Inforpreneurship: Opportunities and Challenges for Library and Information Science Professionals in 21st Century

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Abstract - **The 21st century has offered unlimited opportunities to library and information science (LIS) professionals to explore their potentials and engage in productive ventures through the use of Internet and digital technologies. The objectives of this paper was to explore inforpreneurship opportunities that library and information science professionals could venture in the information industry as well as unravel the challenges that might be encountered especially in today's world of 21st century. The opportunities discussed include: information brokerage, information systems consultancy, blogging and advertisement, web development/programming, database designing/distribution as well as internet café/business centre. The study stressed that these opportunities could enable tech-savvy LIS professionals to engage in one or more of these ventures without necessarily waiting for white collar jobs from the government. They could also offer job opportunities to themselves and to others, become self-reliant, as well as prestige associated with the jobs which could ultimately contribute in boosting the economy of the country, reduce unemployment and empower people. Challenges bedevilling LIS professionals from engaging in inforpreneurship as highlighted by this study include: lack of inforpreneurial spirit and fear of competition, lack of requisite skills/expertise, lack of adequate funds/capital, lack of adequate electricity and bandwidth and poor patronage from fellow citizens. Finally, the study recommended encouraging LIS professionals to develop inforpreneurship spirit during their course of study, reviewing curriculums that could inculcate inforpreneurship ideas in students, granting soft loans to graduates who are endowed with inforpreneurship ideas, improving power supply as well as encouraging fellow citizens towards patronising information products and services produced locally.**
Keywords: **Inforpreneurship, Library, Information Science, Professionals, 21st Century**

I. INTRODUCTION

The 21st century has ushered in a new paradigm in terms of making information an important economic resource. Librarianship has over the years been a service oriented profession saddled with the responsibility of searching, acquiring, processing, retrieving, organising and disseminating information to users at no cost. There are different types of libraries ranging from: academic, public, school, specialised, and corporate libraries. These libraries offer free services to various category of users irrespective of age, gender, religion, tribe, social status as well as other demographic factors. Tradionally, the libraries drive the sources of funding from their parent organisations as well as donor agencies or philantrophic individuals.

Overtime, the funds meant to cater for these libraries becomes depleted as a result of several factors such as, dwindling revenues of government agencies, depreciation in economy, high cost of information resources as well as corruption that has pavaded through the social life of the people. Also, the meagre funds allocated to these libraries are ourightly embezzled leaving the libraries at the mercy of outdated books/information materials, poor or lack of digital equipments and poor services to the clientele. This has been the practice for a long period of time in all category of libraries across the globe especially in developing countries like Nigeria. These and other reasons had made users to resort to self help by seeking for quality, accurate and updated information from commercial entities.

Academicians and researchers are always hungry for current, reliable, accurate, factual, informative and relevant information for their day to day activities. These category of users perhaphs do not have adequate time, skills, resources/facilities required to make accurate search, retrieve and evaluate information from variety of information sources in and outside the library environment. It is on this premise that library and information science professionals who possess adequate information literacy as well as digital skills are paid to search, generate, package and deliver information for a fee. According to Abdullahi (2015), a lot of individuals and organisations are increasingly accepting the importance of information and knowledge for their survival and are investing a great deal in information as a commodity. Ocholla as cited by Aregbesola, *et al.,* (2019) identifies reasons for inforpreneurship as follows: unemployment, increasing demands for complementary information services, the high demand for information products and services which were beyond the capacity of the existing centres for information, the enthusiasm from consumers to pay for information, and reduction in spending by public sector.

As such, the business of packaging and marketing information products for income generation has come to stay in the field of librarianship and allied information professions. The library and information science professionals ought to be fully equipped with those income generating skills and strategies that will empower them to reposition themselves in the society as unemployment is currently becoming a norm especially in Nigeria. The best and alternate solution would be to engage infopreneurship, where information professionals use their initiatives i.e. creative thinking; strategic planning; focused and purposeful marketing; a willingness to be innovative and at times; take risks. Umoru (2016) stated that the development of any nation or society largely depends on the capacity of its populace to identify and harness investment potentials that were hitherto unknown to the vast majority of the people. Ugwu and Ezeani (2012) revealed that librarians should endevour to acquire variety of ICT skills that could enable them develop entrepreneurial behavior so as to provide quality services in both the library environment and while self-employed outside the library.

Moreover, if librarians wish to remain relevant, they must focus on the information provider/user relationship. They must seek to package, customise, and market economically useful information in more appealing and aggressive ways. Otherwise, others will no doubt come to the market-place and take over the information vending role as suppliers, thereby rendering mainstream library and information science professionals anachronistic and redundant. These and other factors formed the basis upon which this paper was carried out that unravelled the opportunities available for library and information science professionals so as to enlighten them as well as and highlighted challenges that might be encountered in 21st Century.

II. METHODOLOGY

This paper is conceptual in its entirety which reviewed relevant literatures regarding inforprneurship taking cognizance the personal opinions of the researchers. The researchers had observed the lackadaisical attitudes of library and information science professionals towards harnessing the oppoturnies availed by inforpreneurship hence the motive for highlighting the oppoturnies in this paper. The paper has also unraveled the challenges that might be anticipated while embarking in inforprenership.

III. OVERVIEW OF INFORPRENEUR AND INFORPRENEURSHIP

The term 'infopreneur' was derived from two discipline; that is, 'information' and 'entrepreneur'. Ramogondo as cited in El-Kalash, Mohammed and Aniki (2016) described the term 'infopreneur' to be neologism portmanteau and is derived from the words 'information' and entrepreneur'. Actually, the concept refers to any person whose primary duty is to collect and sell information and services via a niched i.e., electronically through social media such as blogs, wikis,

YouTube, social media platform, database etc. Therefore, inforpreneur is a person or an individual who sells information products and services. (Inforpreneur, 2010). Similarly, inforpreneur can be any individual engaging in creating, generating, packaging and developing information products and services to target clients for a fee especially through electronic or internet medium.

On the other hand, inforpreneurship is derived from the words 'information' and 'entrepreneurship'. It refers to an enterprising business model footed on creating, gathering, packaging and distribution of target-based information products and services via the limitless possibilities of ICT for the purpose of generating income, understanding that information is life, power, security, money and business that can be traded (Amanpour 2012). Amakiri and Marie (2019) described infopreneurship as a profit-motivated business of gathering and providing electronic or online information products and services especially through the internet to those who need such information and are willing to pay. Furthermore, inforpreneurship is a "business model where an individual or "inforpreneur" shares their experience, knowledge and passion with others through information products and services that create value and generate income" (Richert, 2020). Richert (2020) further described inforpreneur as someone who takes knowledge, turns it into products and services and sells them. The author stressed that, today, anyone with Internet access can self-publish a book, launch online courses, give presentations and market their products and services, and more for very little costs.

Richard (2012) highlighted that; excellent organisational skills; good spoken and written communication skill, high level of accuracy and attention to details, logical and methodical approach to work, good research skills, high level of computer literacy, especially with database and internet; the ability to work with people at all levels and from different backgrounds, an awareness of what information users really need, an awareness of data protection and copyright laws, attentiveness, enthusiasm, self-confidence and decision making skills as the required capabilities daring infopreneurs must arm themselves with to strive in the 21st century. Such engagement catchment includes online database services, database designing, sale of e-books, web newsletters, offering online conferences through networking services, e-publishing, information brokerage, information consultancy, internet services, selective dissemination of information (SDI), current Awareness Services (CAS), publishing and editing, indexing and abstracting services, online literature search, information repackaging, contract cataloguing; marketing of books to libraries; reprographic services; and electronic publishing. These are many streams of information services that can be utilised by the inforpreneur (Amakiri & Marie, 2019).

Witzen in DuToit (2010) has highlighted six ways that could assist inforpreneurs generate, organise and disseminate information in the 21st century. These include

1. *Leveraged Information:* Witzen has pointed out that inforpreneurs take the opportunities availed by the internet or databases in order to obtain general market information, support data for research, creating of marketing plans, pricing strategies, distribution channels as well as advertisement activities.

2. *Customised Information:* having leveraged information, inforpreneurs synthesises the information toward meeting the overall information needs of the target customers. In addendum, they work towards manipulating such information into different formats that could enable the customers understand better.

3. *Facilitating Access to Information:* the 21st century is characterised by the explosion of information. This has posed the challenges of finding the right information from the variety of sources. Electronic access to information could allow inforpreneurs select from variety of sources, evaluate and disseminate information to their clients.

4. *Speeding up the Flow of Information:* time is one of the most important elements in the world of information in 21st century. This is owing to the fact that clients need information as fast as possible in order to meet their information and research need. This has necessitated the high demand for speeding up of the flow of information. Today's inforpreneurs are capable of generating, sending and receiving information through the world wide web in a timely fashion.

5. *Repackaging of Information:* information obtained from which ever sources need to be repackaged for suitable consumption of the clients. The process includes organising information into a new information products and services.

6. *Around the Clock Delivery of Information:* this involve passing the packaged information instantly at any time of the day or night through computers and other digital technologies. This process causes information to take on a value-added quality.

IV. INFORPRENEURSHIP OPPORTUNITIES FOR LIBRARY AND INFORMATION PROFESSIONALS

The target market for inforpreneurs in 21st century is the end-user; that is, the person who needs information for decision making purposes, especially electronic information which is available on the internet, world wide web, electronic databases as well as other online platforms. It is imperative for inforpreneurs to always be creative yet practical in their approach, continuously search for business ideas, ensure it will be profitable and develop information products suitable for the market. In addition, they need to plan how the business will be conducted as well as handle important issues dealing with financing and marketing of their products and services (DuToit, 2010). El-Kalash, Mohammed and Aniki (2016) affirmed that, infopreneurs are profit oriented enterprising business people running internet based businesses that enable them sell their expertise to a world-wide audience, by packaging and marketing their knowledge as information based products, online services and premium consultancy.

Earlier inforpreneurs had sold information in mediums such as audio tapes, audio CDs, CD Roms, videos, talk shows and conferences. Subsequently, the proliferation of information technology and the rapid pace of information explosion are catalyst as well as the driving force that necessitate the need for inforpreneurship in todays digital world. The world wide web as well as other means of electronic information delivery systems have made it possible for inforpreneurs to deliver information products and services to clients regardless of distance and in timely fashion. The following are major inforpreneurship opporturnies available for library and information science professionals in the 21st century.

A. Information Brokerage

One of the profitable ventures that a library and information science professional can venture into in 21st century is information brockerage. Information brocker is someone who engages in the business of buying or selling information as a product or service. They are sometimes referred to as "reseach consultants" or "information consultants". Kissel as cited in Onaade (2012) stated that an information brocker is an individual who searches for information for clients. The study further highlighted the skills expected of an information brocker in 21st century. These skills include: skills in ICT, information retrieval techniques, storage and dissemination among others. Library and information science professional operating as an inforpreneur must be able to search for information through the traditional and electronic libraries, use variety of search engines, microfiche archives, web searching as well as publishing skills.

Inforpreneurs operating information brockerage business use electronic resources such as the Internet, databases, e-libraries, e-books, e-journals and CD-ROMs in sourcing for quality, reliable and current information for clients. The importance of information brockerage stems from the fact that todays information seekers are preoccupied with too many projects and activities and therefore may wants quality, reliable and relevant information as fast as possible. They do not also have the time or the resources at their disposal to spend several hours, days or weeks to go through quantum of information sources such as books, journals or magazines in the libraries or through the web.

B. Information Systems Consultancy

Consulting is a process in which professional advisors attempt to solve challenges and issues raised by a client. Inforpreneur could work in a consultancy firm or could be self employed and usually engage with multiple and changing clients who pay for the services offered. This implies that the clients could have access to better levels of expertise than would be feasible for them to retain in-house (Wikipedia, 2011). Okojie and Ibrahim (2011) in their study had highlighted some of the most common tasks that inforpreneur consultants could engage, including: establishment of a library/resource centre from the scratch (e-library or hybrid or manual), re-engineering existing

aspects of library services such as automating circulation services; implementing new technologies such as a new library management software; training/Continuing Professional Development programmes, development of Institutional Repositories, Electronic Thesis and Dissertations (ETDs), Open Source Systems as well as design of Website and creation of Listserv, social networks and other discussion groups among others. Others include: automation of records management systems, digitisation, content analysis and development, data analysis, graphic consultancy, online publishing and online bookstore as well as knowledge management consultancy among others.

C. Blogging and Advertisement

Another inforpreneurship oppoturnity available to library and information science professional is blogging and online advertisement. A blog has been described as an online journal otherwise referred to as an information website which publish information in the reverse order. Dictionary.com (2014) defined blog as website created by an individual or group of individuals where observations, opinions and experiences of the individual or group of individuals are posted with images and links to other websites. In librarianship, Kaplan and Haenlein (2010) described blog as a platform similar to social media which can be created to provide information such as authors' personal profiles, newly acquired materials, marketing and promotion, building library image, dissemination of relevant information as well as facilitate external communication. Skrba (2020) refers blogging as a collection of skills that one needs to run and supervise activities of a blog which consist of equipping a web page with tools to make the process of writing, posting, linking and sharing contents easier.

An inforpreneur could develop a blog to assist individuals, companies, industries, institutions and organisations in marketing and promoting their products and service for a fee. This is corroborated by Ekoja (2011) who posited that librarians could take advantage of blogs by using it in marketing and promotion of information services, announcing new acquisitions, programmes and events as well as facilitating online discussions. Blogs can also facilitate posting news about resources and services as well as various events for clients. Ezeani and Igwesi (2012) revealed that, blogs can be used to post thought provoking articles and seek for reaction from users. Inforpreneurs could also share information on particular subjects or contents and allow users to comment or contribute. Blogs could also be used as websites which could provide links to other sources, used for promotion, entertainment, listing book reviews as well as initiate book discussions in order to encourage community development (Singha and Sarmah, 2015).

In another vein, Blogs could be used as web logs that allows posting of thoughts and updates about information services on the web. Mahmood and Richardson (2013) in their contributions indicated that Blogs could be used in disseminating general information, information about newly subscribed databases and acquired materials, provide book reviews, announce system downtimes and provide research aids. Skrba (2020) has revealed that there are more than 600 million blogs on the web and the United States accounted fot more than 31.7 million users of blog in the year 2020. The main purpose of creating a blog is to connect people with relevant information. Inforpreneurs could take the oppoturnities availed by the Internet to engage in blogging by updating relevant information to clients while making fortune out of it. One could assist in marketing goods and services on behalf of organisations and companies especially regarding keeping customers updated about their products and assessing the level or extent customer satisfaction. A blogger could also facilitate interactions and communications between companies and businesses as well as clients feedback regarding their products and services. This could help or assist in achieving customer loyalty in the business. An inforpreneur could also sell e-books, sell advertisement spaces, creating websites and blogs to act as their storefront.

D. Web Development/Programming

Web development refers in general to the tasks associated with developing websites for hosting via intranet or internet. The web development process includes web design, web content development, client-side/server-side scripting and network security configuration, among other tasks. In a broader sense, web development encompasses all the actions, updates, and operations required to build, maintain and manage a website to ensure its performance, user experience, and speed are optimal (Technopedia.com, 2021).

Studies have shown that librarians/inforpreneurs are contracted to design library websites in some developed countries. Kneip (as cited in Bundza, VanderMeer & Perez-Stable, 2009) study reveled that about three-quarters of Webmasters that designed websites for academic libraries in United States held MLIS degrees; more than 80 percent considered themselves self-taught (in addition to other formal training); and roughly 60 percent reported having responsibilities in addition to the Web site. This evidently showed that a librarian can venture into a business of developing websites not just for libraries and information centres, but, for individuals, organisations, institutions and government agencies. However, to become a successful web inforpreneur, a librarian having undertaken some programming courses at undergraduate and/or postgraduate levels, needs further comprehensive training in order to acquire more technical skills in the acts of web design using different programming languages.

Furthermore, a web inforpreneur needs to have a firm grasp on design elements such as layout, space, navigation, image techniques and best code practices. Without the building blocks of web design, a designer cannot establish themselves as an expert in the field. The web inforpreneur should also be able to be a web data analyst, by learning how to collect and analyze website data which is imperative for a designer's success as a business owner. With companies, institutions

and even libraries springing up on daily basis, a web infopreneur could lobby for contracts for designing websites and get paid handsomely. All the web infopreneur needs are a computer, a fast Internet connection and webpage creation knowledge. Basic hardware and software, combined with raw talent, can be enough to get a startup off the ground. These immediate advantages can give web designers the leg up they need to start their own company without the risk of major losses (Andrew, 2020).

E. Database Designing/Distribution

Another inforpreneurship oppoturnity available for library and information science professionals is database designing/distribution. Database is an electronic system that allows data to be easily accessed, manipulated and updated (Technopedia, 2021). It is used by organisations as a method of storing, managing and retrieving information. An inforpreneur who is conversant with variety of subject databases can design or subscribe to the databases while granting access to the users for fee. A database inforpreneur need to be familier with database softwares such as Oracle, SQL SERVER, MySQL, etc. The proliferation of internet across the globe has offered publishers, researchers and information brockers the oppoturnity to become database producers/distributors who are engaging in the activities of creating commercially available online databases through which information could be accessed for a fee. Edewor and Omosor (2012) revealed that database producers/distributors collect data prepared by others and package the data into specialty databases, sometimes adding data of their own. They also provide licences to authors, reseachers, institutions and organisation in order to grant access to information based on their speciality.

F. Internet Café/Business Centre

One of the commonest businesses ushered by 21st century in Nigeria is the business centre and internet café. This is where all commercial computer related acivities are carried out for clients. Iheanacho (2018) highlighted some activities carried out in business centres to include: typesetting, computer training, graphic designs and photocopying services. Library and information science professional could decide to establish this type of business in a tertiary institution, government establisments or in a strategic location within a city. The business centre could also operate internet café services where customers could browse through internet as well as offer other internet related activities such as online registration, results checking and downloading of information materials, among others.

V. CHALLENGES OF INFORPRENERSHIP FOR LIBRARY AND INFORMATION PROFESSIONALS IN THE 21ST CENTURY IN NIGERIA

Establishing and operating a viable and sustainable inforprenerial venture is without challenges. Some of the major challenges include,

A. Lack of Inforpreneurial Spirit and Fear of Competition

Many library and information science professionals lack inforpreneurial spirit that could enable them estabslish a viable and sustainable business entity in the information industry. Many of them prefer to wait and secure whitecoller jobs that could earn them salaries and wages, leaving the venture at the mercy of people who are non-librarians. Iheanacho (2018) lamented that many library and information science professionals have all it takes to become successful entrepreneurs. However, those aspiring to be inforpreneurs are faced with the problem of how to generate compelling business ideas for new inforpreneurial businesses. Not knowing how to generate ideas would breed frustration, make the aspiring inforpreneur to start a business similar to the one he has seen around him. Besides, the inforpreneur not having the initial ingredients of success - the entrepreneurial mindset of bringing about a change, creating an invention or beating competition - soon goes under when faced with endless competition from existing businesses.

B. Lack of Requisite Skills/Expertise

Establishing and engaging in inforpreneurial venture requires adequate skills and expertise in order to be successful, because, it can only be undertaken by experts in the business. An inforpreneur must always showcase talents and exhibit the capacity to deliver quality products and services especially in a competitive information business environment so as to attract the customers to continue to patronise the business. Inforpreneurs must strive to deliver products and services that distinguishes from what others deliver in the market. However, most library and information science professioonals are reluctant to venture into inforpreneurial venture because of lack of adequate/requisite skills that could enable them become successful in the business. In addendum, the curriculum used by library schools in the Nigeria and other developing countries does not inculcate inforpreneurship in the students. Hasham and Mokhtar (2012), highlighted the major professional and personal competencies of new era librarians which include: specialised subject knowledge appropriate to the business of the organisation, expert knowledge of the content of information resources; use appropriate business and management approaches to communicate the importance of information services among others.

C. Lack of Adequate Funds/Capital

Inforpreneurship business of any form requires huge capital for starting up the business as well as funds for purchasing digital equipments and renting office accomodation. This is because, inforpreneurship is capital intensive. Most library and information science professionals depend on the megre salaries and wages they earn from their work environment which is not enough to save and start any business venture. The uncertainty of the Nigerian economy coupled with high cost of equipments, high inflation, high interest rate from commercial banks and other lending agencies as well as the

depreciating value of Nigerian currency (Naira) have contributed to the inability of most intending inforpreneurs from accessing loans to start a business venture.

D. Lack of Adequate Electricity and Bandwidth

Inforpreneurship especially in the 21st century is an online trade hence requires adequate electricity and bandwith for management and operations. The epileptic power supply as well as the high cost of bandwidth in Nigeria is a bane for any business development in the country. Furthermore, the high cost of electric generators as well as increasing cost of diesel and petrol which are out of reach to most businesses, have made a lot of thriving businesses go into extinction.

E. Poor Patronage

Another major challenge hampering businesses development in Nigeria is lack of patronage of local products and services produced by fellow citizens. Most Nigerians prefer foreign products and services at the detriment of local products and inforpreneurship is not an exception. These unwholesome practices have demoralised quit a number of library and information science professionals willing to venture into viable inforpreneurships.

VI. RECOMMENDATIONS

1. Library and information science professionals must be encouraged to develop inforpreneurship spirit during their course of study. The entrepreneurship courses introduced should be practical-based that could instill variety of skills in the students.
2. The National Universities Commission (NUC), Librarians' Registration Council of Nigeria (LRCN) and library schools should work in synergy towards reviewing curriculums that could inculcate inforpreneurship ideas in students. The era of certificate without skills is gone, hence, inforpreneurship based training is needed in the universities.
3. Governmets at all levels should provide soft loans to graduates who are endowed with inforpreneurship ideas and also assist in setting up small scale businesses as doing so could help alleviate the scourge of unemployment thereby growing the economy of the country.
4. Federal government of Nigeria should work towards improving power supply in the country. This could help provide succor to IT related businesses that rely solely on power supply for their operations. The Nigerian Communication Commission (NCC) should introduce policies that could compel the Mobile Network Operators toward subsidising the cost of mobile data to business entities.
5. Nigerians must be encouraged to patronise products and services produced locally. Government must find ways of ensuring that inforpreneurs in Nigeria are patronised by Nigerians.

VII. CONCLUSION

The 21st century has ushered in numerous inforpreneurship opportunities to library and information science professionals, ranging from information brokerage, blogging and advertisement, social media influencing, web development/programming, database designing/distribution and information systems consultancy, among others. Library and information science professionals need to step up and acquire adequate skills/expertise in one or more of these ventures in order to establish a commercially sustainable business with the ultimate aim of providing quality information products and services to clients. This would no doubt provide job oppoturnities to them as well as improve the economy of the country. Challenges identified include lack of inforpreneurial spirit and fear of competition, lack of requisite skills/expertise, lack of adequate funds, lack of adequate electricity and bandwidth as well as poor patronage.

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