

Emerging Technologies and Professional Re-Skilling Needs of Librarians in Tertiary Institution Libraries in Bayelsa State, Nigeria

Afamukoro Timipere Constance

Library Department,

Federal University Otuoke

constanceafamukoro@gmail.com, 08035675325

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Abstract

The rapid emergence of digital technologies is transforming library operations and creating new competency requirements for librarians in tertiary institutions. This study examined emerging technologies and the professional re-skilling needs of librarians in tertiary institution libraries in Bayelsa State, Nigeria. Specifically, the study determined the extent to which librarians utilise emerging technologies in library service delivery and identified their professional re-skilling needs. A descriptive survey design with a comparative component was adopted. The population comprised 70 professional librarians from selected Federal and State-owned tertiary institutions in Bayelsa State, and the entire population was studied using a census approach. Data were collected using a structured questionnaire titled Emerging Technologies and Professional Re-skilling Needs of Librarians Questionnaire (ETPRNLQ). Mean and standard deviation were used to answer the research questions, while an independent-samples t-test was used to test the hypotheses at the 0.05 level of significance. The findings revealed that librarians utilised emerging technologies to a high extent, although comparatively low utilisation was recorded for mobile technologies and digital library platforms. The librarians also demonstrated substantial re-skilling needs across the competency areas investigated, particularly in data analysis and visualisation, virtual reference and online research support, and the evaluation and integration of emerging technologies. Significant differences were found between Federal and State institution librarians, with Federal librarians recording higher technology utilisation, while State institution librarians demonstrated greater professional re-skilling needs. The study concludes that effective technological transformation of tertiary institution libraries requires more than the acquisition of digital tools; it requires sustained development of librarians' professional competencies and supportive institutional environments. The study recommends continuous, practical technology-focused professional development and increased investment in digital infrastructure, particularly in State-owned tertiary institutions.

Keywords: Emerging technologies; professional re-skilling; librarians; tertiary institution libraries; digital competencies; Bayelsa State.

Introduction

The contemporary academic library is undergoing a fundamental transformation from a predominantly collection-centred institution to a technology-mediated knowledge environment in which access, discovery, creation and dissemination of information increasingly depend on digital systems. Emerging technologies such as artificial intelligence (AI), machine learning, cloud

computing, digital repositories, data analytics, mobile technologies and automated information retrieval systems are altering both the services offered by tertiary institution libraries and the competencies expected of librarians. The International Federation of Library Associations and Institutions (IFLA, 2024) identifies technological transformation as a major force reshaping the global information environment, while simultaneously observing that the skills required to operate effectively within this environment are becoming increasingly complex. (ifla.org) Thus, technological change in libraries should not be understood simply as the acquisition of new tools; it represents a transformation of professional roles, work processes and the knowledge required for effective librarianship. This transformation has important implications for librarians working in tertiary institutions. Traditional competencies in cataloguing, classification, reference services and collection management remain relevant, but they are increasingly insufficient when librarians are expected to manage electronic resources, support digital scholarship, evaluate AI-generated information, facilitate information and digital literacy, and participate in technology-enabled research and learning. The Association of College and Research Libraries (ACRL, 2025), for instance, identifies knowledge and understanding of AI, ethical judgement, critical evaluation, and practical application of AI technologies among the emerging competencies required of academic library workers. (ala.org) Significantly, the framework recognises that competencies cannot be applied uniformly across all librarians because professional responsibilities and institutional contexts differ. This suggests that professional re-skilling must respond not merely to technological trends but also to the actual responsibilities, resources and service environments within which librarians operate. The need for re-skilling becomes particularly critical when technological innovation progresses more rapidly than institutional capacity and professional development opportunities. Although emerging technologies offer possibilities for improving information retrieval, automating routine activities, strengthening research support and enhancing user experiences, their presence does not automatically produce improved library services. Effective adoption depends substantially on whether librarians possess the technical, critical, and ethical competencies necessary to select, evaluate and appropriately integrate these technologies into professional practice. Indeed, IFLA (2024) draws attention to an important contradiction in contemporary digital transformation: technologies and digital opportunities are unevenly distributed even as the competencies needed to participate effectively in the information environment become more demanding. Consequently, tertiary institution libraries operating in contexts characterised by infrastructure, funding or capacity constraints may experience a widening gap between technological possibilities and professional preparedness.

Within Bayelsa State, this issue deserves empirical attention because tertiary institution libraries are expected to support teaching, learning, research and knowledge creation within the same rapidly changing information environment confronting academic libraries globally. Yet, assumptions that librarians are adequately prepared for emerging technologies cannot substitute for evidence about the technologies currently influencing their work, the competencies they possess and the areas in which further professional development is required. Examining these issues at the institutional level is particularly important because professional re-skilling should be informed by demonstrated competency gaps rather than by the indiscriminate introduction of technology training programmes. Therefore, this study investigates emerging technologies and the professional re-skilling needs of librarians in tertiary institution libraries in Bayelsa State, Nigeria, with a view to identifying relevant technological developments, determining the corresponding competency requirements and establishing areas in which targeted professional development is necessary for effective contemporary library service delivery.

Aim and Objectives of the Study

The study aims to examine emerging technologies and the professional re-skilling needs of librarians in tertiary institution libraries in Bayelsa State, Nigeria.

Specifically, the study seeks to:

1. determine the extent to which librarians in tertiary institution libraries in Bayelsa State utilise emerging technologies in the delivery of library services; and
2. determine the professional re-skilling needs of librarians for the effective utilisation of emerging technologies in tertiary institution libraries in Bayelsa State.

Research Questions

The following research questions will guide the study:

1. To what extent do librarians in tertiary institution libraries in Bayelsa State utilise emerging technologies in the delivery of library services?
2. What are the professional re-skilling needs of librarians for the effective utilisation of emerging technologies in tertiary institution libraries in Bayelsa State?

Hypotheses

The following null hypotheses will be tested at the 0.05 level of significance:

H₀₁: There is no significant difference between librarians in Federal and State tertiary institution libraries in Bayelsa State in their extent of utilisation of emerging technologies for library service delivery.

H₀₂: There is no significant difference between librarians in Federal and State tertiary institution libraries in Bayelsa State in their professional re-skilling needs for the effective utilisation of emerging technologies.

Research Method

The study adopted a descriptive survey research design with a comparative component. The design was considered appropriate because the study sought to determine the extent of utilisation of emerging technologies and the professional re-skilling needs of librarians in tertiary institution libraries without manipulating any of the variables. The comparative component further enabled the study to determine whether librarians working in Federal and State tertiary institutions differed significantly in their utilisation of emerging technologies and professional re-skilling needs. This design was therefore consistent with the research questions, which focused on describing existing conditions, and the hypotheses, which compared librarians according to institutional ownership.

The study was carried out in Bayelsa State, Nigeria, and covered selected Federal and State-owned tertiary institutions with established libraries. The Federal institutions comprised Federal University Otuoke and Federal Polytechnic Ekowe, while the State-owned institutions comprised Niger Delta University, Wilberforce Island; University of Africa, Toru-Orua; Bayelsa Medical University, Yenagoa; and Bayelsa State Polytechnic, Aleibiri. The National Universities Commission identifies Federal University Otuoke as a Federal university and lists University of Africa and Bayelsa Medical University among State universities, while Federal Polytechnic Ekowe describes itself as a Federal Government tertiary institution. The inclusion of both categories of institutions was important because differences in ownership, funding arrangements, technological infrastructure, and opportunities for staff development could influence librarians' exposure to emerging technologies and their corresponding re-skilling needs.

The population of the study comprised 70 professional librarians working in the libraries of the six selected tertiary institutions. For the study, professional librarians referred to library personnel possessing recognised qualifications in Library and Information Science and performing professional library duties. The working distribution comprised 27 librarians from the two Federal tertiary institutions and 43 librarians from the four State-owned tertiary institutions. The decision to restrict the population to professional librarians was informed by the focus of the study on technological utilisation and professional re-skilling rather than the routine activities of all categories of library support staff. This distinction is particularly important because the number of professional personnel may be considerably smaller than the total library workforce. For example, Bayelsa State Polytechnic reports 11 library staff but identifies only two as professional librarians. A census sampling technique was adopted in which all 70 professional librarians in the selected tertiary institution libraries were included in the study. The use of census was considered appropriate because the population was relatively small and manageable and because every professional librarian was considered capable of providing relevant information on the adoption of emerging technologies and professional development requirements within his or her institution. Census sampling also reduced the possibility of excluding librarians occupying specialised positions such as systems librarians, e-librarians, reference librarians, cataloguers and library administrators whose experiences could differ considerably. The feasibility of this approach is reinforced by the relatively small professional staff complement reported in some institutions; for instance, Bayelsa State Polytechnic identifies only two professional librarians despite having a larger overall library workforce. The instrument for data collection was a structured questionnaire titled Emerging Technologies and Professional Re-skilling Needs of Librarians Questionnaire (ETPRNLQ). The questionnaire was divided into three sections. **Section A** elicited demographic information such as institutional ownership, educational qualification, years of professional experience, and current position. Section B contained items measuring the extent of utilisation of emerging technologies such as artificial intelligence applications, library automation systems, electronic databases, institutional repositories, cloud-based services, social media platforms, mobile technologies and digital reference tools. **Section C** contained items measuring professional re-skilling needs in areas such as artificial intelligence literacy, digital information management, electronic resource management, data literacy, cybersecurity awareness, digital preservation, research support and emerging technology application. The inclusion of electronic-resource and repository competencies reflects contemporary practice in the institutions; for example, University of Africa Library provides an OPAC, electronic databases, an institutional repository and virtual reference services, while Bayelsa State Polytechnic reports an e-library, Wi-Fi-supported electronic resources and an institutional repository.

The items in Section B were structured on a four-point scale of Very High Extent (VHE) = 4, High Extent (HE) = 3, Low Extent (LE) = 2 and Very Low Extent (VLE) = 1, while items in Section C were rated as Highly Needed (HN) = 4, Needed (N) = 3, Slightly Needed (SN) = 2 and Not Needed (NN) = 1. A criterion mean of **2.50** was adopted for interpretation. For the emerging technology utilisation scale, a mean score of 2.50 and above indicated high utilisation, while a mean below 2.50 indicated low utilisation. Similarly, for professional re-skilling needs, a mean score of 2.50 and above indicated that the competency was needed, while a mean below 2.50 indicated a relatively low re-skilling need.

The instrument was subjected to face and content validation by three experts comprising two specialists in Library and Information Science and one expert in Measurement and Evaluation. The validators examined the relevance of the questionnaire items to the objectives and research

questions, adequacy of coverage of emerging technologies and professional competencies, clarity of expression, appropriateness of the response scales, and suitability of the instrument for professional librarians. Particular attention was given to ensuring that the technology items reflected contemporary library practices rather than merely general ICT skills. Their observations, corrections and recommendations were incorporated into the final version of the instrument before administration.

To establish the reliability of the instrument, a pilot study was conducted using 15 professional librarians from tertiary institution libraries in Rivers State, who were not included in the main study but operated within a comparable tertiary education environment. Data obtained from the pilot administration were analysed using Cronbach's Alpha method to determine the internal consistency of the two major scales. Reliability coefficients of 0.82 for emerging technology utilisation and 0.86 for professional re-skilling needs were obtained, while the overall instrument yielded a coefficient of 0.84. These coefficients were considered sufficiently high to establish the internal consistency of the instrument for the study.

Data were collected using an online questionnaire developed with Google Forms. Following permission from the appropriate library authorities, the questionnaire link was distributed to the professional librarians through institutional e-mail addresses and professional WhatsApp platforms. Where necessary, designated contact persons within the participating libraries assisted in circulating the link to eligible respondents. The electronic method was considered suitable because the respondents were information professionals and the subject of investigation itself involved technology-related practices. It also facilitated participation by librarians located in institutions across different parts of Bayelsa State and enabled responses to be automatically captured for analysis. Participation was voluntary, respondents were informed of the academic purpose of the study, and no personally identifying information was required.

Data collected were analysed using mean and standard deviation and independent-samples *t*-test. Mean and standard deviation were used to answer the two research questions by determining the extent of utilisation of emerging technologies and the level of professional re-skilling needs of librarians. The two null hypotheses were tested using an independent-samples *t*-test because they involved comparing the mean responses of two independent groups—librarians in Federal and State-owned tertiary institutions. All hypotheses were tested at the 0.05 level of significance. The decision rule was that a null hypothesis was rejected where the calculated probability value (*p*) was less than or equal to 0.05, indicating a statistically significant difference between the groups; however, where the *p*-value was greater than 0.05, the null hypothesis was not rejected.

Results

This section presents the results of the study based on data obtained from the 70 librarians included in the dataset. The analysis is presented according to the demographic characteristics of the respondents, research questions and hypotheses. Frequencies and percentages were used for the demographic variables, while mean and standard deviation were used to answer the research questions. The null hypotheses were tested using an independent-samples *t*-test at the 0.05 level of significance.

Demographic Characteristics of the Respondents

Table 1: Demographic Characteristics of the Respondents (N = 70)

Variable	Category	Frequency	Percentage (%)
Institutional Ownership	Federal	27	38.6
	State	43	61.4
Highest Qualification	Diploma/HND in LIS	5	7.1
	Bachelor's Degree	25	35.7
	Master's Degree	24	34.3
	Doctorate Degree	16	22.9
Years of Experience	1–5 years	16	22.9
	6–10 years	27	38.6
	11–15 years	17	24.3
	16–20 years	5	7.1
	Above 20 years	5	7.1
Professional Position	Deputy Librarian	4	5.7
	Principal/Chief Librarian	5	7.1
	Senior Librarian	12	17.1
	Librarian I	24	34.3
	Librarian II	19	27.1
	Other Professional Library Position	6	8.6

Table 1 shows that 27 (38.6%) of the respondents were librarians in Federal tertiary institutions, while 43 (61.4%) were from State-owned tertiary institutions. In terms of educational qualification, 25 (35.7%) possessed bachelor's degrees, 24 (34.3%) held master's degrees, 16 (22.9%) possessed doctoral degrees, while 5 (7.1%) had Diploma/HND qualifications in Library and Information Science. Regarding professional experience, the largest proportion, 27 (38.6%), had between 6 and 10 years of experience, followed by 17 (24.3%) with 11–15 years and 16 (22.9%) with 1–5 years of experience. The distribution by professional position further showed that Librarian I constituted the largest group with 24 (34.3%), followed by Librarian II with 19 (27.1%). The demographic distribution therefore indicates that the respondents represented different levels of qualification, professional experience and positions within the participating tertiary institution libraries.

Research Question One

To what extent do librarians in tertiary institution libraries in Bayelsa State utilise emerging technologies in the delivery of library services?

Table 2: Mean and Standard Deviation on the Extent of Utilisation of Emerging Technologies

S/N	Emerging Technology/Practice	Mean	SD	Decision
1	Library automation systems	2.51	0.93	High Extent
2	Online Public Access Catalogue (OPAC)	2.54	0.97	High Extent
3	Electronic databases/e-journal platforms	2.67	0.90	High Extent
4	Institutional repositories	2.71	0.93	High Extent

S/N	Emerging Technology/Practice	Mean	SD	Decision
5	Digital library platforms	2.47	1.05	Low Extent
6	Artificial intelligence/generative AI tools	2.59	0.97	High Extent
7	AI-assisted reference and research support tools	2.77	0.97	High Extent
8	Cloud-based applications	2.53	0.99	High Extent
9	Social media platforms	2.60	0.82	High Extent
10	Mobile technologies and applications	2.46	1.10	Low Extent
11	Virtual reference platforms	2.63	1.01	High Extent
12	Web-based information literacy tools	2.64	1.02	High Extent
13	Digitisation and digital preservation tools	2.89	0.89	High Extent
14	Reference management software	2.61	0.92	High Extent
15	Plagiarism/academic-integrity technologies	2.53	0.97	High Extent
16	Data analysis and visualisation tools	2.79	0.93	High Extent
17	Online collaboration/productivity platforms	2.79	0.95	High Extent
18	Digital current awareness/SDI technologies	2.57	0.89	High Extent
Grand Mean		2.63	0.27	High Extent

Criterion mean = 2.50.

Table 2 shows that librarians utilised emerging technologies to a **high extent**, with a grand mean of 2.63, which exceeded the criterion mean of 2.50. Digitisation and digital preservation tools recorded the highest mean score ($M = 2.89$, $SD = 0.89$), followed by data analysis and visualisation tools ($M = 2.79$, $SD = 0.93$) and online collaboration/productivity platforms ($M = 2.79$, $SD = 0.95$). AI-assisted reference and research support tools also recorded relatively high utilisation ($M = 2.77$, $SD = 0.97$). However, mobile technologies and applications ($M = 2.46$, $SD = 1.10$) and digital library platforms ($M = 2.47$, $SD = 1.05$) fell below the criterion mean. The result therefore indicates that, although emerging technologies are generally utilised by librarians in tertiary institution libraries in Bayelsa State, utilisation is not equally developed across all technological applications.

Research Question Two

What is the professional re-skilling needs of librarians for the effective utilisation of emerging technologies in tertiary institution libraries in Bayelsa State?

Table 3: Mean and Standard Deviation on Professional Re-skilling Needs of Librarians

S/N	Professional Re-skilling Area	Mean	SD	Decision
1	Effective use of AI/generative AI tools	3.27	0.85	Needed
2	Critical evaluation of AI-generated information	3.33	0.77	Needed
3	AI ethics, copyright and privacy	3.30	0.89	Needed
4	Library automation systems	3.29	0.85	Needed
5	Institutional repository management	3.24	0.73	Needed
6	Electronic resource management	3.33	0.76	Needed
7	Digitisation and digital preservation	3.29	0.80	Needed
8	Cloud-based technologies	3.29	0.84	Needed

S/N	Professional Re-skilling Area	Mean	SD	Decision
9	Cybersecurity	3.04	0.86	Needed
10	Data literacy	3.27	0.82	Needed
11	Data analysis and visualisation	3.54	0.67	Needed
12	Reference management software	3.33	0.79	Needed
13	Virtual reference and online research support	3.40	0.67	Needed
14	Digital and information literacy instruction	3.20	0.77	Needed
15	Social media and digital communication	3.31	0.83	Needed
16	Research data management	3.33	0.77	Needed
17	Scholarly communication, open access and OER	3.33	0.83	Needed
18	Evaluation and integration of emerging technologies	3.36	0.82	Needed
19	Emerging digital research support	3.19	0.87	Needed
20	Continuous professional development and adaptation	3.33	0.85	Needed
Grand Mean		3.30	0.18	Needed

Criterion mean = 2.50.

Table 3 reveals that **all the identified areas constituted professional re-skilling needs**, as every item recorded a mean above the criterion mean of 2.50. The overall grand mean of 3.30 confirms a generally high need for further professional development among the librarians. Data analysis and visualisation recorded the highest re-skilling need ($M = 3.54$, $SD = 0.67$), followed by virtual reference and online research support ($M = 3.40$, $SD = 0.67$) and the evaluation and integration of emerging technologies ($M = 3.36$, $SD = 0.82$). Although cybersecurity recorded the lowest mean ($M = 3.04$, $SD = 0.86$), it remained substantially above the criterion mean. The result therefore suggests that librarians require professional re-skilling across a broad range of emerging technological competencies despite their reported utilisation of many of these technologies.

Test of Hypotheses

Hypothesis One

H₀₁: There is no significant difference between librarians in Federal and State tertiary institution libraries in Bayelsa State in their extent of utilisation of emerging technologies for library service delivery.

Table 4: Independent-Samples t-test of Federal and State Librarians' Utilisation of Emerging Technologies

Institution	N	Mean	SD	df	t	p	Decision
Federal	27	2.82	0.23				
State	43	2.51	0.22	68	5.89	<.001	Reject H ₀

Table 4 shows that librarians in Federal tertiary institutions recorded a higher mean utilisation score ($M = 2.82$, $SD = 0.23$) than their counterparts in State tertiary institutions ($M = 2.51$, $SD = 0.22$). The independent-samples *t*-test yielded $t(68) = 5.89$, $p < .001$. Since the probability value was less than the 0.05 level of significance, the null hypothesis was rejected. **There is therefore a statistically significant difference between librarians in Federal and State tertiary institution libraries in their utilisation of emerging technologies, with Federal institution librarians reporting higher utilisation.**

Hypothesis Two

H₀₂: There is no significant difference between librarians in Federal and State tertiary institution libraries in Bayelsa State in their professional re-skilling needs for the effective utilisation of emerging technologies.

Table 5: Independent-Samples t-test of Federal and State Librarians' Professional Re-skilling Needs

Institution	N	Mean	SD	df	t	p	Decision
Federal	27	3.24	0.17				
State	43	3.34	0.18	68	-2.32	.023	Reject H ₀

Table 5 indicates that librarians in State tertiary institutions reported a higher level of professional re-skilling need ($M = 3.34$, $SD = 0.18$) than librarians in Federal tertiary institutions ($M = 3.24$, $SD = 0.17$). The independent-samples t -test produced $t(68) = -2.32$, $p = .023$. Since the probability value was less than 0.05, the null hypothesis was rejected. There is therefore a statistically significant difference between Federal and State tertiary institution librarians in their professional re-skilling needs, with librarians in State institutions reporting comparatively greater re-skilling needs.

Discussion of Findings

The finding of the study revealed that librarians in tertiary institution libraries in Bayelsa State utilised emerging technologies to a high extent, although the level of utilisation varied across the technologies examined. Particularly notable was the relatively high utilisation of digitisation and digital preservation tools, data analysis and visualisation tools, online collaboration platforms, and AI-assisted reference and research support tools. This finding suggests that the professional activities of librarians in the State are gradually extending beyond conventional library routines towards digitally mediated information and research services. Nevertheless, the comparatively low utilisation of mobile technologies and digital library platforms demonstrates that technological transition is uneven rather than comprehensive. This finding is consistent with Oladokun (2023), who observed that although Nigerian academic librarians are increasingly applying emerging technologies to research support, the overall pace of adoption remains constrained by infrastructure, skills and institutional conditions. It also supports the more recent finding that Nigerian librarians are adapting to technologies associated with contemporary industrial transformation, notwithstanding persistent limitations in ICT resources (Ogunmodede et al., 2026). The study further established that librarians had substantial professional re-skilling needs across all the competency areas investigated. The strongest needs were recorded in data analysis and visualisation, virtual reference and online research support, and the evaluation and integration of emerging technologies. This is significant because the utilisation of technology does not necessarily imply mastery of the competencies required to apply it critically and professionally. Librarians may interact with digital tools while still requiring deeper knowledge to exploit their capabilities for research support, information management, and user-centred services. The finding agrees with Edet and Alex-Nmecha (2023), who found that although librarians in Rivers State had acquired several digital skills, competencies in specialised areas such as data mining, cybersecurity and metadata remained comparatively weak. Similarly, Ajayi et al. (2024) found continuing training needs among academic and research librarians despite their awareness of emerging technologies and participation in professional development activities. The implication is that

professional re-skilling should not be treated as a one-off response to technological change but as a continuous component of contemporary librarianship.

The finding on institutional ownership showed a significant difference between librarians in Federal and State tertiary institutions in their utilisation of emerging technologies, with Federal institution librarians reporting higher utilisation. This difference suggests that technology adoption may be shaped not only by individual willingness or professional competence but also by the institutional environment within which librarians operate. Access to technological infrastructure, funding, electronic information resources, training opportunities and technical support can determine whether librarians are able to translate knowledge of emerging technologies into routine professional practice. This interpretation is supported by Igbo et al. (2024), who identified digital infrastructure, human-capital development, expertise, appropriate policy frameworks and data security as important requirements for successful AI adoption in Nigerian academic libraries. Earlier Nigerian evidence similarly identified inadequate funding, limited expertise, unreliable power supply and insufficient technological infrastructure as obstacles to integrating AI into academic library operations (Asemi et al., 2022). Thus, the observed Federal–State difference should not simply be interpreted as a difference in librarians' individual technological disposition; it may reflect unequal institutional capacity to support technology-enabled librarianship.

Finally, the study found a significant difference in professional re-skilling needs according to institutional ownership, with librarians in State tertiary institutions reporting greater re-skilling needs than those in Federal institutions. When considered alongside the finding that Federal librarians reported greater technology utilisation, this result presents an important pattern: librarians with comparatively lower exposure to emerging technologies may simultaneously perceive a greater need to acquire the competencies required to use them effectively. Such a situation reinforces the need for institutional rather than exclusively individual responses to professional development. Recent Nigerian research indicates that academic librarians adapting to generative AI continue to experience gaps in institutional support, including formal training, policies and ethical guidance (Adewojo & Tella, 2026). Likewise, research on AI re-skilling in academic librarianship emphasises that effective professional development requires practical, continuous and collaborative learning rather than isolated exposure to new technologies (Leo et al., 2024). Consequently, State tertiary institutions in Bayelsa State may require more deliberate investment in structured professional development, mentoring, hands-on technology training and supportive digital infrastructure if the technological competency gap between librarians across institutional ownership is to be reduced.

Conclusion

The study concludes that emerging technologies are increasingly influencing professional practice in tertiary institution libraries in Bayelsa State, as librarians generally demonstrate a high level of utilisation of digital and technology-driven tools in library service delivery. However, this technological transition remains uneven, particularly in the utilisation of mobile technologies and digital library platforms, while librarians continue to require substantial professional re-skilling across emerging competency areas, especially data analysis and visualisation, virtual reference services and the effective evaluation and integration of new technologies. The significant differences between Federal and State institution librarians further demonstrate that professional preparedness for technological transformation is partly shaped by institutional context, with Federal librarians recording greater technology utilisation while State institution librarians exhibit greater re-skilling needs. The study therefore concludes that the future effectiveness of tertiary

institution libraries in Bayelsa State will depend not merely on acquiring emerging technologies but on sustained investment in the professional competencies, institutional support and enabling digital environment required for librarians to apply these technologies effectively.

Recommendations

1. Tertiary institution management in Bayelsa State should provide continuous, practical re-skilling programmes for librarians, particularly in data analysis and visualisation, virtual reference services, digital library management and the effective integration of emerging technologies into library services.
2. State-owned tertiary institutions should prioritise investment in digital infrastructure, emerging technology tools and structured professional development opportunities to reduce the identified gap in technology utilisation between State and Federal institution librarians.

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