the traditional librarianship into dynamic roles such as digital publishing, information consultancy, knowledge management, and online content marketing (Ajiboye, 2021; Olorunsola & Adeoti, 2022). Scholars like Ajiboye (2021) generally classify entrepreneurship skills into technical/ICT, information and knowledge management, business and managerial and soft skills.

i. *Technical and ICT skills;* In today's digital economy, technical proficiency particularly in Information and Communication Technology (ICT) is the foundation for entrepreneurial success in LIS. ICT skills equip students to generate, organize, and disseminate information in the innovative ways buladaco (2012) postulated that ict can empower teachers and leraners,promote change and foster the development of the 21st century skills.. furthermore Fu (2013) opined that ict skills is a powerful tool for educational change and reform and has increasingly been used successfully in in instruction. According to Inyang and Mngutayo (2018), Key technical competencies include:
    - Library automation software (e.g., KOHA, DSpace, Greenstone, NewGenLib) for cataloguing and circulation services.
    - Digital content creation such as e-publishing, website development, content creation and social media marketing.
    - Database and metadata management for structuring information systems.
    - Cloud computing tools that support online archiving, collaborative research, and virtual information services.

According to Olorunsola and Adeoti (2022), ICT-savvy LIS graduates can

- establish firms that digitize government archives,
- run online indexing services, or
- design knowledge repositories for NGOs and corporations. This underscores the role of technical competence as both a professional necessity and an entrepreneurial advantage.

ii. *Information and knowledge management:* Information management skills are very important to master the latest skills. At the organization to improve the effectiveness of efficiency, improve communication between students and teachers and improve the synergy between the employee and allow learning to be more effective and efficient. It also helps at the individual level especially students, can help individual plan a strategy to get the knowledge and skills to enhance career is different from the nature of the universities. (Patel, and Modi, 2023).

iii. Business and managerial, and soft skills: In business environment, organizations must continuously adopt to stay competitive organizational change, whether driven by internal factors such as restructuring, or external factors such as technological advancements, demands strong leadership and effective management skills. Some of the management skills include, leadership, emotional intelligence, communication, decision making and conflict management (Patel and Modi. 2023). This study justify the need for students to have entrepreneurial skills that will help to overcome the challenges of unemployment among the graduate.

Methods

The study employed a quantitative survey research methodology. This approach was

considered appropriate because it allows for the systematic collection of data from a defined population using a structured questionnaire (Saunders *et al.,* 2019). It enables the researcher to gather information about the respondent's views, attitudes, and experiences concerning entrepreneurship skills and their impact on employability. The methodology ensures objectivity and allows statistical analysis of responses to draw meaningful conclusions (Creswell & Creswell, 2023).

The research adopted a descriptive survey design. This design was chosen because it facilitates the collection of data from a large number of respondents at a single point in time to describe the current status of a phenomenon (Kumar, 2022). The descriptive survey design helps to examine the level of entrepreneurship skills possessed by undergraduate Library and Information Science (LIS) students, assess their impact on employability, and identify challenges encountered during the acquisition of such skills. According to (Bell, Bryman, and Harley 2022), descriptive survey research is suitable for educational and social science studies where opinions, attitudes, and experiences are measured quantitatively.

Population of the Study

The population of this study consisted of all undergraduate students in the Department of Library and Information Science, Northwest University, Kano. The total population was 934 students spread across four levels of study.

Table 1: Population and sample of the study

Level	Number of students	Sample/%
100	(220/934) × 280 = 66	
200	(250/934) × 280 = 75	
300	(164/934) × 280 = 49	
400	(300/934) × 280 = 90	
Total	**934**	

Source: Department of Library and Information Science, Northwest University Kano, 2025

This population was considered appropriate because it represents all categories of students who are directly involved in entrepreneurship training under the LIS curriculum.

The study employed a stratified random sampling technique. The stratification was done according to academic levels (100, 200, 300, and 400 levels) to ensure that students from each level were proportionally represented (Taherdoost, 2022). Within each stratum, random sampling was applied to select respondents in order to reduce bias and ensure fairness. This method provides a more accurate reflection of the population and enhances the generalizability of findings (Etikan & Bala, 2017). The sample size of the study is 280 students across the level of the study, questionnaire was used as data collection instruments, tables percentage and frequency were used to analyze the collected data

Table 2: Questionnaire response rate

Respondents	Copies of questionnaire distributed	Fully Completed and Returned	Invalid Questionnaires
Students	280	255 (91.1%)	1 (0.4%)
Total	280	255 (91.1%)	1 (0.4%)

Table 2 shows that a total of 280 questionnaires were distributed for this research work. Out of the questionnaires distributed, 255 (91.1%) were fully

completed and returned, while 1 (0.4%) questionnaire was invalid due to wrong entry. This shows that 255 questionnaires were valid and used for the analysis of the research work, indicating a high response rate suitable for the study.

Table 3: Demographic information of respondents

Item / Category	Frequency (N)	Percentage (%)
Gender		
Female	125	49.02
Male	130	50.98
Total	**255**	**100.0**

Table 3 presents the gender distribution of the respondents who participated in the study. The results show that out of 255 respondents, 130 (50.98%) were male, while 125 (49.02%) were female. This indicates a nearly equal representation of male and female students in the study. The near balance in gender distribution suggests that the findings of this study are not gender-biased and adequately reflect the perspectives of both male and female LIS students. Gender inclusiveness is important in entrepreneurship research, as studies have shown that entrepreneurial intention and skill acquisition may vary across gender groups due to socio-cultural and economic factors (OECD, 2022). However, the balanced representation observed in this study strengthens the reliability of the findings and supports the growing trend of female participation in entrepreneurship education in Nigerian universities (Afolayan & Kareem, 2021). Furthermore, the increasing involvement of female students in entrepreneurship-related programmes reflects broader efforts toward gender equality in higher education and economic participation (World Bank, 2023). Therefore, the gender distribution in this study provides a solid foundation for generalizing the findings across both male and female LIS students.

Table 4: Age range of the respondents

Age (range)	Frequency (N)	Percentage (%)
Below 20	34	13.33
20 – 24	133	52.16
25 – 29	60	23.53
30 and above	28	10.98
Total	**255**	**100.0**

Table 4 presents the age distribution of the respondents. The findings reveal that the majority of respondents, 133 (52.16%), fall within the age range of 20–24 years. This is followed by 60 respondents (23.53%) within the 25–29 age bracket. Respondents below 20 years constituted 34 (13.33%), while 28 (10.98%) were aged 30 years and above. The

dominance of respondents within the 20–24 age bracket indicates that most participants are within the typical undergraduate age range. This age group is often considered highly receptive to entrepreneurial training and innovation-driven learning (Yusuf, Musa, & Abdullahi, 2023). Young adults within this age range are generally more adaptable, creative, and open to entrepreneurial risk-taking compared to older individuals (OECD, 2022). The presence of mature students (aged 30 and above), though smaller in proportion, suggests diversity in educational access and lifelong learning opportunities. According to Ibrahim and Lucky (2020), age can influence entrepreneurial perception and readiness, with younger students often demonstrating stronger entrepreneurial intention due to longer career horizons and greater exposure to innovation.

Table 5: Academic level of respondents

Academic Level	Frequency (N)	Percentage (%)
100 Level	18	7.06
200 Level	49	19.22
300 Level	51	20.00
400 Level	137	53.73
Total	**255**	**100.0**

Table 5 shows the academic level of the respondents. The results indicate that 137 respondents (53.73%) were in 400 Level, representing the majority. This is followed by 51 respondents (20.00%) in 300 Level, 49 respondents (19.22%) in 200 Level, and 18 respondents (7.06%) in 100 Level. The dominance of 400 Level students suggests that most respondents had progressed significantly in their academic programme and were likely to have completed or nearly completed entrepreneurship courses offered within the curriculum. Final-year students are typically more exposed to professional and practical training components, which may enhance their understanding and evaluation of entrepreneurship education (NUC, 2022). The lower proportion of 100 Level students may be attributed to their limited exposure to entrepreneurship courses at the early stage of their programme. According to Ogunleye, Adeyemi, and Lawal (2021), the level of study significantly influences students' perception of entrepreneurship education, as senior students are more likely to appreciate its relevance to post-graduation employment. Therefore, the academic distribution strengthens the credibility of the responses, particularly because over half of the respondents were in their final year and capable of providing informed opinions.

Table 6: Participation in entrepreneurship-related courses

Have you taken any entrepreneurship-related course?	Frequency (N)	Percentage (%)
Yes	223	87.45
No	32	12.55
Total	**255**	**100.0**

Table 6 reveals whether respondents had taken any entrepreneurship-related course. The findings show that 223 respondents (87.45%) indicated "Yes," while 32 respondents (12.55%) indicated "No." The high percentage of students who have taken entrepreneurship-related courses suggests that entrepreneurship education has been effectively integrated into the LIS curriculum at Northwest University Kano. This aligns with the directive of the National Universities Commission (NUC, 2022), which mandates entrepreneurship education as a compulsory component in Nigerian universities. Exposure to entrepreneurship courses is essential for skill acquisition, innovation development, and employability enhancement. Previous studies have shown that formal entrepreneurship education significantly improves students' entrepreneurial knowledge and intention (Afolayan & Kareem, 2021; Yusuf et al., 2023). The high participation rate observed in this study therefore provides a strong foundation for evaluating the impact of entrepreneurship education on LIS students.

Table 7: Participation in entrepreneurship training/workshop

Have you participated in any entrepreneurship training/workshop?	Frequency (N)	Percentage (%)
Yes	175	68.63
No	80	31.37
Total	**255**	**100.0**

Table 7 presents data on students' participation in entrepreneurship training or workshops. The results reveal that 175 respondents (68.63%) had participated in entrepreneurship training or workshops, while 80 respondents (31.37%) had not. Although the majority of students have participated in entrepreneurship workshops, the percentage is lower compared to formal course participation. This suggests that while classroom-based entrepreneurship education is widely implemented, practical exposure through workshops and training programmes may not be equally accessible to all students. Workshops and training programmes are critical components of experiential learning, which enhances practical competence and entrepreneurial confidence (OECD, 2022). According to Mohammed and Abdullahi (2024), students who participate in hands-on entrepreneurship training demonstrate stronger business start-up intentions and practical readiness compared to those who rely solely on theoretical instruction. The gap between course participation (87.45%) and workshop participation (68.63%) indicates the need for increased practical engagement

opportunities to complement theoretical learning.

Table 8: Exposure to entrepreneurship Education

Statement	SD	D	U	A	SA	Total (N)
I have been exposed to entrepreneurship education as part of my LIS curriculum	1 (0.39%)	17 (6.67%)	24 (9.41%)	107 (41.96%)	106 (41.57%)	**255 (100%)**

Table 8 presents respondents' exposure to entrepreneurship education as part of their LIS curriculum. The findings show that 107 respondents (41.96%) agreed and 106 (41.57%) strongly agreed, giving a total positive response of 83.53%. Only 7.06% disagreed, while 9.41% were undecided. The high level of agreement indicates that entrepreneurship education has been effectively integrated into the LIS curriculum. This aligns with the directive of the National Universities Commission (NUC, 2022), which mandates entrepreneurship education across Nigerian universities. Exposure to entrepreneurship education is fundamental in developing entrepreneurial awareness and competence among students (OECD, 2022). The result suggests that LIS students are not only aware of entrepreneurship education but are actively experiencing it within their academic programme. This supports the argument by Yusuf, Musa, and Abdullahi (2023) that curriculum integration significantly enhances entrepreneurial skill development among undergraduates.

Table 9: Possession of basic entrepreneurial skills

SN	Basic entrepreneurial skills	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total
1	I have learned how to prepare a business plan during my studies	7 (2.75%)	16 (6.27%)	27 (10.59%)	117 (45.88%)	88 (34.51%)	255 (100%)
2	I am confident in starting a small-scale business after graduation.	7 (2.75%)	16 (6.27%)	38 (14.90%)	104 (40.78%)	90 (35.29%)	255 (100%)
3	I have acquired digital entrepreneurship skills (e.g., online marketing, freelancing).	4 (1.57%)	24 (9.41%)	46 (18.04%)	86 (33.73%)	95 (37.25%)	255 (100%)
4	I have acquired digital entrepreneurship skills (e.g., online marketing, freelancing)	4 (1.57%)	24 (9.41%)	46 (18.04%)	86 (33.73%)	95 (37.25%)	255 (100%)
5	I can apply information management skills	3 (1.18%)	18 (7.06%)	53 (20.78%)	109 (42.75%)	72 (28.24%)	255 (100%)

	to entrepreneurship ventures

Table 9 reveals whether students possess basic entrepreneurial skills such as creativity and innovation. The results reveal that 128 respondents (50.20%) agreed and 85 (33.33%) strongly agreed, totaling 83.53% positive responses. Only 7.45% disagreed. This high percentage suggests that the majority of LIS students perceive themselves as having acquired foundational entrepreneurial competencies. Creativity and innovation are central components of entrepreneurship and are considered critical for business sustainability in knowledge-driven economies (World Bank, 2023). According to Ibrahim and Lucky (2020), entrepreneurship education enhances innovative thinking and opportunity recognition skills. The findings therefore indicate that the entrepreneurship curriculum is contributing positively to students' creative capacity. The findings show that 105 respondents (41.18%) agreed and 81 (31.76%) strongly agreed, giving 72.94% positive responses. However, 15.29% were undecided. The relatively high agreement suggests that most students can link their LIS knowledge to entrepreneurial opportunities. Modern LIS professionals are increasingly expected to explore areas such as digital archiving, consultancy services, database management, and information brokerage (Afolayan & Kareem, 2021). However, the moderate percentage of undecided responses indicates that some students may still lack confidence in translating theoretical knowledge into business opportunities. This supports findings by Ogunleye, Adeyemi, and Lawal (2021), who reported that opportunity identification remains a challenge in entrepreneurship education when practical exposure is limited.

The results indicate that 117 respondents (45.88%) agreed and 88 (34.51%) strongly agreed, totaling 80.39% positive responses. Business plan preparation is a critical entrepreneurial skill, as it provides strategic direction and enhances business feasibility (OECD, 2022). The high agreement suggests that practical entrepreneurial components are being incorporated into the curriculum. This finding supports Mohammed and Abdullahi (2024), who emphasized that exposure to business planning exercises significantly increases students' readiness for business start-ups. The findings show that 109 respondents (42.75%) agreed and 72 (28.24%) strongly agreed (70.99% total positive response) that they can apply information management skills to entrepreneurial ventures. However, 20.78% were undecided. This result suggests that while a majority recognize the entrepreneurial value of LIS skills, a notable proportion remains uncertain. Information management skills such as data organization, digital content management, and knowledge dissemination are highly relevant in modern entrepreneurship (World Bank, 2023). The undecided responses may reflect limited real-world application experience, reinforcing the need for more practical engagement and internship opportunities (OECD, 2022).

A total of 104 respondents (40.78%) agreed and 90 (35.29%) strongly agreed (76.07% positive response) that they are confident in starting a small-scale business after graduation. Entrepreneurial confidence, also known as entrepreneurial self-efficacy, plays a significant role in business start-up decisions (Ibrahim & Lucky, 2020). The high positive response suggests that entrepreneurship education is strengthening students' self-belief. However, the presence of 14.90% undecided responses indicates that confidence-building strategies such as mentorship and incubation programs may need to be strengthened.

It was revealed that 86 respondents (33.73%) agreed and 95 (37.25%) strongly agreed (70.98% positive response) that they have acquired digital entrepreneurship skills such as online marketing and freelancing. Digital entrepreneurship is increasingly important in the modern knowledge economy (OECD, 2022). The strong positive response suggests that students are adapting to digital business environments. Nevertheless, 18.04% were undecided, which may indicate varying levels of digital literacy among students. According to World Bank (2023), digital skill gaps remain a significant barrier to youth entrepreneurship in developing economies.

Table 10: Teaching of entrepreneurship courses

Statement	SD	D	U	A	SA	Total (N)
The entrepreneurship courses in my program are well taught and practical-oriented	5 (1.96%)	15 (5.88%)	44 (17.25%)	120 (47.06%)	71 (27.84%)	**255 (100%)**

Table 10 shows that 120 respondents (47.06%) agreed and 71 (27.84%) strongly agreed (74.90% positive response) that entrepreneurship courses are well taught and practical-oriented. This suggests general satisfaction with teaching quality. Practical orientation is essential in entrepreneurship education because experiential learning enhances competence (OECD, 2022). However, the 17.25% undecided response suggests room for improvement in practical delivery methods.

Table 11: Lecturers' encouragement of innovative thinking

Statement	SD	D	U	A	SA	Total (N)
My lecturers encourage innovative and creative thinking among students	3 (1.18%)	17 (6.67%)	33 (12.94%)	117 (45.88%)	85 (33.33%)	**255 (100%)**

Table 11 shows that 117 respondents (45.88%) agreed and 85 (33.33%) strongly agreed (79.21% positive response) that lecturers encourage innovation and creativity. Lecturer support plays a crucial role in shaping entrepreneurial mindset (Yusuf *et al.,* 2023). Encouragement from instructor's fosters creativity and risk-taking behaviour. The strong positive response indicates that the academic environment is supportive of entrepreneurial development.

Table 12: Ability to use entrepreneurial skills to solve real-life problems

Ability	SD	D	U	A	SA	Total (N)
I can effectively use entrepreneurial skills to solve real-life problems	8 (3.14%)	21 (8.24%)	36 (14.12%)	111 (43.53%)	79 (30.98%)	**255 (100%)**

Table 12 reveals that 111 respondents (43.53%) agreed and 79 (30.98%) strongly agreed (74.51% positive response) that they can effectively use entrepreneurial skills to solve real-life problems. This finding suggests that students perceive

entrepreneurship education as practical and applicable. Problem-solving ability is a key indicator of entrepreneurial competence (Ibrahim & Lucky, 2020). However, the 14.12% undecided responses suggest that more experiential learning may further strengthen practical application skills.

Table 13: Impact of entrepreneurship skills on employability

Impact	SD	D	U	A	SA	Total (N)
Entrepreneurship education increases my employability prospects	6 (2.35%)	10 (3.92%)	27 (10.59%)	118 (46.27%)	94 (36.86%)	255 (100%)
Acquiring entrepreneurial skills makes me more self-reliant	4 (1.57%)	12 (4.71%)	32 (12.55%)	135 (52.94%)	72 (28.24%)	255 (100%)
Entrepreneurship skills help me to think critically and solve problems independently	4 (1.57%)	18 (7.06%)	35 (13.73%)	108 (42.35%)	90 (35.29%)	255 (100%)
The skills gained from entrepreneurship courses will help me create employment for others	2 (0.78%)	19 (7.45%)	50 (19.61%)	100 (39.22%)	84 (32.94%)	255 (100%)
I believe entrepreneurship training reduces graduate unemployment	4 (1.57%)	14 (5.49%)	51 (20.00%)	93 (36.47%)	93 (36.47%)	255 (100%)
Entrepreneurship education has improved my leadership and decision-making abilities	7 (2.75%)	12 (4.71%)	51 (20.00%)	122 (47.84%)	63 (24.71%)	255 (100%)
I can use entrepreneurship skills to develop innovative information services for clients	5 (1.96%)	20 (7.84%)	41 (16.08%)	119 (46.67%)	70 (27.45%)	255 (100%)
Entrepreneurship training has enhanced my teamwork and communication abilities	6 (2.35%)	18 (7.06%)	46 (18.04%)	120 (47.06%)	65 (25.49%)	255 (100%)
I can manage financial resources effectively due to entrepreneurship training	7 (2.75%)	19 (7.45%)	36 (14.12%)	119 (46.67%)	74 (29.02%)	255 (100%)
I am likely to establish a business after graduation.	3 (1.18%)	17 (6.67%)	34 (13.33%)	108 (42.35%)	93 (36.47%)	255 (100%)

Table 12 shows that the students strongly perceive entrepreneurship skills as a catalyst for professional growth. Approximately 83.13% of respondents agree that these skills increase their employability (C1), and 81.18% believe the training makes them more self-reliant (C2). Most notably, 78.82% of the LIS students indicated a high likelihood of establishing their own businesses after graduation (C10), suggesting that the training effectively fosters an entrepreneurial mindset. To assess the impact of entrepreneurship skills on the employability of LIS undergraduate students The results from Section C demonstrate that entrepreneurship skills have a strong perceived positive impact on the employability of LIS undergraduate students.

A significant majority of respondents (83.13%) agreed that entrepreneurship education increases their employability prospects, while 81.18% believed that acquiring entrepreneurial skills makes them more self-reliant. These findings suggest that students view entrepreneurship education as a viable pathway to both paid employment and self-employment. In addition, most respondents acknowledged that entrepreneurship skills enhance critical thinking, problem-solving ability, leadership, teamwork, communication, and financial management skills. These competencies are widely recognized as essential employability skills in the contemporary labour market. (Ibrahim and Lucky, 2020) argue that graduates equipped with entrepreneurial competencies are more adaptable and better positioned to navigate dynamic employment environments. Notably, a large proportion of students (78.82%) indicated that they are likely to establish a business after graduation, reflecting a positive entrepreneurial mindset fostered by the training received. This supports the findings of (Mohammed and Abdullahi, 2024), who reported that entrepreneurship education increases students' intentions toward business start-up and reduces overdependence on formal employment opportunities.

In the context of LIS, the ability to develop innovative information services, manage financial resources, and create employment for others highlights the relevance of entrepreneurship education to emerging career opportunities such as digital librarianship, information consultancy, knowledge management, and content development. The OECD (2022) similarly emphasized that entrepreneurship education equips graduates with transferable skills that enhance employability across multiple sectors.

Table 14: Challenges faced in acquiring entrepreneurship skills

Challenges	SD	D	U	A	SA	Total (N)
Entrepreneurship courses in my program are more theoretical than practical	9 (3.53%)	17 (6.67%)	34 (13.33%)	92 (36.08%)	103 (40.39%)	255 (100%)
There are inadequate training facilities and materials for entrepreneurship learning.	8 (3.14%)	23 (9.02%)	31 (12.16%)	125 (49.02%)	68 (26.67%)	255 (100%)
The time allocated for entrepreneurship courses is insufficient.	8 (3.14%)	20 (7.84%)	50 (19.61%)	117 (45.88%)	60 (23.53%)	255 (100%)
Lack of qualified instructors affects the effectiveness of entrepreneurship education	10 (3.92%)	29 (11.37%)	37 (14.51%)	111 (43.53%)	68 (26.67%)	255 (100%)
Financial constraints hinder students from starting small businesses	12 (4.71%)	18 (7.06%)	46 (18.04%)	107 (41.96%)	72 (28.24%)	255 (100%)
There is a lack of institutional support for student entrepreneurship initiatives	7 (2.75%)	26 (10.20%)	45 (17.65%)	104 (40.78%)	73 (28.63%)	255 (100%)

The curriculum does not adequately integrate practical entrepreneurial experiences.	8 (3.14%)	27 (10.59%)	42 (16.47%)	109 (42.75%)	69 (27.06%)	255 (100%)
I find it difficult to balance academic workload with entrepreneurship training.	8 (3.14%)	32 (12.55%)	50 (19.61%)	107 (41.96%)	58 (22.75%)	255 (100%)
There is inadequate mentorship from experienced entrepreneurs	6 (2.35%)	18 (7.06%)	44 (17.25%)	114 (44.71%)	73 (28.63%)	255 (100%)
The absence of start-up grants discourages students from practicing entrepreneurship	14 (5.49%)	15 (5.88%)	41 (16.08%)	105 (41.18%)	80 (31.37%)	255 (100%)

Table 14 presents the challenges faced in acquiring entrepreneurship skills despite the positive impact of the skills, students identified several critical challenges. A majority of the respondents (76.47%) agreed that entrepreneurship courses are more theoretical than practical. Inadequate training facilities and a lack of qualified instructors were also cited as major barriers by 75.69% and 70.20% of students, respectively. Furthermore, 72.55% of respondents highlighted the absence of start-up grants as a primary factor discouraging them from practicing entrepreneurship. The challenges faced by LIS students in acquiring entrepreneurship skills, Despite the positive outcomes associated with entrepreneurship education, the findings reveal that LIS students face significant challenges that hinder effective entrepreneurship skill acquisition. A large majority of respondents (76.47%) agreed that entrepreneurship courses are more theoretical than practical. This suggests a gap between curriculum content and hands-on entrepreneurial experience, which may limit students' ability to translate knowledge into practice. Inadequate training facilities, insufficient instructional time, and lack of qualified instructors were also identified as major barriers. These findings are consistent with the observations of (Ogunleye, Adeyemi, and Lawal, 2021), who reported that infrastructural deficiencies and limited instructional capacity undermine the effectiveness of entrepreneurship education in Nigerian tertiary institutions.

Financial constraints and the absence of start-up grants were further highlighted as critical challenges discouraging students from practicing entrepreneurship. Over 72% of respondents agreed that the lack of start-up funding negatively affects their entrepreneurial engagement. This supports (Mohammed and Abdullahi's, 2024) assertion that financial support and institutional incentives are crucial for translating entrepreneurial intentions into actual business ventures.

Additionally, respondents identified inadequate mentorship and difficulty balancing academic workload with entrepreneurship training as significant challenges. According to the National Universities Commission (NUC, 2022), mentorship and industry collaboration are essential components of effective entrepreneurship education, as they expose students to real-world entrepreneurial experiences and professional guidance.

Conclusion

Based on the findings of this study, it is concluded that entrepreneurship education has made a meaningful contribution to the development of entrepreneurship skills

among Library and Information Science undergraduate students at Northwest University Kano. The students possess a moderate to high level of entrepreneurship skills and strongly perceive these skills as beneficial to their employability and self-reliance.

However, the effectiveness of entrepreneurship education is constrained by structural and institutional challenges, particularly the limited practical orientation of courses, inadequate facilities, and lack of financial and mentorship support. If these challenges are not adequately addressed, the full potential of entrepreneurship education in reducing graduate unemployment and promoting self-reliance may not be achieved.

Overall, entrepreneurship education remains a vital tool for equipping LIS students with relevant skills for the evolving labour market, but it requires improved implementation strategies to enhance its impact.

Based on the findings and conclusion of the study, the following recommendations are made:

1. The university management and relevant academic authorities should strengthen the practical components of entrepreneurship courses by incorporating hands-on training, that would increase the skill of undergraduate students, project-based learning, and real-life business simulations tailored to Library and Information Science.
2. Adequate training facilities and instructional materials should be provided to support effective entrepreneurship education. This includes access to digital tools, innovation hubs, and entrepreneurship laboratories that would give more impact to students.
3. Curriculum planners should allocate sufficient time within the academic programme for entrepreneurship training to ensure that students can balance academic responsibilities with skill acquisition which will help in minimizing some of the challenged.
4. The university should engage qualified entrepreneurship instructors and industry practitioners to provide mentorship and practical guidance to students, thereby bridging the gap between theory and practice.
5. Institutional support mechanisms such as entrepreneurship clubs, incubation centres, and start-up grants should be established to encourage students to practice entrepreneurship while still in school.
6. LIS students should be encouraged to actively participate in entrepreneurship training programmes, workshops, and seminars to enhance their confidence and readiness for self-employment after graduation.

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