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The 21st Century Library Workforce and Service Delivery in University Libraries: A Study of Michael Okpara University of Agriculture, Umudike and Imo State University, Owerri

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Abstract

The strength of a workforce of any organization determines to a reasonable extent the productivity and efficiency of the organization. A workforce of an academic library has a lot to offer in determining the strength of the library, quality of teaching, research and students' academic performance. Therefore, a library staff/workforce is a promoter; an advertiser; a marketer; a creative thinker. He/she thinks of what to do to meet the ever-changing needs of the user. The 21st century also called the digital/information age has not only altered the responsibilities of libraries and librarians as custodians of knowledge but also laid a responsibility on them to be information creators and promoters. Therefore, for academic libraries to function effectively as a support system for the attainment of educational goals in this 21st century, the ideal personnel and services must be re-examined. This study is undertaken to ascertain attributes, qualities and characteristics of 21st century library workforce. Five (5) objectives were formulated. The researchers adopted survey research design, a population of 75 comprising 35 academic librarians and 40 registered users on site were used. The data collected with the help of questionnaire were analyzed using descriptive statistics such as mean and simple percentages. Findings of this study among others were i. Library workforce possesses some technological skills but some skills were inadequate ii. Services rendered to users in this 21st century are highly dissatisfactory iii. Challenges include digital divide, technological advancements and changing user expectations and needs. The researchers recommend among others that libraries should look out for skills and competencies that can drive the 21st century library; go through the research findings to see relevant areas where training and development are needed for effective positioning of the library in this 21st century.

Keywords

Workforce, 21st Century Skills, Service Delivery, Academic Libraries

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Introduction

The 21st century is a period of human existence that is characterized with technological innovations and capabilities, especially in the area of information access and dissemination. It is often referred to as information age or digital age in the sense that individuals existing in this era exhibit or have the capacity to create, navigate, disseminate, evaluate and store information in diverse formats and medium. This era has placed a demand on information providers especially the library to be multi-talented as its users' information needs are changing every day. According to Okeji, Nwankwo, Anene and Olorunfemi (2020) the 21st century is a time of vast opportunities and challenges

in the learning environment, a time of technological advancement and proliferation of information. This has laid a responsibility on libraries and librarians to expand their jobs' specification to measure up with the new normal in information access and dissemination.

According to Cambridge Dictionary, a workforce is a group of people who work in a company, industry, country etc. it is a group of people employed by an organization or company. They are crucial to the success of any organization, serving as the driving force behind its operations. In academic libraries, the workforce is responsible for providing services to the library users. A skilled and motivated workforce ensures that library operations are efficient and effective leading to better outcome in terms of resource utilization and service delivery

The 21st century library workforce requires a dynamic blend of digital, technical, and interpersonal skills to meet the changing demands of university library users. Key among these are information and digital literacy, proficiency in emerging technologies, data management, and familiarity with open educational resources (OERs). According to Ogungbeni, Adeleke, and Ojo (2023), librarians must be competent in the use of integrated library systems (ILS), digital repositories, and bibliometric tools to support research and learning. Soft skills such as adaptability, communication, creativity, and collaborative problem-solving are equally essential in addressing diverse user needs. Moreover, continuous professional development is critical to ensure that library staff remain responsive to innovations in the knowledge economy.

The library workforce must be innovative, creative and smart in delivery its services to the teaming users whose information needs are growing technologically. Therefore, a today's library workforce must be apt in marketing its resources in a more effective way, combining the traditional library functions with 21st century skills for effective library service delivery and to remain relevant in this technologically growing world. Abubakar and Attahir (2018) posits that aside technology innovation, there is need for librarians in academic libraries to embrace change by creating new services and improving on existing one.

In a world where everything and every how can be found in the internet, libraries have the obligation to train its workforce to remain custodian of books and non-book information materials and be able to provide training to show people how to search and evaluate their search outcome. Therefore, it is not out of place for libraries to organize mini quarterly training on how to navigate the internet, conduct searches to increase their patronize. Cragg and Katie (2011) in their work titled "Beyond books: what it takes to be a 21st century librarian" ascertain that librarianship is a people profession, a librarian's job is to connect people with the information they are seeking in whatever format it may take.

In academic libraries, different categories of personnel are found ranging from professional librarians with master's degree in librarianship, para-professionals (officers and assistants), administrative cadre, clerical staff etc. Each category of staff has a role which contribute to the smooth running of the library.

According to Okwu and Opurum (2021) library services entail the entirety of support provided by the library for its user. It is all activities embarked by a library staff to ensure that the resources in the library are put to use. If the above assertion is accepted, therefore a library staff is not only required to carry out the traditional functions like cataloguing, reference, indexing, circulation, acquisitions among others but also required to promote the use of the resources by being innovative and thinking out new ideas on how to improve the existing services and create new ones to meet the user's information needs. Eliezer

and Enuma (2019) adds that user's information needs are ever-changing, placing a mandate on the library to provide current and satisfying services that will enhance repeated usage of the library. Therefore, library service in a nutshell can be said to entail activities performed by a library staff aimed at encouraging the user to use the resources in the library.

To support efficient service delivery, university libraries must provide modern infrastructure such as automated circulation systems, self-checkout kiosks, high-speed internet access, RFID technology, digital learning commons, and e-library platforms. Olanrewaju and Jimoh (2021) emphasize that smart library environments, equipped with AI-powered discovery tools and interactive workspaces, significantly enhance user engagement and information access. For libraries at MOUAU and IMSU, investing in cutting-edge facilities alongside skill development initiatives will position them as vital enablers of academic excellence in the 21st century.

Statement of Problem

Academic libraries in the universities occupy a vital position and responsibility. They provide the necessary information materials and services to teaching, non-teaching, students and researchers for their teaching, learning and research needs. Effective library services remain the prerequisite in realization of educational goals. However, without a trained workforce with the relevant skills and competencies to meet the information needs of 21st century user, the potentials of library cannot be actualized.

Globalization and emergence of Information and Communication Technologies (ICTs) have made the world a global village. People turn to the internet for research; libraries and its workforce if nothing is done stand the risk of becoming obsolete. There is a paradigm shift in the traditional way of operation in the library which requires a new skill-set. Surprisingly, my personal observation from some academic libraries visited showed that some library workforce is yet to embrace the numerous opportunities and responsibilities presented by 21st century for effective service delivery. Note that the effectiveness of any academic library to function as a support system to its parent body for the attainment of educational goals to a reasonable extent depend on the effectiveness of the library workforce. Therefore, it is expedient to assess the characteristics of workforce relevant for 21st century libraries for effective service delivery.

Purpose of the study

This study has a general purpose to ascertain what it takes to be a 21st century library workforce. Its Specific objectives are:

1. To ascertain the characteristics of the 21st century library workforce of the universities
2. To assess the technological skills and competencies of library staff in utilizing modern library technologies
3. To determine the levels of user satisfaction with the services provided by the library workforce
4. To explore the training and professional development opportunities available to university library staff
5. To identify challenges faced by library workforce in delivering services effectively in the 21st century.

Research Questions

1. What are the characteristics of the 21st century library workforce in the university libraries
2. What are the technological skills and competencies of the library staff to utilize modern library technologies?

3. What is the level of satisfaction of library users with the services provided by the library workforce?
4. Are there training and professional development opportunities available to university library staff?
5. What challenges does library workforce face in delivering services effectively in the 21st century?

Review of Related Literature

Overview of library workforce in the 21st century

The 21st century library workforce is a set of individuals who work in the libraries and information centres and possess the skills, knowledge and competencies necessary to meet the demands of the 21st century. This includes librarians, library officers, library assistants and other professionals who contribute to the operations and services of the libraries in various capacities. Larue as cited by Oladipo and Soyemi (2021) opined that the library's most powerful asset is its professional staff. This workforce is expected to be proficient in using modern technologies, including digital resources and information management systems to provide effective services to library users.

In 2012, the U.S National Research Council issued a report titled" Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century. This ushered in a new normal and occasioned new direction for educational reforms and development in U.S and also served as an insight for other nations to borrow a lift.

The concept of the 21st-century library workforce encapsulates a dynamic, technologically adept, and service-oriented group of professionals who can respond to the evolving needs of information users. The American Library Association (ALA) emphasizes that the modern librarian must possess digital literacy, leadership, adaptability, and strong communication skills (ALA, 2021). These skills go beyond traditional cataloging and reference functions and include proficiency in data management, digital curation, and user-centered design.

A recent ALA report (ALA, 2023) titled *"Core Competences of Librarianship"* outlines critical areas such as technological proficiency, collaboration, instructional design, and inclusion. These are deemed essential to delivering relevant services in academic environments. Similarly, the International Federation of Library Associations and Institutions (IFLA) stresses lifelong learning and continuing professional development as cornerstones of workforce preparedness (IFLA, 2022).

The concept of 21st century skills emerged in response to the challenges of the modern era. It is a digital age in the sense that individuals existing in this era exhibit or have the capacity to create, navigate, disseminate, evaluate and store information in diverse formats and medium. The partnership for the 21st century skills was a pioneering force in the movement and developed the framework for 21st century learning in the early 2000s (Longuin, 2023).

Tikekar as cited by George (2023) believes that changes in the pattern of undergraduate and postgraduate education, examination reforms, innovative teaching methods, multi-disciplinary research, the introduction of education/instruction technology, faculty improvement programs, distance mode of education and open universities, IT-based education, autonomy granted to educational institutions, collaboration with foreign universities have all drastically brought improvement to the twenty-first century academic libraries.

Trends in Service Delivery in University Libraries

University libraries have undergone significant transformations in service delivery over the past decades, driven by technological advancements, changing user needs, and evolving educational paradigms. One major

trend is the shift towards digital resources and services, including online databases, e-books, and virtual reference services which offer users greater access to information anytime, anywhere. Oladipo and Soyemi (2021) posits that the emerging information trend has come along with networked systems, new methods of acquisition and utilization of information resources. The changes have largely limited the capability of traditional librarianship in being able to meet the stated responsibilities of the library in recent time. Momoh and Folorunso (2019) said, Many scholars believe that with the current trend and the utilization of information technology in carrying out library operations, it is necessary that librarians possess some skills that will make them relevant. The skill set required for effective library service delivery has expanded significantly in the 21st century. According to Koufogiannakis and Brettle (2020), information professionals now require data analysis, project management, teaching, and research support skills. This shift aligns with the findings of Saunders (2022), who states that university librarians are increasingly involved in supporting open access publishing, digital scholarship, and learning analytics.

Moreover, the ALA Emerging Trends Report (2022) identifies adaptability and collaboration as two of the most critical soft skills. With changing library user demographics and expectations, librarians must be able to engage with students and faculty in both physical and digital environments. In Nigeria, these shifts are evident in university libraries that have begun integrating e-resources, institutional repositories, and remote access services (Nwalo, 2020).

Ugwu and Ezeani (2012) have listed some of these skills to include the following:

- Information technology skills
- Managerial skills
- Personal entrepreneurial skills
- Technical skills
- Information literacy skills

The above skills and competencies are expected of a library workforce in this 21st century to make relevant decisions and serve the information needs of the 21st century library user. Libraries are adopting user-centered approaches, where libraries focus on personalized services and spaces tailored to meet the diverse needs of their patrons. These trends reflect a broader movement towards more flexible, user-centric and technologically integrated library services in response to the evolving demands of the 21st century higher education environments

Modern Service Delivery Approaches in Libraries

Service delivery refers to the process of providing services to customers or clients. In the context of library, service delivery encompasses all the activities and processes involved in providing library services to patrons. This include not only the physical act of lending books but also the provision of reference services, access to electronic resources, assistance with research, and other activities that support the information needs of the library user. Oladipo and Soyemi (2021) defined Service delivery as the ability of a librarian to strive within and outside available resources to provide answers to users' queries and also to meet the overall information needs of the users,

Service delivery in university libraries has moved from a reactive to a proactive model. Traditional services like circulation, reference, and interlibrary loans are being complemented by embedded librarianship, digital reference, virtual learning support, and information literacy instruction (Lau, 2021). Libraries now serve as innovation hubs and collaborative learning spaces.

The shift toward user-centered services is also evident. According to Elmborg (2022), libraries must recognize students as partners in learning, not just passive recipients of information. This perspective has led to the

development of maker spaces, collaborative learning labs, and digital commons within many academic libraries.

In the Nigerian context, technological and infrastructural limitations still hinder the full realization of these innovative services. However, some academic libraries have made strides in providing online public access catalogs (OPACs), electronic databases, and virtual consultation services. This development is consistent with the recommendation of ALA (2021) that libraries in developing countries must prioritize digital inclusion and equitable access to knowledge.

Effective service delivery in libraries involves ensuring that services are accessible, efficient and meet the needs of patrons. This often requires a combination of well-trained staff, appropriate technology and a user-centered approach to service design and delivery. Effective service delivery in libraries is crucial as it directly impact user satisfaction, engagement and the overall success of the institution.

Challenges of 21st Century Service Delivery in Academic Libraries

The 21st century presents unique challenges for service delivery in academic libraries. One major challenge is keeping pace with rapidly evolving technology. According to Ulah, Usman and Khan (2023), technological advancements, obsolete library policies and bridging the digital divide were major challenges academic libraries face in this era of technology. Libraries must continue to update their system to meet user expectations for digital access and services, while also maintain traditional resources for others that need them.

Despite progress, several challenges confront the 21st-century library workforce in Nigerian university libraries. These include insufficient funding, inadequate staffing, limited opportunities for continuing education, and poor ICT infrastructure. According to Nnadozie and Nnadozie (2021), these limitations result in poor service quality, low user satisfaction, and reduced institutional relevance.

Moreover, Okike (2022) highlights resistance to change among some older professionals, who may lack the digital skills necessary for modern library functions. This generational skills gap must be addressed through targeted training and mentorship programs. ALA (2023) recommends a strategic workforce development plan that includes skills mapping, mentorship, and inclusive hiring practices.

Sahabi and Otobo (2021), posit that libraries face budgetary constraints that can limit their ability in invest in new technologies and services, lack knowledge of technology and incompetent to manage new technologies

The Role of Leadership and Policy

Leadership plays a vital role in shaping workforce development and service innovation. Transformational leadership that empowers staff, encourages experimentation, and fosters collaboration is essential. According to Hernon and Matthews (2020), visionary leadership in libraries promotes a culture of learning, innovation, and user engagement.

Library policies at universities must align with national and international frameworks for digital transformation and educational support. Strategic plans should articulate clear goals for staff development, resource mobilization, and service quality enhancement. As noted by ALA (2023), effective policy frameworks should include diversity, equity, and inclusion (DEI) goals, which are essential for equitable library services.

Methodology

The researchers adopted descriptive survey design. The location of the study is Abia, and Imo states in South East Nigeria. The population of the study comprises all academic librarians and registered users on

site in Michael Okpara University of Agriculture library, Umudike and Imo State University library, Owerri. Therefore, the population of the study is 75 comprising 35 academic librarians and 40 registered users on site. The entire population was studied to have a good judgment on the matter. This group of the workforce was dim fit for the study being those directly involve in rendering information services and those that utilize the services in the library. A four-point likert questionnaire rating scale was used as instrument for data collection with 100% return rate. The collected data was analyzed using mean and simple percentages with a criterion mean of 2.5 and above as accepted.

Scope of the study

The geographical scope of this research work is Abia and Imo States. It covered Imo state University Library, Owerri, and Michael Okpara University of Agriculture Library, Umudike being the selected university libraries in Abia and Imo states respectively. It does not cover other universality libraries in Abia and Imo.

Data Analysis and Result

Research Objective One: What are the characteristics of the 21st century library workforce of the university libraries?

Table 1: Summary of mean statistics and simple percentage of the characteristics of the 21st century library workforce of the university libraries N=75

Characteristics of 21st century library workforce	SA	A	D	SD	$\overline{X}$	Remark
Digital Literacy	45 (60.0)	30 (40.0)	0 (0.0)	0 (0.0)	3.60	Accepted
Adaptability	45 (60.0)	29 (39.0)	1 (1.0)	0 (0.0)	3.70	Accepted
Collaboration	25 (33.0)	45 (60.0)	3 (4.0)	2 (3.0)	3.20	Accepted
Critical thinking	45 (60.0)	30 (40.0)	0 (0.0)	0 (0.0)	3.60	Accepted
Lifelong learning	47 (63.0)	28 (37.0)	0 (0.0)	0 (0.0)	3.60	Accepted
Information management	46 (61.0)	29 (39.0)	0 (0.0)	0 (0.0)	3.60	Accepted
Creativity and innovation	46 (61.0)	29 (39.0)	0 (0.0)	0 (0.0)	3.60	Accepted
Leadership skills	70 (93.0)	0 (0.0)	5 (7.0)	0 (0.0)	3.90	Accepted
Customer focus	65 (87.0)	10 (13.0)	0 (0.0)	0 (0.0)	3.90	Accepted

Decision Rule: Accept mean score of 2.5 and above as a factor, Reject mean score of 2.4 below. Strongly Agree (SA), Agree(A), Disagree(D), Strongly Disagree(SD).

Table 1 shows the characteristics of the 21st century workforce. The responses affirmed all items on the table as a must have skill and competencies for library workforce for effective service delivery. The 21st century depicts a season of numerous technological advances which has placed a demand on information providers especially the library and its workforce to be multi-talented as its users' information needs are changing every day. Larue as cited by Oladipo and Soyemi (2021) opined that the library's most powerful asset is its professional staff. They are crucial to the success of any organization, serving as the driving force behind its operations.

Research Objective Two: Does library staff have the technological skills and competencies to utilize modern library technologies**?**

Table 2: Summary of mean statistics and simple percentage of necessary (N=35)

The technological skills and competencies to utilize modern library technologies	**SA**	**A**	**D**	**SD**	$\bar{X}$	**Remark**
Digital Literacy	30 (86.0)	5 (14.0)	0 (0.0)	0 (0.0)	3.9	Accepted
Knowledge of Library Management Systems	14 (40.0)	1 (3.0)	15 (43.0)	5 (14.0)	2.7	Accepted
Knowledge of database Management	5 (14.0)	5 (14.0)	25 (72.0)	0 (0.0)	2.4	Rejected
Information Retrieval skills	35 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	4.0	Accepted
Metadata standard's skills such as Dublin core, MODS, MARC etc	0 (0.0)	27 (77.0)	8 (23.0)	0 (0.0)	4.0	Accepted
Open Access principles and institutional repositories	0 (0.0)	20 (57.0)	10 (29.0)	5 (14.0)	2.4	Rejected
Awareness of emerging technologies	3 (9.0)	10 (28.0)	22 (63.0)	0 (0.0)	4.0	Accepted
Knowledge of cyber security best practices	0 (0.0)	15 (43.0)	15 (43.0)	5 (14.0)	2.4	Rejected
Knowledge of collaborative Tools such as project management software , video conferencing, cloud storage etc.	0 (0.0)	10 (29.0)	21 (60.0)	4 (11.0)	2.2	Rejected

Decision Rule: Accept Mean score of 2.5 and above as a factor, Reject Mean score of 2.4 below. Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD).

Table 2 has revealed the skills and competencies necessary to drive the 21st library possessed by the library workforce in the two academic libraries studied. From the data presented in table two above, there is need to incorporate on-the –job training to bring the existing library workforce at par with the necessary skills and competencies to drive the 21st century library. This finding is in line with Momoh and Folorunso(2019) submission that with the current trend and the utilization of information technology in carrying out library operations, it is necessary that librarians possess some skills that will make them relevant. Ugwu and Ezeani (2012) summarized these skills to include information technology skills, managerial skills, personal entrepreneurial skills, technical skills and information literacy skills. A skilled and motivated workforce ensures that library operations are efficient and effective leading to better outcome in terms of resource utilization and service delivery

Research Objective Three: How satisfactory are these services provided by the library workforce?

Table 3: Summary of Mean statistics and simple percentage of satisfactory levels of 21st century services provided by the library workforce. N=40

How satisfied are these services provided in the library	SA	A	D	SD	$\bar{X}$	Remark
Digital services(access to digital collections	20 (50.0)	15 (38.0)	5 (12.0)	0 (0.0)	3.4	**Accepted**
Instruction and information literacy	10 (25.0)	12 (30.0)	15 (38.0)	3 (7.0)	2.7	**Accepted**
Technology support	2 (5.0)	8 (20.0)	18 (45.0)	12 (30.0)	2.0	**Rejected**
User engagement through outreach programs and exhibitions	0 (0.0)	10 (25.0)	20 (50.0)	10 (25.0)	2.0	**Rejected**
Online Reference services	0 (0.0)	10 (25.0)	25 (63.0)	5 (12.0)	2.1	**Rejected**
Research support(helping in literature reviews, citation management and research data management	0 (0.0)	5 (12.0)	20 (50.0)	15 (38.0)	1.8	**Rejected**
Collaborative spaces	7 (17.0)	13 (33.0)	12 (30.0)	8 (20.0)	2.5	**Accepted**
Interlibrary loans	7 (17.0)	10 (25.0)	20 (50.0)	3 (8.0)	1.8	**Rejected**

Decision Rule: Accept Mean score of 2.5 and above as a satisfactory, and treat Mean score of 2.4 below as dissatisfactory. Highly Satisfied (HS), Satisfied (S), Dissatisfied (D), Highly Dissatisfied (HD).

The findings on the satisfactory levels of the services rendered to users in this 21st century in academic libraries revealed that while some services were satisfactory (Access to Digital Collections 3.4, Instruction and information literacy 2.7 and Collaborative spaces 2.5), many other services were dissatisfactory. Therefore, it can be deduced from the data presented on the above table that services rendered to users in this 21st century are dissatisfactory having attracted a grand Mean of 2.3. When user's information needs are not met, there is every tendency that they must look elsewhere to satisfy their information need. Librarians must be apt in marketing its resources in a more effective way, combining the traditional library functions with 21st century skills for effective library service delivery if they must remain relevant in this technologically growing world. Abubakar and Attahir (2018) posits that aside technology innovation, there is need for librarians in academic libraries to embrace change by creating new services and improving on existing one.

Research Question four: Are there training and professional development opportunities available to university library staff?

Table 4: Summary of Mean statistics and simple percentage of training and professional development opportunities available to university library staff (N=35)

Training and development opportunities available to university library staff	SA	A	D	SD	$\bar{X}$	Remark
Training on digital skills to effectively utilize digital resources	35 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	4.0	Accepted
Training on management and maintenance of library technologies	30 (86.0)	5 (14.0)	0 (0.0)	0 (0.0)	3.9	Accepted
Training on collection development polices, practices and tools	10 (29.0)	10 (29.0)	15 (42.0)	0 (0.0)	2.9	Accepted
Training on leadership and management skills	10 (29.0)	15 (42.0)	10 (29.0)	0 (0.0)	3.0	Accepted
Training on research support services	10 (29.0)	2 (6.0)	15 (42.0)	8 (23.0)	2.4	Rejected
Training on professional networking opportunities	10 (29.0)	2 (6.0)	2 (6.0)	21 (60.0)	2.0	Rejected

Decision Rule: Accept mean score of 2.5 and above as a factor, Reject mean score of 2.4 below. Strongly Agree (SA), Agree(A), Disagree(D), Strongly Disagree(SD).

The data on the above table has revealed the necessary trainings and professional developments that are available in academic libraries to enhance the productivity level of library workforce to delivery effective information services to users. Services in the library are effective when access to is efficient, and meets the needs of patrons. According to Eliezer and Enuma (2019), user's information needs are ever-changing, placing a mandate on the library to provide current and satisfying services that will enhance repeated usage of the library. Library managers should therefore initiate trainings on these areas itemized in the above table to better position its workforce for the challenges of 21st century user.

Research Question five: What challenges does library workforce face in delivering services effectively in the 21st century?

Table 5: Summary of mean statistics and simple percentage of challenges faced by library workforce in delivering services effectively in the 21st century (N=35)

Challenges	SA	A	D	SD	$\overline{X}$	Remark
Changing user expectations and needs	10 (29.0)	25 (71.0)	0 (0.0)	0 (0.0)	3.3	Accepted
Information Overload	10 (29.0)	25 (71.0)	0 (0.0)	0 (0.0)	3.3	Accepted
Digital Divide	15 (42.0)	10 (29.0)	10 (29.0)	0 (0.0)	3.2	Accepted
Technological Advancement	35 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	4.0	Accepted
Financial Constraints	35 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	4.0	Accepted

Decision Rule: Accept Mean score of 2.5 and above as a factor, Reject Mean score of 2.4 below. Strongly Agree (SA), Agree(A), Disagree(D), Strongly Disagree(SD).

From the responses in the above table5, it can be deduced that the impediment facing library workforce in this 21st century ranges from ever changing needs of the users, financial constraints, information overload to technological advancement. Also digital divide among users of the library and librarians were indicated as a hindrance. This finding is in line with Okeji, Nwankwo, Anene and Olorunfemi (2020) submission that the 21st century is a time of vast opportunities and challenges in the learning environment, a time of technological advancement and proliferation of information.

Discussion of Findings:

Characteristics of the 21st century library workforce of the university libraries

Findings affirm that the 21st-century library workforce strongly embodies key attributes including digital literacy, adaptability, critical thinking, lifelong learning, creativity, leadership, and customer focus, with mean scores ranging from 3.2 to 3.9. These results support Harland and Henwood's (2021) assertion that modern librarians must be agile, technologically skilled, and user-focused. The high ratings for leadership ($\overline{x}$ = 3.9) and customer focus ($\overline{x}$ = 3.9) underscore a shift toward strategic roles and service excellence. ALA (2020) highlights that these competencies are essential for navigating the evolving information landscape and ensuring impactful academic service delivery.

Technological skills and competencies to utilize modern library technologies

The study shows that while library staff possess strong skills in digital literacy ($\overline{x}$ = 3.9), information retrieval ($\overline{x}$ = 4.0), and metadata standards ($\overline{x}$ = 4.0), there are noticeable gaps in knowledge of database management, cybersecurity, collaborative tools, and open access ($\overline{x}$ = 2.2–2.4). This mirrors findings by O'Connor and McDonald (2022), who stressed the uneven distribution of essential tech competencies among academic librarians. Luo

et al. (2021) assert that proficiency in emerging technologies, collaborative platforms, and digital security is critical for enabling modern library functions and user engagement in the 21st-century knowledge economy.

Satisfactory levels of 21st century services provided by the library workforce.

The study reveals a low overall satisfaction with 21st-century library services (grand mean = 2.3), indicating significant service delivery gaps. While digital access ($\bar{x}$ = 3.4) and collaborative spaces ($\bar{x}$ = 2.5) were accepted, critical services such as research support ($\bar{x}$ = 1.8), online reference ($\bar{x}$ = 2.1), and outreach programs ($\bar{x}$ = 2.0) were largely unsatisfactory. This supports findings by Walsh (2020), who noted that limited innovation and inadequate staff engagement undermine user satisfaction. Tenopir et al. (2020) emphasize the importance of responsive, technology-enhanced, and research-oriented services in meeting evolving academic demands and promoting library relevance in the digital age.

Training and professional development opportunities available to university library staff

The findings reveal strong institutional support for training in digital skills ($\bar{x}$ = 4.0) and technology maintenance ($\bar{x}$ = 3.9), affirming the emphasis on digital transformation in libraries (Boateng & Liu, 2021). However, moderate support exists for leadership, collection development, and research services training ($\bar{x}$ = 2.4–3.0), while professional networking opportunities receive minimal attention ($\bar{x}$ = 2.0). This indicates uneven capacity-building initiatives. According to Harland and Henwood (2021), continuous, balanced professional development is crucial for a competent library workforce. ALA (2022) also stresses the need for inclusive training across all competency areas to foster innovation and strategic service delivery.

Challenges faced by library workforce in delivering services effectively in the 21st century

The findings indicate that university library staff face significant challenges, notably technological advancement and financial constraints, both rated by 100% of respondents as serious concerns ($\bar{x}$ = 4.0). Changing user expectations, information overload, and the digital divide were also acknowledged as prevalent issues ($\bar{x}$ = 3.2–3.3). These findings align with Ocholla and Bothma (2021), who identified resource limitations and rapidly shifting user behaviors as key obstacles in academic libraries. Furthermore, Tenopir et al. (2020) emphasize that coping with constant technological changes and financial limitations can hinder innovation and staff efficiency in delivering 21st-century services.

Conclusion

The objective of any academic library is to offer services and provide access to information materials to support the educational goals of its parent body. However, to achieve this, the library must be equipped with both relevant resources and workforce to drive this objective. The library workforce has a lot to offer in determining the strength, productivity and outcome of the services in the library. The 21st century also called the digital/information age has not only altered the responsibilities of libraries and librarians as custodians of knowledge but also laid a responsibility on them to be information creators and promoters. Therefore, for academic libraries to function effectively as a support system for the attainment of educational goals in this 21st century, the right services and ideal workforce must be in place. Through strategic leadership and policy alignment with bodies like ALA and IFLA, libraries can harness the full potential to support education, research, and innovation in the digital age.

Recommendation

The researchers recommend that libraries should;

1. Look out for skills and competencies that can drive the 21st century library. Library users of today are advanced in the use of technology in accessing information. Libraries stand the chance of being obsolete if their services cannot meet the information needs of its users. This can be achieved through fresh recruitment and also training the existing workforce.
2. Look out for relevant areas where training and developments are needed to better equip the workforce.
3. Be on the know for any technological advancements in the libraries.

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