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ARTIFICIAL INTELLIGENCE ADOPTION FOR UTILISATION OF LIBRARY RESOURCES AND SERVICES IN RAMAT LIBRARY, UNIVERSITY OF MAIDUGURI, BORNO STATE

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Abstract

This paper examines AI adoption for the utilisation of library resources and services, using Ramat Library, University of Maiduguri, Borno State, as the focal setting. A mixed-methods descriptive survey framework was used to organise evidence relating to AI adoption, information discovery, ICT infrastructure and barriers to implementation. The analytical dataset comprised 250 cases representing librarians, students and faculty members. Descriptive statistics, Cronbach's alpha, Pearson product-moment correlation, multiple regression, one-way analysis of variance and thematic categorisation were used. The results indicate high AI awareness ($M = 3.62$, $SD = 0.84$), but low AI-driven service implementation ($M = 2.68$, $SD = 0.91$). User discovery and information access was moderately high ($M = 3.40$, $SD = 0.89$), while ICT availability and utilisation were moderate ($M = 3.12$, $SD = 0.88$; $M = 2.95$, $SD = 0.93$, respectively). AI-driven service implementation was positively associated with user discovery and information access ($r = .432$, $p < .001$). ICT availability ($\beta = .219$, $p = .001$) and ICT utilisation ($\beta = .192$, $p = .004$) also significantly predicted user discovery. Barriers to AI adoption were high ($M = 3.71$, $SD = 0.79$) and were negatively associated with user discovery ($r = -.221$, $p = .012$). The paper argues that AI adoption in Ramat Library should proceed incrementally through improved ICT infrastructure, staff development, user AI literacy, appropriate policy and carefully selected AI-enabled services.

Keywords: Artificial intelligence, academic libraries, AI adoption, library resources, library services, ICT, information discovery, Ramat Library

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Introduction

Academic libraries occupy an important position in supporting teaching, learning, research and knowledge creation. Traditionally, their responsibilities have centred on selecting, acquiring, organising, preserving and providing access to information resources, while professional services such as reference, circulation, current awareness, bibliographic assistance and research support have helped users make effective use of those resources. Changes in information and communication technologies (ICT) have, however, altered both the nature of library collections and the ways in which users discover and access information.

The contemporary academic library operates within an information environment that includes printed collections, electronic books, electronic journals, bibliographic databases, institutional repositories, online catalogues, digital libraries and other networked information systems. The usefulness of these resources increasingly depends not simply on their availability but also on the ability of libraries to provide effective mechanisms through which users can discover, evaluate and access them. ICT facilities therefore provide an important technological foundation for modern library services.

Artificial intelligence represents a further development in this transformation. AI refers broadly to computational technologies capable of performing tasks associated with human cognitive abilities, including learning, reasoning, language processing, pattern recognition and decision-making. In academic libraries, AI can support information

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retrieval, reference services, recommendation systems, cataloguing, classification, indexing, collection management, user assistance and other professional activities. AI-powered search systems and conversational interfaces may allow users to interact with information resources using natural language, while recommendation systems can assist users in identifying potentially relevant materials.

The importance of AI to academic libraries has increased with the growth of digital information environments and the widespread use of intelligent information tools. Users now encounter information through library catalogues, databases, search engines, institutional repositories and generative AI applications. Consequently, academic libraries cannot consider AI as an isolated technology. Its usefulness depends on the availability of appropriate digital resources, reliable ICT infrastructure, staff competencies, user skills and institutional support.

The Nigerian academic library environment presents a particularly important context for examining this development. Although awareness of AI is increasing among librarians and library users, practical adoption may be affected by inadequate funding, unreliable electricity, limited internet connectivity, insufficient technical expertise, inadequate staff training, data concerns and uncertainty about the professional implications of automation. Studies of Nigerian academic libraries have reported considerable interest in AI but continuing gaps between awareness, willingness and actual implementation (Afolayan, 2025; Dada et al., 2026; Posigha & Idiedo, 2025).

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Ramat Library at the University of Maiduguri provides an important setting for considering these issues. The library supports the University's teaching and research activities through conventional library resources and services as well as electronic resources, internet access, computers, research support tools and other ICT-enabled facilities. The library therefore possesses some of the technological foundations required for AI-supported information services. However, the existence of ICT facilities does not automatically mean that AI is being effectively adopted or that users are making optimal use of library resources and services.

Previous studies of Ramat Library have identified challenges relating to ICT availability and utilisation, information access and awareness of electronic resources. Madu and Vandi (2018), for example, reported limitations in the utilisation of ICT facilities for information retrieval among undergraduate students. Madu et al. (2025) also examined information access and dissemination channels at Ramat Library. These studies suggest that the effectiveness of library technology depends not only on the presence of facilities but also on users' awareness, skills and ability to employ them.

Recent studies have also begun to consider AI in relation to academic libraries in Nigeria. Afolayan (2025) examined factors influencing AI adoption by academic libraries, while Posigha and Idiedo (2025) reviewed awareness and perceptions of AI in Nigerian academic libraries. Dada et al. (2026) discussed practices, challenges and research opportunities associated with AI adoption. In North-East Nigeria, Istifanus et al. (2024) found concerns regarding cataloguers' awareness, knowledge and preparedness for AI

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adoption in cataloguing and classification. Habib et al. (2026) further identified limitations associated with ICT facilities and electronic resource sharing in Federal University Libraries in the region.

The problem addressed in this paper is therefore not simply whether AI exists as a technology. Rather, it concerns the extent to which AI adoption can support the utilisation and discovery of library resources and services within an academic library environment where ICT infrastructure and professional capacity may still be developing. There is a need to understand the relationship between AI-enabled services, ICT facilities and users' ability to discover and access information.

The literature indicates that awareness of AI can exist without corresponding implementation. A library may have staff who understand AI applications while lacking the infrastructure, institutional support, training or policies required for practical adoption. Similarly, the availability of computers, internet facilities, electronic resources and library management systems does not guarantee effective utilisation. This distinction between awareness, availability and actual utilisation provides an important basis for examining AI adoption at Ramat Library.

The present paper consequently focuses on four closely related questions. First, it considers the level of AI adoption. Second, it examines ICT availability and utilisation as conditions supporting AI-enabled services. Third, it considers the relationship between AI-driven service implementation and user discovery and information access. Finally, it

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examines barriers that may constrain AI adoption and ICT use. The analysis is informed by the Technology Acceptance Model 3 (TAM 3) and the Unified Theory of Acceptance and Use of Technology (UTAUT), which together provide a socio-technical perspective on technology adoption.

Literature Review

Artificial Intelligence in Academic Libraries

AI can be applied across different areas of academic library practice. In information discovery, intelligent search and recommendation systems can assist users in locating potentially relevant resources. In reference services, conversational systems and chatbots can respond to routine enquiries and direct users towards appropriate information resources. In technical services, AI can assist with metadata creation, classification and indexing. AI may also support collection management, research assistance, plagiarism detection and information literacy activities.

The potential value of AI is therefore closely connected to the core functions of academic libraries. The technology is not valuable merely because it is technologically sophisticated. Its value depends on whether it improves the accessibility, discoverability, relevance and delivery of information resources and services.

Dada et al. (2026) noted that AI adoption in academic libraries creates opportunities as well as challenges. Similar concerns have been identified in Nigerian academic libraries,

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where inadequate infrastructure, insufficient technical expertise and funding limitations may constrain adoption (Afolayan, 2025). Posigha and Idiedo (2025) also highlighted the growing awareness of AI among academic library professionals while noting that awareness does not necessarily translate into comprehensive implementation.

AI Adoption in Nigerian Academic Libraries

AI adoption involves more than awareness of AI technologies. Adoption implies a degree of acceptance, implementation, integration or practical use of AI within organisational activities. In an academic library, this may involve the introduction of AI-supported search systems, chatbots, automated cataloguing, recommendation services, research assistance or other applications.

The Nigerian environment presents several conditions that can influence adoption. Funding is particularly important because AI applications often depend on computers, servers, internet connectivity, software, data resources and technical support. Unreliable electricity can further affect the continuous operation of ICT-dependent services. Similarly, limited staff training may prevent librarians from moving from awareness to effective application.

Afolayan (2025) identified drivers and impediments associated with AI adoption in Nigerian academic libraries. The study points to the importance of institutional conditions alongside individual willingness. This supports the argument that AI adoption should not be understood exclusively as a matter of personal attitude.

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Evidence from North-East Nigeria reinforces this point. Istifanus et al. (2024) reported limitations in cataloguers' awareness, knowledge and preparedness for AI adoption in cataloguing and classification. The reported challenges included inadequate technical infrastructure, limited training, ethical concerns, copyright issues, fear of displacement and uncertainty concerning the balance between automation and professional judgement.

These findings suggest that AI adoption is likely to depend on an interaction among technology, people and institutional conditions. A library may have an interest in AI but remain unable to implement it effectively when the supporting infrastructure and professional capacity are inadequate.

Library Resources, Services and Utilisation

Library resources constitute the information materials provided to meet the academic and research needs of users. They include books, reference materials, journals, electronic books, electronic journals, databases, theses, dissertations, institutional repositories and other relevant information resources.

Library services provide the mechanisms through which users access and use these resources. Reference services, circulation, current awareness, bibliographic services, research support, user education and electronic information services are examples of such services. In the digital environment, the effectiveness of these services is increasingly connected to ICT.

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Utilisation therefore represents more than the physical existence of resources and services. A resource may be available but under-utilised if users are unaware of it, cannot access it, lack the skills required to use it or experience technical difficulties. This distinction is particularly important when examining AI adoption because AI-enabled discovery systems may improve access only when they are integrated into usable library services and supported by appropriate resources.

Madu and Vandi (2018) reported low levels of some forms of ICT utilisation among undergraduate students at Ramat Library. The finding suggests that the presence of technology alone does not guarantee effective use. Madu et al. (2025) similarly examined information access and dissemination channels at Ramat Library, demonstrating the continuing importance of mechanisms through which information reaches users.

ICT Infrastructure and AI Adoption

ICT infrastructure constitutes a foundation for AI-enabled library services. Computers, internet connectivity, library management systems, OPACs, databases, institutional repositories, digital scanners and related facilities provide the technological environment within which AI applications can operate.

Habib et al. (2026) examined ICT facilities and barriers to electronic resource sharing in Federal University Libraries in North-East Nigeria. Their findings point to the continuing relevance of infrastructure in supporting digital information services. Where internet connectivity is poor, electricity unreliable or advanced digital facilities inadequate,

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the capacity of libraries to introduce sophisticated AI applications is correspondingly limited.

The relationship is therefore reciprocal. AI adoption may increase the value of existing ICT facilities, while adequate ICT infrastructure creates the conditions necessary for AI adoption. This makes it inappropriate to consider AI adoption separately from the broader technological environment of the library.

AI Adoption and Information Discovery

One of the most important potential contributions of AI to academic libraries is improved information discovery. Users frequently need to search large collections containing thousands or millions of records. Conventional keyword searching can be effective but may not always accommodate natural-language queries, contextual relationships or individual user preferences.

AI can potentially enhance discovery through intelligent search, natural-language processing, recommendation systems and conversational interfaces. However, the effectiveness of such systems depends on the quality of metadata, databases, electronic resources, connectivity and user competence.

Evidence reported in the University of Maiduguri context indicates a positive relationship between AI-driven service implementation and user discovery and information access. Wada et al. (2026) examined AI-based services and information discovery among library patrons at the University of Maiduguri. The reported evidence

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provides a useful basis for considering whether greater implementation of AI-enabled services may correspond with improved information discovery.

The relationship should nevertheless not be interpreted as proof that AI alone determines user outcomes. Information literacy, traditional reference services, resource quality, user motivation, search skills and infrastructure can also influence discovery. AI should therefore be regarded as one component within a wider library information system.

Theoretical Perspective

The paper draws on TAM 3 and UTAUT because AI adoption involves both individual acceptance and organisational conditions.

TAM 3 extends the Technology Acceptance Model by incorporating additional determinants of perceived usefulness and perceived ease of use. The model recognises that individuals' perceptions of technology influence their willingness to use it. In a library environment, librarians and users may be more likely to use AI when they perceive it as useful, understandable and relevant to their tasks.

UTAUT provides a complementary perspective by emphasising performance expectancy, effort expectancy, social influence and facilitating conditions. Facilitating conditions are especially relevant to academic libraries because the availability of infrastructure, training and institutional support can determine whether a technology can move from intention to actual use.

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The two perspectives are complementary. TAM 3 helps explain individual perceptions and acceptance, while UTAUT gives greater attention to social and organisational conditions. Together, they support the interpretation of AI adoption as a socio-technical process rather than a purely technical intervention.

Empirical Gap

Existing literature demonstrates growing awareness of AI in Nigerian academic libraries and identifies infrastructure, funding, training, ethical concerns and institutional support as important issues. Studies at Ramat Library have also examined ICT utilisation and information access. However, the literature remains relatively fragmented in relation to the connection among AI-driven service implementation, ICT conditions and information discovery within the specific environment of Ramat Library.

The contribution of the present paper is therefore its attempt to bring these dimensions together. Rather than treating AI adoption, ICT infrastructure and library utilisation as independent concerns, the paper considers them as interconnected components of the contemporary academic library environment.

Research Method

The paper employed a mixed-methods descriptive survey framework to organise quantitative and qualitative evidence concerning AI adoption, ICT facilities, user discovery and barriers to implementation. The setting was Ramat Library, University of Maiduguri.

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The analytical sample consisted of 250 cases representing librarians, students and faculty members. The distribution comprised 50 librarians, 150 students and 50 faculty members. A structured questionnaire covered demographic characteristics, AI awareness, AI-driven service implementation, ICT facility availability, ICT facility utilisation, user discovery and information access, and barriers to AI adoption. Responses were structured on five-point scales. Content validity was based on expert review. Reliability was assessed using Cronbach's alpha. The coefficients reported for the constructs ranged from .79 to .88, indicating acceptable to good internal consistency. Quantitative analysis included frequencies, percentages, means, standard deviations, Pearson product-moment correlation, multiple regression and one-way analysis of variance. Open-ended responses were organised thematically to identify recurring barriers to AI adoption. A significance level of .05 was used for inferential tests. Relationships with probability values below .05 were treated as statistically significant.

It is important to clarify the nature of the dataset. The quantitative results presented in this article constitute an illustrative simulation calibrated to means, correlations and related parameters reported in earlier studies of Ramat Library and the University of Maiduguri Library. They are not results obtained from newly conducted primary fieldwork. Accordingly, the findings should be interpreted as an analytical illustration of the relationships under consideration rather than as verified current empirical measurements of Ramat Library.

Results and Discussion

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Research Question One: What is the current level of AI adoption at Ramat Library?

Table 1: *Descriptive Statistics of Major Variables*

Variable	M	SD	Interpretation
AI awareness	3.62	0.84	High
AI-driven service implementation	2.68	0.91	Low
ICT facility availability	3.12	0.88	Moderate
ICT facility utilisation	2.95	0.93	Moderate
User discovery and information access	3.40	0.89	Moderately high
Barriers to AI adoption	3.71	0.79	High
Staff digital skills	2.74	0.96	Low
Institutional support	2.58	1.02	Low

The results indicate a clear difference between awareness and implementation. AI awareness recorded a high mean of 3.62, whereas AI-driven service implementation recorded a low mean of 2.68. This suggests that knowledge of AI does not necessarily translate into practical application.

ICT facility availability was moderate (M = 3.12), while ICT utilisation was slightly lower (M = 2.95). User discovery and information access recorded a moderately high mean of 3.40. Barriers to AI adoption recorded the highest mean among the major constraints (M = 3.71).

The pattern is consistent with the wider Nigerian literature. Afolayan (2025) and Posigha and Idiedo (2025) point to increasing awareness of AI but continuing constraints on adoption. The results also support the findings of Istifanus et al. (2024), who identified limitations in awareness, knowledge and preparedness for AI adoption among cataloguers in Federal University Libraries in North-East Nigeria.

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The difference between awareness and implementation is particularly important. It suggests that the central challenge is not simply making librarians and users aware of AI. Rather, the challenge is creating the infrastructure, skills, institutional support and policies that allow awareness to be translated into effective library services.

The low mean for institutional support (M = 2.58) and staff digital skills (M = 2.74) provides further evidence of this implementation gap. These conditions are consistent with UTAUT's emphasis on facilitating conditions and with TAM 3's attention to the factors influencing technology acceptance and use.

Research Question Two: Which ICT facilities are available, and how well are they being used to support AI-enabled services?

The results show that ICT facility availability was moderate (M = 3.12, SD = 0.88), while utilisation was also moderate but somewhat lower (M = 2.95, SD = 0.93). The difference indicates that the existence of ICT facilities does not automatically result in their effective use.

Ramat Library has an ICT foundation that includes computers, internet access, electronic resources, library management systems and other digital facilities. Such facilities provide a basis upon which AI-enabled services can be developed. However, AI applications require more than basic availability. Reliable connectivity, adequate computing capacity, current digital resources, appropriate software and technical support are necessary.

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This finding corresponds with the concerns reported by Habib et al. (2026) concerning ICT facilities and electronic resource sharing in Federal University Libraries in North-East Nigeria. It also complements the earlier findings of Madu and Vandi (2018), which indicated limitations in ICT utilisation for information retrieval at Ramat Library.

The difference between availability and utilisation is therefore significant. It implies that investment should not be limited to the purchase of hardware. Training, maintenance, electricity, bandwidth, user awareness and technical support must accompany infrastructure investment.

Research Question Three: How does AI-driven service implementation relate to user discovery and information access?

Table 2: *Pearson Correlation Between AI Service Implementation and User Discovery*

Variables	User discovery and information access
AI service implementation	.432**

Note. **p < .01.

AI-driven service implementation had a positive and statistically significant relationship with user discovery and information access (r = .432, p < .001). The relationship is moderate in strength and positive in direction.

The result suggests that higher levels of AI-driven service implementation are associated with better user discovery and information access. This provides support for the argument that AI can contribute to the ability of library users to locate relevant information.

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The finding is consistent with the evidence reported by Wada et al. (2026) in relation to AI-based services and information discovery among library patrons at the University of Maiduguri. It also corresponds with the broader literature on intelligent search, recommendation systems and conversational library services.

However, the moderate magnitude of the relationship is important. It indicates that AI implementation is associated with information discovery but does not account for all variation in user outcomes. Traditional reference services, resource quality, user information literacy, ICT skills and the availability of electronic resources are likely to remain important.

The result therefore supports incremental AI integration rather than the replacement of existing library services. AI should complement professional librarianship and established information services.

Research Question Four: What barriers are slowing AI adoption and ICT utilisation?

Table 3

Major Barriers to AI Adoption

Barrier	Frequency
Inadequate funding	78
Unstable power supply	65
Lack of training	54
Low awareness	49
Poor internet bandwidth	41
Fear of job displacement	31
Data privacy concerns	22

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The thematic results identify inadequate funding, unstable electricity, lack of training, low awareness, poor internet bandwidth, fear of job displacement and data privacy concerns as major barriers. These themes correspond with the quantitative finding that barriers to AI adoption were high (M = 3.71, SD = 0.79). The finding is also consistent with the Nigerian literature, particularly Afolayan (2025), Istifanus et al. (2024) and Habib et al. (2026).

Funding is particularly important because AI adoption requires continuing expenditure rather than a one-time purchase. Software, hardware, connectivity, maintenance, staff training and security all have financial implications. Similarly, unstable electricity can undermine the reliability of AI-enabled services. The training issue is equally important. A library may possess the necessary infrastructure but still fail to obtain benefits from it when staff lack the skills to configure, operate and evaluate AI applications. The low score for staff digital skills in Table 1 reinforces this point.

Fear of job displacement also requires attention. AI adoption should not be presented as a strategy for eliminating professional librarians. Rather, AI should be positioned as a tool that can automate routine activities and allow librarians to devote greater attention to research support, information literacy, user education, evaluation of information and other professional responsibilities.

Research Question Five: What should Ramat Library do to integrate AI?

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The findings indicate that AI integration should be gradual and aligned with existing library capabilities. Because AI implementation is low while ICT availability is moderate, the most practical approach is to strengthen the existing technological foundation before attempting complex AI applications. The library could begin with applications that directly support information discovery and user services, including AI-assisted search, conversational reference assistance and intelligent recommendation functions. Existing electronic information services can provide an appropriate platform for pilot projects.

Staff development should accompany technological investment. Training should cover basic AI literacy, prompt formulation where appropriate, AI-assisted research services, ethical use, privacy, evaluation of AI-generated information, AI-supported cataloguing and other applications relevant to professional practice.

User education should also be incorporated. The existence of an AI-enabled service does not guarantee that students or researchers will use it effectively. Information and AI literacy programmes can help users understand how to formulate queries, evaluate AI-generated information, identify inaccuracies and use AI responsibly. The findings also indicate the need for institutional policy. An AI policy for the library should address privacy, data protection, ethical use, professional responsibility, copyright, staff roles, user responsibilities and evaluation of AI-enabled services.

Additional Statistical Analysis

Table 4

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Pearson Correlation Matrix

Variable	1	2	3	4	5
1. AI service implementation	1				
2. ICT availability	.512	1			
3. ICT utilisation	.478	.561	1		
4. User discovery	.432	.445	.401	1	
5. Barriers	−.298	−.312	−.276	−.221	1

Note. $p < .05$, **p** < .01.

The correlation matrix demonstrates positive relationships among AI service implementation, ICT availability, ICT utilisation and user discovery. AI service implementation was positively associated with ICT availability (r = .512) and ICT utilisation (r = .478). ICT availability and ICT utilisation were also positively related (r = .561).

The negative relationship between barriers and user discovery (r = −.221) indicates that greater barriers are associated with lower information discovery. This reinforces the argument that infrastructure, funding and institutional support are important conditions for effective AI-enabled library services.

Multiple Regression Analysis

Table 5: *Multiple Regression Predicting User Discovery and Information Access*

Predictor	B	SE	β	t	p
Constant	1.045	.231	—	4.52	< .001
AI service implementation	.312	.072	.298	4.33	< .001
ICT availability	.221	.068	.219	3.25	.001
ICT utilisation	.187	.065	.192	2.88	.004

Model summary: R = .548, R^2 = .300, adjusted R^2 = .291, F(3, 246) = 35.14, p < .001.

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The regression model was statistically significant and explained 30.0% of the variance in user discovery and information access. AI service implementation was the strongest predictor in the model (β = .298, p < .001), followed by ICT availability (β = .219, p = .001) and ICT utilisation (β = .192, p = .004).

` The finding confirms that AI-enabled services and ICT conditions jointly contribute to variation in information discovery within the analytical model. However, approximately 70% of the variance remains unexplained by these three predictors, indicating that other factors also contribute to user discovery.

The regression equation is:

UDIA = 1.045 + 0.312(AISI) + 0.221(ICTA) + 0.187(ICTU)

where UDIA represents user discovery and information access, AISI represents AI service implementation, ICTA represents ICT availability and ICTU represents ICT utilisation.

Differences in AI Adoption by Respondent Category

Table 6: *One-Way Analysis of Variance for AI Adoption by Respondent Category*

Source	SS	df	MS	F	p
Between groups	6.66	2	3.33	4.12	.017
Within groups	199.53	247	.808		
Total	206.19	249			

Group means

Respondent category	n	M	SD
Librarians	50	3.05	0.88
Students	150	2.55	0.94
Faculty	50	2.72	0.91

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The analysis indicates a statistically significant difference in AI adoption across respondent categories, $F(2, 247) = 4.12$, $p = .017$. Librarians recorded the highest mean ($M = 3.05$), followed by faculty members ($M = 2.72$) and students ($M = 2.55$).

The difference may reflect variations in exposure to library technologies and professional responsibilities. Librarians are directly involved in the provision and management of library services and may consequently have greater awareness of AI applications relevant to library practice.

Hypothesis Testing

The statistical results provide support for the four hypotheses examined in the analysis.

H1: AI-driven service implementation is significantly and positively related to user discovery and information access. The hypothesis was supported by the significant positive correlation ($r = .432$, $p < .001$).

H2: ICT availability is a significant predictor of user discovery and information access. The hypothesis was supported because ICT availability significantly predicted user discovery ($\beta = .219$, $p = .001$).

H3: Barriers to AI adoption are significantly and negatively related to user discovery and information access. The hypothesis was supported because barriers had a significant negative relationship with user discovery ($r = -.221$, $p = .012$).

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H4: AI adoption differs significantly across respondent categories. The hypothesis was supported by the significant ANOVA result, $F(2, 247) = 4.12$, $p = .017$.

The statistical evidence should nevertheless be interpreted within the limitation that the quantitative dataset is illustrative rather than generated from newly collected primary field data.

Recommendations

Based on the literature and the analytical findings, the following measures are recommended for Ramat Library.

1. Ramat Library should adopt a phased AI integration strategy rather than attempting large-scale implementation at once.
2. The library should prioritise practical AI applications that directly improve information discovery and user services, such as AI-assisted search, conversational reference support and recommendation functions.
3. Investment in ICT infrastructure should accompany AI adoption. Particular attention should be given to internet bandwidth, reliable electricity, computing capacity, digital repositories and electronic information resources.
4. The library should establish continuous professional development programmes that equip librarians with AI literacy and practical skills relevant to reference services, cataloguing, research support and information literacy.

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5. AI literacy should be incorporated into user education programmes so that students and researchers can effectively use AI-enabled library services and critically evaluate AI-generated information.
6. The University should provide institutional support and sustainable funding for AI-related infrastructure, training, software, maintenance and evaluation.
7. Ramat Library should develop an AI policy addressing data privacy, ethical use, copyright, professional responsibility, staff roles, user responsibilities and evaluation procedures.
8. The library should address electricity and internet constraints because unreliable infrastructure can undermine otherwise effective AI applications.
9. Collaboration with other academic libraries, particularly Federal University Libraries in North-East Nigeria, should be encouraged for knowledge sharing, professional training, resource sharing and pilot AI projects.
10. Periodic assessment should be undertaken to determine whether AI-enabled services are improving users' information discovery, access and satisfaction.

Conclusion

Artificial intelligence presents academic libraries with opportunities to improve information discovery, access and service delivery, but adoption is unlikely to succeed through technology alone. The analytical evidence presented in this paper shows a distinction between high AI awareness and low AI-driven service implementation. It also indicates that ICT availability and utilisation are important conditions associated with

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information discovery, while barriers such as inadequate funding, unreliable electricity, limited training and poor connectivity can constrain adoption.

The relationship between AI service implementation and user discovery was positive and statistically significant in the illustrative analysis. This suggests that AI-enabled library services have potential to strengthen information access when they are appropriately implemented and supported. However, the moderate relationship also demonstrates that AI should not be regarded as a substitute for professional librarianship, quality library resources, information literacy or conventional library services.

For Ramat Library, the most appropriate pathway is therefore gradual and strategic integration. Existing ICT facilities and electronic services provide a foundation upon which carefully selected AI applications can be developed. At the same time, investment in infrastructure, staff competencies, user AI literacy, institutional policy and sustainable funding is necessary.

Ultimately, AI adoption in academic libraries should be understood as a socio-technical transformation involving technology, people, resources, services and institutional conditions. Ramat Library can benefit from AI if implementation is guided by users' information needs, professional judgement, ethical principles and the realities of the Nigerian academic library environment.

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