Abstract
In the 21st century, information service delivery has witnessed a tremendous change due to the advancement in information technologies, which transformed the way information is created, acquired, processed, stored, retrieved and disseminated. These obvious changes call for skills in order to function effectively and efficiently in various information centers including libraries. This paper describes the nature of digital age and the changing roles of information practitioners in the new millennium. It sheds some light on the information practitioners and skills required to function in the current digital age. It further explores the emerging trends or patterns in information provision which can be employed by 21st century information centers, including libraries to reposition them for effective service delivery.

Keywords: Information Service; Delivery Patterns; Information Practitioner; Digital Age.

Introduction
Twenty first century is a period characterized by creativity and innovation which provides information users with enormous access to network of information resources and services as they are now familiar with the use of worldwide networks and this necessitated information Practitioners to incorporate virtual library accessible at ones comfort anywhere in the world. It is also referred to as Digital Age - a period when personal computers and other technologies were introduced to provide information seekers/users the opportunity to easily access and download information for later use. It ushers in digital technologies that are capable of converting non electronic resources to electronic. This recent development in ICT has brought about drastic shift from the traditional mode of service delivery to electronic and even web-based method of handling information (Ilyasu, Usman & Kasim, 2019).

This means that information practitioners use computers and telecommunication technologies to discharge their day-to-day operations and services. The consequence of this development became a catalyst in the improvement in quality of lives and development of societies with active leadership. Information practitioners have not only witnessed changes in information
formats but also in methods of delivery and the medium. Information is not only presented in print format but also in digital and electronic form. Means of disseminating the information are no longer through the conventional method but in compact disk, flash drives, virtual cloud storage and internet and other electronic format (Emezie & Nwaohiri, 2013).

Dissemination of information is an essential aspect of information service delivery. Its efficiency is one of the criteria for judging successful functioning of the libraries/information centers. In libraries and information centers or documentation centers, the greatest emphasis is on service delivery. No good librarian or information handlers can afford to ignore the provision of effective information services in their institutions or centers. Many modern libraries particularly special libraries in the area of Science and technology have reinforced their services and are now providing specialized services which are on personal basis, hence, information service provider needs to be academically sound and efficient, so that they can address the queries, source out information from various sources, prepare the information and hand them over to the seeker/user(s) based on their information needs. Change is something inevitable, therefore information Practitioners should bear in mind that as change occurs in information seeking behaviours, they should strive to meet the information needs of their clients who are bound to change due to technological advancement in our society today.

**Information Services**

Information services are those activities that are geared towards provision of information or assisting information seekers in finding information within and outside the library or information centers. Radford in Cassell & Hiremath (2013) defines information service as any process of resolving information needs of users in response to a particular type of question, interest, assignment or problem and building positive relationships with users. Libraries and information centers are in the business of providing access to information resources that satisfy the information, educational and recreational needs of their clients. Therefore, information practitioners are bound to introduce various services in the course of fulfilling their responsibilities through physical, electronic and virtual means. The Reference and User Services Association (RUSA), in Ilyasu et al (2019), gave guidelines for libraries and information centers to help them provide standard information services to their clients which are applicable to information practitioners:

1. They should develop information, reference and directional services consistent with the goals of the institution or community they serve.
2. They should strive to provide users with complete accurate answers to information enquires regardless of areas of specialization of those queries that need urgent information.
3. Make available user guides in appropriate formats to help users identify items in their collections.
4. Provide instruction that will facilitate effective use of the information resources (user education).
5. Publicize their area of coverage (scope) nature and availability of the information services they provide.

**Information practitioners and their responsibilities**

Information practitioners are the information science practitioners or information officers in different libraries and information centers. They are professionals who are engaged in the activities of identification, selection, acquisition, storage, preservation, retrieval and dissemination of
information. They are concerned with managing information in order to make it easily accessible. Ilyasu et al (2019), identify information practitioners to include:

- **The librarians:** These are group of Library and Information Science professionals that are responsible for providing access to information materials and services in the library of any type.
- **Archivists:** Archivists are information professionals who collect, organize, preserve, maintain and provide access to historical records/ archives that have long-term value. Examples are diaries, letters, government documents, picture recordings, digital fills, and sound recordings.
- **Curators:** Curators are information professionals in charge of the works of art in a museum or art gallery that are of historical and cultural values.
- **Record Managers:** They are information practitioners responsible for official records management in organizations, agencies, institutions and businesses.

Other information practitioners include:

- **Historians:** These are also regarded as information practitioners who carry out research and collect information from primary sources concerning historical events, which they later evaluate, analyze and interpret both in written records and artifacts, and they also endeavor to make those information available to organizations and advise them on cultural impacts of some programmes, policies to communities and society at large.

**Anthropologists and Archeologists:** These are also among the information practitioners because they preserve vital cultural information. They also carry out cultural research, collect data, analyze data collected and present their findings which are used by organizations and the wider world. These information practitioners are concerned with managing institutional information in order to make them accessible by users/information seekers. Their Work activities vary, depending on the needs of their institutions, organizations or clients, but typically include the following, according to Reena Kapoor (nd) of Lovely Professional University:

- selecting, managing and acquiring resources (both hard copy and electronic) to meet an organization’s current and anticipated needs;
- classifying, collating and storing information, usually using special computer applications, for easy access and retrieval;
- creating and searching databases;
- cataloguing and classifying/indexing materials;
- scanning and abstracting materials;
- conducting information audits;
- developing and managing electronic resources using, for example, online databases and content management systems;
- writing and editing reports, publications and website content;
- developing and managing internal information resources and networks via intranet sites;
- designing for the web;
- overseeing the development of new information systems;
- responding to enquirers’ requests using electronic and printed resources;
- running effective enquiry and current awareness or ‘alerting’ services and developing communications strategies;
- providing user education via leaflets, websites and tours of the library/information room;
- publicizing and marketing services, internally and externally, through publicity material,
• demonstrations, presentations and/or social media;
• providing training and advice to colleagues and sometimes clients on the use of electronic information services;
• managing a range of projects;
• developing and exploiting multimedia information;
• giving presentations and individual consultations (p. 67).

Information service delivery patterns

Information service delivery deals with the way information practitioners relate and behave towards the users, colleagues, organizations and the society. As a result of current trends and development in the profession, there are challenges and opportunities which have affected the pattern of delivery of information services. Omekwu in Eje & Dushu (2018) points that information service delivery is meant to support organizations, institutions and researchers by facilitating access to extensive range of information resources and challenges. The practitioners are expected to brace up for the demand of their work by improving on their competency skills; knowledge and attitude to enable them provide appropriate information service delivery. Greenstein (2012), in her book states that one of the skills needed in this 21st century is applying and integrating information and communication technologies. In supporting this view, Geisinger (2016) lists four types of skills required in 21st century which include digital and information literacy skill.

The technological innovations witnessed in the 21st century have transformed information service delivery. The change did not only affect tools used in rendering information services but information seeking behaviour of users also changed.

Modern information service delivery methods by information practitioners

Traditional/Virtual Reference services: Reference service is the assistance given to a user in search of information. In the Nigeria, many users do not consult the catalogue because they do not know how to use it. Their inability to locate the needed information could cause frustration and apathy to the user. Reference service is the core of librarianship and should not be relegated. Ibegbulam as cited in Emezie & Nwaohiri (2013) observes that reference services no longer center on one-on-one service delivered face-to-face in the library. The quality of a good reference service depends on the competency and skill of the reference librarian. The 21st century librarian employs his in-depth knowledge and search strategy to meet user information needs. He does not just point to a row of shelves rather he involves himself in the search process. He is not satisfied until he has satisfied his client. By so doing, he improves his knowledge as well as the image of the library/information centers. In the case of virtual reference, the users need not to visit the library or any information center before obtaining needed information; all it requires is smart devices with internet connectivity provided the information resources in information centers or libraries is visible online. Many libraries provide online services through Artificial Intelligence (AI) by configuring their webpage or portal to chat with visitors or provide list of some frequently asked questions for users to explore (Adegote, 2021)

Digital resource services: Digital resource services are contemporary services that use information and communication Technologies to convert print resources to digital information sources (Adegote, 2021). This service is provided to complement the traditional library services which involves scanning, editing, storing and dissemination of library and information centers holdings virtually. This type of service is accessible at any comfort zone. Ekere, Omekwu &
Nwoha in El-Kalash, Usman & Abubakar (2021) outlined digital services to include: online search, e-mail, online reference and online cataloguing and classification.

**Web based application services:** This service make use of the internet and web. The access to information resources are through the web page of the information providers. For instance, if information resource is needed, the user will first search On-line Public Access Catalogue (OPAC) to ascertain the availability of the material before they precede ordering for full access of the material if it’s available online. The method is faster in accessing information and it is user-friendly (Ilyasu, Usman & Abubakar, 2019).

**Social Networking services:** The Technological changes observed in the 21st century not only affected the tools used in delivering information but also the way and manner in which information are created, stored, assessed, retrieved in line with users information seeking behaviour. Information centers are in the enterprise of connecting people with information which is being made possible by Web 2.0 technologies and new roles emerged for the Practitioners. This involve using social networking tools like Facebook, twitter, Instagram, WhatsApp, blogs, etc, to deliver information services to groups online. Eje & Dushu (2018) state that this method ensures wide coverage and also allows users to make comments to information/services provided. Social media gives opportunity to connect to one another through the internet. Social media provides more opportunities to reach the target specific audiences, and it gives them a chance to interact with you.

**Advocacy services:** In this contemporary age, users no longer seek information in the library or any other place meant for it due technological advancement. Information Practitioners have go out to render information services to their users. To achieve this, the Practitioners have to look out for opportunities to connect and interact with their varied users. Enang & Udo-Okon (2019), posit that advocacy service seeks to influence public officials and decision makers to support and helps libraries and information centers. Therefore, Practitioners have to seek for opportunity to create awareness to the government, stakeholder and general public about their products and services; lobby for support; it also help them to create and maintain relationship that is needed to sustain professional status and the public confidence (Umahi & Ekenna, 2021). At meetings with government officials, these new strategies and tools could be introduced, thus serving as advocacy and tutelage.

**Mobile communication services:** Mobile devices like cell phones have improved communication and enhanced the way information is being created, delivered and accessed. The information practitioners in this age can provide effective information services through mobile technology like the GSM (Global Systems for Mobile Communication). In support of teaching and research, the use of SMS (Short Message Services) can be employed to answer reference queries, and alert users on new arrivals and upcoming events. Furthermore, Hung & Chanl (2015) and Ghosh (2016) added that mobile library which in this discourse means information services that are technology-based services; which involves the delivery of information services through the use of electronic/mobile devices (phones).

**Information packaging/repackaging service:** Packaging of information in various formats has become the norm in the digital era. This has created new opportunities for the information practitioners to provide value added services in the society bearing in mind that users of the 21st century are at home with electronic sources of information which permit multiple use of a document by different users at the same time. Repackaging of information, according to Salamu (2019), is a situation whereby information resources are changed from their original form to another to make them accessible and for easy utilization in a convenient way. In view of the above assertion, information practitioners can collate research outputs of their institutions, namely
projects, theses and dissertations and repackage them by digitizing and making them accessible virtually (Njoku & Okoro, 2019). In addition, they can collaborate with the institution/ICT center to create an institutional repository to host these projects on the institution’s website. Their visibility should be guaranteed on the website and their access and retrieval ought to remain the sole responsibility of the library in collaboration with the ICT unit in the case of academic institutions.

Skills required of information practitioners
As the traditional custodian of information, having been aware of the changes brought about by the ICT, information practitioners in the 21st century need to be aware of these significant changes in respect to output, format of information and their sources. They redefined the roles, such that practitioners need to acquire competent skills to satisfy the varied information needs of their ever-changing clients. This means that information practitioners will have to be competent with the necessary skills to operate and deploy suitable technologies that will enhance efficient and effective provision of information services to meet client’s changing information needs. Literature abounds on the competencies and skills needed for the digital age information professionals. Ekere, Omekwu & Nwoha (2016) outlined the following skills: basic knowledge of computer operations, competency with search engines, internet facilities such as e-mail; internet navigator tools, web browsers and web file formats, database software, internet development and management know-how. Also, Krishnan (2022) included communication and collaboration, creativity and innovation, critical thinking and problem-solving, media literacy, ICT literacy, flexibility and adaptability as some of the 21st century skills needed. Emezie & Nwaohiri (2013), identify important personal traits such as the capacity to learn constantly and quickly; flexibility; innate skepticism; propensity to take risks; abiding public service perspective; good interpersonal skills; skill enabling and fostering change; and capacity for and desire to work. Therefore, basic knowledge of computers and its facilities; Competency with search engines; internet, e-mail; internet navigator tools, web browsers, database software; website development and management are included. Ahmad & Yaseen in Ilyasu et al (2019) enumerated the following skills:

**Technical skills:** this is the ability to work with resources within one’s area of specialization. These skills are acquired through years of training and practice/ experience and are very important to efficiently operate in any library or information center. These skills include: ability to identify and select the right information resources that will satisfy information needs of users, cataloguing and classification skills as well as reference instruction skills.

**Professional competency skills:** These are knowledge and skills that enables information Practitioners to function effectively in any information-based environment. They relate to the librarian’s knowledge in the areas of information resources, information access, technology, management and the ability to use these knowledge facilitate effective information services delivery.

**Administrative/Management skills:** information Practitioners as manager of information centers and resources have to possess management skills that will enable them plan, organize, direct, and control both human and material resources of their organizations.

**Customer service skills:** Information Practitioners need to be customer-oriented that is, ability to demonstrate a sincere commitment to customer service through the observation of clients’ needs and making sure that information needed were provided without delay.

**Time Management skills:** These refer to time conservation and set of tools and techniques used to manage time when accomplishing specific activity, project or task which include: planning,
allocating, analysis of time spent, monitoring, scheduling and prioritizing. This supports the fourth law of Library science by S. R. Ranganathan geared towards saving the time of the user(s) when using the library by making sure that information resources are easily accessible.

**Conclusion**

Information delivery services have witnessed changes in the 21st century due to technological advancement which in turn have affected how information is formed, processed, acquired, stored, retrieved, disseminated and used. This situation calls for information practitioners to re-strategize in order to ensure efficient and effective service delivery to the satisfaction of clients in their respective institutions. To this end, the following recommendations are considered appropriate for effective information delivery.

**Recommendations**

1. Information practitioners should be acquainted with the technological competencies such as ICT skills and knowledge of electronic gadgets needed for effective information delivery.
2. Information practitioners should survey the information needs of host communities and strive to create indigenous information based on the information needs of their users.
3. There should be effective collaboration/consortia and cooperative networks among information practitioners that will allow access to information resources and services they cannot provide individually.
4. Appropriate information policies and practices should be a priority of information practitioners in this digital age.
5. Referral services should be provided to users in the absence of readily available information.

**References**


