



## Academic Libraries and Technology Integration: Library as a Growing Organism

Raphael Kareem Akanbi (*Librarian I*) Media Unit Head  
GoodLuck Ebele Jonathan Library, Yobe State University Damaturu, Nigeria.

Dr.Hamsatu K. Ali (*AG. Librarian*)  
GoodLuck Ebele Jonathan Library, Yobe State University Damaturu, Nigeria.  
Rabi BantaiChislon (*Principal Librarian*)  
Abubakar Tafawa Balewa University, Bauchi

### Abstract

This paper explains the transformation of the academic library as it embraces technological innovations which led to the enhanced information management and library services. It highlights the growth and current trends in digital library research which consists of characteristics of digital library, merits and challenges. This paper also highlights the impact of information technology on the traditional academic library, as it enhanced its services. The integration of technology has changed the information seeking behaviour of the users and how services are being delivered by librarians. Librarian's profession being multi-discipline should try to contain the basic ideas of all these approaches as it includes new technologies.

**Keywords:** Academic libraries, Technology integration, social media, Technology Innovation, Service Delivery.

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### I. Introduction

Academic libraries are those libraries in higher institutions of learning which caters for research, teaching and learning needs of institutional members. The main aim of the academic library is to provide a suitable platform for users to access all types of information resources in different formats (audio/visual, hard and softcopies) in order to meet their information need. For users to be satisfied, the library has to adopt the ICT based products and services in order to deal with new challenges and increasing demand of users. If the libraries must remain relevant and to stand the test of time in order to contribute towards the economic development of the nation; it must repackage its services and information products by integrating ICT based products and services as they continue to act as knowledge disseminators.

The main goal of the academic library is to acquire information resources in different formats, in various disciplines of human knowledge and to process, organize, disseminate and provide access to them and to use the resources for the provision of library services to the library users. For the library to accomplish these tasks, computers and communication technologies which are widely used by majority of university students and staff should be fully integrated for effective service delivery. In rendering these services, library staff should remain the focus, composed, tolerant, and friendly and should embrace the new technologies for easier service delivery. Ahmed (2011, p.1) quoted Ahmad & Fatima in his article which was cited in this paper concerning the changing phase of academic libraries.

Owing to ICT enabled products & services, libraries have changed the way, the provision of information services. These products and services are the integration of computer and communication technologies, which can be applied, to store and disseminate the information. They have changed the traditional practices of libraries in the delivery of services (Ahmad & Fatima, 2009).

This study aims at determining if social media is relevant in academic libraries, and also to determine the social media platform used by the various academic libraries in Nigerian Institutions

### **Technological Innovation in Modern day Library**

It is important to state that one common element that cuts across the mission and vision of academic library activity throughout the globe is to disseminate current and quality information to users on time as librarians continue to serve as knowledge disseminators. Academic libraries like other libraries or information centres promote knowledge as they break barriers by providing access to quality information. Through these important services, academic libraries have repositioned themselves to be a powerful tool for academic achievement and lifelong learning among the users. These library resources are usually catalogued, organized and disseminated through the current ICT tools, which can be accessed through different types of social networking platforms. It is important to note that the integration of ICTs and modern Communication Technologies brings about library growth in terms of quick and timely information delivery. Also, other library activities like cataloguing and classification, charging and discharging of library materials, acquisition, renewal of library materials etc. are now automated and users can now access these services through their mobile devices. That means users who are registered with login details can access library services within and outside the university anytime. According to the University of Adelaide (2015) affirms that, 'The image of the library as an impervious vault wherein librarian's service as the gatekeepers ... has become outdated. The internet and mobile technologies have revolutionized the way that people find, consume, and interact with content'.

In the quest to satisfy library users and to disseminate information on time to the right user at the right time led to the embrace of new technology. Libraries and librarians need to act according to the laws of library science, especially the fifth law "Library is a Growing Organism", which rightly mentioned the growth aspect of the library, as it embraces new innovations. In line with the new innovation; the academic library needs to satisfy users' need. The inclusion of social networking platforms in the day to day library routine gives access to unrestricted services and information harvest; as users can access the file uploaded by librarians, and users comment as they are opportune to share their opinions. Also, the academic library still preserves and makes available access to the rich cultural heritage around the continents via social networking platforms.

Libraries are currently undergoing considerable transformational change as a result of the inclusion of digital technology. With the current innovation in academic libraries, users are expected to have timely, accurate and adequate information in order to fulfil their tasks. Academic libraries in Nigeria can embrace change in technologies in order to promote sustainable development in the academic environment. It is important to note that Information and knowledge provide access to economic opportunities, personal and societal development, which the academic library must promote through its services. The library must provide unrestricted access to quality information in order to equip the users so that they can make informed decisions that would improve their lives and well-being. A well-equipped academic library with quality and timely information will eliminate ignorance and offer good educational resources, advancement in culture, research and innovation.

The academic libraries can use different social networking platforms to promote its services. The library can also collaborate with the university by helping it post updates of the institution's event on the library's WhatsApp and Facebook wall. For instance, it provides a link to online resources and create a platform to reach new users. Other services which can be provided by the library through the use of social networking platforms are:

- Publicizing library events.
- Provide newspaper extract services.
- User orientation seminar and workshops.
- Create a forum for users to give feedback about library services and can make suggestions for better services.
- Publicizing programs of the academic library and services.
- Broadcast of library events.
- Provide the list of new arrivals.

Due to the current drift in the role of the academic library recently, they now have electronic books in full-text and searchable. As users can access materials by individual title or in collections like Medicos, PsycBooks, Books 24x7, EBSCO's, etc. For these research tasks to be accomplished, library resources need to be updated and made available 24 hours through the use of social networking platforms. Librarians need to be knowledgeable and friendly in order to assist, to guide and train users on the current drift of information sourcing via social networking platforms, which includes locating information, chat, e-mail, telephone, collaboration and timely sharing of information.

Adayi et al (2021) opines that 'social networking site, also known as social media is any web-based interaction platform where people meet, friends, chat, communicate, pass information, upload or download pictures and so on'. It is no longer news that social networking platforms have changed the way academic libraries work since it has become an essential part of life of human globally. According to Adeyi et al (2021) who cited Technext (2020) attest that over 85.49 million Nigerians are active on the internet while about 27 million are active social media users.

It is believed that Social media application in academic library has enhanced the practical usability of library materials and it also helps librarians to add value to their service delivery. Diverse social media platforms

can be used in the dissemination of information by librarians and users. These new platforms of social media must be used in order to reach out to a vast community of students in and outside the campus. These platforms will make Current Awareness Services (CAS) more effective as its alert users about the latest developments and new publications acquired by the library. Bamigboye et al. (2020) assert that 'Social Media consists of various user-driven marketing channels like Facebook, Twitter, Blogs, YouTube, Flickr and so on'.

The use of social media platforms avails the academic libraries opportunities to interact with users in multi-directional communication and information sharing on a wide range of library services. Through the use of social media platforms, the library can promote its resources and services; by extending services beyond the physical boundaries of the academic library buildings as users access library services from anywhere they are. The application of these technologies (e-library, social networking platforms) by librarians can enable academic libraries to reach out to a larger member of the academic community, it can also attract new users to access library services and resources. According to Redden (2010) who maintains that, 'social media have had an impact on personal and professional relationships; culture and society; economics and commerce; empowerment of the masses; as well as creation, use and sharing of new knowledge'. Gani, et al. (2019), who mentioned a quote by Luis Herrera he asserts that, 'Libraries are more relevant than ever. They are a place for personal growth and reinvention, a place for help in navigating the information age, a gathering place for civic and cultural engagement, and a trusted place for preserving culture'.

It is important to note that digital library cannot totally replace traditional library because everything is not on the Internet. Though, the online databases can be accessed 24 hours a day 7 days a week from the library's webpage when fully automated. These databases can be accessed on campus and remotely with the institution's ID through the Internet. Ugwuanyi (2011) Opines that the,

information literate librarian who applies his literacy in the acquisition, organization, retrieval and dissemination of information in textual forms is called analogue librarian, while Digital librarian is one who applies digital literacy skills in his professional roles as a librarian in order to reach out faster to unlimited number of users.

The library has much role to play in the growth of any given institution due to their relevance according to the University of Adelaide (2015) affirmed that, 'The traditional library was firmly rooted in the physical transfer of information and knowledge. People came to the physical space to specifically look at physical items.'

The above quotation indicates that information was defined by physical boundaries as against the current drift of digital and social networking. The newly introduced technologies in the academic libraries is gradually reshaping the future of academic libraries as it is faced with the challenge of technological growth. Academic libraries' present-day services, processes and structure have grown organically according to the fifth law of library science out of a past based primarily on physical media. The integration of these social networking has expanded Academic Libraries' services to support electronic resources, but often as additional services with separate processes and different teams. Due to the inclusion of ICTs, the outcome of the Libraries' services reflects two worlds (Hybrid): one rooted in the traditional library work, while the other seeks to rapidly embrace new technologies, which means that the integration of new technologies is gradually winning the future. The British Library 2020 Vision clearly state that, "The technology environment will be constantly and rapidly changing, with the only certainty about the future being that it will be significantly different from today".

This paper discusses the growth of the library and the role it plays in supporting academic activities. With the changing role of library activities, users can access a variety of information and digital archives of libraries from anywhere. Users can also get update activities of the librarians through WhatsApp, Facebook, e-mails, LinkedIn, SMS etc on their phones and tablets. Social networking platforms also help users to access, integrate, manage, evaluate, share, collaborate and communicate with other users more easily than ever; which can be made possible by the emergence of library 2.0. (Martina and Peter, 2017, p.1006, Hua and Ding, 2013, p. 187).

### **Technology Integration**

The introduction of World Wide Web brings about universal Internet epoch. It is the WWW that integrates information together all over the world, through which electronic libraries and social media can reach everywhere and this help information organization to be flexible, faster and useful to the end users. So, the introduction of Web 2.0 describes WWW sites, which allow users to interact and collaborate with one another in a social media dialogue as creators of user-generated content in a virtual community . . . (Dare et al. 2014) The interesting part of social media is that it allows its users to create their own profiles, invite friends, create and organize groups, and also surf other user profiles. Hua and Ding (2013, p. 186) opines that "The integration of the social media functions supports the user interpersonal communication with others." They are of the opinion that WWW technology successfully centralizes the social media information to a vast network; which made information exchange to be achieved all over the world, as social media continue to attract more users.

For the academic library to be more effective and relevant to the current drifts, it needs to use these technologies which had changed the behavior of users, so that communication with others through the mobile terminal platform anytime and anywhere without the physical boundary limitation of the library. In doing so, information exchange, sharing, collaboration is greatly enhanced. These developments bring an opportunity to the stage for academic libraries to utilize for information dissemination among the users. These new activities break the barrier of traditional way of academic library services, which were limited to the confines of information within the library.

Knowledge plays an important role in the adoption of modern technologies like ICTs, e-libraries and social media in the dissemination of information. The integration of modern technologies in librarianship necessitated retooling and the acquisition of the skills required to operate in the global information society. The capacity of librarians and users to exploit the new technology depends on the level of literacy, education and mastery of the technologies convened. Librarians need to expand the scope of information service delivery and computer literacy in order to realize the potentials of the information age. To be technology literate is to be skilled with the manipulation, storage, retrieval and dissemination of information electronically.

Ugwuanyi (2011) affirms that, 'ICTs are technologies used to communicate and to create, manage and distribute information. Such technologies include computers, the Internet, telephone, television, radio and audiovisual equipment'. He further stated that the definition also includes any device and application used to create, manage, access, evaluate, integrate and disseminate knowledge and information.

### **Social Media**

Social media has been defined and described in different contexts by different scholars and specialists. But in all these definitions, it is certain that social media is an online application which allows participants interact and collaborate with both websites as well as with other people. As a web application, it facilitates content creation, interactive information sharing, review, editing and collaboration on the World Wide Web. Miyanda (2015) defined social media as an online tool whose principle aim is to offer social interactions and exchange of items/products between and or among people with common interests. Social media is known as the second generation of World Wide Web, as it moved away from static web pages to dynamic and shareable content and social networking. In line with the definition, Hilda Kamau (2019) mentioned Mason (2006) who argued that 'social networking applications have a lot of features desired for formal pedagogical technologies, allowing response from peers as well as corresponding the social settings of education for example the school, university or local community'. However, for librarians to effectively render services to users, adequate knowledge of social networking platform is required.

## **II. Literature Review**

The basic aim of the academic library is to provide numerous types of information resources and services that will meet the teaching, learning, scholarly-research and other information needs of its users, research scholars and faculty members. Students, scholars and faculty members actively seek current information from the various media available in libraries, for instance, journals, encyclopaedias and electronic media. The library as a growing organism must change the method of service delivery so that library users can access information from anywhere without limitations. Idiedo and Basil (2020), cited Akporhonor and Olisa (2015), opines that.

in this 21<sup>st</sup> century where a paradigm shifts in communicating library services to users is evident, a modern and contemporary tool would be needed to render effective services to library users and that social media is one of the modern and contemporary medium librarians can use to disseminate library information services quickly to library users and to attract them to the library in this digital era.

Users need timely and current information in the course of seeking, the individual may interact with social networking platforms and e-library for quick access.

The digital library is not merely equivalent to a digitized collection with information management tools. 'It is also a series of activities that brings together collections, services, and people in support of the full life cycle of creation, dissemination, use and presentation of data, information and knowledge' (Jie and Bao 2012, p.13). The integration of digital library in the academic environment brings about library growth as predicted by Dr. Ranganathan in his Fifth Law, 'Library is a growing organism'.

The technological growth of the academic library was greatly affected by the development of internet as rightly analyzed by Jie and Bao,

The rapid development of the internet in the 1990s and its embrace by the library and information community enabled the concept of the digital libraries (DLs), as a branch of library, research on digital libraries flourished in the mid of 1990s with the advent of the Internet coupled with the need to make information open and easily accessible.

Adayi, et al. (2021) cited Obi, Okore&Kanu (2019) in a study observed that, 'Facebook, Twitter, YouTube, Google, blog and Myspace are the types of social media used for library service delivery to Students in University of Medical Sciences, Ondo City, Nigeria'. Social media unlocks the opportunity for more real online information dissemination and also create new methods to have direct service to potential library users, encourage in developing modern library and enhance fast communication approach. Martina and Peter (2017) mentioned Andreas and Michael, who identified social media as 'a group of Internet applications built on the ideological and technological foundations of Web 2.0 that allow the creation and exchange of user-generated content'. In line with the above definition, Rdouan et al. (2015) talks about the community and online collaboration in their definition of social networks, 'as an online community that brings people with common interests, opinions, activities and experiences together by sharing their news, photos, videos, and events'.

In a nutshell, social media simplifies communication channel as it allows librarians and researchers to discuss, exchange ideas and opinions and more online contacts are made compared to traditional library that is fixed in a particular location. This is as a result of maturity of mobile terminals and mobile technology. Users can receive different formats of Information through social media. For instance, it may be an audio, photographs, video, text and other visual form that makes sense, and assist people who want to interact, share and associate together. Such activities can be carried out through: LinkedIn, Facebook, WhatsApp, MySpace etc.

Francesca (2013) cites Hitwise and Experian (2010) who confirms that the term social networking sites indicates a 'platform (including Facebook and YouTube, thematic social networks, blogs, wikis, online forums, virtual communities, online games and virtual worlds) that provides a range of social media services such as user-generated content sharing, social networking, knowledge co-creation and collaborative activities'. Since social media offer great potential for what has been defined 'mass-self communication' (Castells 2009), indicating the production of knowledge that utilizes the capabilities of large numbers of users for the solution and production of challenges or problems.

Social media became popularized through the use of the Internet which is considered as an enabling infrastructure and accessible to users worldwide. Rheingold (2002) asserts that 'the Internet is considered as an enabling infrastructure for novel ways to organize collective action via communication technologies.' While Jenkins (2006) opines that 'The use of the term "social media" emphasizes the ability of users to participate and contribute to content creation' Social media have enabled the emergence of a new participatory digital sphere based on a many-to-many communication where users can dialogically interact and collaborate to the creation of content shaping the flow of communication. The flow of communication will not be smooth without the networking sites. In line with this, Boyd and Ellison (2007, p. 1) refer to 'social network site' to web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system." Bijaynanda and Abhimanyu contributes that,

Social networking tools help library professionals to share information with research scholars, students and faculty members in an effective way in the academic environment. Library professionals mainly use social networking in three broad categories to attract these users like information, communication, knowledge distribution and knowledge organization. (Bijaynanda and Abhimanyu, 2016, p. 4)

Chai-Lee (2013) and Al-rahmi, Othman, and Musa (2014), stressed that 'social networking platforms are extremely helpful to university students since it modernizes their learning process, how they interact, collaborate and share information'.

### **Purpose of the study**

The purpose of this paper is to explore the prospective and practicality of social media tools for enhancing the delivery of academic library services; as well as how librarians can utilize this medium to market library resources and services. The specific objectives were to emphasize the importance of different type of social media tools and how social network activities aids collaboration, sharing and dissemination of information on time without boundary limitation, it explains how social media are used to support the delivery of library services; and ascertain the value academic libraries accrue from making use of social media and the propose strategies which academic libraries can employ to enhance the impact of social media use. It also explains how social media enable a very different response from users compared to traditional library settings.

### **The Role of Academic Libraries in Supporting Academic Goals and Objectives**

Libraries plays an important role now that the entire idea of education is concentrating more on independent learning and distance education. Which means that all library users should be able to find and use information, especially now that social media is in vogue. The presence of academic libraries in an institution is of great significance in terms of supporting academic activities; training and retraining staff in order to fit in with the current drifts of information dissemination through social media. The use of social media in academic libraries will enhance interactions between librarians and users; also, it saved the time for searching, accessing

and using information; it further reduced costs associated with space; and enhanced the promotion of library services and products. The fact is that, users that are exposed to the use of social media are of more advantage because they get more targeted information services through the academic libraries' social networks. The social networking sites aspect takes care of the sharing, interactions and personal relationships.

The integration of social media in the dissemination of information in academic library has many advantageous features over traditional means of information dissemination. Such features are derived from the social media technology. The fusion of social media brings about technological growth, according to the 'Fifth Law' of library science, which enhances academic library services with new platforms. The four main advantages are:

1. **Integration:** It integrates hundreds of millions of dispersed users and information resources. It connects people around the globe unlike traditional academic library that is limited within the four walls of the library. Hua and Ding (2013) affirmed that, "Information integration technology provides an effective guarantee of heterogeneous information, platforms and terminals to achieve interconnection and better support the user to maintain "strong ties" and expanding the "weak relations" of social media."
2. **Orderliness:** Social media reflects a self-organizing mechanism in terms of information organization. Irrelevant information can be filtered, revised or edited by social media users.
3. **Time Effectiveness:** There is no delay when it comes to exchange of information. Users can send and receive information immediately whenever they want without limitation. Saving the time of the user according to the "Fourth Law" is very important, that is why time effectiveness is a measure of an important indicator of intelligence value. Hua and Ding attest that "computer technology, mobile terminal technology and network technology will be high-speed, broadband, intelligent, easy direction, so as to continuously enhance the time effectiveness of social media."
4. **Least Effort:** Users do not need formal education, special skills or special training before they can use social media. So, the user will make least effort to manipulate and utilize the information and knowledge in social media. The technology used in social media and social networks is to help librarians and other users make least effort to get and use the information, and which is the reason the primary function of social media.

#### **Advantages of Social Media to Student's Information Retrieval Process**

The inclusion of social media networks would enable academic activities to become more socially engaged, while exploiting new ways to carry out research. Social media would enable academic libraries to establish a stronger relationship with the users, especially by solving their reference questions which need a direct answer. Social media allows users to actively participate in the communication flow during service delivery as it facilitates interactive communication and community. Spontaneous academic activities of librarians and users outside the boundaries of the libraries constitute a rare, valuable resource that spark innovation and which libraries are trying to capture and manage in order to meet up with the high demand of users. Users can contribute content through social communication tool platforms such as Amazon, Facebook, eBay, and Google. Blogs, or other platforms.

Social media aids the exchange of information and communication and creates room for teamwork and working from home or office. This means that information seeking and dissemination is becoming decentralized as it gradually moves away from disseminators and conventional library to one where users find their own information, and create knowledge by engaging in networks away from the traditional way of seeking information. Social media tools are also effective means to increase users' engagement as sharing of hardware and peripherals, further makes information dissemination easy and faster. Other benefits of social media platforms include:

1. It helps library Users gain from library staff and also from fellow students
2. It helps library Users receive immediate feedback from library staff
3. Enable library Users share course content and updates from the library.
4. It helps Users to receive information on new arrivals.

#### **Challenges of Social Media in service delivery**

Lack of adequate ICT infrastructure and lack of human resources can hamper the effective adoption of social media utilization in the libraries. Secondly, the social media is a kind of distraction to the users when used for other purposes other than educational purpose. Thirdly, many inappropriate information posted may lead students to the wrong side since anyone can post information through social media. Fourthly, users may fall victim to hackers. It is also important to note that users may be addicted to social media as they spend lots of time on social networking sites which can divert the concentration and focus from accessing library updates. Other challenges like Lack of security, Internet addiction, and Information overload can hamper the quality information dissemination and retrieval.

### III. Methodology

This study reviewed related literature. Which isa detailed examination of related primary and secondary sources,with the intention of getting sampled opinion about the use of social media in academic libraries.The data collection approach was chosen to generate sufficient in-depth information about the research. Phone calls were also made to further source for data from the various selected institutions. The research covers a population of 12 librariesin some selected federal and state universities in the six geopolitical zones in Nigeria. Information was gathered and analysis was made as displayed in the table below.

Geopolitical Zone	University	Social Media							
		Facebook	WhatsApp	Twitter	YouTube	LinkedIn	Instagram	Others	
South-West	University of Ibadan								
	Lagos State University								
South-East	Anambra State University								
	University of Nigeria Nsuka								
South-South	University of Calabar								
	Edo State University								
North-East	ATBU, Bauchi								
	Yobe State University								
North-West	Bayero University Kano								
	Sokoto State University								
North-Central	Nasarawa State University								
	FCT Abuja University								

- Key:
- = Means that social media platform is available and active.
  - = Means that social media platform is available but not active
  - = Means that there is non
  - = Means that there are other ICT facilities used in communicating with users.

From the above table, the blankboxes indicate that the institution does not have a particular asocial media platform for dissemination of information to the users, but rather they have Facebook and WhatsApp which they use among the library staff.Nasarawa state university has WhatsApp, Facebook, Twitter, and Instagram but not active. The Anambra state university has a library website which users can login with their user name and password given to them at the point of library registration.University of Abuja and Edo State University libraries also disseminate information using Telegram, Radio and Television which are classified under others.

### IV. Conclusion

This study investigated the awareness, frequency and importance of a social media for dissemination of information purpose. Social media hashelped librarians communicate and gather users’ input on future strategies on how to deliver services to a larger community. By communicating with users via social media platforms, librarians gain insights relating to their duties as they improve their services. This is due to the fact that users are exposed to social media through various platforms in everyday interaction with different groups as they share information. With the knowledge of social media and social network, librarians utilize the opportunity to encourage library users by communicating via social media so that information can be disseminated faster to potential library users. It is also interesting to know that academic research on social media has become the gateway when it comes to information harvest, management and information technology.Researchers find it easier to carryout research with social media since there is no formal education or training before using social

media. This innovation brought about growth and it changed the traditional way of academic library services and how user's carryout research.

## V. Recommendations

Based on the findings of this study and subsequent discussion, the following recommendations are made:

1. It is suggested that the Management of the various universities harnesses the benefits and fully integrate the use of social media in other aspect of academic activities. A social media-use policy should be carefully crafted to the various university's existing acceptable use policy for internet resources.
2. Library staff should be educated and trained in their line of duties to safeguard information in whatever media used in dissemination. WhatsApp, Telegram and Facebook groups and other social media platforms can be created and use as a platform for disseminating and promoting library services to users and non-users. The library management should utilize the numerous advantages of social media and social media sites to market library activities. Social networking sites allow users to find support faster online that may lack in traditional library services. The university authority should provide the library with a dedicated bandwidth (strong network) and solar system in order to serve users 24/7.
3. Due to the negative aspect of social media, which gives its upper hand over academic use, more enlightenment campaigns should be carried out by the university management to encourage students, library staff and lecturers on the use of social media platforms towards academic pursuit.
4. Libraries should expand their social media reach to more social media in order to be able to carry out effective service delivery.

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