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Achievement of the Sustainable Development Goals through LIS Education in Africa

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Abstract

The Sustainable Development Goals (SDGs) set by the United Nations can be achieved through teaching, research and innovation. The Sustainable Development Goals advocate that all learners will have the knowledge and skills needed to promote sustainable development. The use of scholarly e-resources offers quality academic resources which contribute greatly to teaching, research and innovation. Thus, purpose of the study was to examine the awareness, perception and use of scholarly e-resources by Library and Information Science (LIS) students in Africa.

The paper is based on research paper related to the topic of the article. The study revealed that despite efforts by academic institutions to make scholarly electronic resources available, these resources seem to be underutilized by students. Also, there is paucity of literature on the use of scholarly e-resources in order to promote quality education through teaching, research and innovation, especially by LIS students or professionals who are being trained to assist other people in information retrieval in the digital age.

The research brings to fore the importance of the awareness and use of scholarly e-resources to enhance research and innovation in order to achieve sustainable development through quality education. The study recommends more practical training for LIS students in order to familiarize them with several scholarly e-resources and their functionality. This will help the students, stakeholders and policy makers understand how to harness human capital for sustainable development by ensuring quality education through the maximum utilization of scholarly e-resources for teaching, research and innovation.

Keywords: Scholarly e-resources, LIS, students, Sustainable Development Goals, Africa

Introduction

The increase in the use of information technology and online information has made the introduction of electronic resources necessary as they have increased tremendously in popularity and use (Renwick, 2005). The use of electronic resources (e-resources) is now playing vital roles in academic enrichment in the digital age, modern libraries are now blending both electronic and traditional sources of information in order to serve their users better in a changing world.

In the digital age, information has increased drastically over the last couple of years. Lyman & Varian (2003) reported that books (original print) increased by 83% in the United States of America from 1999 to 2002, while online scholarly journals virtually doubled from 1991 to 2001. Recent studies (e.g. Levine-Clark, 2015; Nicholas *et al*. 2008; Wang & Bai, 2016) have affirmed this. Nicholas *et al*. (2008) in particular noted that e-book penetration is very strong. Being faced with escalating competition from major sources of information such as the internet combined with demands from patrons, the average library budget spent on electronic materials or resources has increased greatly almost fourfold from an estimated 4% between 1992 and 1993 to 13% in 1999 to 2000 (Association of Research Libraries 2005: 7). Academic institutions around the world are investing so much in making scholarly electronic resources available and ensuring its access to support teaching and research. Governments and academic institutions invest large sums of money to furnish students and researchers with information resources required for their work, with the hope that enhanced access to scholarly electronic resources will enhance learning and boost research output (Vakkari, 2008). A wide range of databases such as journal databases, e-books, reference databases, amongst others are increasingly accessible to the use of various electronic devices such as mobile phones, tablets and laptops. The availability of these electronic resources and its easy access are supposed to encourage students to utilize the scholarly electronic resources available to keep abreast with current information and research which is capable of inspiring new ideas and enhancing the quality of their work.

Education is connected with sustainable development (Zenelaj, 2013). The United Nations members states proposed an *Agenda 2030* with 17 Sustainable Development Goals (SDGs) in 2014 as a replacement for the Millennium Development Goals (MDGs) applicable to the international development goals for the period 2015 to 2030 (United Nations, 2014; Blanc, 2015; Sachs, 2012). The 2010 Agenda proposed 17 Sustainable Development Goals (SDGs) describes

major development challenges and it aims to help secure a "sustainable, peaceful, prosperous and equitable life on earth for everyone now and in the future". These goals are believed to cover global challenges that are crucial for the survival of humanity (UNESCO, 2017: 6). According to Blanc (2015: 176) the newly developed set of goals "was widely seen as an ambitious challenge, as these goals cover a much broader range of issues than their predecessors, aim to be universal – that is, applicable to all countries and not only developing countries – and have to serve as guideposts for a difficult transition to sustainable development, which has eluded the international community since the Earth Summit in 1992".

The promotion of sustainable development in the 21st century demands access to quality information and this role is mainly played by libraries all over the world. According to Igbinovia (2016) libraries and other information centres play a crucial role in achieving SDGs. Communities with access to timely and relevant information all its members are in better positions to eradicate inequality and poverty, provide quality education, improve agriculture and support people's health, culture, research, and innovation (IFLA, 2014). It is evident that access to information is key aspects of the SDGs and information centres have the responsibility of providing relevant and up-to-date information to promote research. The target 16.10 of the SDG Agenda states that a well-informed society is capable of contributing significantly to the development of the nation as the availability of information resources would promote peaceful and inclusive societies for sustainable development, providing access to justice for all and build effective, accountable and inclusive institutions at all levels (Bradley, 2014). One of the major ways libraries can contribute to SDGs is through Access to research, information and data (Bradley, 2014). According to Garcia-Febo *et al.* (2017: 516) "academic and research libraries in all parts of the world are essential in providing information access to academic communities, and promoting SDGs to drive development along with all types of libraries". One of the ways this role is being played is by providing access to scholarly e-resources to improve research and innovation.

Despite efforts by academic institutions to make scholarly e-resources available through subscriptions, these resources seem to be underutilized by students who prefer to make use of free internet search engines to search for scholarly materials (Dlamini, 2014; Saunders, 2011; Emmanuel & Jegede, 2011). Information Technology has made it necessary for academic

libraries in most parts of the world to invest in different types of e-resources to meet the needs of their students and patrons (Dadzie, 2005; Adetunla, 2016; Mogase & Kalema, 2015; Tella *et al*., 2017). Academic institutions in Africa are investing enormous amount of money to make useful and accessible information services available to its users in electronic format to promote quality education through research and innovation.

Several studies have been conducted on the importance of e-resources and its use as a preferred means of retrieving information by students and academics. Most of these studies have either focused on postgraduate students, academics or both. Few studies have focused on Library and Information Science students. Perhaps, there is a misconception that LIS students are supposed to know everything about information through their training in academic institutions and should be knowledgeable and comfortable with e-resources usage.

Aim of the paper

The aim of this paper is to review published articles on the awareness, perception and use of scholarly e-resources by LIS students to determine how they can contribute to quality education SDG through research and innovation.

Awareness of e-resources by students

Studies on the use of e-resources in higher education sector have been conducted worldwide. Recent studies are now pointing to the fact that information technology has a lot of effect on the way students seek information with the tremendous increase in the use of internet and electronic resources (e.g. Dlamini, 2014; Saunders, 2011; Emmanuel & Jegede, 2011; Dadzie, 2005; Mogase & Kalema, 2015). Some of these studies have developed models and theoretical frameworks while others examined how certain factors affect students' use of e-resources. Also, recent studies in several disciplines such as Medicine (Ahmed & Al-Reyaee, 2017; Anaraki & Babalhavaeji, 2013; Anandhalli & Shakuntala, 2014), Business (Shakeel & Vinayagamoorthy, 2013; Sharma & Sharma, 2013), Law (Amusa & Atinmo 2016; Karunarathna, 2016), Library and Information Science (Tanackovic, Lacovic & Stanarevic, 2012; Krakowska, 2013; Okello-Obura & Magara, 2008; Akpojotor, 2016) among others suggests that young people of today think, learn, socialize, shape identity and seek information differently in this digital age, the era of Web 2.0 and the participatory culture (Dresang & Koh, 2009).

Ge (2010) conducted a research at the Tennessee State University (TSU) in the United States of America where he explored the degree to which specific electronic resources are significant to the social sciences and humanities researchers where he found out that electronic information resources played an essential role in the researchers' information seeking pursuit. Among eight (8) types of electronic information technologies rated, the Web, databases and e-journals were ranked first, second and third in the order of importance while online catalogs and e-mails followed respectively.

In a study of business school students of universities and colleges located in Academic City in Dubai, UAE, Shakeel & Vinayagamoorthy (2013) discovered that internet and e-resources have become an easy source of accessing information. They further stated that as technology has gained an ever large foothold in the domain of business education, the digital resources appeared to have a significant impact on the information seeking behavior of the majority of the library users. Despite efforts by academic institutions to make scholarly electronic resources available for learning and research, studies have shown that the level of awareness is low and students have preference for free internet search engines for information retrieval (Dlamini, 2014; Saunders, 2011; Emmanuel & Jegede, 2011). A large percentage of the student population in universities across the world relies greatly on the internet rather than consulting scholarly e-resources in their institutions' libraries. Lack of awareness has been considered as one of the problems with the low usage of scholarly e-resources (Dadzie, 2005). There seem to be a level of awareness among certain students. Komolafe-Opadeji (2011) in a study points out that students seem to be aware of certain scholarly e-resources and databases such as EBSCO Host, JSTOR, Questia, HINARI and High Beam.

It is quite evident from studies that the use of internet materials as a major source of information against scholarly e-resources and library materials by students is on the increase in the digital age. In cases where students indicated use of e-resources, they were unsure of what scholarly e-resources are. According to Tlakula & Fombad (2017) there is a very low level of awareness of e-resources by undergraduate students and these students also confused e-resources to Web-based internet sources due to lack of adequate training on the use of scholarly e-resources offered by the library.

Perception of scholarly e-resources by students

The perception of users about scholarly electronic resources is very important as this will determine its use or lack of use by the patrons. The perception could be in the form of the usefulness of the resources in satisfying information needs or the ease of use of these information resources. Studies have pointed out that students perceived e-resources to be complex and not easy to use (Adetunla, 2016; Oyadeji, 2014) and these may be as a result of inadequate search skills required to retrieve information from these databases as most of them require certain information retrieval skills to retrieve relevant information. Adetunla (2016) in a research on the perceived ease and use of electronic information resources by undergraduate students of private universities in Nigeria discovered that the students perceived the e-resources to be very complex, not flexible and not easy to use making it unsuitable for meeting their information needs. He added that the availability of e-resources in universities does not determine the use of these resources but the perception on the ease of use or how user-friendly the system is determine the usage of e-resources. Complexity and lack of basic understanding of e-resource and academic database are some of the major problems associated with students' information seeking process in the library (Oyadeyi, 2014). Perception of scholarly electronic resources is a key factor to it usage by students.

Use of e-resources by students

Electronic resources are increasingly becoming crucial in students' learning mainly due to the fact that they are available and easy to access over the internet or the web. Accessibility and the use of e-resources have a positive impact on the research productivity among staff (Ani *et al*., 2015). However, the use of e-resources is considered poor among students (Jegede, 2011; Dlamini, 2014; Saunders, 2011; Dadzie, 2005).

Emmanuel & Jegede (2011) in a research carried out among MBA students in a Nigerian university discovered that internet is the most consulted source of information and the MBA students prefer to search for information on the internet first before considering any other source of information putting the level of significance of internet source to the students at 99.9%. This suggests that the use of scholarly e-resources is very low and the use of library materials by graduate students is gradually declining.

The increase in the dependence on the internet could be due to the fact that it is easy to log on to search engines an input key terms in search of any information. Dlamini (2014) in a study conducted in South Africa on Information behavior of Generation Y students at the University of the Western Cape, Cape Town posits that the students' main source of information was the Internet because they believe it satisfies their academic as well as non-academic information needs. Gardner & Eng (2005) cited in Dlamini (2014) obtained very similar results in a study carried out on Generation Y students in California where it was revealed that the students were increasingly relying on the Internet and other technology tools for almost all their information needs.

Saunders (2011) in a similar study on Generation Y students from campuses in Johannesburg, Cape Town and Durban revealed that 99% of the students sampled used the Internet for their daily information seeking. According to a research carried out by Naudé (2008) on the Impact of the Web on Citation and Information-Seeking Behavior of Academics in South Africa, the characteristics of the Web and advancements in information technology since the early 1990s are decreasing the need for the academic library as a physical building and the academic librarian is no longer functioning as a human information guide like it used to be. Access to library resources at the user's convenience through the use of the internet is also a reason why some students might not necessary need to visit a library before gaining access to necessary electronic information resources subscribed to by the library.

Komolafe-Opadeji (2011) discovered that students have regular access to the internet and also preferred using resources from Wikipedia, Google and some selected online databases such as EBSCO Host, JSTOR, Questia, HINARI and High Beam. Most studies in developing countries (Tella *et al.*, 2017; Okello-Obura, 2009; Dadzie, 2005; Naudé, 2008; Chaura, 2014; Adetunla, 2016, etc) have recorded low usage of scholarly e-resources and these are attributed to factors like inadequate networked computer among other factors. The access of e-resources through the internet is considered as the most common with low usage of scholarly e-resources (Sharma *&* Sharma: 2013; Ge, 2010; Emmanuel & Jegede, 2011; Dlamini, 2014; Saunders, 2011; Dadzie, 2005). Dadzie (2005) attributed the low usage of the scholarly e-resources to lack of awareness and information about the existence of those resources. This suggests that the issue with the poor use of scholarly e-resources by students is not necessarily the issue of availability of these e-

resources as awareness of the existence of these resources is also considered as a problem. Okite-Amughoro, Makgahlela & Bopape (2015) in a study on the use of electronic information resources for academic research by postgraduate students in Nigeria found out that despite the awareness of e-resources by student, they are rarely used due to lack of information searching skills among other factors. Complexity and lack of basic understanding of e-resources and academic database are some of the major problems associated with the use of e-resources among students (Oyadeyi, 2014). Some other challenges are slow internet connection, the ease of use, inadequate networked computers, lack of the required skills or sophistication in finding and using resources to use these e-resources, the use of advance search of most databases, among others (Okello-Obura, 2009; Dadzie, 2005; Omosekejimi *et al*, 2015; Alawiye *et al*, 2016; Sharma & Sharma, 2013). These are similar to the finding in other similar studies (Ukachi, Onuoha & Nwachukwu, 2014; Emerole & Ogugua, 2007; Issa, Amusan & Daura, 2011; Alkhanak & Azmi, 2013). Tlakula & Fombad (2017) in a research explored the level of use of the electronic resources at the University of Venda revealed that the level of usage of e-resources by undergraduate students is basic and limited to databases such as SABINET and EBSCO host.

Amusa & Atinmo (2016) in a study on the availability, level of use and constraints to the use of e-resources in Nigeria discovered that the use of library based e-resources is low although this is mainly due to the non-availability of the required e-resources. Even where these scholarly e-resources seem to be available studies have pointed out to the low usage of these e-resources. Dadzie (2005: 275) suggested that "if the university could acquire laptops for students and make a flexible payment plan for them, most of them would be able to access whatever information they need from one of the campuses at the university which has a wireless connection". However, a study by Mogase & Kalema (2015) examined the factors that influence learners' use of e-resources at Tshwane University of Technology discovered that in South Africa where students have access to funding for purchase of laptops and adequate on-campus internet facilities, the result was similar to that of other developing countries where students do not have access to bursaries to purchase laptops or adequate internet facilities on campus. This shows that even though the issue with the low usage of e-resources is not necessarily because of lack of awareness or availability of these e-resources. Magose & Kalema (2015) citing McMartin *et al*. (2008) pointed out that learners (students) do not make good use of available subscription based

scholarly e-resources despite the fact that academic institutions are investing huge amounts of money to improve the availability of these scholar e-resources in academic institutions.

The case of LIS students

These research findings are quite similar to those reported for the Library and Information Science (LIS) students. In a study of LIS students in Croatia, Tanackovic, Lacovic & Stanarevic (2012) found out that the most prominent methods adopted by LIS students for finding information sources was searching the internet for information, followed by the use of library catalog and databases. Majority of the respondents claimed they started their search with the use of simple key terms followed by the use of more advanced search techniques in cases where the results of the simple key terms search does not yield satisfactory information to satisfy their information needs. Krakowska (2013) also explored selected aspects of the information behavior among LIS students in Poland and this further reiterates the predominance of the internet on information seeking over library catalog and library book shelves which are also frequently used sources for course related information. She concluded that students seemed not to take full advantage of available library information sources and they seem not to value librarians much so they avoid traditional library services. Togia & Korobili (2014) in their research on information seeking behavior of LIS students in Greece discovered that the heavy use of internet by the majority of the students which confirms the well-documented growing dependence of students on the public search engines or internet sites which are usually Google.

Okello-Obura & Magara (2008) in a study on LIS undergraduate students discovered that apart from the fact that very few students access the library's e-resources, majority of the students surveyed were unaware of e-resources such as Emerald and EBSCO which are considered relevant to LIS students. Okello-Obura (2009) pointed out that even though postgraduate students reacted positively to the use of e-resources, they were unaware of most e-resources made available to them. Akporhonor & Akpojotor (2016) explored the challenging confronting postgraduate library and information science student in the use of electronic resources in Southern-Nigeria. They found out that some of the challenges faced by the students are poor internet connectivity, epileptic power supply, information overload, high cost of access, download delay and difficulty in accessing some websites. The heavy usage of internet which confirms the well-documented growing dependence of students on the public search engines or

internet sites which are usually Google. Akpojotor (2016) supported this in a study on postgraduate LIS students in Southern Nigeria revealed that postgraduate students of library and information science are aware of electronic e-resources and they make high use of them. The study also revealed that postgraduate LIS students have the required skills to utilize the electronic information resources.

Conclusion and recommendations

Library and Information Services employed in the attainment of Sustainable Development through provision of quality materials in order to support scholarship which would eventually lead to research and innovation for the attainment of the Sustainable Development Goals by the United Nations. Despite the enormous benefits and the huge financial investment in acquiring and subscription to e-resources, studies show that scholarly e-resources are underutilized by both LIS and non-LIS students. The fact that LIS students are trained to become future information professionals does not necessarily make them more aware or skilled in the use of scholarly e-resources. Some of the problems as evident in the literature are related to the perception that these scholarly e-resources are complex to use. Contrary to some studies, the availability of scholarly e-resources with adequate internet connectivity does not determine the use of the resources by students due to the perception and the lack of skills to retrieve information from these databases.

The reliance and availability of information on search engines such as Google.com and other similar free information retrieval search engines has affected the use of e-resources available on paid databases made available to students in academic libraries. The use of search engines usually requires less effort to retrieve information and this has subsequently increased the rate of plagiarism of students' work (Lanzilotti *et al*, 2006). This might eventually lead to the issue of low quality of research being produced by students in developing questions.

For Library and information service professionals, especially academic librarians to effectively address the information needs of its students, research scholars and patrons generally, there is need to understand the type of information sought, what information they value and what factors influence how they search and obtain information for their use. LIS students should undergo more practical training on the use of e-resources in order to familiarize themselves with these

databases at both undergraduate and postgraduate level. Quality Education which is one of the 17 Sustainable Development Goals (SDGs) set by the United Nations can be achieved through research and innovation. The maximum utilization of scholarly e-resources by students would be a major factor in contributing to the attainment of some of the SDGs.

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