Integration of Artificial Intelligence Technologies in University Libraries as a Strategic Vector of Sustainable Development

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ABSTRACT:

The article addresses the issue of applying artificial intelligence (AI) technologies in the activities of university libraries as a foundation for sustainable development. Artificial intelligence is transforming library practice at all levels—from the automation of routine cataloguing processes, analysis of user queries, and management of electronic resources to the development of personalized information services and decision-support systems. Technologies such as machine learning, natural language processing (NLP), chatbots, and intelligent recommendation systems expand the functional capabilities of libraries, increase the efficiency of user services, facilitate deeper analysis of information flows, and contribute to the formation of a new quality of library services.

At the same time, the relevance of integrating AI into library activities is determined by the need to maintain a balance between technological modernization and the humanistic essence of libraries. The implementation of intelligent systems requires a rethinking of librarians' professional competencies, the development of digital and information literacy, and the establishment of ethical standards for AI use that ensure algorithmic transparency, protection of personal data, and the prevention of cognitive or social biases. In practical terms, these ethical principles are operationalized through internal governance frameworks, such as institutional AI policies that regulate data collection and processing, mandatory human oversight of algorithmic decision-making in reference and recommendation

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services, and regular audits of AI systems to identify and mitigate potential biases. Additionally, libraries increasingly adopt internal protocols for staff training and ethical review committees to ensure that AI applications align with professional values, user rights, and institutional accountability.

From the perspective of sustainable development, the application of AI technologies in university libraries contributes to more efficient resource management, optimization of energy consumption, rational use of human potential, and the creation of a knowledge ecosystem oriented toward long-term stability and social responsibility. Libraries that implement intelligent technologies are able to provide more inclusive access to educational and research resources, support the principles of Open Science and digital equity, which are fundamental pillars of the sustainable development of the knowledge society.

1. Introduction

The contemporary era of digital transformation is characterized by the intensive development of artificial intelligence (AI) technologies, which increasingly shape the trends of the information society by forming new approaches to the creation, preservation, and use of knowledge. In this context, university libraries, as strategic centers of academic communication, play a key role in ensuring the sustainable development of the educational and research environment, as they are becoming not only repositories of knowledge but also active participants in digital innovations integrated into the educational process and scholarly activity. The integration of AI technologies into the operations of university libraries is not only a requirement of the times but also an indicator of their ability to adapt to the challenges of the digital age while preserving their humanistic mission—ensuring open, ethical, and inclusive access to knowledge. Therefore, the relevance of this research topic is determined by the need for a comprehensive understanding of the role of AI in the transformation of library institutions, the identification of opportunities and risks associated with technological innovations, and the determination of methodological approaches to harmonizing innovative processes with the humanistic values of library practice. The study of AI integration into library processes has not only technological but also sociocultural, educational, and ethical dimensions, as it contributes to the formation of strategic guidelines for the development of university libraries as intellectual centers of a sustainable knowledge society, where technology and knowledge culture coexist within an interdependent and ethically balanced environment.

2. Literature Review

The theoretical foundation of this study is based on scholarly publications devoted to analyzing the advantages and challenges of using AI technologies in contemporary library practice. Existing research demonstrates both converging and diverging perspectives on the role of AI in academic libraries, particularly in relation to knowledge management, user engagement, and institutional transformation. In the article by Ifeoma Abigail Ajie, the adaptation of artificial intelligence technologies to enhance knowledge

management in academic libraries is examined. The role of AI in accelerating information retrieval, personalizing information delivery, and optimizing knowledge management processes is analyzed, along with the importance of context and structure provided by knowledge management systems (Ajie, 2025). While Ajie emphasizes the instrumental efficiency of AI-driven systems, other scholars highlight a more critical dimension, drawing attention to the risks of over-automation, the potential erosion of professional judgment, and the need to embed AI applications within broader ethical and organizational frameworks. This divergence reflects an ongoing conceptual evolution in library AI research, shifting from a predominantly technology-centered approach toward more holistic models that integrate human expertise, governance mechanisms, and sustainability-oriented values. The present study builds upon this synthesized perspective by situating AI not merely as a technical tool, but as a strategic component of sustainable institutional development in university libraries.

The issue of knowledge management and artificial intelligence in the library domain is explored in the article by Shilvant Ramesh Gopnarayan and Madhukar D. Garad. The authors analyze practical applications of AI in libraries and outline prospects for its development under conditions of digital transformation (Gopnarayan & Madhukar D. Garad, 2025).

The article "Defining Artificial Intelligence for Librarians" examines conceptual approaches to defining artificial intelligence within the context of library and information science. The authors analyze how librarians understand and interpret AI, how artificial intelligence technologies can be integrated into library processes, and how they influence professional practice (Cox & Mazumdar, 2024).

In the article by L. M. Bridges, K. McElroy, and Z. Welhouse, an overview of generative artificial intelligence (GenAI) and large language models is presented, and eight key issues facing libraries are identified, including ethical considerations, changes in labor structures, service design, transparency, and bias. The authors emphasize the role of libraries in the responsible implementation of GenAI and in preserving professional values (Bridges et al., 2024).

The article by Amarachi Glory Alala examines the benefits and challenges of implementing artificial intelligence technologies in academic library services. The author highlights how AI can improve service delivery, accelerate cataloguing, provide personalized recommendations, and enhance the efficiency of information processes. At the same time, significant barriers are identified, including insufficient technical training of staff, limited funding, ethical and data protection issues, and resistance to change among library employees. The study underscores the need for a strategic approach, staff training, and effective change management for the successful integration of AI into library practice (Alala, 2024).

Contemporary technological trends and their application in university libraries are analyzed in the article by O. Olowookere and C. Okoro. The authors examine the impact of innovations such as cloud computing, the Internet of Things, robotics, augmented reality, and artificial intelligence on the provision of library services, improved access to information, and the optimization of operational activities (Olowookere & Okoro, 2025).

An article by a group of authors led by M. Shamsitdinova is devoted to the use of artificial intelligence technologies to improve search in digital libraries and transform

research practices. The authors analyze the potential of machine learning, natural language processing, and multimodal algorithms to enhance the accuracy, relevance, and efficiency of information retrieval. The limitations of traditional search systems, challenges of classification and indexing large volumes of data, and opportunities for integrating different formats—texts, images, and videos—are also discussed. The study emphasizes the role of AI in optimizing search processes and shaping new approaches to knowledge organization in digital libraries (Shamsitdinova, 2024).

The scholarly publication "Artificial Intelligence as an Innovative Technology in the Activities of University Libraries" examines the role of artificial intelligence as an innovative technology in university library operations. The authors analyze the impact of AI on the automation of library processes, the development of digital services, the improvement of information retrieval, and the personalization of user services. Particular attention is paid to the use of intelligent systems to support learning, scholarly communication, and knowledge management (Railean & Cheradi, 2024).

In the article by S. Mallikarjuna, the possibilities for integrating artificial intelligence technologies into the activities of academic libraries are explored. The author analyzes the main directions of AI implementation in library services, including the automation of cataloguing, intelligent search, knowledge management, and user support. The advantages of using AI to enhance library efficiency and improve user experience are identified (Mallikarjuna, 2024).

Special attention is given to scholarly publications addressing the importance of librarians' information culture in the implementation of AI technologies. In particular, the article "Evaluating AI Literacy in Academic Libraries: A Survey Study with a Focus on U.S. Employees" investigates the level of AI-related competencies among employees of academic libraries in the United States. The author analyzes knowledge and attitudes and emphasizes the need for strategic training programs to prepare librarians for working with intelligent systems in order to improve library services and support an innovative academic culture (Lo, 2024).

In the article by a group of authors led by V. Lomachinskiy, the relationship between library development, digital culture, and the concept of sustainable development under conditions of global digital transformation is examined. The authors analyze how libraries are becoming centers of digital communication, innovation, and knowledge preservation, contributing to the formation of an environmentally and socially responsible society. Particular attention is paid to the role of libraries in developing digital literacy, information culture, and integrating artificial intelligence technologies (Lomachinskiy et al., 2025).

The article "Exploring Dimensional Constructs of Digital Literacy Skills for Higher Education" examines the multidimensional structure of digital literacy in higher education, including its cognitive, technical, and sociocultural aspects. The authors analyze the level of digital competencies among students and faculty, identifying key factors that influence the effective use of information and communication technologies (Odede & Jiyane).

The analysis of the source base indicates that the active advancement of artificial intelligence technologies imposes new requirements on the functioning of university libraries, necessitating an increased level of digital culture in the use of AI tools by both

librarians and students. This, in turn, will contribute to the development of Open Science as a foundation of the knowledge society and sustainable development.

3. Methodology

The methodological framework of the study is based on systemic, interdisciplinary, and humanitarian–technological approaches, which ensure a comprehensive examination of artificial intelligence as a multifaceted phenomenon within the university library environment. The methodology integrates analytical, comparative, empirical, prognostic, and conceptual modeling methods, enabling the exploration of technical, sociocultural, ethical, and managerial dimensions of AI integration in academic libraries. Systemic analysis is employed to identify the structure and functional logic of university libraries in the context of digital transformation, as well as to determine the role of AI technologies within the broader library ecosystem.

The comparative method is applied to examine international experiences of AI adoption in library practices, allowing for the identification of effective innovation models and their potential adaptation to the national context. The dialectical method supports an analysis of the inherent tensions between technological efficiency and the humanistic principles of library activity, which is essential for conceptualizing a balanced and sustainable development model.

Within the study, prognostic analysis is used to identify possible scenarios for the evolution of library activities under conditions of the expanding role of artificial intelligence. This approach facilitates the formulation of strategic recommendations for the implementation of intelligent technologies in library infrastructure, with particular attention to sustainable development goals.

Among the empirical research methods, a questionnaire survey was employed. The study, conducted in November 2025, involved students of humanities disciplines from Borys Grinchenko Kyiv Metropolitan University. The total number of participants was 122 first- to fourth-year students, representing diverse regional backgrounds within Ukraine, with an average age of 19 years. All participants were informed about the purpose of the study, the anonymity of their responses, and voluntarily consented to participate. The diagnostic stage was based on a written questionnaire administered via Google Forms (original content design), while quantitative and qualitative analytical methods were used for data processing. The obtained diagnostic information was interpreted and generalized at the final stage of the research.

At the same time, the empirical scope of the study is deliberately limited to a single institutional context and a specific student cohort, which may constrain the generalizability of the findings. While this focused design ensures analytical depth and interpretative coherence, broader institutional, disciplinary, or cross-national samples could further reduce contextual bias and strengthen the external validity of the results. This limitation also indicates a promising direction for future research aimed at comparative and large-scale empirical validation of the proposed conceptual framework.

4. Results and Discussion

In the contemporary digital era, libraries are undergoing constant evolution driven by the dynamic needs of users, the rapid development of technologies, and the exponential growth of data volumes. These transformational processes contribute to the formation of intelligent library services oriented toward meeting the demands of intellectually engaged users, which arise in the context of new approaches to accessing, processing, and disseminating information. Artificial intelligence is an interdisciplinary field of knowledge that encompasses a set of processes, methods, and technologies applied by machines and other artificial systems to perform complex cognitive tasks characteristic of humans—such as reasoning, learning, natural language understanding, speech recognition, and other forms of intellectual activity. The International Federation of Library Associations and Institutions (IFLA, 2016) emphasizes that the application of artificial intelligence technologies can significantly enhance the efficiency of library services.

Based on the analysis of contemporary scholarly literature, it can be argued that artificial intelligence opens substantial opportunities for transforming library activities by reshaping traditional approaches to user services, resource management, and access to knowledge. In general, international scholarly publications identify several strategic directions for the implementation of AI in library practice. First, researchers devote considerable attention to the automation of routine processes—particularly cataloguing, indexing, semantic document analysis, and query processing. The use of machine learning algorithms and natural language processing (NLP) contributes to more accurate information structuring and facilitates knowledge discovery for end users (Cox, 2023). Artificial intelligence in library systems manifests itself in such areas as descriptive cataloguing, subject indexing, reference services, technical maintenance, shelf management, collection development, and information retrieval systems. By using AI-based recommendation systems, libraries provide personalized reading suggestions to their patrons, thereby increasing user engagement and satisfaction. Artificial intelligence has the potential to enhance the efficiency, usability, and accessibility of libraries. AI algorithms can sift through large datasets to identify trends, themes, and patterns, assisting librarians in making informed decisions regarding collection development and resource allocation (Gopnarayan & Madhukar D. Garad, 2025). This allows librarians to focus on more complex analytical and consultative functions. The use of AI for knowledge discovery involves the creation of descriptive data about library collections, especially unique archival materials, enabling new ways of navigating content (Cox & Mazumdar, 2024). Artificial intelligence methods can be applied to a wide range of materials, including texts, manuscripts, audio files, and images.

Second, the use of AI-based chatbots and virtual assistants is becoming increasingly prominent in user-facing library services, providing round-the-clock consultation, personalized recommendations, and adaptive resource navigation (Islam et al., 2025). Such technologies enhance service accessibility and increase user satisfaction.

Third, the use of AI to predict user demands and improve collections in line with actual needs is gaining particular relevance (Huang et al., 2023), enabling libraries to function as dynamic and adaptive systems within the information environment. Artificial intelligence can also be applied to the semantic analysis of digital archives and cultural

heritage collections. The effectiveness of discovering new literature through automated indexing helps users conduct searches more quickly and visualize navigation across various subject headings—capabilities that are unattainable through manual indexing. AI in libraries can also be used to structure information and combine materials for the automatic creation of curated collections of educational resources on specific topics for students and faculty. However, the implementation of this technology requires significant investments of time and financial resources to train AI systems—resources that libraries often lack (Railean & Cheradi, 2024).

Among innovative directions in the implementation of artificial intelligence technologies are automated plagiarism detection and prevention, verification and correction of bibliographic references, and enhanced security through risk analysis and anomaly detection in data. Additional capabilities include advanced translation services based on natural language processing technologies, automated content curation, and more effective knowledge management for both librarians and users. AI-based analytical tools contribute to improving the quality of evaluating the effectiveness of library programs and services, ensuring their adaptation to the needs of the contemporary information environment (Mallikarjuna, 2024). However, despite the functional diversity of these applications, their practical adoption remains uneven, particularly in resource-constrained institutional contexts.

Researchers also emphasize the prospects of using AI in statistical reporting and auditing in libraries, as well as in analyzing and monitoring user activity within the library environment (Olowookere & Okoro, 2025). Building on these insights, future research could focus on developing cost–benefit models for AI implementation in university libraries, enabling institutions to assess not only technological efficiency but also financial feasibility and organizational readiness. Special attention should be given to scalable solutions and phased adoption strategies that allow libraries to gradually integrate AI tools without compromising core services or budgetary stability.

At the same time, scholars highlight the ethical and professional challenges associated with the implementation of AI, including issues of privacy, algorithmic transparency, data bias, and the risk of diminishing the humanistic dimension of the library profession. Researchers stress the need to develop the digital literacy of library staff as a prerequisite for the effective integration of intelligent systems. In this context, further empirical studies could examine long-term sustainability indicators—such as cost efficiency over time, staff adaptation, and user trust—to support evidence-based planning and ensure that technological modernization remains balanced, ethically grounded, and aligned with the strategic missions of university libraries.

A significant disparity in the level of AI literacy among professionals indicates the need for a stratified and individualized approach to education. Educational programs should be aimed not only at the acquisition of knowledge but also at the development of skills for the ethical, effective, and responsible use of technologies. Ethical and confidentiality considerations must remain a priority, as libraries have traditionally served as custodians of information ethics (Lo, 2024).

Today, many universities increasingly require analyst specialists who collect and systematize the results of institutional research achievements using various data processing methods. Academic libraries, possessing specialized knowledge and skills in working with

large volumes of information, are well positioned to lead communities of data specialists in the near future through the active use of artificial intelligence tools (Railean & Cheradi, 2024). In this context, I. Ajie emphasizes the close interrelationship between artificial intelligence and knowledge management. By employing machine learning algorithms, AI accelerates knowledge discovery processes, optimizes content curation, and ensures personalized information delivery, which collectively enhances the effectiveness of knowledge management systems. At the same time, knowledge management provides AI algorithms with the necessary context, structure, and semantic content that ensure their effectiveness. The convergence of these two domains leads to a shift in scientific and managerial paradigms, opening new opportunities to increase competitiveness, productivity, and the creative potential of organizations (Ajie, 2025). In this context, knowledge management establishes new methodological foundations within library and information science, defining directions for its further development under conditions of digital transformation.

The use of artificial intelligence technologies contributes significantly to improving personalized user services in university libraries. These findings are consistent with dominant trends in library and information science research, particularly empirical studies that conceptualize digital transformation as a user-centered process. According to A. Alala, through the implementation of AI, users receive more targeted and intelligent services aimed at meeting their individual information needs via recommendation systems and mechanisms for the proactive promotion of relevant content. The integration of complex characteristics—such as gender, age, level of education, and professional activity—with personalized user data (including information about educational institutions, numbers of faculty and students across disciplines, subject areas, and course rankings) creates a basis for developing effective decision-support systems for library collection development with new publications (Ajie, 2025).

Recent empirical research further demonstrates that data-driven personalization enhances user satisfaction, information relevance, and engagement with digital library services, reinforcing the strategic value of AI-supported recommendation systems. In this context, the results of the present study not only corroborate existing theoretical assumptions about the benefits of personalization but also nuance them by highlighting the role of contextual and institutional data in shaping adaptive service models. The analysis of user-generated data opens opportunities for obtaining valuable analytical insights, contributing to the transformation of libraries into intelligent, flexible, and user-oriented information spaces.

Among various artificial intelligence methods, machine learning algorithms play a key role in enhancing the accuracy and relevance of search results used in digital libraries. Digital libraries are large repositories of academic knowledge presented in textual and audiovisual formats. When new ideas emerge, there may be no prior works addressing the same or similar topics. AI-based search represents a promising direction that opens new opportunities for the development of information retrieval and the shaping of future trends in library and information services (Shamsitdinova et al., 2024).

Augmented reality (AR) is another innovative technology capable of improving library services. It offers a digital tool through which librarians can share knowledge and assist users in learning or research activities. Augmented reality can enrich the user

experience by providing meaningful and interactive opportunities. Its applications can be installed on visitors' mobile devices to support book searching or navigation across different areas of the library (Alala, 2024).

Today, libraries act as leading agents in the implementation of modern technologies, playing a crucial role in the digital transformation of society. One of the prerequisites for the effective integration of artificial intelligence into library activities is the provision of adequate funding aimed at infrastructure modernization, renewal of technical resources, and the development of human capital. An important area of support for this process is the implementation of advocacy programs for library professionals, which enable the identification and critical reflection on issues related to the use of AI in library practice.

The problem of implementing artificial intelligence in the activities of university libraries is directly correlated with the level of development of information and digital culture among both library professionals and users of library services. This is due to the fact that libraries serve as key institutions in shaping students' information culture, which, in turn, forms the basis for training professionals capable of continuous self-development and lifelong learning. This interrelationship is not only logical but also organic, as the effective use of intelligent technologies presupposes the possession of appropriate knowledge, skills, and value orientations that ensure the development of digital competence and a culture of interaction with information and communication systems.

According to the results of a survey conducted among students of the humanities faculties of the Borys Grinchenko Kyiv Metropolitan University, the vast majority of respondents use AI several times a week (62%), and only 34% use it daily.
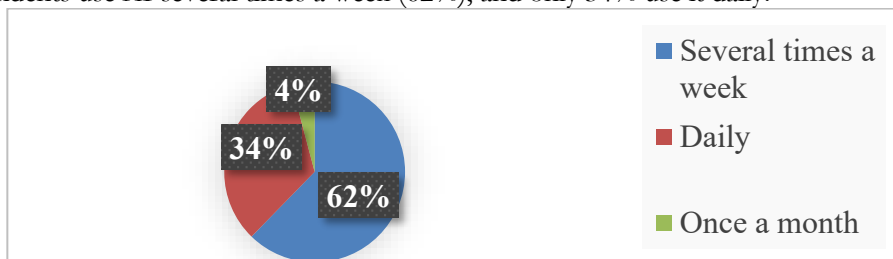

Figure 1. How often do you use artificial intelligence (AI) tools?

Among the types of AI, ChatGPT and other bots are the most popular (49%), 30% use translators, image generators and text verification systems are less popular.
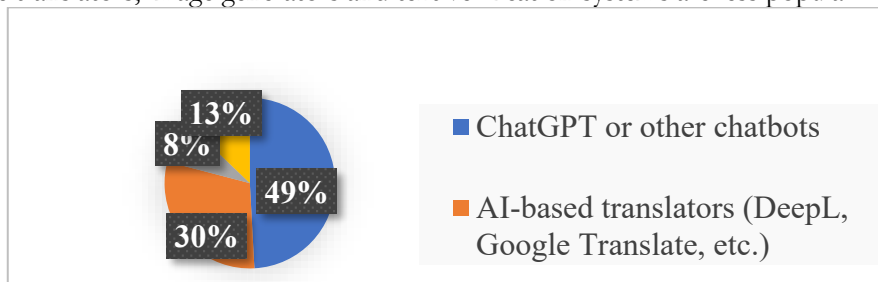

Figure 2. What types of AI do you use?

Students' ability to effectively use digital information resources is a key factor influencing the quality of their educational achievements and their future professional success in relevant fields. In this context, as emphasized by I. R. Odede and G. Jiyane, digital literacy is interpreted as a critically important competence that encompasses the ability to find, evaluate, create, and transmit information using digital technologies. It includes not only basic knowledge of software and hardware but also orientation within a wide range of digital applications—such as word processors, presentation tools, and work with web resources, among others (Odede & Jiyane, 2019). Digital literacy presupposes the ability to perform purposeful digital actions integrated into educational, professional, and everyday activities.

According to the survey results, students are improving their level of knowledge about AI, defining it as mostly average (69%) and high (24%).
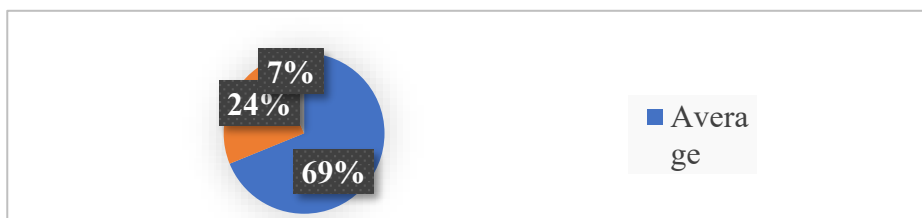

Figure 3. How would you rate your level of knowledge about AI?

As for the skills acquired in using AI, the vast majority of respondents acquired them independently (89%).

Figure 4. How did you learn to use AI tools?

The use of artificial intelligence technologies in the educational process opens broad opportunities for improving the quality of student training and optimizing educational practices, as AI ensures personalized learning by allowing educational materials to be adapted to the individual needs, level of knowledge, and learning style of each student. AI contributes to the effective analysis of large volumes of educational data, enabling instructors to identify problem areas in a timely manner and adjust learning strategies, thereby increasing learning effectiveness. Moreover, AI stimulates the development of critical thinking, analytical skills, and students' digital competence. Among the respondents surveyed, 91% are confident that AI contributes to improving the quality of education.
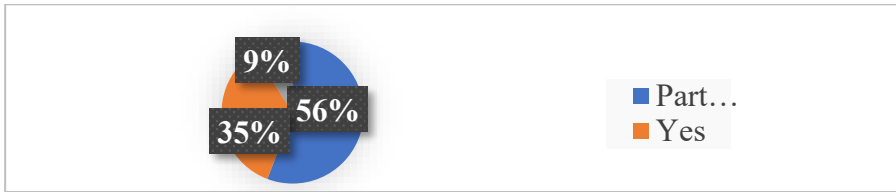
Figure 5. Does AI contribute to improving the quality of education?

However, the results of the study revealed a rather neutral assessment of the quality of the university library's online resources—76% of respondents rated them as satisfactory, and only 16% as high. We believe that the reason for this indicator has a dual nature: on the one hand, it reflects students' overall passivity in visiting the university library, as nearly half of the respondents indicated that they visit the library rarely; on the other hand, it is due to insufficient activity on the part of university librarians in promoting their resources and services among students.
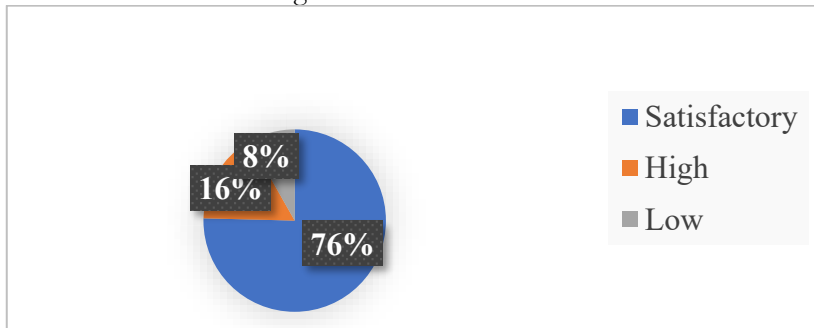

Figure 6. How would you rate the quality of the university library's online resources?

However, 87% of students understand the importance of libraries in developing digital literacy. 33% of respondents noted this function of libraries as important, 54% as partially important.
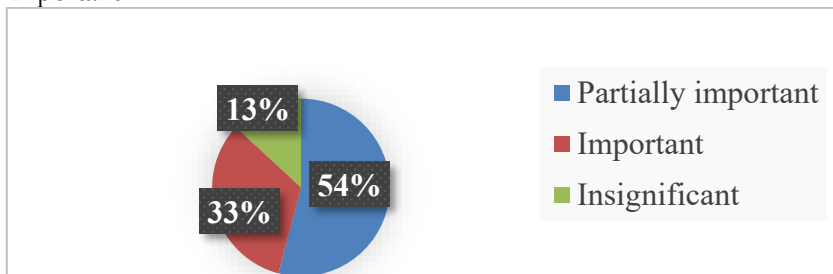

Figure 7. What role do libraries play in the development of digital literacy?

Accordingly, digital literacy can be considered in two dimensions: as a competence of library users and as a professional skill of librarians. In a study by a group of authors (B. U. Zan, H. Çolaklar, A. Altay, N. Taşkın), it is emphasized that under conditions of digitalization, digital literacy for users means the ability to identify, analyze, evaluate, and

integrate digital data, create new knowledge, and communicate in a digital environment. At the same time, librarians should act as guides in the field of digital media, ensuring inclusive learning and adapting services to the level of visitors' digital preparedness (Zan et al., 2021). Thus, university libraries should not only provide access to information but also promote the continuous professional development of staff in order to support the digital competencies of all participants in the educational process.

A librarian must possess a high level of digital culture in order to configure and adapt AI systems to user needs; interpret the results generated by AI (for example, algorithmic recommendations); and act as an intermediary between the user and complex digital infrastructure. Accordingly, for the effective use of intelligent tools in libraries, users must also have a basic level of information culture in order to understand the principles of operation of artificial intelligence systems (even at a basic level), be able to assess the reliability and relevance of the information obtained, and adhere to the ethics of information interaction (copyright, privacy, etc.).

This is also confirmed by the survey results, as 84% of respondents agreed to participate in activities aimed at improving their knowledge of AI applications.
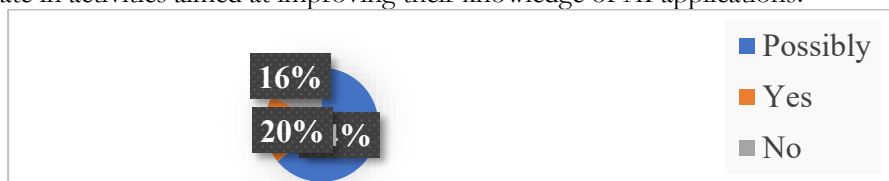

Figure 8. Are you ready to participate in library events on AI and integrity?

In this context, information culture ensures the meaningful integration of AI into the library environment, without reducing the library to a purely technological platform. It functions as a mechanism for the humanization of digital processes, preserving the primacy of personality, education, critical thinking, and ethical interaction within the intellectual space as the foundation of sustainable development.

5. Conclusions

Under contemporary conditions, university libraries have transformed from traditional book repositories into multifunctional socio-communication platforms of a global scale, integrated into the space of lifelong learning, self-education, and public dialogue. The application of artificial intelligence in the library sphere is characterized by significant diversity, encompassing a wide range of tools—from user-service chatbots and systems for analyzing textual and numerical data to neural networks and deep learning technologies. Each of these tools requires specialized knowledge, methodological training, and a practical understanding of its operating principles from both librarians and users.

In this context, librarians increasingly assume the role of information navigators and knowledge managers, responsible not only for ensuring the systematic organization, preservation, and analytical processing of information resources, but also for guiding users through complex digital information environments and mediating between automated systems and human information needs. Such an evolution contributes to improving the

quality of library services, rationalizing users' time, and increasing the overall efficiency of the library system as a foundation for sustainable development. The use of artificial intelligence does not replace the librarian; on the contrary, it transforms the professional role—from a database operator to an analyst of information needs, curator of digital knowledge flows, and facilitator of informed decision-making**.**

From a practical perspective, this role transformation necessitates targeted yet scalable training models that can be integrated into existing professional development frameworks without increasing workload expectations. Librarians in university libraries should appropriately organize thematic trainings, seminars, and workshops focused on the practical use of AI tools for research, academic writing, data analysis, and scholarly information retrieval. These activities may be designed as modular or short-term programs aligned with institutional priorities, ensuring flexibility and accessibility for staff. Such educational initiatives will foster the development of skills for critically evaluating results generated by AI algorithms and understanding the ethical aspects of their use.

An important direction is the integration of artificial intelligence topics into information literacy courses, which will enable students to use AI consciously and responsibly for academic purposes. At the institutional level, this approach can be supported through policy guidelines that formalize the librarian's advisory role in AI-assisted learning and research, thereby strengthening professional recognition without expanding administrative responsibilities. In addition, librarians can act as intermediaries between technical specialists and users, facilitating the development of interdisciplinary competencies and the growth of digital culture within the university environment. Such activities expand the educational potential of the library as a center of innovative learning and contribute to sustainable development.

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