REVIEW ARTICLE

The role of Gender in Information Service delivery among Librarians in the Era of Information and Communication Technology

Ogunbanjo Emmanuel Gbemisola.S (CLN)[1*], Bakare, Oluwabunmi Dorcas[2]

[1]Polytechnic Library, Ogun State Polytechnic of Health and Allied Sciences, Ilese-Ijebu, Nigeria
[2]Department of Information Management, Faculty of Communication & Information Sciences, Lead City University, Oyo-State, Nigeria

Corresponding Author: Ogunbanjo Emmanuel. Email: shmily.gbemisola@hotmail.com

Abstract

The paper explored the role of gender in information service delivery among librarians in the era of Information and Communication Technology (ICT) using systematic review. Articles considered for this systematic review study include articles between the year range of 2000 and 2021, and information and materials used cuts across journal articles, books, and other online materials addressing the important issues that focus on this study. In addition, content analysis was deployed and information resources obtained were grouped into the major themes of the research objectives to address the objective of the study. The findings revealed that gender gap actually exists among librarians in the iinformation service delivery in the era of Information and Communication Technology. However, this may occur in different proportions that tend to favour the male librarians especially with regards to holding key positions such as supervisors, administrators and act as know-it-all librarians and demonstrate a high level of intellectual prowess couple with their proficiency in technology usage while the females hold lower positions in the libraries. But few women rise to hold supervisors, administrators, and other leadership positions. This has actually affected the motivation for women to embark on various career enhancement programmes and activities. Therefore, the study recommends that libraries should work to reverse gender stereotypes that could allow for upward mobility, and increase gender diversity among librarians and also focus on women empowerment with various technology and programming skills that would close the gender gap among librarians.

Keywords: Gender; Gender-roles; Information; Information and Communications; Librarians; Service delivery

Introduction

The application of Information and Communication Technology (ICT) has become globally acceptable in the day to day activities of individuals, institutions and organizations thereby bringing efficiency and effectiveness to tasks and work activities. According to Olatokun and Omiunu (2019), it has brought several revolutions and significant transformations to the libraries by enhancing their service delivery processes and activities. The primary role of the libraries is to provide and deliver information service towards support for educational, recreation, cultural, economic and technological processes and activities among the stakeholders in respective societies (Olayemi, Umar, Yemi-Peters, Sokari and Haliru, 2017). Meeting the elastic needs of these various stakeholders could be very cumbersome for the librarians hence, embracing the use of ICTs for effective

information service delivery cannot be neglected (Afolabi and Abidoye, 2011). ICT implies a set of diverse technology tools and resources that are deployed and used to communicate, create, disseminate, store, manage information and promote various human activities effectively and efficiently (Awotona, 2019). They include computers, Internet, scanner, broadcasting technologies, projector, telephones, among others. According to Agim, Iroeze, Osuji, &Obasi-Haco (2018), it also include any device and application that could be deployed and used to access, manage, integrate, evaluate, create and communicate information and knowledge. Hence, with regards to information service delivery in the library, ICT refers to the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information (Olayemi et al., 2017). Therefore, the use of ICT for the acquisition, organization, storage, retrieval and dissemination of information has actually transformed the library services which were previously done manually.

In the past, librarians perform information service delivery in the traditional way which includes the collection and development, processing and provision of library services without the ICTs hence, making information service delivery and its activities very cumbersomeand difficult (Olatokun and Omiunu, 2019). However, in recent times, with the advent of ICTs, the various activities and processes of librarians in information service delivery has changed to include the use of various technologies to acquire, organize, store, retrieve and disseminate information to users. This change has also challenged the librarians and their roles in information service delivery hence demands a full understanding of the librarians' roles in information service delivery in the ICT era. A librarian refers to a professional trained staffresponsible for vast amount of information, ranging from the classic management of books and periodicals to more modern responsibilities involving digital and electronic information resources (Sokanu Interactive Inc., 2022). From this definition, the changing role of librarian does not orchestrated by the ICTs does not totally mean that librarians should not provide traditional services of information service delivery but implies that, there is the need for additional e-skills and e-services processes that could be deployed to enhance information service delivery in the ICT era. To this end, Olatokun and Omiunu (2019) noted that the traditional and digital libraries would co-exist in this development. These include skills to acquire, organize, store, retrieve and disseminate information resources electronically or digitally to users. Olayemi et al. (2017) outlined the various library services by categorizing them into sections in the libraries. For example, in the serials unit, ICT facilities services can be provided through the use of ICT in subscription control, procurement process, order preparation, fund analysis and accounting processes. It also cuts across its use in bibliographic file control, cataloguing of new serials, preparation of serials record entries, transaction control, binding control file, making changes and deletions, servicing request for serials publication, among others (Agbaje, 2002; Oni 2004; Olayemi et al., 2017). Other services could include CD-ROM searching, online searching, online networking, photocopying, online information services and database searching services ((Islam and Islam, 2007; Olayemi et al., 2017). Also, of significance is the role of gender in exhibiting these various library services in the ICT era. Despite the significance attached to the use of ICTs towards enhancing information service delivery in libraries as revealed above, ICTs have not been fully adopted and utilized in the provision of such services among libraries (Olayemi et al., 2017). This could be as a result of mis-understanding of gender role in the effective utilization of ICTs for enhancing information service delivery. Several studies such as the United Nations Division for the Advancement of Women (2005); Ahmed (2015); O'Donnell&Sweetman (2018); ESCAP - Social Development Division (2018); among others have noted that there is a gender dimension and differences syndrome in the use of ICT especially with regards to information service delivery in the library and information system. According to Ogugua, Ofordile, Agubosim and Ezeonyi (2024), gender issue is a major issue that has affected the Nigeria economy, including library service provisions with elastic digital gender gap. Gurumurthy (2004) admonished that the existing power relations in the society especially with regards to gender differences could determine the enjoyment of benefits from the various deployment of ICTs to particularly in

enhancing information service delivery because these technologies use in the libraries and information system are not gender neutral. Also, O'Donnell&Sweetman (2018) affirmed that though, there have been a wide range of gender gap in the access to ICTs, but there are far greater divides in relation to the design and use of hardware and software for the use of information service delivery through the power to contribute, create and control content. According to Ahmed (2015); O'Donnell&Sweetman (2018); UN E-government survey (2016) and ESCAP - Social Development Division (2018), only a very few percentage of women could have access to information service delivery. Also, Obiozor-Ekeze & Chimezie (2024) examined how gender issues among librarians could cause c or increase computer anxiety, particularly in the utilization of digital resources for the delivery of library services to users, and affirmed that the male librarians possessed higher computer skills and are even more anxious in the use of digital resources for the delivery of library services when compared to their female counterpart. This could be a sign that there is gender gap existing among librarians that should be addressed, particularly in the ICT era, if they must execute their role appropriately and effectively.

The reason for this is that gender perspective is not put into consideration from the design, implementation, use and the provision of e-services to the various users, thereby its access failed to take into account the specific needs and priorities of women in accessing information service delivery. The intersecting structures of social stratification which include gender that has long been contributing to women's exclusion from the benefits of ICT have, thus, largely remained unaddressed in the transition to information service delivery in the libraries and information service system (ESCAP - Social Development Division, 2018). This remains a very complicating issue in ensuring effective information service delivery in the ICT era. There have actually been various studies addressing gender related issues with regards to access to information service delivery but little is known about gender related issues at the service provider end, which makes this study unique. Therefore, this paper focuses on articulating the role of gender in information service delivery among Librarians in the era of Information and Communication Technology (ICT).

The structure of this study follows: Embarking on literature review, providing a theoretical underpinning for this study, the methodology that would be used, presentation of the result, and lastly the conclusion and recommendation provided.

Literature Review

Service delivery is a business component that seeks to define the interaction between service providers and customers in which the provider offers services which could be information or other activity, and the customers obtain value or loses value in the service provided (Yusuf &Fasae, 2021). This implies that good service delivery should be directed towards providing the clients with greater elasticity of value derived from the services provided (Ekere, Ewulum, Eze, Okpala, &Ebobo, 2019). In library and information service delivery, the objective of information and service delivery focuses on ensuring the provision of effective and efficient provision of information services and resources towards meeting the information needs of users which could be deployed by users for research, learning, and teaching (Mbofung and Popoola, 2014; Yusuf &Fasae, 2021). In librarianship practice, information service delivery is determined from the different types of services rendered and how they are rendered. Traditionally, librarians tend to provide information to users coupled with their duties which cut across the collection development, user instruction, reference services and current awareness services which are done manually. However, librarians' service delivery has now changed due to the various dimensions and trends of Information and Communication Technology. Thus, information service delivery is rapidly witnessing the changes brought about by the application of the various information and communication technology to providing information services to clients (Ojedokun, & Victoria, 2015). Mairiga, Ibrahim and Lawal (2023), examined knowledge sharing strategies adopted for service delivery among academic librarians in university libraries in

Nigeria, and opined that Reference Services, Circulation /Borrowing Services, Current Awareness Services, Selective Dissemination of Information (SDI) Services, Reprographic Service, Technical Services, Extension/community services, and others are the various library services that could be delivered to clients by librarians.

ICT facilities and tools used in providing these services are encompassing and could categories of technologies such as sensory technologies (which cuts across the scanners, sensors, keyboard, mouse, electronic pen, barcode sensors or readers, touch of digital boards, voice recognition system); communication technologies (which include fax machines, telephone, e-mail, telecommunication system, teleconferencing, electronic bulletin boards); display technologies (such as computer screen, printers and television); analysis technologies (which include micro, mini and mainframe computers); and Storage technologies (which are magnetic tapes, disks, optical disks cassettes) (Badaru 2013; Onyije and Opara, 2013; Mbagwu, 2023). Oniovoghai, Idiodi and Urhiewhu (2023) investigate the use of artificial intelligence in enhancing library service delivery in Nigeria, and affirmed that artificial intelligence, such as the use of expert systems, natural language processing, neural networks, robot, and others could be deployed as major technology to enhance library service delivery among librarians in Nigeria. These various technologies are deployed to the acquisition, organization, storage, retrieval and dissemination of information in ensuring effective and efficient information service delivery by librarians (Olayemi et al., 2017). This has actually challenged the traditional method of the provision of information service delivery. Despite this significance of ICT, another salient issue in its use is the role of gender in the use of ICTs. The use of ICTs in ensuring effective and efficient information service delivery could be challenged by gender role (United Nations Division for the Advancement of Women, 2005; O'Donnell&Sweetman, 2018; among others). There is the intersecting structures of social stratification in relation to gender that could affect the effective and efficient deployment of ICTs for information service delivery (ESCAP - Social Development Division, 2018). This is because, greater divides exist in relation to the design, deployment and use of hardware and software for effective information service (O'Donnell&Sweetman, 2018). Several studies have focused on addressing gender related issues with regards to access to information service delivery from the users' perspective, but not much is known about gender related issues from service provider perspective. Therefore, this paper focuses on articulating the role of gender in information service delivery among Librarians in the era of Information and Communication Technology (ICT).

Theoretical Underpinning

A major theory used to guide this study is the Gender and feminist theory by Butler (1993). This theory have long held the view that gender characteristics shape and is shaped by repeated social and cultural behavioral patterns, some of which are entrench in organizational work-life (Butler, 1993). Naturally, gender is fluid as Individuals are socialized into feminine and masculine cultures in the society which also include at work place in ways that construct their gender identity (Acker, 1992). Feeneya and Fusi(2021) noted that work organizations such as related to library have traditionally valued, preferred and rewarded masculine gendered processes and tasks while the feminine's' have been undervalued. Feeneya and Fusi(2021) admonished that this gender challenge is also observed in the deployment of digital technologies such as software, social media, computers, laptops, among others. For example, studies such as Nygren (2012) and Elsbach&Stigliani (2019) note that some digital tools and their usage are perceived to be more masculine or feminine hence, these perceptions tend to reinforce gendered issues at workplace when putting into considerations the use of such technologies thereby bringing in the culture, divisions, power structures, and autonomy. For example, in integrating the digital technologies into the work environment, some technology activities such as coding, software development, among others are observed to be predominantly related to and defined to be masculine professions (Feeneya and

Fusi, 2021). This has therefore marginalized women from spaces where digital technologies are designed, used, and implemented (Feeneya and Fusi, 2021). Hence, this may also affect the use of these technologies in information service delivery among librarians. However, little is known about the extent to which this exist in information Service delivery among librarians in the era of Information and Communication Technology (ICT). Therefore, this paper seeks to examine information service delivery among librarians in the era of Information and Communication Technology (ICT).

Methodology

The study adopted a systematic review approach and includes the use of various information and materials such as the use ofjournal articles, books, and other online materials addressing the important issues as regards to this study. Also, information and materials deployed in this study includes studies related to empirical and systematic review findings. Little is actually known in addressing gender related issues with regards to the providers of information service delivery hence, leading to few related articles addressing this salient issues. Also articles considered for this systematic review study include articles between the year range of 2000 and 2021. This was attributed to the need to obtain a wide range of information and material resources that would provide an elastic resources and information that would address and explain the focus of this study which is the articulating of gender role in information service delivery among librarians in the era of Information and Communication Technology (ICT). Also, several information and materials were searched for using the google scholar and through other search engines such as Google and yielded several results and outcomes but very few (only six articles) were selected to fit in this study due to limited studies addressing the focus of this study. Also, according to Stansfield, Dickson & Bangpan (2016), materials and information for systematic review could often be sought for using searching websites, search engines or online repositories and could require searching and browsing techniques which inculcates reading and navigating along the searching process. Also, the search strategy was informed by the PICOS framework to define the inclusion and exclusion criteria (Richardson, 1995; Huang et al., 2006) implying:

P – The Problem or Population: materials must cover Gender related gap and issues among librarians in Information Service delivery in the Era of Information and Communication Technology (ICT)
I – The Intervention: Not applied
C – The Comparison, control or comparator: Not applied
O – The Outcome(s): Gender issues in Information Service delivery affecting career enhancement and service delivery
S – The Study type (e.g. quantitative, qualitative, missed, etc): Information and materials cut across quantitative, qualitative, missed, review, etc.
The articles selected include the works of Bergman (2005); Oyeniyi (2013); the American Library Association (2014); Blackburn (2015); Mars (2018) and Singh et al. (2020). In addition, information obtained were subjected to a content analysis and information resources obtained were grouped into major themes of the research objectives to address the objective of the study.

Results

The study used six studies from the total downloaded studies due to the limited studies that focused on this aspect.Bergman (2005) looked at whether gender equity exists among electronic resources librarians, deploying a survey instrument to elicit information from the respondents from the Electronic Resources in Libraries listserv (ERIL-L, http://listserv.binghamton.edu/archives/eril-l.html). The study found that the males are not being

favored over females for employment in the library specialty but experience and geographic location were found to be the significant factors that create a salary differential between the two genders. There was also a wide supervisory gender gap as 67.9% are supervisors- this could be apparently caused by the different roles as electronic resources librarians than because of gender. The result also revealed that despite several women earn the highest salaries, the overall salary mean for the male respondents was noticeably higher than the women's salary mean. In addition, electronic resource librarians are more of women, indicating that it is not favoring male librarians. The men were more often supervisors than were the women and also have a higher average salary, but not so high as to be statistically significant. Oyeniyi (2013) examined gender differences in information retrieval skills and use of electronic resources among information professionals in South–western Nigeria, using a descriptive survey research design, a sample size of 175 information professionals were deployed for the study. The result revealed that 56.0% were males while only 44.0% were females. It further revealed that there is no statistically significant difference in the use of electronic resources between male and female information professionals and there was also no significant gender difference between male and female information professionals in the acquisition of information retrieval skills. This revealed that despite the increasing numbers of male than female librarians, information retrieval skills and the use of electronic resources showed no significant difference between the genders in libraries. The American Library Association (2014) did an exploration of gender issues in tech librarianship, adopting a phenomenological qualitative method using the group discussion method and affirmed that technology is traditionally a male-dominated field while librarianship is more for the female. During the discussion, a female individual noted that she had a background in engineering but faced several issues of gender inequality, this however contributed to deciding a career change into becoming a librarianship. Ever since she became a librarianship, she had not met such issue again. But because, she was interested in tech librarianship, she often finds that she is the only woman in the room, making the same issue she felt during the engineer profession came up again. She exclaimed because almost all the librarian technologists in my location are men. The women in this field were also subjected to criticisms for leaving their little children at day care after maternity leave. These have really affected women roles in librarianship. Blackburn (2015) examined gender stereotypes male librarians face today and noted that the library profession has seen a 48% increase in males working in libraries as the society sees librarianship as women's work and anyone associated with it must be female or feminine. In addition, noted for the valid stereotypes, men tend to avoid the jobs, and as such, fewer males enter the workforce. Where the males take the librarian job, they assume the know-it-all syndrome. Blackburn (2015) also found that the stereotypical male librarians wear glasses, display some level of autocratic attitude such as constantly telling the library clients to be quiet, they prefer comic books, videogames, and computer programming, and could also have some level of intellectual prowess such that the male librarians must often be an administrator coupled with being proficient at technology usage. Mars (2018) examined gender demographics and perception in librarianship,adopting a systematic review and found that female are more in the library workforce (22% of librarians are men), face low wage challenge and the higher proportion of men are in the leadership roles thereby limiting the career enhancement among the female librarians. Also, females are often limited by the male library leaders and women librarians are often considered as active partners and not as equal partners as the male librarians. This has an unfortunate effect on limiting the gender diversity especially in the field and profession of librarianship.

Singh et al. (2020) examined female librarians and male computer programmers?- gender bias in occupational images on digital media platforms. They found that women are largely underrepresented in the profession and affirmed that gender stereotypes are far from being eradicated in the profession because this difference has persisted over time. There are less women who are computer programmers. The reinforcement of gender

stereotypes in the library profession could hinder the progress in desegregating occupations and could further discourage females from striving for careers and career advancements.

Discussion

The findings of this study revealed that there is actually gender issue in the information service delivery among librarians in the era of Information and Communication Technology (ICT hence the lack of gender equity in the profession. This supported the work of Olatokun and Omiunu (2019) that the ICT revolution has brought several changes and transformations to the libraries which also cuts across the librarians. This also concurs with the works of the Advancement of Women (2005); Ahmed (2015); O'Donnell & Sweetman (2018); ESCAP - Social Development Division (2018); among others that there is a gender dimension and differences syndrome in the use of ICT in the information service delivery in the library and information system. In addition, this supports the work of Ogugua et al. (2024) that gender issue has been one of the major issues confronting the Nigeria economy, which also cuts across the provision of library service in Nigeria. This supports the findings of Obiozor-Ekeze & Chimezie (2024) that gender gap exists, particularly among librarians in the ICT era, and this could hinder the librarians to effectively provide library services to clients.

However, this may occur in different proportions that tend to favour the male librarians especially with regards to holding key positions such as supervisors, administrators and act as know-it-all librarians and demonstrate a high level of intellectual prowess couple with their proficiency in technology usage while the females hold lower positions in the libraries. But few women rise to hold supervisors, administrators, and other leadership positions. This has actually affected the motivation for women to embark on various career enhancement programmes and activities due to the gender related challenges they faced at work place by their male counterparts. This supports the work of Gurumurthy (2004) that power relations exist in the library profession especially in the information service delivery because these technologies use in the libraries and information system are not gender neutral. This also concurs with the findings of Obiozor-Ekeze & Chimezie (2024) that gender gap exists, particularly among librarians in the ICT era. There is no favoritism at the employment level in the library, but this gender gap tends to favour the males in the profession. The study also found that most of the gender gap that have been affirmed by various literature in the field of librarianship is not due to gender differences but is attributed to experience and geographic location. There were however somewhat differences in the roles and responsibilities of librarians due to the fact that male are more experienced in tech or programming relates aspects of the library activities in ensuring effective and efficient information service delivery while the female mostly focus on tasks that are non-intellectually stressful or activities that are not laborious. Hence, justifies the assertion of Olatokun and Omiunu (2019) that the traditional (which is more laborious) and digital libraries (which tend to demand intellectual innovations) would co-exist in the information society. This also bolsters the work of O'Donnell&Sweetman (2018) that there are far greater divides with respect to the design and use of hardware and software for information service delivery. This also concur to the gender and feminist theory by Butler (1993) that gender characteristics could shape and is shaped by repeated social and cultural behavioral patterns, some of which are entrench in organizational work-life such as in the information service delivery among librarians.

Conclusion and Recommendations

In conclusion, gender gap actually exists in the information service delivery among librarians in the era of Information and Communication Technology. However, this may occur in different proportions that tend to favour the male librarians especially with regards to holding key positions such as supervisors, administrators and act as know-it-all librarians and demonstrate a high level of intellectual prowess couple with their proficiency in technology usage while the females hold lower positions in the libraries. But few women rise to hold

supervisors, administrators, and other leadership positions. This has actually affected the motivation for women to embark on various career enhancement programmes and activities due to the gender related challenges they faced at work place by their male counterparts. Therefore, the study recommends that libraries should work to reverse gender stereotypes that could allow for upward mobility, and increase gender diversity among librarians. Also, local and international organizations directed to enhance women empowerment should ensure that females should also be exposed to training towards better technological skills and focus areas can also help to abate the stereotypes surrounding librarianship so as to empower the female librarians towards enhancing their upward mobility career advancements. In addition, they should help make available grants and scholarship towards enhancing scientific skill and that could help combat existing negative stereotypes and consequently attract a more gender-diverse population in library field and profession. Furthermore librarians should also pursue concrete strategies that could be directed to improving ambitious women, and invest in research to boost women-in-research participation.

References

Acker, J. (1992). From sex roles to gendered institutions. Contemporary Sociology, 21(5), 565-569.

Afolabi AF, Abidoye JA (2011). Integration of information and communication technol. in Lib. operations towards effective Lib. services. J. Edu. and Soc. Res. Ondo: Dept. of Edu. Tech. http://www.hrmars.com/admin/pics/267.pdf

Agbaje AA (2002). Great expectations: Serials Management and Information Technology. In Madu E.C and Dirisu, M.B. (Eds.). Information Sci. and Technology for Lib. Schools in Africa (pp. 25- 36). Ibadan: EVI-Coleman.

Agim, N.C., Iroeze, P.C, Osuji, C.E., and Obasi-Haco, C. (2018), "Level of availability and utilization of ICT facilities by students: A case study of Federal Polytechnic Nekede, Owerri, Imo State, Nigeria", International Journal of Library and Information Studies, Vol. 4 No. 3, pp. 26-39.

Ahmed H.M. (2015), Gender Differences in Students' Utilization of Electronic Information Resources in Ramat Library, University of Maiduguri, Nigeria, Information Impact, 6(1), 61-71

American Library Association (February 3, 2014), Exploring Gender Issues in Tech Librarianship, The American Library, https://americanlibrariesmagazine.org/blogs/the-scoop/exploring-gender-issues-in-tech-librarianship/

Awotona, S.O. (2019), "Use of Information and Communication Technology by post basic Midwifery Students. A case study of Oyo state college of Nursing and Midwifery, Eleyele, Ibadan", Library Philosophy and Practice (e-journal), available at: https://digitalcommons.unl/edu/libphilprac/229

Badaru A (2013). Awareness and use of serial publications among undergraduates in Kwara state. https://www.scribd.com/doc/160436181/Awareness-and-Use-of-SerialPublications-among-Undergraduates-in-Kwara-State

Bergman, B.J. (2005), "Looking at electronic resources librarians: Is there gender equity within this emerging specialty?", New Library World, Vol. 106 No. 3/4, pp. 116-127. https://doi.org/10.1108/03074800510587336

Blackburn H. (2015), Gender Stereotypes Male Librarians Face Today, Criss Library Faculty Publications. 18. https://digitalcommons.unomaha.edu/crisslibfacpub/18

Butler, J. (1993). Bodies that Matter: On the Discursive Limits of "Sex". New York: Routledge.

Ekere, J.N., Ewulum, O.E., Eze, M.E., Okpala, H.N., and Ebobo, M.E. (2019), Utilization of Modern Technologies for Service Delivery in Special Libraries in South-East Nigeria, Information Impact: Journal of Information and Knowledge Management, 10(2), 139-152.

Elsbach, K.D., &Stigliani, I. (2019). New information technology and implicit bias. Academy of Management Perspectives, 33(2), 185-206. doi: 10.5465/amp.2017.0079.

ESCAP - Social Development Division (2018), Unit 2.1. Incorporating a gender lens in e-service delivery, https://egov4women.unescapsdd.org/toolkit/unit-21-incorporating-a-gender-lens-in-e-service-delivery

Feeneya M.K. and Fusi F. (2021), A critical analysis of the study of gender and technology in government, Information Polity 26 (2021) 115–129 115, DOI 10.3233/IP-200303

Gurumurthy A. (2004) Gender and ICTS: Overview Report. BRIDGE Cutting Edge Pack, Brighton: Institute of Development Studies

Huang X, Lin J, Demner-Fushman D (2006). "Evaluation of PICO as a knowledge representation for clinical questions" (PDF). AMIA Annu Symp Proc: 359–63. PMC 1839740

Islam S, and Islam N (2007). Use of ICT in libraries: An empirical study of selected libraries In Bangladesh. Lib. Philosophy and Practice. http://unllib.unl.edu/LPP/shariful.htm

Mairiga D.U., Ibrahim N. and Lawal B.M. (2023), Knowledge Sharing Straiegies Adopted For Service Delivery Among Academic Librarians In University Libraries In Nigeria, Samaru Journal of Information Studies Vol. 23(2), 249-260

Mbagwu I., (2023), Acquiring Digital Skills for Effective Service Delivery of EResources by Library Professionals in Public Higher Institutions in Imo State, Nigeria, Jewel Journal of Librarianship, 18(3); 77-85, https://www.jeweljournals.com/admin/published/172153465009.pdf

Mars, P. (2018). Gender Demographics and Perception in Librarianship. School of Information Student Research Journal, 7(2). https://doi.org/10.31979/2575-2499.070203

Mbofung, U. and Popoola, S.O. (2014), Legal and ethical issues of information service delivery and library information science professionals in university libraries in Nigeria, Library Philosophy and Practice (e-journal), http://digitalcommons.unl.edu/libphilprac/1183

Nygren, K.G. (2012). Narratives of ICT and organizational change in public administration. Gender Work and Organization, 19(6), 615-630. doi: 10.1111/j.1468-0432.2010.00531.x.

O'Donnell A. &Sweetman C. (2018), Introduction: Gender, development and ICTs, Gender & Development, (2), 217-229, https://www.tandfonline.com/doi/full/10.1080/13552074.2018.1489952

Obiozor-Ekeze, R. N., & Chimezie C. Offor. (2024). Influence of Gender on Librarians Computer Anxiety in the Use of Digital Resources for Delivery of Library Services. International Journal of Knowledge Dissemination (IJKD), 4(1), 30–36. Retrieved from https://ijkd.uniabuja.edu.ng/index.php/ijkd/article/view/25

Ogugua, U. J., Ofordile, J. O., Agubosim, A. E. and Ezeonyi, N. U. (2024), The Role of Libraries in Bridging Gender Inequality in Nigeria: A Critical Review. Librar y Philosophy and Practice (e-journal) . 8158. https://digitalcommons.unl.edu/libphilprac/8158

Ojedokun, A.A. and Victoria, N.O. (2015), ICT skills acquisition and competencies of librarians, The Electronic Library, 33(3), 502– 523, http://dx.doi.org/10.1108/EL-08-2013-0155

Olatokun W.M. and Omiunu O.G. (2019), Bridging the gap between academic traditional libraries and open access through an integrated cloud computing in a quasi information society, in Research on contemporary issues in media resources and information and communication technology use, A festschrift in honour of Prof. IyaboMotolagbeMabawonku, Pg 78-204, Department of Library Archival and Information Studies, University of Ibadan, Nigeria

Olayemi, K. J., Umar G. G., Yemi-Peters, O. E., Sokari, V., Haliru, Z. A. (2017), The application of information and communication technology for service delivery in the serial unit of Bayero University Kano, Educational Research, 8(3), 027-033, DOI: http:/dx.doi.org/10.14303/er.2017.026

Oni FA (2004). Enhancing the performance of library operations through appropriate IT. In Madu E.C. (Ed.), Technol. for information managt. and services: Modern libraries and information centers in developing countries (pp. 95-109). Ibadan: Evi-Coleman

Oniovoghai E.M., Idiodi E.O., and Urhiewhu L.O. (2023) Artificial Intelligence (AI) In Service Delivery to Academic Library by Librarians in Nigeria, International Journal of Library and Information Science Studies, Vol.9, No.2, pp.41-53

Onyije L.E., and Opara J.A. (2013). Information and Communication Technologies (ICT): A panacea to achieving effective goals in institutional administration. mediterranean J. Soc. Sci.: 4(13), MCSER publishing. Doi:10.5901/mjss.2013.

Oyeniyi A.S. (2013), Gender differences in information retrieval skills and use of electronic resources among information professionals in South–western Nigeria, International Journal of Library and Information Science, 5(7), 208-215, DOI: 10.5897/IJLIS12.044

Richardson, WS (1995). "The well-built clinical question: a key to evidence based-decisions". APC Journal Club. 123, 3: A12–A13

Singh, V. K., Chayko, M., Inamdar, R., &Floegel, D. (2020). Female Librarians and Male Computer Programmers? Gender Bias in Occupational Images on Digital Media Platforms. Journal of the Association for Information Science and Technology. doi:10.1002/asi.24335

Sokanu Interactive Inc., (2022), What is a Librarian? https://www.careerexplorer.com/careers/librarian/

Stansfield, C., Dickson, K. & Bangpan, M.(2016), Exploring issues in the conduct of website searching and other online sources for systematic reviews: how can we be systematic?. Syst Rev **5**, 191. https://doi.org/10.1186/s13643-016-0371-9

UN E-government survey (2016), United Nations E-Government Survey 2016. http://workspace.unpan.org/sites/Internet/Documents/UNPAN96407.pdf,

United Nations Division for the Advancement of Women (2005), Gender equality and empowerment of women through ICT, UNITED NATIONS Division for the Advancement of Women, Department of Economic and Social Affairs, https://www.un.org/womenwatch/daw/public/w2000-09.05-ict-e.pdf

Yusuf J. and Fasae J. K. (2021), Use of Information and Communication Technology as Correlates of Service Delivery by Library Personnel in Ekiti State Universities, Nigeria, Library Philosophy and Practice (e-journal). 6144. https://digitalcommons.unl.edu/libphilprac/6144