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Juliana Obiageri Akidi

University Library, Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State, Nigeria,
obyakidij@yahoo.co.uk

Inemesit U. Udoh

Department of library and Information Science, Michael Okpara University of Agriculture, Umudike, Abia, Nigeria, inemuddarlingdesmart@gmail.com

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Infopreneurship Skills for Sustainable Development: A Focus on Library and Information Science Students of Selected Federal Universities in Nigeria

Juliana O. AKIDI (PhD)

University Librarian

Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State, Nigeria

Email: obyakidij@yahoo.co.uk

&

Inemesit U. UDOH

Department of Library and Information Science

Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

Email: inemuddarlingdesmart@gmail.com.

ABSTRACT

The study examined infopreneurship skills for sustainable development in Nigeria, with a focus on Library and Information Science (LIS) students of selected federal universities in Nigeria. The study was guided by six objectives which were to identify the infopreneurship opportunities that LIS students in Nigeria can venture into, the motivational factors for venturing into infopreneurship, the skills required, ways of acquiring infopreneurship skills, challenges militating against infopreneurship skills development and strategies for enhancing the infopreneurship skills development of LIS students in Nigeria. Descriptive survey design was adopted for the study. The study revealed that infopreneurship opportunities for LIS students in Nigeria include: indexing and abstracting services business; computer services business; sale of library equipment business and information consultancy services business, among others. The findings also showed that the motivational factors for infopreneurship skills development of LIS students include: a desire to become a boss of their own, become an employer of labour and a job creator, increased social status and prestige, personal financial gain and freedom, as well as high rate of unemployment in Nigeria, among others. It further revealed that the infopreneurship skills required by LIS students consist of financial management skills, ICT literacy skills, communication skills, marketing skills, interpersonal relationship skills and leadership skills, among others. The results equally revealed that LIS students acquire infopreneurship development skills through training from the entrepreneurship directorates of their universities, seminars, formal classroom learning, reading books on business development and growth and also personal apprenticeship training, among others. The findings revealed the challenges militating against infopreneurship development of LIS students in Nigeria, the strategies for enhancing the infopreneurial skills development and also recommended the way forward. The study concluded that the acquisition of infopreneurship skills is a key to sustainable development as it galvanizes sustainable employment opportunities for LIS students and graduates while engendering socio-economic balance for an improved standard of living and promoting LIS students and graduates positive contributions to a national and global economic renaissance. Thus, training for LIS students' infopreneurship skills development should be given priority attention by all LIS schools through the provision of necessary facilities and enabling learning environment.

Keywords: Infopreneurship Skills, Sustainable Development, LIS Students, Federal Universities, Nigeria

1. Introduction

The concept of infopreneurship is both interesting as it is intriguing to investigate especially in a dwindling economy with a very disturbing rate of graduates' unemployment and underemployment as found in Nigeria and most other African countries. It has, therefore, become a necessity for the students of Library and Information Science to learn, acquire, develop, master and use infopreneurship skills to foster the business side of their discipline for effective contributions to sustainable development. Pragmatically, infopreneurship gears towards achieving a more meaningful and gainful future for graduates of Library and Information Science. This is in direct response to the current reality where government employment is no longer guaranteed or sustainable. Hence, infopreneurship could be firmly regarded as a panacea for sustainable development.

Infopreneurship is a concept derived from two powerful words - information and entrepreneurship. Commonly agreed by scholars, information means power, life, money, security, economic resource, a factor of production, and a pivot for socio-economic and sustainable development that can be bought and sold (Amanpour, 2012; Aina, 2004; Ivwurie & Ocholla, 2016; Kolawole & Igwe, 2016). Information is an indispensable asset in every facet of society with the capacity to shape individuals, communities, societies, national and global success and development. On the other hand, entrepreneurship means the spirit of converting ideas (information and knowledge) into money through creative, innovative, proactive and critical thinking. According to Kuratko (2005), entrepreneurship is a creative and dynamic ability that combines vision, change, and passion towards the creation and implementation of new ideas and creative solutions for the benefit of society as a whole. Similarly, Rashid (2019) posits that entrepreneurship has a direct and positive bearing on sustainable development because of its impacts on poverty alleviation, economic development and reduction in unemployment, enhancement of infrastructure and innovation, social equality and inclusion, and sustainable production and consumption.

As a derivative of entrepreneurship, therefore, infopreneurship has the potential of creating an enabling environment and consciousness for Library and Information Science (LIS) students to acquire necessary skills, competencies and knowledge to become job creators rather than job seekers for the achievement of sustainable development. Skilled infopreneurs can collaborate with private sector employers and other users of information to increase sustainable production and innovation, while reducing unemployment, by utilizing their skills, experiences and capabilities in the provision of target-based information for a fee. This position agrees with Vengadasalam, as cited in Khumalo and Nkala (2015), who posits that infopreneurship is more essential in this information age that has turned information into a vital commodity for individuals and organisations' success through packaging, repackaging and selling of information to consumers for a profit. This has made infopreneurship an indispensable venture as individuals, organizations and countries are relying on and utilizing information and knowledge for their survival and growth and equally investing heavily in information as a commodity and basic resource for all issues of human reckonings. Infopreneurship has wonderful opportunities

for LIS students to provide solutions to national and global maladies for the attainment of sustainable national and global development.

In the light of the above, acquiring infopreneurship skills by LIS students have become a “need” and not a “want”. It is a necessity because, the present economic, political, educational, healthcare, socio-cultural and socio-economic demands of Nigeria require tailor-made and target-based information on identifiable needs. Infopreneurship skills have also become the only hope of a livelihood for the LIS students as paid jobs are no longer guaranteed. The Nigerian National Bureau of Statistics report of 2021 revealed a very high disturbing 33.3% growth rate of unemployment. The report further specified that Nigeria has 22.8% underemployment, 42.5% rate of youth unemployment and 21.0% rate of youth underemployment (National Bureau of Statistics, 2021). This is corroborated by Olurounbi (2021) who reported that Nigeria’s unemployment rate has risen to 33.3% in the fourth quarter, being second highest on global list, which is equally based on statistical report published by the National Bureau of Statistics. The author lamented the surge and revealed that more than half of the labour force are either unemployed or underemployed. To this end, possessing infopreneurship skills by LIS students assumes an assured opportunity for LIS students and graduates to contribute to sustainable development. This is because infopreneurship skills will enhance the survival and competitive abilities of the students in the world of virtual information (Du-Toit, as cited in Khumalo & Nkala (2015). It will equally create the zeal and consciousness for infopreneurial engagements and also help LIS students to reduce dependence on government and the private sector for employment opportunities and get them prepared for job creations.

Sustainable development, which is noted as a triple bottom line concept, according to Klarin (2018), implies a balance between three pillars of sustainability in the environment, society and economy (environmental sustainability, social sustainability and economic sustainability). Environmental sustainability entails maintaining the quality of the environment necessary for conducting the economic activities and quality of life of people. Social sustainability entails ensuring human rights and equality, preservation of cultural identity, respect for cultural diversity, race and religion, while economic sustainability revolves around maintaining the natural, social and human capital required for income and living standards. Sustainable development is achievable in a growing economy like Nigeria if the right skills are acquired and infopreneurship opportunities are given enabling the environment to thrive.

Based on the above background, the study examines the infopreneurship skills for sustainable development, with a focus on LIS students from the Michael Okpara University of Agriculture, Umudike, Abia State and the University of Uyo, Uyo, Akwa Ibom State, both in Nigeria.

1.1 Statement of the Problem

The philosophy behind the incorporation of infopreneurship course into the curriculum of Library and Information Science by most Library Schools and the National Universities Commission (NUC) is a welcome development. This is because it gears towards developing

business consciousness and making infopreneurs among Library and Information Science (LIS) students in an environment where government or paid employment is not guaranteed. However, based on preliminary observation, within the Nigerian context, the concept of infopreneurship training is more of an academic activity than a practical one. Hence, the serious doubt is if the LIS students pay commensurate attention to infopreneurship skills development or whether management of Library Schools have adequate resources, including lecturers with practical infopreneurship training, skills, experiences and interest to enhance effective infopreneurship skills development in the LIS students. Also, preliminary observation showed that available infrastructure, processes and techniques for infopreneurship training fall short of what could effectively facilitate infopreneurship skills development for sustainable development of LIS students. This is because, Nigerian educational system is more theoretical than practical in approach, and at the same time, infrastructural facilities to support infopreneurship such as information and communication technology (ICT), internet connectivity, power supply, source of capital, among others, are often not assured or guaranteed. Based on this backdrop, the study intends to investigate infopreneurship skills for sustainable development in a growing economy with a focus on LIS students from the Michael Okpara University of Agriculture, Umudike, Abia State and the University of Uyo, Uyo, Akwa Ibom State, both in Nigeria.

1.2 Research Objectives

The specific objectives designed to guide the study are:

- i. To identify infopreneurship opportunities that LIS students in Nigeria can venture into.
- ii. To identify the motivational factors for venturing into infopreneurship by LIS students in Nigeria.
- iii. To find out the skills required for infopreneurship adventure by LIS students in Nigeria.
- iv. To ascertain the methods/ways of acquiring infopreneurship skills by LIS students in Nigeria.
- v. To identify the challenges militating against infopreneurship skills development of LIS students in Nigeria.
- vi. To identify strategies for enhancing the infopreneurship skills development of LIS students in Nigeria.

2. Literature Review

Infopreneurship or information entrepreneurship is a new area of innovation and specialization in the information profession, which involves the creation of new knowledge, products and services for a profit (Aregbesola, Van der Walt, Owolabi, Idiegbeyan-Ose, Okocha & Eyiolorunshe, 2019). Similarly, Lahm and Stowe (2011) defined infopreneurship as the business of developing, packaging, repackaging, selling, and/or reselling information products

and services. Ruge and Glossbrenner, as cited in Ivwurie and Ocholla (2016) conceived infopreneurship as a practice where self-employed individuals acquire specialized skills to address people's information needs by accessing, collecting, generating and providing necessary and vital information that supports the demand for information and charging fees for a profit. Infopreneurship is a business activity that encompasses the provision of information services that are profit-oriented through the organization of ideas into specialized information and delivering such information in a customized format to meet clients' specific information needs. Infopreneurship, as a derivative of entrepreneurship, connotes a practice in which information specialists, information experts, or information professionals produce and market information products and services, including professional advice in a variety of formats to meet different users' information needs with the motive of maximizing profit. In a nutshell, infopreneurship is all about information and information-related businesses that involve the creation, capturing, acquisition, processing, repackaging, and sharing of tailor-made or target-based information products and services manually, electronically and digitally.

Zelenika and Pearce (2014), on the other hand, averred that sustainable development is a structural principle and process aimed at meeting human development goals and sustainable ability and capacity of natural systems to provide natural resources and services on which the entire economy and society depend. Sustainable development anchors on the need for improved living conditions of the people in the society by ensuring that available resources are used constantly and continuously to meet human needs without undermining the integrity and stability of the system. Thus, sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission Report, 1997). Sustainable development stresses the importance of institutions' willingness to integrate economic, social and environmental objectives at each level of policy development and decision-making (Organization for Economic Cooperation and Development, 2011). Corroborating the key fundamentals of sustainable development, Remenyi (2004); and Tangi (2005), posited that sustainable development equally involves the process whose output is targeted at improving the quality of life and increasing the self-sufficient capacity of the economies that are dependent on global integration, as well as creating an inspiring environment within which people will have and enjoy a long, healthy, creative and more meaningful life.

From the foregoing, infopreneurship is a tool for sustainable development with the potential for the creation of job opportunities in various areas of the information profession. Infopreneurship opportunities include book trade and publishing of newspapers, journals and other periodicals, book publishing, printing, telecommunications, computer-enhanced activities, data processing and database management, website design and management, online marketing, online electronic content distribution, electronic entertainment, library and archiving activities. Library and archiving activities involve cataloguing and classification services, abstracting and indexing services, current awareness services, selective dissemination of information services, web blogging, Internet blogging, online literature search services, and cyber café services and

computer services. Others involve information consultancy, library automation, hardware and software installation, scanning, lamination, reprographic/photocopying services, and document delivery, among others (Philip, Samson, & Ogwu, 2013; Akanwa, Anyanwu & Ossai-Onah, 2014; Khumalo & Nkala, 2015; Anggia & Sensuse, 2013). Through the above-mentioned infopreneurship opportunities, LIS students can accelerate sustainable development by being productively engaged. This is because studies have shown that infopreneurship has a strong capacity to reduce, if not eradicate poverty, unemployment, hooliganism, robbery, terrorism, kidnapping, while enhancing per capita income as well as boosting youth active participation in the economic wellbeing of their nations and the global society for sustainable development (Aregbesola, et al., 2019; David & Dube, 2014).

Probing into the core competencies and skills necessary for infopreneurship required by LIS students, David (2014) in his study highlighted the ability to analyze the business environment to identify a need, ability to understand business procedures, utilize information technology, administer changes and dynamics of the business environment, manage people and projects as well as manage information and documents to suit specific information needs of their diverse clients.

On the motivation for infopreneurship skills for sustainable development, Aregbosola, et al., (2019) in their study identified a high rate of unemployment, need for enhanced per-capita income and desire for promoting economic development as the driving force for infopreneurship in a growing economy. Furthermore, Coulson-Thomas (2000) noted that the increase in demand for specialized and repackaged information has motivated information entrepreneurs to devise means of assisting information users in managing the proliferation of information sources and resources by evaluating, sifting, screening, and categorizing the multiplicity of information to suit users felt-needs.

According to Ivwurie and Ocholla (2016), infopreneurship skills are obtained mainly through informal education, personal experiences and specialized skills in their businesses or family businesses. LIS students and graduates alike, as well as others from related disciplines, have a better opportunity to succeed in infopreneurship adventures by obtaining practical skills in information and communication technology (ICT), literacy and media literacy training either through apprenticeship programmes, online tutorials, among others. This is because most information entrepreneurship businesses nowadays depend to a large extent on the computers, internet and mobile phone technologies, computer training, database design and management training, attendance at workshops, conferences, seminars, etc., which have the potential to shape and position LIS students for infopreneurship skills development for sustainable development in a growing economy.

One of the major factors militating against infopreneurship skills development of LIS students, according to David and Dube (2014) in their study is funding, which is a necessity for any information-oriented business. Shoul (2014) also identified a defective teaching approach, which focuses more on theory rather than a practical approach to knowledge impartation. The study frowned at too much theory with no concrete practical training needed to meet the

employment requirement of today's global job market and practical training for effective self-employment. In the same vein, Khumalo and Nkala (2015) raised the alarm that university graduates have been popular for being loaded with theory and no practical learning to boost their knowledge base and fitness for the global job market, thus resulting in low practical skills for infopreneurship engagements for sustainable development. Lending credence to this, the African Economic Outlook (2012) reported that at tertiary institution levels, young Africans are made to face a university system where students, including LIS students, are traditionally, technologically and consciously trained to focus on public sector employment, with very little or no preparation, training, mentoring and grooming for self-employment. Furthermore, African Economic Outlook (2012) equally lamented that a common problem in many African countries is that schools and training centres are not providing young people with the skills employers are looking for. This brings to the fore the need for infopreneurial skills to change youth employment prospects in Nigeria. Kuredza, Sikwila, Mpofu and Makurumidze (2014) and Iwurie and Ocholla (2016) in their study revealed a lack of business experiences and required mentorship, difficult legal registration process, high cost of office space, unpleasant behaviour and poor attitudes of information consumers regarding payment for services, high rate of nonprofessionals involved in infopreneurship, irregularities in the quality of information products and services and lack of standardized professional ethics and pricing for information services as some of the impediments facing infopreneurship in a growing economy.

3. Methodology

The study adopted the descriptive survey design. It was conducted in two (2) federal universities (the Michael Okpara University of Agriculture, Umudike (MOUUAU), Abia State and University of Uyo (UNIUYO), Akwa Ibom State) representing two (2) geopolitical zones of South-East and South-South, Nigeria. The population of the study is two hundred and fifty-two (252) students, which comprises one hundred and eighty-two (182) final year students from the Department of Library and Information Science, Michael Okpara University of Agriculture, Umudike (MOUUAU) and seventy (70) final year students of Library and Information Science, Department of Educational Technology/Library and Information Science, University of Uyo, Akwa Ibom State. The convenience sampling technique was adopted to select one hundred and fifty (150) students as the sample size for the study. This implies that one hundred (100) students and fifty (50) students were proportionately selected from the Departments of Library and Information Science, MOUUAU and UNIUYO, respectively. A 4-point structured questionnaire with closed-ended questions entitled: “*Questionnaire on Infopreneurship Skills for Sustainable Development: A Focus on LIS Students of Selected Federal Universities in Nigeria (QISSDFLISS)*” was used as an instrument for data collection. The researchers distributed 150 copies of the questionnaire to the respondents in the two federal universities. Out of the 150 copies of the questionnaire distributed, 138 copies representing 92% were completed by the respondents and returned with valid information. The data collected were analyzed using descriptive statistics to determine the mean scores and frequency counts following the IBM

Statistical Package for Social Sciences (SPSS) Version 23. However, the parameter for agreement or disagreement was based on a four-point rating scale, with a criterion mean of 2.50 in which any item statement with a mean score of less than 2.50 indicated disagreement, while items with mean scores of 2.50 and above showed agreement.

4. Results and Discussion of Findings

Table 1: Distribution of Students by University and Gender

GENDER	MOUAU		UNIUYO		Total
	Frequency	Percentage (%)	Frequency	Percentage (%)	
Male	40	26.67%	23	15.33%	63 (42%)
Female	60	40.00%	27	18.00%	87 (58%)
Total	100	66.67%	50	33.33%	150 (100%)

Table 1 shows the number of final years students selected from the two universities for the study. It shows that 100 final year students representing 66.67% were selected from the Department of Library and Information Science, Michael Okpara University of Agriculture, Umudike (MOUAU), Abia State and 50 students making up 33.33% were from Library and Information Science, Department of Educational Technology/Library and Information Science, University of Uyo (UNIUYO). The table further reveals that out of the 100 final year students from MOUAU, 40 (26.67%) were males and 60 (40%) were females. On the other hand, out of the 50 final year students from UNIUYO, 23 (15.33%) were males while 27 (18%) were females. This eventually was considered a good representation for the study.

Table 2: Response Rates by University

Institutions	Expected Respondents (N = 150)	Actual Respondents (N = 138)	Percentage (%) of Actual Respondents
MOUAU	100	91	60.67%
UNIUYO	50	47	31.33%
Total	150	138	92%

Table 2 shows that 150 copies of the questionnaire were distributed, out of which 138 (92%) copies were completed and retrieved with valid information for the analysis. It further reveals that out of the 100 copies distributed at MOUAU, 91 (60.67%) were validly completed and retrieved, while 47 (31.33%) from the 50 copies distributed at UNIUYO were retrieved. Hence, the valid instrument for the study was 138 (92%) of the total questionnaire distributed to the respondents. This was used for the analysis and drawing of inferences.

Table 3: Mean Responses on the Infopreneurship Opportunities LIS Students can venture into in Nigeria (N = 138)

S/No	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	Cyber café business	160	168	64	10	2.91	14 th	Agreed
2.	Web blogging business	60	150	96	25	2.40	24 th	Disagreed
3.	Internet blogging business	120	186	62	15	2.78	18 th	Agreed
4.	Database design business	140	246	22	10	3.03	10 th	Agreed
5.	Computer services (typesetting, printing, photocopying, scanning, laminating, etc.)	248	228	-	-	3.45	2 nd	Agreed
6.	Book binding services and business	160	273	10	2	3.22	8 th	Agreed
7.	Conversion of manual files into mobile/electronic files (e-files) business	88	93	124	23	2.38	25 th	Disagreed
8.	Security devices installation and maintenance (e.g. CCTV, RFID, etc.) business	144	141	74	18	2.73	20 th	Agreed
9.	Website development business	172	174	34	20	2.90	15 th	Agreed
10.	Sales of computer accessories business	112	201	56	15	2.78	18 th	Agreed
11.	Sales of library equipment (e.g. reading desk, carrel, shelves, etc.) business	220	240	6	-	3.45	2 nd	Agreed
12.	Software and hardware installation services business	152	204	30	17	2.92	13 th	Agreed
13.	Book and newspaper vendor business	212	216	10	8	3.23	7 th	Agreed
14.	Information technology training services business	192	231	26	-	3.25	4 th	Agreed
15.	Computer repairs and maintenance business	148	219	36	10	2.83	16 th	Agreed
16.	Tracking device installation/maintenance services business	112	162	40	36	2.54	22 nd	Agreed
17.	Software/computer programming business	132	152	56	25	2.64	21 st	Agreed
18.	Phone repair services business	76	96	134	20	2.36	26 th	Disagreed
19.	Internet connection and network design services business	88	87	114	30	2.31	27 th	Disagreed
20.	Video shopping services	68	114	152	7	2.47	23 rd	Disagreed
21.	Graphic design services business	92	222	60	11	2.79	17 th	Agreed
22.	Information brokerage services business	156	210	20	19	2.93	12 th	Agreed
23.	Contract cataloguing and classification services business	148	204	46	10	2.96	11 th	Agreed
24.	Indexing and abstracting services business	284	201	-	-	3.51	1 st	Agreed
25.	Printing business (e.g. books, journals, cards, flyers, newspapers, etc.)	180	216	42	-	3.17	9 th	Agreed

26.	Desktop and electronic publishing business	220	204	16	7	3.24	6 th	Agreed
27.	Information Consultancy services business (e.g. project writing, data analysis, literature/online search, etc.)	176	252	20	-	3.25	4 th	Agreed
	Grand Mean					2.90		Agreed

Source: Researchers' Field, 2021

Criterion Mean = 2.50

The results in table 3 show the various infopreneurship opportunities that LIS students can venture into in Nigeria. The results were ranked in order of their mean scores to reveal the respondents' dispositions to each of the items investigated. It reveals a grand mean of 2.90 against the 2.50 criterion mean, which is indicative of the fact that the respondents are in strong agreement with the items captured in the research instrument. However, out of the 27 items in the instrument, 5 items such as web blogging business (2.40), conversion of manual files into mobile/electronic files (e-files) business (2.38), phone repair services business (2.36), Internet connection/network design services business (2.31) and video shopping services business (2.47) were disagreed upon by the respondents as areas that are not relevant and/or familiar to them as infopreneurship opportunities. On the other hand, 22 items with varying ranking including indexing and abstracting services business (3.51); computer services business (e.g. typesetting, printing, photocopying, scanning, laminating, etc.) (3.45); sales of library equipment (e.g. reading desk, carrel, shelves, etc.) business (3.25); information consultancy services business (3.25); desktop/electronic publishing business (3.24); book/newspaper vendor business (3.23); bookbinding services business (3.22); printing business (e.g. books, journals, cards, flyers, newspapers, etc.) (3.17); and database design business (3.03) were agreed upon by the respondents as infopreneurship opportunities relevant for LIS students. Other infopreneurship opportunities affirmed by the respondents include contract cataloguing and classification services business (2.96); information brokerage services business (2.93); software/hardware installation services business (2.91); cyber café business (2.91); website development business (2.90); computer repairs/maintenance business (2.83); graphic design services business (2.79); sales of computer accessories business (2.78); Internet blogging business (2.78); security devices installation/maintenance (e.g. CCTV, RFID, etc.) business (2.73); software/computer programming business (2.64); and tracking device installation/ maintenance services business (2.54). This finding, while providing more grounds for LIS students' productive engagement agrees with the studies conducted by Akanwa, Anyanwu and Ossai-Onah (2014); Khumalo and Nkala (2015), which revealed that infopreneurship opportunities include: cataloguing and classification services, abstracting and indexing services, current awareness services and selective dissemination of information services, among others.

Table 4: Mean Responses on the Motivational Factors that prompt LIS Students to Infopreneurship Business in Nigeria (N = 138)

S/No	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	No assurance of government employment in Nigeria	156	195	40	14	2.93	9 th	Agreed
2.	High rate of unemployment in Nigeria	180	189	34	13	3.01	8 th	Agreed
3.	Desire to be a boss of my own	208	258	-	-	3.38	1 st	Agreed
4.	Desire to be an employer of labour and a job creator	184	216	40	-	3.19	2 nd	Agreed
5.	Need for recognition and a sense of self-actualization	284	102	32	17	3.15	4 th	Agreed
6.	Personal financial gain and freedom	196	186	20	17	3.04	7 th	Agreed
7.	Desire to contribute to corporate social services	72	165	74	28	2.46	12 th	Disagreed
8.	Need to solve the problem of lack of target-based information provision	88	116	60	28	2.11	17 th	Disagreed
9.	Desire to contribute to reducing the level of poverty in Nigeria	136	219	30	16	2.91	10 th	Agreed
10.	Desire to control my destiny and time	192	198	22	13	3.10	6 th	Agreed
11.	Because others are successful in infopreneurship business	60	84	110	40	2.13	16 th	Disagreed
12.	Desire to be independent and self-reliant	228	138	60	5	3.12	5 th	Agreed
13.	Dissatisfaction with present job and job situation	56	105	144	17	2.33	14 th	Disagreed
14.	Loss of job	100	98	124	19	2.46	12 th	Disagreed
15.	Increased social status and prestige	204	219	-	14	3.17	3 rd	Agreed
16.	Availability of market opportunities	152	189	34	20	2.86	11 th	Agreed
17.	Favourable government policies	-	144	150	15	2.24	15 th	Disagreed
	Grand Mean					2.80		Agreed

Source: Researchers' Field, 2021

Criterion Mean = 2.50

Table 4 presents the results of the motivational factors that prompt LIS students to venture into infopreneurship in Nigeria. The results revealed that out of the 17 items of investigation as ranked, the first motivation why LIS students consider infopreneurship in Nigeria is the desire to become a boss of their own (3.38). Other motivational factors prompting LIS students to venture into infopreneurship include a desire to be an employer of labour and a job creator (3.19); increased social status and prestige (3.17); the need for recognition and a sense of self-actualization (3.15); a desire to be independent and self-reliant (3.12); a desire to control one's destiny and time (3.10); personal financial gain and freedom (3.04); high rate of unemployment in Nigeria (3.01); no assurance of government employment in Nigeria (2.93); a desire to contribute to reducing the level of poverty in Nigeria (2.91); and availability of market opportunities (2.86). On the contrary, the respondents indicated their disagreement with some items of investigation that are not considered by them as factors motivating infopreneurship to include: loss of job (2.47); a desire to contribute to corporate social services (2.47);

dissatisfaction with the present job and job situation (2.33); favourable government policies (2.24); the success of other people’s infopreneurship businesses (2.13) and need to solve the problem of lack of target-based information provision (2.11). This finding aligns with earlier work conducted by Aregbosola, et al. (2019), which identified a high rate of unemployment, the need for enhanced per-capita income and the desire for promoting economic development as the driving force for infopreneurship in a growing economy. More so, the result shows a grand mean of 2.80 against the 2.50 criterion mean indicating that the respondents have a strong agreement in the factors motivating infopreneurship in Nigeria.

Table 5: Mean Responses on the Skills that may be required by LIS Students to go into Infopreneurship Adventure in Nigeria (N = 138)

S/No	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	ICT literacy skills	208	228	20	-	3.30	2 nd	Agreed
2.	Marketing skills	160	243	16	9	3.10	5 th	Agreed
3.	Communication skills	180	258	14	-	3.28	3 rd	Agreed
4.	Interpersonal relationship skills (win-win attitude)	120	288	8	8	3.07	6 th	Agreed
5.	Information literacy skills	144	186	48	16	2.86	9 th	Agreed
6.	Media literacy skills	96	147	80	25	2.52	15 th	Agreed
7.	Creative thinking skills	72	189	72	20	2.56	14 th	Agreed
8.	Writing skills	168	204	36	10	3.03	7 th	Agreed
9.	Managerial skills	140	273	24	-	3.17	4 th	Agreed
10.	Financial management skills	192	264	4	-	3.33	1 st	Agreed
11.	Negotiation skills	88	201	68	15	2.70	11 th	Agreed
12.	Excellent listening skills	112	198	66	11	2.80	10 th	Agreed
13.	Self-discipline skills	80	207	40	29	2.58	13 th	Agreed
14.	Leadership skills	160	165	72	7	2.93	8 th	Agreed
15.	Critical/decisive thinking skills	128	156	52	28	2.64	12 th	Agreed
	Grand Mean					2.92		Agreed

Source: Researchers’ Field, 2021

Criterion Mean = 2.50

Table 5 reveals the responses on the skills required for infopreneurship adventure in Nigeria. The table shows absolute affirmation (agreement) with the items of investigation as all the items studied were agreed upon by the respondents as skills required by LIS students for successful infopreneurship for sustainable development in a growing economy like Nigeria. The results reveal a grand mean of 2.92 against the 2.50 criterion mean. However, based on ranking, the most central skill required for successful LIS students’ infopreneurship is financial management skills (3.33) closely followed by ICT literacy skills (3.30); communication skills (3.28); managerial skills (3.17) and marketing skills (3.10). Other skills required by LIS students for successful infopreneurship include interpersonal relationship skills - the ability to think win-win (3.07); writing skills (3.03); leadership skills (2.92); information literacy skills (2.86); excellent listening skills (2.80); negotiation skills (2.70); critical/decisive thinking skills (2.64); self-discipline skills (2.58); creative thinking skills (2.56); and media literacy skills (2.52). This

finding agrees with a study conducted by David (2014), which revealed that the core competencies required by LIS students to grow into professional infopreneurs include the ability to analyze the business environment to identify a need, ability to understand business procedures, utilize information technology, administer changes and dynamics of the business environment and manage people and projects. As seen from the above finding, possessing these core skills and competencies is indispensable for LIS students' successful infopreneurship for sustainable development in a growing economy like Nigeria.

Table 6: Mean Responses on the Methods/Ways for acquiring Infopreneurship Skills by LIS Students in Nigeria (N =138)

S/No	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	Formal education as part of courses learned in class	104	201	76	7	2.81	4 th	Agreed
2.	Parents through family businesses	-	174	138	13	2.36	11 th	Disagreed
3.	Relatives through their businesses	60	126	140	11	2.44	10 th	Disagreed
4.	Friend's inspiration and motivation	84	132	106	20	2.48	8 th	Disagreed
5.	Personal apprenticeship training like computer training, book binding, etc.	128	138	76	22	2.64	6 th	Agreed
6.	Online tutorials on how to set up infopreneurship business	96	159	92	15	2.62	7 th	Agreed
7.	Reading from books of business development and growth	168	171	38	20	2.88	2 nd	Agreed
8.	Seminars	148	186	48	15	2.88	2 nd	Agreed
9.	Conferences	-	120	156	20	2.14	13 th	Disagreed
10.	Workshops	60	93	140	22	2.28	12 th	Disagreed
11.	Organized youth empowerment training programmes	80	183	96	9	2.67	5 th	Agreed
12.	Through consultants, who may be brought as facilitators for infopreneurship programmes	60	126	146	8	2.46	9 th	Disagreed
13.	Through entrepreneurship directorates of the university where students could be trained	196	234	22	-	3.28	1 st	Agreed
Grand Mean						2.61		Agreed

Source: Researchers' Field, 2021

Criterion Mean = 2.50

The result in table 6 shows the methods/ways through which LIS students can acquire infopreneurship skills for sustainable development in Nigeria. It reveals that out of the 13 items of investigation, the respondents affirmed 7 items as methods through which they can acquire infopreneurship skills which are ranked to include: entrepreneurship directorates of their universities where they are trained (3.28); reading from books of business development and growth (2.88); seminars (2.88); and formal education as part of courses learned in class (2.81). Other methods for acquiring infopreneurship skills include organized youth empowerment training programmes (2.67); personal apprenticeship training like computer training, bookbinding, etc. (2.64) and online tutorials on how to set up infopreneurship (2.62). On the contrary, the 6 items disagreed upon by the respondents as methods that are not relevant to them

in acquiring infopreneurship skills include: friend's inspiration and motivation (2.48); consultants who may be brought as facilitators for infopreneurship programmes (2.46); relatives through their businesses (2.44); parents through family business (2.36); workshops (2.28) and conferences (2.13). This finding agrees in some part with the study carried out by Ivwurie and Ocholla (2016), which revealed that infopreneurship skills are obtained mostly through informal education, personal experience and specialized skills in their businesses or family businesses. This finding also reveals a grand mean of 2.61 against the criterion mean of 2.50 which indicates that the overall agreement with the methods of acquiring infopreneurship skills by LIS students for successful infopreneurship in Nigeria is reliable.

Table 7: Mean Responses on the Challenges that militate against Infopreneurship Development of LIS Students in Nigeria (N = 138)

S/No.	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	Lack of capital to set up infopreneurship	176	246	24	-	3.23	2 nd	Agreed
2.	Lack of soft loans for infopreneurship	112	168	88	10	2.74	14 th	Agreed
3.	Erratic power supply in Nigeria	208	258	-	-	3.38	1 st	Agreed
4.	High cost of doing business in Nigeria	104	159	84	17	2.64	15 th	Agreed
5.	Lack of government support for growing businesses	160	168	52	16	2.87	10 th	Agreed
6.	Lack of mentors/counselors/role models in infopreneurship	152	234	44	-	3.12	4 th	Agreed
7.	Get rich quick mentality of students in Nigeria	-	114	168	16	2.16	19 th	Disagreed
8.	Theory-based learning approaches in Nigerian universities	128	159	90	8	2.79	13 th	Agreed
9.	Difficulties in business registration and/or obtaining a business license	92	225	80	-	2.88	9 th	Agreed
10.	High cost of office space (rent)	112	240	20	20	2.84	12 th	Agreed
11.	Poor attitude of information users in using the services of infopreneurs	120	135	92	17	2.64	15 th	Agreed
12.	Lack of standard pricing for information services	104	249	58	-	3.00	7 th	Agreed
13.	Low quality/sub-standard equipment for information business practices	168	234	-	18	3.04	6 th	Agreed
14.	Inadequate specialized skills of students	136	225	40	9	2.97	8 th	Agreed
15.	Inadequate knowledge of the information world by students	140	198	40	17	2.86	11 th	Agreed
16.	Lack of adequate infrastructural facilities in Nigeria	144	234	48	-	3.09	5 th	Agreed
17.	Inadequate motivation on the part of the students	68	195	92	10	2.64	15 th	Agreed
18.	Inability to identify and exploit business opportunities by	216	198	20	8	3.20	3 rd	Agreed

19.	students Lack of willingness to undertake risk in business	92	144	86	24	2.51	18 th	Agreed
Grand Mean						2.87		Agreed
Source: Researchers' Field, 2021			Criterion Mean = 2.50					

Table 7 shows the responses on the challenges militating against infopreneurship development of LIS students in Nigeria. The table reveals the affirmative position of the respondents with a grand mean of 2.87 as against the criterion mean of 2.50. This result shows that out of the 19 items investigated, only 1 item - get the rich quick mentality of students in Nigeria with 2.16 mean score was disagreed upon by the respondents as not being a challenge to infopreneurship development of LIS students in Nigeria. Consequently, the finding reveals that the challenges militating against infopreneurship development of LIS students in Nigeria by ranking include: erratic power supply in Nigeria (3.38); lack of capital to set up infopreneurship (3.23); inability to identify and exploit viable business opportunities by LIS students (3.20); lack of mentors/counsellors/role models in infopreneurship (3.12); lack of adequate infrastructural facilities in Nigeria (3.09); low quality/sub-standard equipment for information business practices (3.04) and lack of standard pricing for information services (3.00). Other challenges are inadequate specialized skills of students (2.97); difficulties in business registration and/or obtaining a business license (2.88); lack of government support for growing businesses (2.87); inadequate knowledge of the information world by students (2.86); and high cost of office space such as rent (2.84). The finding also reveals theory-based learning approaches in Nigerian universities (2.79); lack of soft loans for infopreneurship (2.74); inadequate motivation on the part of the students (2.64); poor attitude of information users in using the services of infopreneurs (2.64); high cost of doing business in Nigeria (2.64) and lack of willingness to undertake risk in business (2.51) as the challenges affecting infopreneurship development of LIS students in Nigeria. This finding corroborates the studies conducted by Kuredza et al (2014); Ivwurie and Ocholla (2016), which pointed out the difficult legal registration process, high cost of office space, unpleasant behaviour and attitudes of information users, too much theory with no concrete practical training of LIS students needed for self-employment, among others as the challenges inhibiting infopreneurship development of LIS students in Nigeria.

Table 8: Mean Responses on the Strategies for enhancing the Infopreneurship Development of LIS Students in Nigeria (N =138)

S/No	Item Statements	SA	A	D	SD	Mean	Ranking	Decision
1.	Families' involvement and encouragement in infopreneurship	192	216	36	-	3.22	4 th	Agreed
2.	Communities' support through value re-orientation	52	249	60	12	2.70	15 th	Agreed
3.	Development of business interests by LIS students through skills training	160	258	24	-	3.20	6 th	Agreed
4.	Provision of soft and non-interest/non-collateral loans to LIS	208	258	-	-	3.38	1 st	Agreed

5.	students Institutionalization of infopreneurship education into LIS curriculum by library schools	96	222	74	3	2.86	12 th	Agreed
6.	Provision of mentorship/counseling programmes for LIS students on infopreneurship	164	255	24	-	3.21	5 th	Agreed
7.	Formulation of regulations and standards for pricing information services	72	216	60	18	2.65	16 th	Agreed
8.	Provision of stable power supply to aid infopreneurship	208	258	-	-	3.38	1 st	Agreed
9.	Provision of training for LIS students by successful infopreneurs via practical insights	108	147	84	20	2.60	17 th	Agreed
10.	Review of LIS curriculum by library schools to be more practical-oriented and ICT-based	192	213	20	9	3.14	9 th	Agreed
11.	Provision of technical and financial assistance for LIS students to launch infopreneurship	140	288	14	-	3.20	6 th	Agreed
12.	Exposing LIS students to successful infopreneurs through an excursion to learn the practical ways of growing infopreneurship	168	267	14	-	3.25	3 rd	Agreed
13.	Organizing infopreneurship contests for LIS students to foster learning opportunities	56	264	36	18	2.71	14 th	Agreed
14.	Reduction/removal of rigorous requirements of governments in registering/obtaining infopreneurship licenses	136	279	22	-	3.17	8 th	Agreed
15.	Provision of high quality equipment for information business practices	140	228	40	7	3.01	11 th	Agreed
16.	Provision of adequate infrastructural facilities by government	172	231	12	12	3.09	10 th	Agreed
17.	Students' willingness to take calculated risks in infopreneurship	112	189	60	17	2.74	13 th	Agreed
	Grand Mean					3.03		Agreed

Source: Researchers' Field, 2021

Criterion Mean = 2.50

Table 8 shows the responses on the strategies for enhancing infopreneurship development of LIS students in Nigeria. It reveals an overall affirmation with all the 17 items of investigation with a grand mean of 3.03 against the 2.50 criterion mean. The finding shows the varying ranking of the strategies for enhancing infopreneurship development of LIS students in Nigeria for sustainable development to include: provision of stable power supply to aid infopreneurship (3.38); provision of soft and non-interest/non-collateral loans to LIS students (3.38); exposing LIS students to successful infopreneurs through an excursion to learn the practical ways of growing infopreneurship businesses (3.25); families' involvement and encouragement in infopreneurship (3.22); provision of mentorship/counseling programmes for LIS students on infopreneurship (3.21); development of business interests by LIS students through skills training

(3.20) and provision of technical and financial assistance for LIS students to launch infopreneurship (3.20). The finding also reveals that other strategies for enhancing infopreneurship development of LIS students are: reduction/removal of rigorous requirements of governments in registering/obtaining infopreneurship business licenses (3.17); review of LIS curriculum by library schools to be more practical-oriented and ICT-based (3.14); provision of adequate infrastructural facilities by the government (3.09); provision of high-quality equipment for information business practices (3.01); institutionalization of infopreneurship education into LIS curriculum by library schools (2.86); and students' willingness to take calculated risks in infopreneurship (2.74). It further shows that infopreneurship development of LIS students can be enhanced through infopreneurship contests for LIS students to foster learning opportunities (2.71); communities' support through value re-orientation (2.70); formulation of regulations and standards for pricing information services (2.65) and provision of training for LIS students by successful infopreneurs via practical insights (2.60). This finding agrees in part with the study conducted by Ivwurie and Ocholla (2016), which disclosed that infopreneurship development can be improved upon with the formulation of favourable government economic policies, reduction of the high taxation rate, improvement of electricity supply and regulation of minimum requirements and legal processes for the registration of information-based businesses, among others.

5. Summary and Conclusion

Infopreneurship is a strategic business development opportunity through which Library and Information Science (LIS) students can effectively leverage to achieve economic sustainability, self-employment, self-reliance, independence and financial freedom. Infopreneurship skills like financial management skills, ICT literacy skills, communication skills, managerial skills, marketing skills, interpersonal relationship skills and leadership skills, among others are necessary to enhance job-creation among LIS students. These skills enable LIS students to take full advantage of various infopreneurship opportunities, which include: indexing and abstracting services business; computer services business; sale of library equipment business; and information consultancy services business, among many others. The study revealed that the motivational factors propelling LIS students' to engage in infopreneurship comprise: the desire to become a boss of their own, desire to be an employer of labour and a job creator, increased social status and prestige, need for recognition and a sense of self-actualization, desire to be independent, self-reliant, control of their destiny and time, personal financial gain and freedom, as well as the ravaging high rate of unemployment in Nigeria. Furthermore, the study identified the challenges militating against infopreneurship development of LIS students in Nigeria as erratic power supply, lack of capital, inability to identify and exploit viable business opportunities, lack of mentors/counselors/role models in infopreneurship, and lack of adequate infrastructural facilities, among others. The study concludes that the acquisition of infopreneurship skills is a key to sustainable development as it galvanizes sustainable employment opportunities for LIS students and graduates while engendering socio-economic

balance for an improved standard of living and promoting LIS students and graduates positive contributions to a national and global economic renaissance. Infopreneurship should therefore be encouraged by all information professionals through practical knowledge impartation and professional coaching, mentorship and education. Thus, infopreneurship skills development training should be given priority attention by all LIS schools through the provision of necessary facilities and enabling learning environment.

6. Recommendations

Based on the findings of this study, the following recommendations have become paramount to enhance the infopreneurship skills of LIS students for sustainable development in Nigeria.

- i. LIS schools should review and/or incorporate infopreneurship education into their curricula to ensure that LIS students are taught practical infopreneurship activities. This will require a deliberate shift from the hitherto theory-based and classroom-based learning into more pragmatic learning processes.
- ii. LIS students should be exposed to successful infopreneurs through an excursion to enable them to learn from experiences and practical ways of growing infopreneurship businesses.
- iii. LIS schools should be well-equipped with adequate facilities such as information and communication technologies (ICT) and infopreneurship laboratories to engender effective teaching and learning of infopreneurship rudiments.
- iv. Governments should provide a stable power supply to enable infopreneurship to thrive.
- v. Financial institutions and government agencies should provide soft and non-interest/non-collateral loans to LIS students to engage in infopreneurship.
- vi. Library and Information Science professionals should provide mentorship and counselling programmes for LIS students to enhance and/or ignite their (LIS students') infopreneurship interests.
- vii. LIS students should willingly work towards developing their infopreneurship interests by undergoing necessary and relevant skills acquisition training.
- viii. Government should reduce/remove some rigorous requirements for registering/obtaining infopreneurship licenses to create interest in LIS students for taking up infopreneurship.

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