# ICT AND ENTREPRENEURSHIP

**Perspectives From Developing Digital Economies** 



Edited by **Adeyinka Tella** 

## ICT AND ENTREPRENEURSHIP IN INFORMATION Perspectives From Developing Digital Economies

Edited by ADEYINKA TELLA University of Ilorin, Nigeria and The University of South Africa



Ess Ess Publications New Delhi

#### ICT AND ENTREPRENEURSHIP IN INFORMATION Perspectives From Developing Digital Economies

Copyright © by Editor

All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical means including information storage and retrieval systems without permission in writing from the publisher, except by a reviewer, who may quote brief passages in a review.

While extensive effort has gone into ensuring the reliability of information appearing in this book, the publisher makes no warranty, express or implied on the accuracy or reliability of the information, and does not assume and hereby disclaims any liability to any person for any loss or damage caused by errors or omissions in this publication.

ISBN: 978-81-947398-3-8

Price : Rs. 2500/-

First Published 2021

Published by: **Ess Ess Publications** 4831/24, Ansari Road, Darya Ganj, New Delhi-110 002, INDIA Phones: 23260807, 41563444 Fax: 41563334 E-mail: info@essessreference.com www.essessreference.com

Cover Design by Patch Creative

Printed and bound in India

# Contents

ŀ	Preface	
ŀ	Acknowledgments	
0	Contributor's Biographies	
1	The Use of ICTs in the Digital Economy for Entrepreneurship Developments in Tanzania: A Review of the Literature Rhodes Elias Mwageni Leokadia Gereon Fuko	1
2	Library and Information Science Lecturers, Undergraduates and Infopreneur: A Tripod Airen Adetimirin, Ph.D.	15
3	Reported Internet Capabilities and Effects on Decision Making for ICT Opportunities in Global Markets <i>Michelle Kowalsky</i>	31
4	Artificial Intelligence and Big Data for Sustainable Entrepreneurship in the Fourth Industrial Revolution (4IR) Era Adeyinka Tella Joseph Ngoaketsi Saheed Oyeniran Peter Odeh	48
5	The Essentialities of Entrepreneurship Education in the Fourth Industrial Revolution Stephen Osahon Uwaifo Segun Sunday Bamidele VictoriaOkojie	75
6	Entrepreneurship and the Fourth Industrial Revolution: Opportunities, Challenges, and the Way Forward <i>Titilola Oluwakemi Olaniyi</i> <i>Kehinde Kadijat Kadri</i> <i>Deborah OlabisiOjo</i> <i>Rachael Funmilayo Akinlabi</i>	100

(vi	) ICT and Entrepreneurship in	Information
7	Influence of ICTs on Expanding Capabilities of Women Micro- Entrepreneurs in Rural Malawi Donald Flywell Malanga Memory Banda	115
8	Entrepreneurial Opportunities for Library and Information Science Students in an ICT- Driven Society: The Nigeria Perspective <i>Firdausi Abdullahi, CLN</i>	133
9	The Deployment of Information and Communications Technology for Teaching Entrepreneurial Education in Universities: Involvement of the Digital Immigrant Lecturers Awujoola Olalekan Abiola	149
10	Enhancing Entrepreneurial Mindset in Students of Library Schools in Nigeria: The Role of Digital Literacy Skills Olawale Oyewole	163
11	Comparative Study of Infopreneurial Intentions of RAM and LIS Graduating Students at NUST Peterson Dewah Gratitude Chiwara-Ndoro Nozipho S. Mpofu	175
12	Entrepreneurship and Digital Transformation: Leveraging on Technological Advantages in Nigeria Olaronke O, Fagbola, PhD Bola C. Atulomah, Ph.D, CLN Titilayo I. Oladeji	205
13	Application of Problem-Based Learning Technique in Library and Information Science Entrepreneurship Education Programme Ayotola Olubunmi Onanuga Halimah Odunayo Amuda Olufemi Olubunmi Ilori Ayotunde Kehinde Adetola	236
14	The Importance of Infopreneurship Training Amidst Library Schools in Uganda: Tracing the Missing Link Edwin Achugbue Benjamin Ahimbisibwe	258
15	Impact of ICT on Information Business Edeama O. Onwuchekwa	287
16	Empowerment in Entrepreneurship for Library and Information Science Professionals in Nigeria Samson Oyeniyi Akande Dumebi Otulugbu	300

C-		
CO	nter	nts

Con	tents	(vii)
17	Entrepreneurship Opportunities for Library and Information Professionals in the 21st Century Odunayo Halimah Amuda Ayotunde Adetola Kehinde Ayodeji Yusuf Ajani Onanuga Olubunmi Ayotola	312
18	Capacity Building for the Enhancement of Infopreneurs' Independence and Sustainability in a New Economy Rexwhite Tega Enakrire	333
19	Influence of Social Media Marketing Strategies on Infopreneurship in Nigeria During the COVID-19 Pandemic Oluyemisi Olubukola Ajiboye Shakirat Oluwatosin Haroon-Sulyman Helen Osebequen Chris-Israel	353
20	ICT and Digital Economy: Perspective of Developing Countries Tefo Kgosietsile	367
21	Emerging Challenges Using ICT to Teach Entrepreneurship for Sustainability in Library Schools in Nigeria Phyllis. I. Umerah (CLN)	379
22	The Relevance of Infopreneurship in Nigerian Library and Information Science Undergraduate Programmes: A Glimpse At Improving the Curriculum of Selected Universities Aderinola Ololade Dunmade Muyideen Abdul Raheem, Ph.D. Mariam Oyinda Aborishade John Olugbenga Akinola	393
23	Information and Communication Technology Skills Required for Infopreneurial Success Samuel Olaleye Abiodun Sunday Olabisi Olatunji	408
24	Emerging Technologies for School Libraries Information Business in Nigeria Alice A. Bamigbola, Ph.D Kolawole Akinjide Aramide, Ph.D	422
25	Entrepreneurship, Infopreneurship and Small-scale Information Businesses in Nigeria: Challenges and the Way Forward <i>Makinde, O. T.</i> <i>Aidenojie, E.O</i>	440
	Aba, J.I. Akosu, R.H	

ICT and Entrepreneurship in Information

Integration of ICT into Teaching and Learning of Entrepreneurship
Education at the Foundation Phase: Opportunities and Threats
Mercy Durodolu

Oluwole O. Durodolu

27 Information and Communication Technologies (ICTs) as Factor for Infopreneurship in Nigeria *Aba, J.I.* 

Makinde, O. T. Aidenojie, E.O

(viii)

16

### **Empowerment in Entrepreneurship for Library** and Information Science Professionals in Nigeria

#### Samson Oyeniyi Akande

Department of School Library and Media Technology, University of Ibadan, Ibadan, Nigeria

#### Dumebi Otulugbu

Kenneth Dike Library, University of Ibadan, Ibadan Nigeri

#### ABSTRACT

The rising rate of unemployment in Nigeria and the attendant socio-economic consequences have been the subject of discussion in recent times. More worrisome is the situation whereby multitudes of job seekers compete for positions reserved for only a few people. However, the Library and Information Science profession has many business ventures that a well-trained, competent LIS professional can delve into to generate income and be self-employed. This study which considers entrepreneurship as a privilege also looks at entrepreneurial opportunities and skills required for any LIS professional who would like to start a business as an entrepreneur. The paper concludes with recommendations on how LIS professionals can be empowered for a lifetime of entrepreneurship. **Keywords :** Empowerment, Entrepreneur, Entrepreneurship opportunities, LIS professionals, Skills

#### INTRODUCTION

The days in which we live are characterised by uncertainties as people are worried, unsure, anxious, and fearful of the present prevailing circumstances. The increasing rate of economic recession, pandemic, unemployment, crimes, and insecurity especially in Nigeria are some of the social issues that bewilder the society. Many attempts have been made to solve the problems, but its eems little has been achieved. Even though many people have said that education is the instrument for national development and a potent weapon to confront unemployment in Nigeria, yet, the rate of graduates' unemployment keep rising.

Makata (2015) stated that unemployment is a universal problem and if any country can get the unemployment rate down to about three percent, that country can be considered to be theoretically free of unemployment. What then could be done to reduce the level of unemployment especially LIS professionals in Nigeria? John, Nwosu, and Samisaiye (2017) have stressed the need for LIS students to develop various ways to

become job creators rather than job seekers, which can be achieved through entrepreneurship. Entrepreneurship, according to Hebert (2015), pertains to the actions of a risk-taker, a creative venture into a new business, or the one who revives an existing business. Undoubtedly, many scholars have identified entrepreneurship as a means of combating the menace of graduates' unemployment in Nigeria.

Elonye and Uzuegbu (2013) believed that library and information science graduates have little or no fears coming into the labour market because, during their formative years, students of library and information science are taught not only to be intelligent and highly skilled but are also taught to be creative. Oaikhinam (2006) agree that the model of training and development could pave ways for graduates of LIS to work efficiently in the labour market, no matter how crowded it may be. However, Ekuoye (2007) sadly lamented the fact that we have a good number of very dedicated and hard working librarians who feel that "making it" as librarians is almost an impossible reality even though a career in library and information science is sure to offer different opportunities in the different areas of enterprise.

Without mincing words, librarians and information professionals are competent enough to be self-employed and build wealth. Their empowerment is a function of skills possessed in managing information which has been regarded as a very crucial and productive economic resource. T has been an economic quagmire and social ill that has eaten deep into the economy of the nation. The underlying truth behind entrepreneurship education is that it was developed to prepare youth and adults to succeed in an entrepreneurial economy. Entrepreneurship education, according to Eke, Igwesi & Orji (2011) cited in Ugwu and Ezeani (2012) stressed that information today is a highly marketable commodity and a fast means of obtaining social wealth among so many other importance. The authors attributed the emergence of a vast array of information in an emerging economy like Nigeria to innovations in technology and new ideas which could be processed for wealth by library and information professionals. This paradigm shift in library and information professionals' roles from traditional library services provision is supported by Edewor and Omosor (2012) which posit that librarians should be entrepreneurs that can stimulate entrepreneurial spirit to create innovation or original thinking in terms of information resources use and developments taking into consideration the competitive environment of information delivery vis-a-vis the competition posed by Google, Amazon, Wikipedia, and Myspace.

The revolution in the world of ICT is mainly responsible for the expansion in the functions of information professionals in different ways, starting with the shift from a perspective of document management to that of information management. This results in a correspondingly high level of growth in the employment market for the professionals of library and information science (Ugwu and Ezeani, 2012). It thus becomes imperative for LIS professionals to equip themselves with enough skills, values, and attitudes relevant for the provision of improved library and information services having a mindset of coping

with increasing entrepreneurship opportunities that are made available by the revolution of ICT.

Entrepreneurship stands as a very crucial factor in the establishment of ingenuity, creativity, and innovation in the world of today's organisations (Sarri, Bakouros, and Petridou, 2010). Over the years, the main responsibility of libraries especially academic, school, public, and national has been the provision of free services to all humans irrespective of their age, profession, and social status. However, Rahmati Tash (2007) has stressed that with the competition inherent in ever-increasing development, public libraries are left with no option than to go a step further like big organisations in improving their service provision model. As a way of accomplishing this, the author has suggested the need for significant changes to the existing methods and structures of their operations. With this approach, the LIS professionals will position themselves as proficient personnel who are more flexible, swift, and more innovative in the business of - products and services. In this context, Shelag (2003) observed that libraries and librarians must not just be custodians and channels of information as their traditional responsibility dictates but effectively engage in marketing services and entrepreneurship.

#### LITERATURE REVIEW

Entrepreneurship, like every other concept, has no singular universally accepted definition. To this end, Stokes, Wilson & Mador (2010) agree with the generality of scholars that state that definitions of entrepreneurship are dependent on what perspective it is being considered. Entrepreneurship, according to Drucker (1985), rests on a theory of economy and society which Stokes, Wilson & Mador also viewed as fundamentally an important part of modern life both economically and socially. Entrepreneurship is concerned with the features individual exhibit in functioning towards achieving goals (Akpomi, 2008).

Globally, Entrepreneurship is accepted as a critical function of economic growth and development in any emerging economy such as Nigeria and it is a very important tool for the developmental life and excellence of the populations in any nation (Idogho & Ainabor, 2011). Hisrich and Peters (2002) explained entrepreneurship as that procedure of generating something fresh by value by dedicating the necessary time and effort, being fully aware of the accompanying financial, psychic, and social risks, and receiving the consequential gains of financial and individual satisfaction and independence.

Eke Igwesi and Orji (2011) described entrepreneurship as a programme that teaches creative and decision-making skills required in business initiatives for self-sufficiency and national development. Thus, we can, from the above, agree with Marshall and Samuel (2006) who held that entrepreneurship is a crucial component towards financial development and job establishment. Therefore, entrepreneurship implies the capability to be equipped to take a risk and personal energy and monetary resources to attain impulsive outcomes. In other words, it is a resultant function of the disciplined, methodical

procedure of putting ingenuity and invention to the wants and chances in the marketplace. Similarly, Nwosu (2014) described entrepreneurship as a process of actions of an entrepreneur who is a person always in search of something new and exploits such ideas into gainful opportunities by accepting the risk and uncertainty with the enterprise. In explaining who an entrepreneur is actually, John, Nwosu, and Samisaiye, (2017) argued that anybody that can provide services or sell goods which bring money to his/her way is an entrepreneur.

Central to entrepreneurship is an invention, which births new means of manufacturing, new markets, or the setting up of a new association or the infringement into an existing one (Ejiogu & Nwajiuba, 2012). In other words, entrepreneurship does not just provide skill acquisition for acquisition's sake; rather it is an acquisition of skills and ideas for the sake of creating employment for one's self and also for others. From the above conceptualisation, the process of entrepreneurship, as seen from the various concepts identified above, is that it begins from the idea of generating business with the hope that the end is productive and yields profit as output. Since entrepreneurship in this study is concerned with educating and training professionals in the field of library and information science, it is essential to establish the position of entrepreneurship in education. Entrepreneurship education is an essential part of any overall education aimed at preparing people for self-employment, occupational fields, and actual involvement in the world of labour. Ismail, Rak & Omar (2011) described entrepreneurship as education that aims at providing students with enough information, skills, and the enthusiasm to inspire entrepreneurial success in different settings. Refaat (2009) viewed entrepreneurship education as a new approach in imparting knowledge and knowhow to students. It is made up of kinds of experiences that give students the potentials and insight on how best to meet and change the chances of different kinds. This then implies that entrepreneurship education is a form of all-time learning procedure; an enlightening activity or programmes that encourages an understanding of how best to begin a business. Hence, Agu (2006) in Ekankumo & Kemebaradikumo (2011), opined that entrepreneurship education is the type of education designed to modify the mindset and attitude of the students that they may be well equipped with relevant skills.

Entrepreneurship education was added into the Nigerian educational system with the hope of restructuring the system to reshape both the system and the individuals, that at the long run it will reduce unemployment, which according to Eke, Igwesi, and Orji (2011), is a practical and feasible process for enhancing national development and fostering swift revolution for the nation and has been an economic quagmire and social ill that has eaten deep into the economy of the nation. The underlying truth behind entrepreneurship education is that it was developed to prepare youth and adults to succeed in an economy. Entrepreneurship education, according to Eke, Igwesi & Orji (2011), seeks to provide students with knowledge, skills, and motivation to encourage entrepreneurial success in a variety of settings. Refaat (2009) helds that entrepreneurship education is made up of

all types of knowledge that gives the students the ability and vision of how to access and transform opportunities of different kinds. For Ejiogu & Nwajiuba (2012), entrepreneurship is an essential aspect of general education aimed at preparing individuals for self-employment, occupational fields, and effective participation in the world of work. To them, it is a method for relieving poverty. It is a new method in communicating information and know-how to students (Ismail, Eh Rak & Che Omar, 2011). According to Amoor (2008), it is a form of educational programme that gives the students knowledge, abilities, and motivation that is required to start up at least a smallscale business. Thus, entrepreneurship education is a strategic way of tackling the unemployment menace bedeviling Nigeria. In this view, students will profit from entrepreneurship education since they will become aware of work-related varieties that are accessible in minor business organisations and entrepreneurship. However, Ifedili and Of oegbu (2011) have observed that entrepreneurship education presently given in Nigeria appears to be lacking in good management and adequate content. Although there is no empirical study establishing this claim, one may be tempted to accept the claim as a fact bearing in mind the fact, that even with the introduction of entrepreneurship education, the number of unemployed youths is still on the high side.

Entrepreneurship education was introduced in the education and training of library and information science professionals with a vision to curtail the situation that saw many librarians remain unemployed after graduation. The prime aim of entrepreneurship education is to train students with the abilities that would allow them to be self-employed and create employment for graduates of Library and Information science. It is therefore demoralising to observe that even with the introduction of entrepreneurship education in library and information science, many graduates are still unemployed. This phenomenon renders the objective of the introduction of entrepreneurship education unattained. As pointed out by Ekpoh & Edet (2011), entrepreneurship education in Nigeria is still at its early stages. While most Nigerian universities have introduced the programme, the little study is available to measure its impact and also to check if a relationship exists between students taking courses in entrepreneurship and their plan of becoming entrepreneurs.

#### **BENEFITS OF ENTREPRENEURSHIP EDUCATION**

The education of graduates in the present-day global economy should empower them with the acquisition of skills and abilities which will increase their employability and make them successful entrepreneurs. The following, therefore, are the benefits of Entrepreneurship education for LIS Professionals:

- (i) It encourages invention or rather, introduces new products or services and market strategies to the students to become exceptional entrepreneurs (Amoor, 2008);
- (ii) It helps individuals to generate and efficaciously operate a business enterprise;
- (iii) It will prepare library and information science graduates with differentiated

knowledge and resourceful skills to recruit, inaugurate and run business that will add to national development;

- (iv) Entrepreneurship education emphasises on developing understanding and capacity for the pursuit of entrepreneurial activities, abilities, and attributes;
- (v) It is an active process at filling the gap between science and the market place, generating new enterprise;
- (vi) It aids in growing intentional abilities in new people.

#### THE INDISPENSABILITY OF ENTREPRENEURIAL SKILLS DEVELOPMENT BY LIS PROFESSIONALS

The need for skills development cannot be overemphasised for any worthwhile venture. This is because skill possession determines the ability to execute plans with an appreciable degree of success. Skills are abilities or proficiencies required of a person in a position to plan and execute an action geared towards accomplishing some tasks or achieving some goals. Skills are the learned capacity to carry out predetermined tasks with the minimum outlay of time and energy (www.online.dictionary.com). Therefore, for LIS professionals to succeed as entrepreneurs, they need to acquire skills they can use as tools. The need for skills in this digital age becomes paramount because of the dicey nature of information, which is the stock-in-trade and the basic commodity that librarians need to handle. It is also important to make mention of the fact that the traditional roles of librarians have, by the day, become less frequent in the sphere of an entrepreneurial career. Thus, different competence, graduate qualities, and skills are highly required for entrepreneurship. This is why Omekwu (2009) opined that if professionals of library and information science fail to acquire required skills, they would create a gap which will be filled by the professionals from fields such as computer science and engineering, who will step into their core areas of specialisation and exploit their opportunities. This is so because, in this digital age, skills have become rather generic and multidisciplinary. Therefore, a sort of cross-disciplinary qualification is possible, where people without a basic background in librarianship may acquire the basic skills of information management either by lessons they might have obtained from work experience or by simply fathering their training and then go into information management. Thus, the professionals of the library and information science should try to improve their overall skills.

#### NECESSARY ENTREPRENEUR SKILLS REQUIRED BY PROFESSIONALS OF LIBRARY AND INFORMATION SCIENCE

Success in entrepreneurial ventures requires some personal, managerial, and information technology skills. Among the skills identified in the literature are:

Information technology skills : Elonye and Uzuegbu (2013) identified the following skills like information technology skills: networking, automation in library and digitisation, web-based services, reprography, micrographs, facsimile, video text,

#### ICT and Entrepreneurship in Information

Teledex, database creation, application of library management software including LIBSYS, CDS ISIS, content development, desktop publishing, intranet, presentationskills, hardware, and software troubleshooting skills plus relational databases. Farkas (2006) lay more emphasis on specific technical skills such as HMTL, Network administration, PHP and MYSQL, proper use of search engines like Google, how to employ blogs in the provision of services, webcasting, and skills in searching.

Information literacy skills: LIS professionals must be equipped with skills that will enable them to effectively and efficiently locate, retrieve, analyse, synthesise, evaluate, communicate and use information from all sources including electronic, print, online catalogues and databases. In this age of expansion of Internet services that provide an explosion of unevaluated information, acquisition of information literacy skills will assist in determining the authenticity, validity, usefulness, and reliability of the information.

**Management skills :** This set of skills will help in accomplishing goals set for a business venture. Therefore, an entrepreneur must be equipped with these skills. Management and leadership skills are often used interchangeably as they both involve planning, decision – making, problem-solving, communication, delegation, and time management. Simionescu, Simionescu, and Mironescu (2002) aver that managers need four basic types of skills which are professional, interpersonal, conceptual, analysis, and diagnosis skills. LIS professionals acquire professional skills during their formal training and education. Technical skills constitute the professional skills acquired by specialised training. Technical skills require the use of tools for performing tasks. Professional services like cataloguing and classification, digitisation, serial management, binding, reprographic, ICT services, computing services, data, and record management services all require technical skills to accomplish. An entrepreneur must be equipped with all these skills to excel.

**Personal skills :** These skills are also referred to as soft skills. According to Doyle (2019), they are non – technical skills that relate to how work is done, interaction with colleagues, problem-solving, and work management. Examples are interpersonal skills, communication skills, listening skill and time management skills. These must go hand in hand with a sound skill in public speaking. LIS professionals who are scared of talking in public would find it difficult to succeed as entrepreneurs. Soft skills will allow successful entrepreneurs to relate politely with their clients and deliver services on schedule. When these skills are successfully combined with the proper support, then ideas would not just end up as dreams but become reality.

#### ENTREPRENEURIAL OPPORTUNITIES FOR LIS PROFESSIONALS

Isimoya (2012) regarded LIS professional as an entrepreneur when the individual finds a profitable business opportunity and exploits it especially if it was unexploited. This scenario results in creativity and innovation which may be regarded as specific tools of an entrepreneur. Thus, the versatility of the entrepreneur will enable him/her to exploit

available changes as an opportunity for providing a different business or service as the case may be.

Ekuoye (2007), cited in Elonye and Uzuegbu (2013), has stressed the need for the LIS professionals to first decide on the business or businesses to venture into to exploit the business opportunities of that enterprise. The authors also identified business services, consultancy, book repair, information brokerage, and packaging information as examples of business opportunities that the LIS professionals can delve into as entrepreneurs. Besides, the following advice was offered to prospective LIS professionals who are nursing the idea of becoming entrepreneurs. Such individuals must:

- find out some basic information about such business;
- determine the vision and mission of the business;
- seek and know the level of demand the product has in the market, that is, to the group or locality that is targeted;
- find out the occasions when the product is consumed;
- make a market survey, seeking to know who and who are already in the business; and
- draw a business plan on how to exploit the opportunities in the industry.

The following are some business ventures that LIS professionals can practice for profit.

#### **CONSULTANCY SERVICES**

Under their training and competence, LIS professionals can effectively discharge their duties as information consultants for various organisations as well as individuals. An information consultant refers to a person or firm involved in various activities like library or information centre design, database design, records management, hardware, software selection, and training. LIS professionals can also provide expert advice to government(federal, state, and local), establishments (Banks, Companies/Industries, and Non-Governmental Organisations (NGO's) on the development of libraries and information centres. It must, however, be noted that specialised services provided on a consultancy basis are paid for.

#### INFORMATION BROKER SERVICE

Information brokering is the provision of information services for a profit. A broker can be an individual or organisation that on-demand, seeks to answer questions or solve problems of patrons using all sources, resources, facilities, and equipment to seek for information. The requested information could be gathered by Brokers within a few minutes or hours using various information channels like the Internet, online databases, individuals, computers, and telephone. They, at times prepare a report on any subject, carry outmarket research, maintain current awareness services for a client, carry out online searches, and many other online services to help save the time of clients. They often seek

information by conducting a telephone interview with people. According to Onaade (2012), the roots of information brokerage as a profession can probably be traced to the 1960s when a group of individuals and library organisations understood that the computer and the photocopier are significant role players in the information revolution.

#### **ONLINE BOOKSTORE**

Bithiani (2014) adjudged this business venture as ideal for LIS professionals who are competent and versatile in ICT application. Global electronic shopping also provides opportunities for having an online bookstore as a business venture. It is however pertinent for any LIS professional who desires to engage in this business to be well informed about market dynamics especially in Nigeria to have a profitable sustainable business.

#### PUBLISHING BUSINESS

Many LIS professionals in Nigeria are successful entrepreneurs in publishing and trading. Although there are different business models in print and electronic format, yet the process of publishing remains the same in both print and electronic environments. There are diverse areas of publishing but a popular area that many LIS professionals venture into is academic publishing that distributes academic research and scholarship. It is common to see published works in books and journals which serve as products of research and outlets for intellectual outputs. In the publishing industry, a LIS professional can choose to become a publisher, an editor, a reference book critic, children's books reviewer, or be involved in the promotion of marketing of books in libraries or become the owner of a bookshop. Some booksellers also specialise in acquiring a lot of databases in forms of CD-Rom like ERIC, AGRIS, among others, which they sell to libraries (Elonye & Uzuegbu (2013). Ekuoye (2007) opine that to be in the publishing business, one will have to source for authors and manuscripts. While some people specialise in book publishing, others focused journal publishing. Publishing journals is an interesting venture but a more demanding job. The major activities in journal publishing on revolve around gathering articles written by different authors, collating, reviewing, peer-reviewing, correction of reviewed papers by authors, and publication of accepted papers. More than being proactive in trying to convince and obtain manuscripts for editing and reviews subsequently, one will have to be more proactive in marketing and finding buyers for the finished product to make a profit in journal publication. Nevertheless, a journal that publishes quality articles with facts and figures by authorities in the subject field will always meet the market demand and sales target. There are different types of publishing. They include:

(a) Online publishing: This involves publishing contents on the Internet. Email publishing and web publishing are two modes of online publishing. A web publisher is a professional who generates the content and publishes it on the Internet on one or more webpages that can be accessed on any web browser (https: opwebdesignschools.org). Elonye and Uzuegbu (2013) identified email publishing and Web Publishing as online

publishing. According to the authors, email publishing is also known as newsletter publishing which is useful for readers who receive news items in their e-mail boxes such as articles and short newsletters. Competent LIS professionals can have gainful employment by venturing into this entrepreneurial practice through the provision of services that are chiefly concerned with the delivery of newsletters to consumers.

(b) Desktop publishing : This is another productive business for skilled LIS professionals. An entrepreneur with ICT knowledge and competence can make use of computers and software to create publishing materials like manuals, brochures, magazines, flyers, business cards, posters, letterheads, handbills, and booklets. Anyone interested in this business must have a good knowledge of graphic design and Corel draw.

#### Freelancing

Freelance LIS professionals prefer to work for themselves and do projects for fees with different organisations rather than being employees in companies, institutions, and establishments. John, Nwosu, and Simisaiye (2017) defines a freelance librarian as a trained library and information scientist who is self-employed, acting as an independent contractor that markets, sells, and provides information services using available resources for profit. LIS professionals with writing skills can practice freelance writing of books, articles, and contributing chapters in books and encyclopedias as solicited authors could be a way of making money. Freelance content writers can get a huge amount of money from publishers if they create unique and interesting content for publishing in the media like newspapers, magazines. There is a plethora of entrepreneurial privileges different from those discusses above which literature has identified as a gateway for business ventures for LIS professionals. These include Binding Workshop, Lending Library, Reading Room, Library Software Developing Industry and Writing Biographies (Batthini, 2014).

#### **Organisation of a Private Library**

Retirement from active working life is compulsory especially for civil or public servants. Amune, Aidenojie, and Obinyan (2015) referred to retirement as all voluntary and mandatory disengagements from paid work. After retirement from active service, some retirees, especially academics, may express their willingness to set up private libraries for personal or community use with their information materials like books, journals, magazines, computers constituting the library collections. The services of Information Professionals with expertise in information management, is crucially needed to assist such retirees in organising the library, but with negotiation for fees. This could be entrepreneurial opportunities for such professionals.

#### **Compilation of Directories**

Compilation of directories is another venture library and information professionals can go into as entrepreneurs. In the world of information, there are so many things that need to be compiled. The telephone directory is a wonderful tool in facilitating this.

#### CONCLUSION

It is no longer a hidden fact that the level of unemployment keeps on rising all over the world. This explains the clamour for skill and professional development among university graduates to have a competitive advantage in the global market. Little wonder that many scholars have advocated for a review of our LIS curriculum in Nigerian universities to give room for integration of entrepreneurial courses that willequip the LIS professionals with skills for self-employment. This paper has looked at the various ways LIS professionals can generate income and become self- sufficient by having an entrepreneurial mindset. It also stressed the truth that entrepreneurship is all about determination, patience, plan, collaboration, creativity, skills, and fearlessness. The global change in every area of human endeavour revolutionised by ICT has left LIS professionals with no option than to adapt to the dynamism of change and cultivate entrepreneurial culture as a coping strategy for survival.

#### RECOMMENDATIONS

With overabundant opportunities open to LIS professionals to practice entrepreneurship, the following recommendations are made for their proper placement in the business landscape:

- (i) they must embark on continuous education and professional development for competence and acquisition of requisite skills for entrepreneurship;
- (ii) LIS education should integrate an entrepreneur-friendly curriculum that will prepare the graduates for self-employment;
- (iii) they should develop the entrepreneurial culture and mindset; and
- (iv) they must cultivate the habit of attending workshops and seminars on entrepreneurship

#### REFERENCES

- Akpomi, M.E., (2008). Entrepreneurship among graduates-to-be of business management faculties and economic development in Nigerian. European Journal of Economics, Financé and Administrative Sciences, Issue 14. Retrieved from http://www.eurojournal.com on June 19, 2020.
- Amoor, S. S., (2008). Integrating entrepreneurship education into business education curriculum in Nigeria universities. Zaria Journal of Liberal Arts, 2(2), 1-12.
- Amune, J.B; Aidenojie, E.O; & Obinyan, O.O. (2015). Management of life after retirement and its implication on retired academic librarians in Edo State, Nigeria. Retrieved 28 August, 2020 from: https: // www.researchgate.net.
- Batthini, G. (2014). Entrepreneurial opportunities for library and information science professionals. Retrieved 20 August from https://www.researchgate.net>2929
- Doyle, A.2019. Important personal skills that employers value. Retrieved 30 August, 2020 from https://www.thebalancecareers.com.
- Eke, H. N., Igwesi., U. & OrjiD. I., (2011). Information professionals as agents for promoting entrepreneurship and technology education in actualizing vision 2020 for Nigeria. *Library Philosophy and Practice*. Retrieved 20 June 2020 from *http://www.webpages.uidaho.edu/~mbolin/eke-Igwesi-orji.pdf*.

- Ekuoye, O., (2007). Choosing areas of interest in library and information science. Benin, Nigeria: Justice Jeco Press.
- Ejiogu, A.O. & Nwajiuba, C. A., (2012). The need for inclusion of Entrepreneurship education in Nigeria school curricula. *Thunderbird International Business Review*, 54(1), 7–13.
- Ekankumo, B. & Kemebaradikumo, N., (2011). Entrepreneurship and entrepreneurial education (EE): Strategy for sustainable development. Asian Journal of Business Management, 3(3), 196-202.
- Hebert, R.F.2015. In search of the meaning of entrepreneurship. Retrieved 28 August, 2020 from https:// www.researchgate.net/publication/226596509
- Hisrich, R. D. & Peters M. P., (2002), Entrepreneurship. New Delhi: Tata McGraw-Hill.
- Idegho P.O. & Ainabor, A. E. (2011) Entrepreneurship education and small-scale business management skills Development among students of Auchi Polytechnic, Auchi, Edo State Nigeria. *Internationa Journal of Business and Management*, 6 (3), 284-288.
- Ifedili, C. J. & Ofoegbu F., (2011). Managing entrepreneurship education in Nigerian universities.
- Isimoya, O.A., (2012). Nigerian graduates and entrepreneurial opportunities. *Business Day* (online version). Retrieved from httpayonline.com/NG/Index.php/analysis/commentary/46996\_ nigeriangraduates\_and\_entrepreneurial\_opportunities\_ on June 20, 2020.
- Ismail, A. A., Eh Rak A. D., Che Oma I., (2011). Sustainable human resources capital development through entrepreneurship education. *Global Higher Education Forum*, (GHEF 2011) 13-15 Dec., 2011, Pulau Pinang, pp.1-9.
- John, H.C; Nwosu, J.C. and Samisaiye, O.A. (2017). Freelance Librarianship: A source of income forunemployed library and information science graduates. *International Journal of Advanced Library* and Information Science, 5(1), 420-427.
- Makata, E. (2015). Education, employability and the crisis of unemployment in Nigeria: Entrepreneurship education to the rescue. Retrieved 29 August, 2020 from https://www.researchgate.net/publication/ 286109578
- Marshall M. I., & Samuel A., (2006). The effect of human and financial capital on the entrepreneurial: an urbanrural comparism of entrepreneurship in Indiana. Selected paper for presentation at the Agricultural Economic Association Annual meeting, California, July 23rd – 26th.
- Nwosu, M.C. (2014). Introduction to entrepreneurship in education. In: Issa, A.C, Uzuegbu, C.P. Nwosu, C.(Eds.). Entrepreneurship students and practices in Library and Information Science. Lagos: Zech Communications.
- Oaikhinam, E. P., (2006), Technology, innovations and entrepreneurship. Lagos, Nigeria: Epina
- Onaade, O.J., (2012). Information brokerage: An entrepreneurial approach to information services in Nigeria. Global Journal of Management and Business Research, 12(20), 13-19.
- Rahmati, T., (2007). "Entrepreneurship Development: The key to success Librarians"
- Refaat, A. A., (2009). The necessity of engineering entrepreneurship education for developing economies. International Journal of Education and Information Technologies, 2(3), 85 – 96.
- Sarri, K. K., Bakouros I. L. & Petridou E., (2010). Entrepreneur training for creativity and innovation. Journal of European Industrial Training, 34(3), 270-288.
- Shelagh, K. G., (2003). Special Librarians: Entrepreneurs within Organisations.
- Simionescu, A., Simionescu, G., Mironescu, R. (2002). Manual de inginerie economica. Management general; Editura Dacia: Cluj-Napoca; p. 14. (In Romanian).
- Ugwu, F. & Ezeani, E. N. (2012). Evaluation of entrepreneurship awareness and skills among LIS students in universities in South East Nigeria. Library Philosophy and Practice. Retrieved from http://digitalcommons.un/.edu/ibphilprac/83b on June 19, 2020.