

HISTORICAL

DEVELOPMENT OF RESOURCE MANAGEMENT IN MODERN UNIVERSAL SCIENTIFIC LIBRARIES

DESARROLLO HISTÓRICO DE LA GESTIÓN DE RECURSOS EN BIBLIOTECAS CIENTÍFICAS UNIVERSALES MODERNASKhalafova Sevda Abasgulu ¹Email: sevdaxalafova@bsu.edu.azORCID: <https://orcid.org/0009-0008-7508-0507>¹ Baku State University, Baku. Azerbaijan.

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ABSTRACT

In this article it is studied the modern state of traditional information resources in universal scientific libraries, the determination of traditional library resources and their capabilities in the implementation of the functions of universal scientific libraries. For this, due to the evolution of the field it is important to address the development of the full-text electronic resources management model in universal scientific libraries are among the main points that attract attention in current research. Universal scientific libraries, which are the main research object of the article, in modern times continue to supplement their funds with mainly printed publications and present them to their users, paying attention to traditional technologies. Automation of technological processes is used in this type of library mainly in the field of cataloging and inquiry-bibliographic service, and the main part of the information resources providing them are electronic catalogs, bibliographic databases, etc. The rapid growth of electronic publications has made possible by the development of electronic systems for the collection, processing, storage, retrieval, distribution, and use of information and the transfer of "old" sources to electronic media and the increase in the power of electronic storage as the basis for creating electronic collections. In this regard, we show how some library and information institutions of the Republic of Azerbaijan are at the forefront of the application of new technologies as organizations that are inseparably and organically connected with the processes of creating, collecting, and storing information.

Keywords: Universal scientific libraries, Library service, Electronic resource, Full-text databases, Technological process.

RESUMEN

En este artículo se estudia el estado actual de los recursos de información tradicionales en las bibliotecas científicas universales, la determinación de los recursos bibliotecarios tradicionales y sus capacidades en la implementación de las funciones de las bibliotecas científicas universales. Para ello, debido a la evolución del campo es importante abordar el desarrollo del modelo de gestión de recursos electrónicos de texto completo en bibliotecas científicas universales, que se encuentran entre los principales puntos que atraen la atención en la investigación actual. Las bibliotecas científicas universales, que son el principal objeto de investigación del artículo, en los tiempos modernos continúan complementando sus fondos con publicaciones principalmente impresas y presentándolas a sus usuarios, prestando atención a las tecnologías tradicionales. La automatización de los procesos tecnológicos se utiliza en este tipo de bibliotecas principalmente en el campo de la catalogación y el servicio de consulta-bibliografía, y la parte principal de los recursos de información que las proporcionan son catálogos electrónicos, bases de datos bibliográficas, etc. El rápido crecimiento de las publicaciones electrónicas ha sido posible gracias al desarrollo de sistemas electrónicos de recopilación, procesamiento, almacenamiento, recuperación, distribución y uso de la información y la transferencia de fuentes "antiguas" a medios electrónicos y el aumento del poder del almacenamiento electrónico como base para la creación de colecciones electrónicas. En este sentido, se muestra cómo algunas instituciones bibliotecarias y de información de la República de Azerbaiyán están a la vanguardia de la aplicación de nuevas tecnologías como

organizaciones que están inseparablemente y orgánicamente conectadas con los procesos de creación, recopilación y almacenamiento de información.

Palabras clave: Bibliotecas científicas universales, Servicio bibliotecario, Recurso electrónico, Bases de datos de texto completo, Proceso tecnológico

INTRODUCTION

In the context of communication and knowledge management, data and information are related but distinct concepts (Shrestha & Saratchandra, 2023; Jia, 2020;). Data refers to raw, unorganized facts and figures collected or generated through various means such as sensors, surveys, or transactions. These data can take the form of numbers, text, images, audio, or video and are considered the raw material used to create information. Information, on the other hand, is the processed and organized data that has been transformed into a meaningful and useful form. This involves analyzing, interpreting, and presenting data in a way that provides insight, understanding, or value to the recipient (Lee, 2002). For example, a company may collect sales figures for each product over time (data) and then analyzes these figures to identify trends, such as which products are most popular and which are underperforming, using this information to inform business decisions (Wulff & Finnestrand, 2023).

In this process, information management systems play a crucial role since they allow to organize and/or categorize different resources to extract useful information. For example, studies highlight that in small and medium-sized enterprises (SMEs), the use of information technology enhances productivity and market shares (Agwu, 2018). In the field of education, information management systems enable efficient organization, storage, and retrieval of data which facilitates effective knowledge sharing and decision-making processes, ultimately enhancing the quality of teaching and learning experiences (Pacheco-Velazquez, 2022; Saif et al., 2022). The same can be said in healthcare, since providing relevant information during clinical encounters is vital for effective patient management of pain (Dewar et al., 2009; Avison & Fitzgerald, 1991). These insights underscore the necessity for effective information systems, user acceptance, and pertinent academic research in the field.

Going deeper in the subject, the word “resource” means “reserve”, and the broader concept of “information” includes information about people, facts, events, and processes. From here, it is known that “information resource” itself means a stock of information, and it is concluded that library information resources include information

sources available in libraries (Khalafov, 1996). Information resources of modern universal scientific libraries are divided into two main groups: 1) traditional library information resources; 2) electronic library information resources. In the modern world, global changes under the influence of technological revolution and cultural paradigms of social development have a decisive effect on the functional position of traditional social structures of society. Libraries take one of the main places among them. The scientific justification of the social role of libraries in the world is an extremely important task since the fate of world culture, the preservation, and sustainable development of the humanistic foundations of society depend on it (Khalafova, 2015).

Libraries participating in the processes of collection, storage, production, distribution, and use of socially important information, first of all, make an objective contribution to the transformation of information into a strategic national resource that affects the further development of society. Thus, the main goal of the modern library-information service system is to provide information to all sections of the population in libraries, from the highest administrative structures to ordinary citizens, to every member of society. As libraries contribute to the development of culture and the humanization of relations, they are of special social importance in the preservation of people's historical memory and the dissemination of information recorded in documentary form. At the same time, the book as a cultural event combines the material embodiment of human cognitive deficit, spiritual, necessary “I”, and culture as the main object of the library's institutional activity on the historical level (Milli Majlis of the Republic of Azerbaijan, 1998).

Based on the mentioned library examples, the goal of this research is to analyze the historical development stages of the organization and management of work with traditional and electronic resources in universal scientific libraries, taking important libraries of the Republic of Azerbaijan as case studies. It is discussed the modern state of traditional information resources in universal scientific libraries, and studying methods of optimizing the technological processes of library service under automation conditions. Historical, systematic, and comparative-analysis methods were used while researching the article.

DEVELOPMENT

The role of libraries in the modern information society

One of the fundamental objects of librarianship is library collections or library funds, which are the main component of traditional library-information resources. The role

and place of libraries in the modern information society are determined not by the number of documents in the fund and the level of automation of library processes and operations, but by the library-information service provided to the reader. At this time, libraries should take into account other information intermediaries that compete with them. These include individual organizations that create digital libraries and databases, publishers, as well as browsers that allow searching the Internet. In general, modern users require libraries to provide access to information sources and to respond to requests as quickly as possible. In modern times, traditional libraries are unable to meet these demands. This problem can be overcome only with the help of modern effective tools of the library service. The electronic catalog is the basis of the library-information service. Therefore, the efficiency of library activity is related to the cataloging process.

It should be noted that the formation of the Azerbaijan National State library fund named after M.F. Akhundov is of particular importance. The library makes great efforts to complete the fund in the field of national literature and ensures its formation. Unlike other libraries, this library is considered the most important and the only source of national literature in the republic. Therefore, each library solves various tasks in the mutual assembling of the fund, satisfies the most important requests of the readers, and relies on various organizational and methodological methods in the assembling work (Tahirov & Ismayilova, 2018).

The work experience of the National Library of Azerbaijan named after Mirza Fatali Akhundov is of great interest in the transition to the information society. In the conditions of the modern information society characterized by innovations, the National Library of Azerbaijan named after M.F. Akhundzade, while organizing the library-information service to the population, was not satisfied only with traditional service methods, and gave great preference to the organization of electronic service. Currently, all work processes related to the organization of library services to readers in the National Library are fully automated (Annual reports of M.F. Akhundov National Library of Azerbaijan, 2021; 2022; 2023) which has allowed a sustained growth of the library's collection (Table 1 and 2).

Table 1. Circulation of the library fund in the Azerbaijan National Library named after M.F. Akhundov.

Years	Reader	Book delivery	Book period
2016	121 558	984 861	8,1
2017	143 627	1 102 658	7,6
2018	165 048	5 457 319	33,06
2019	187 348	4 537 441	24,21
2020	198465	3 567 442	22, 12
2021	200564	6 775 345	19, 23
2022	220456	5 345 786	18, 34
2023	245654	6 789 234	25, 45

Source: self-made.

Table 2. Growth rate of the library fund in the Azerbaijan National Library named after M.F. Akhundov.

Years	The volume of the fund	Fund growth rate
2020	7 969 705	0,07%
2021	8 480 762	0,28%
2022	8 691 753	0,28%
2023	9 501 276	0,29%

Source: self-made.

Electronic Library of the National Library and technological strategies

Although the National Library's Electronic Library was founded in 2002, it has been active since February 2006. The Department of Electronic Library Development, guided by the Law of the Republic of Azerbaijan "On Copyright and Related Rights", uses the capabilities of the automated library system to enrich the databases of the Electronic Library (in Azerbaijani, Russian, and English), and to create new electronic databases. Also, the department carries out the work of promoting the achievements of various fields of science and culture of the world and Azerbaijan and providing information through computer technologies and information networks (Innovative library-information service: questionnaire, 2016).

In order to ensure the development of the electronic library, the National Library has begun to prepare electronic versions of national rare and valuable books, publications that are limited or impossible to use for any reason. For this purpose, the library:

- Develops full-text electronic resources of publications through digital devices, robot-scanners, and relevant programs;
- Edits the prepared full-text resources;
- Transfers these resources to the Internet and Intranet for the purpose of making them available to readers and creates an "access" interface to those resources.

Regarding this, it is possible to see statistical data on the improvement of the electronic catalog in the National Library in 2020-2023 from the table below.

Table 3. Development dynamics of the electronic catalog in the National Library.

Years	Electronic bibliographic description
2020	57986
2021	61229
2022	76789
2023	83987

Source: self-made.

Examples of a technological strategy is a project developed by the Scientific Library of the South Ural State University together with architectural, engineering, and design projects, which provides for the creation of a number of information technology systems to perform all library information technology processes and operations are:

- Automated library and information system;
- Systems for creating electronic copies of documents;
- Storage of documents (with a complex of mobile and stationary rack equipment);
- Delivery of documents inside the building;
- Identification and protection of funds;
- Restoration and conservation (including fund sanitation);
- Providing users with electronic and audiovisual documents;
- User training and presentation center;
- Automated management system for the library and information complex.

In the research of Professor A.A. Khalafov, it is noted that the history of the creation of the library catalog goes back

to very ancient times. A library catalog means a collection of documents containing a bibliographic description made to reveal the documents contained in the library fund. The word "catalog" is a Greek word meaning "list", that is, the selection and listing of items and subjects according to a certain characteristic. Library catalogs play a role in almost all areas of library work. Although catalogs are similar to card files in terms of purpose and content, catalogs differ from card files in that they represent the entire stock. Card files often contain magazine and newspaper articles. In addition, indexes can cover individual types of literature or all types of literature on a topic (Khalafov, 1996).

Electronic resources of universal scientific libraries

Electronic resources of universal scientific libraries began to form in the early 2000s and currently include CD-ROMs, bibliographic, factual and full-text databases, electronic catalogs, electronic libraries, Internet resources, etc. Active processes of replacing individual elements of traditional library and information systems with electronic elements are noted. At the same time, traditional catalogs continue to maintain their relevance in the implementation of inquiry and bibliographic services, since only 1% to 11% of the library stock is reflected in electronic catalogs.

While analyzing the electronic resources, issues such as what kinds of topics and subjects are included in the content, how wide the areas of concentration are, what formats the information in these sources is in, and the types of sources are being investigated. At the same time, it is necessary to determine whether the content of the source meets the needs of the users. If the electronic resource is in another database, its authenticity should be determined. At the same time, when choosing a resource, both traditional and electronic, libraries should take into account the degree of its use and financial issues. In order to get more detailed information about the information inside the source, when creating hyperlinks to other sources, the compatibility, reliability, and degree of updating of both the linked information and the linking source should be investigated (Jafarov, 2012).

During the formation of the electronic fund of the library, several methods were defined when deciding on the composition of the electronic resources:

- Choose a wide range of electronic resources covering several subjects;
- Choose electronic resources with specialized content that contain different information on certain subjects;
- Identify critical user groups, which are the main con-

stituents of library users, and select a wide range of resources that can meet the needs of these users.

Although the title and preface in traditional publications provide information about the content of that publication, there are other signs that need to be examined in electronic resources. Especially in electronic resources, the presence of the information environment in the format of drawings, graphics, and video has a significant impact on the quality and efficiency of use of the resource.

When analyzing electronic resources from the point of view of the source, the themes of authenticity, authority, and renewal also came to the fore. In addition to the fact that the information provided in the resource is correct and reliable, one of the important issues is that the author, publisher, and editor are persons with specific authority in their fields. Due to the specific features of electronic resources, the composition of the persons responsible for those publications can be expanded. Thus, it includes sales and manufacturing companies, software developers, graphic designers, in short, everyone responsible for the development of an electronic resource. When creating an electronic environment for an electronic resource, the reliability of the organizations that create the market for the electronic resource should be taken into account (Skvortsov, 1989).

The reliability of the information contained in the electronic resource allows determining whether the resource is authoritative or not. One of the advantages of electronic resources over traditional publications is that they can be updated over time. In order to ensure the highest level of use of electronic resources by users, it is necessary to make them easy to use. In this regard, functionality is considered one of the important criteria defined in the selection of electronic resources. Because if the technological obstacles for the use of a resource are the subject of discussion or if there are problems in obtaining the graphs and tables available in the electronic resources, then there can be no question of the functionality of the resource. The more choices the user is given when accessing electronic resources, the more convenient the electronic environment will be created from the user's point of view. Methods of access to electronic resources are considered important in this regard. However, although the search method added to some electronic resources is considered easy for professional librarians, when the information available in the electronic resource is logically grouped, these search methods, which are difficult for users, can cause them to fall into chaos.

On the other hand, financial indicators of electronic resources are subject to change due to the application of

information technologies. At the same time, the financial indicators of the resource can be determined by the number of users using the resource. Difficulties in determining the budget for electronic resources are due to a number of factors.

- The use of the electronic resource by the library is allowed if the traditional form of the resource is in its collection;
- An electronic resource in different formats can be sold at different prices. For example, the CD version of a publication may be sold at a separate price, the network version at a separate price, and the print version at a separate price.
- Electronic resources that include full-text publications may be priced differently than electronic resources that include only a certain part of full-text publications.
- Libraries may in some cases be required to purchase the entire package even when they do not need any document within it.
- Depending on the year of publication, place, type, and content of electronic resources, their prices may also be different.
- The price of the electronic resource may vary depending on the number of users.
- In some cases, additional payment may be required when printing a certain part of the electronic resource or when it is necessary to transfer it to a material carrier.
- Resources obtained within a consortium may have different prices depending on the consortium.

In addition, for the purpose of purchasing electronic resources, libraries can create a consortium among themselves and place the acquired resource on the local network at the same time. At this time, the equal distribution of the financial costs determined in relation to the price of the electronic resource among the libraries can lead to their saving in the budget.

In order to create an electronic catalog in the National Library, it was required to solve three important, interrelated issues:

- Computerization of internal technological processes in the library;
- Preparation of electronic information resources;

- Organization of readers' use of electronic information resources.

For this purpose, it was necessary to implement an Automated Library Information System that meets modern standards in the library. Taking this into account, since 2002, a system called VTLS/VIRTUA (Virginia Technical Library System) has been implemented in the National Library in accordance with world standards. The search system has been translated into Azerbaijani for readers. The main advantages of the VTLS/VIRTUA system are as follows: 1) The VTLS/VIRTUA program can be easily integrated with other systems and enables information exchange; 2) To create an electronic catalog in the regions, they can create their own electronic catalog by connecting to the system of the National Library through the Internet without any additional system.

The process of formation of full-text electronic resources in Universal Scientific Libraries started later than the process of formation of bibliographic electronic resources and continues at a slower pace. This is due to the low level of development of the market of full-text information products, its high cost, the lack of technical equipment to digitize print stocks, etc., until recently. As a result, full-text electronic resources do not constitute a significant part of the information resources of Universal Scientific Libraries, and therefore their share in library services is still very small. Despite this, the work related to the formation of this part of information resources has intensified, and rapid work is being done in the direction of organizing the library service with online information sources and creating electronic libraries.

CONCLUSIONS

In universal scientific libraries, a new information environment has been formed, which combines systems with different content (traditional and electronic), which has led to the hybridization of resources. It is a very dynamic process that continuously manifests itself in the transformation of these resources from traditional form to electronic form. Further development of work with traditional and electronic resources in universal scientific libraries can be associated with the creation of new types of publications and defining their characteristics. Because of this it is important:

- Deepening and expanding the classification of new forms of the electronic environment and electronic publications;
- Emergence of uniform standards for e-books;
- Emergence of new forms of organization of service to

readers;

- Further development and improvement of legal aspects of activities related to electronic publications;

Scientific documents, publications, information about a specific problem, etc., formed on the Internet and provided free of charge by organizations and authors, give rise to a new scientific communication channel, internet publications. It requires special attention from universal libraries as an object of acquisition and development of a specific product and scientifically based classification to solve the issues of cataloging, storage, and service to readers. In this regard, it is important to solve the problems related to the cataloging of network resources.

The author believes that one of the promising tasks of libraries should be considered the development of their mutual concept to create a national distributed library fund of full-text electronic publications and electronic collections. Finally, in the case of Azerbaijan, it is clear that the city and district central libraries, like the universal scientific library, are trying to establish their work more at the level of the requirements of the new environment. However, in libraries operating in rural areas, not only is work with electronic publications poorly organized, but even serious problems in the organization of work with traditional publications are noticeable.

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