

PROBLEMS IN THE OPERATION OF INFORMATION RESOURCE  
CENTERS AND THEIR CAUSES

Pirmedova Khayitgul Muxammedovna

Director of the Information and Resource Center at

Tashkent State

University of Law

E-mail: [Khaytgul1971@gmail.com](mailto:Khaytgul1971@gmail.com)

**Abstract:** This article provides a systematic analysis of the existing problems in the activities of information resource centers at higher education institutions in Uzbekistan and their underlying causes. In particular, infrastructure imbalances, financial constraints, insufficient staff qualifications, shortcomings in the management system, and inadequate integration of information systems have been identified as the main problems. Additionally, the obstacles in the digital transformation process and their impact on educational and scientific activities are highlighted. The author has developed scientifically grounded proposals and recommendations for developing information resource centers as strategic institutions, implementing a unified KPI system, and establishing a digital management model.

**Keywords:** Information and resource center, digital transformation, infrastructure, management system, KPI, integration, information literacy, higher education, electronic resources, strategic development

**Introduction.** Information Resource Centers at higher education institutions in Uzbekistan have undergone a significant phase of development in recent years. The expansion of digital infrastructure, the growing share of electronic resources, and the provision of access to international databases have taken the activities of Information Resource Centers to a qualitatively new level. Nevertheless, empirical analyses indicate that systemic and institutional problems persist in the activities of Information Resource Centers. These problems indirectly affect the quality of education and scientific productivity.

**Review of literature.** The transformation of Information Resource Centers (IRCs) in higher education institutions has been widely discussed in modern academic literature, particularly in the context of digitalization and knowledge-based economies. According to UNESCO (2021), digital transformation in higher education is not limited to technological upgrades but also requires institutional restructuring, capacity building, and the integration of digital services into teaching and research processes. The International Federation of Library Associations and Institutions (IFLA, 2015) emphasizes that academic libraries and IRCs should evolve from traditional service units into strategic partners in the educational process. This includes supporting research activities, improving information literacy, and providing access to global scientific resources. Borgman (2007) highlights that the development of digital infrastructure and access to electronic resources significantly enhances scientific productivity. However, she also notes that disparities in access to digital resources may create inequalities among institutions. Similarly, Lynch (2005) underlines the importance of integrated digital library systems and their role in facilitating knowledge exchange.

**Analysis and Discussion.** First of all, as in many sectors, there is a problem of infrastructural inequality. While large, central higher education institutions have modern server systems, e-library platforms, and extensive Wi-Fi infrastructure in place, the material and technical base at some regional universities has not been sufficiently modernized. This leads to limited access to electronic

resources. The uneven development of infrastructure creates disparities in educational quality across regions.

*The second problem* is that the quality of the information resources provided is insufficient. Although the fund size has increased, the relevance of the resources, their alignment with academic disciplines, and the update rate are not the same across all higher education institutions. In some cases, even when electronic resources are available, they are not fully integrated with the curricula. This reduces the efficiency of resource utilization.

*The third problem*, in our opinion, is related to the competence of the personnel. Most of the Information Resource Center's staff specialize in traditional librarianship, and there are instances where their competencies in digital technologies, bibliometric analysis, and working with scientific databases have not been sufficiently developed. The lack of a systematic professional development system slows down the process of professional growth. This, in turn, limits the Information Resource Center's ability to support the academic process.

*The fourth problem* is the insufficient level of use. In some higher education institutions, despite the availability of electronic resources, students and faculty members use them infrequently. This situation may be related to insufficient levels of information literacy, low awareness of the services, or an inconvenient interface. As a result, although the resources exist, their real impact on the quality of education is not fully realized.

*The fifth problem* is that the management and monitoring system is not sufficiently developed. A single national KPI system and standardized indicators have not been fully implemented to assess the activities of the Information Resource Center. This complicates the process of objectively assessing performance and optimizing resources. Strategic planning and development programs have not been developed to the same extent at all higher education institutions.

Additionally, there are issues related to the practical application of the regulatory and legal framework. Although a national model and standards have been developed, their consistent implementation across all higher education institutions has not been ensured. This results in disparities in the quality and efficiency indicators of the Information Resource Center's activities.

The causes of the problems are systemic in nature and can be explained by the following factors: For example, limited financial resources, the phased implementation of the digital transformation process, the insufficient institutional establishment of a mechanism for enhancing staff qualifications, and a decentralized monitoring system.

In our opinion, the problems in the operation of Information Resource Centers are mainly due to factors related to infrastructure, personnel, management, and usage. Addressing these problems through a systematic approach, introducing unified evaluation indicators, and developing the Information Resource Center as a strategic institution is a crucial prerequisite for enhancing the quality of higher education and scientific effectiveness.

An analysis of the activities of Information Resource Centers at higher education institutions in Uzbekistan shows that a significant portion of the existing problems is related to the organizational and management system. Although IRMs are developing in terms of material and technical infrastructure, personnel capacity, and information resources, their institutional status and governance mechanisms have not been established to the same extent in all higher education institutions.

First of all, there is a problem related to the organizational status of the Information Resource Centers. In some higher education institutions, the Information Resource Center is integrated as a strategic unit under prorektor-level management, while in others (mainly private universities) it remains at the level of an administrative or service department. This limits the level of integration of the Information Resource Center's activities into the university's development strategy. The insufficient involvement of the Information Resource Center in the strategic decision-making process negatively impacts the efficiency of information support for the educational and scientific processes.

Additionally, management processes are not standardized, and a unified national system of indicators for planning, monitoring, and evaluating the activities of the Information Resource Center has not been fully implemented. In many higher education institutions, there is no KPI-based evaluation system or it is fragmentary in nature. As a result, objectively assessing the Information Resource Center's efficiency and optimizing resources becomes more complicated. Furthermore, strategic planning is not sufficiently systematized. While some Information Resource Centers have an annual work plan, a long-term development strategy has not been developed. Clear roadmaps for digital transformation, international integration, and the expansion of scientific services are not available at all higher education institutions. This limits the continuous and sustainable development of the Information Resource Center's activities, and the ambiguity in functional distribution often confines the duties of its staff to traditional librarianship. Modern functions such as supporting scientific research, providing bibliometric services, and participating in grant projects are not fully developed in all Information Resource Centers. This indicates a lack of an innovative approach in the management system.

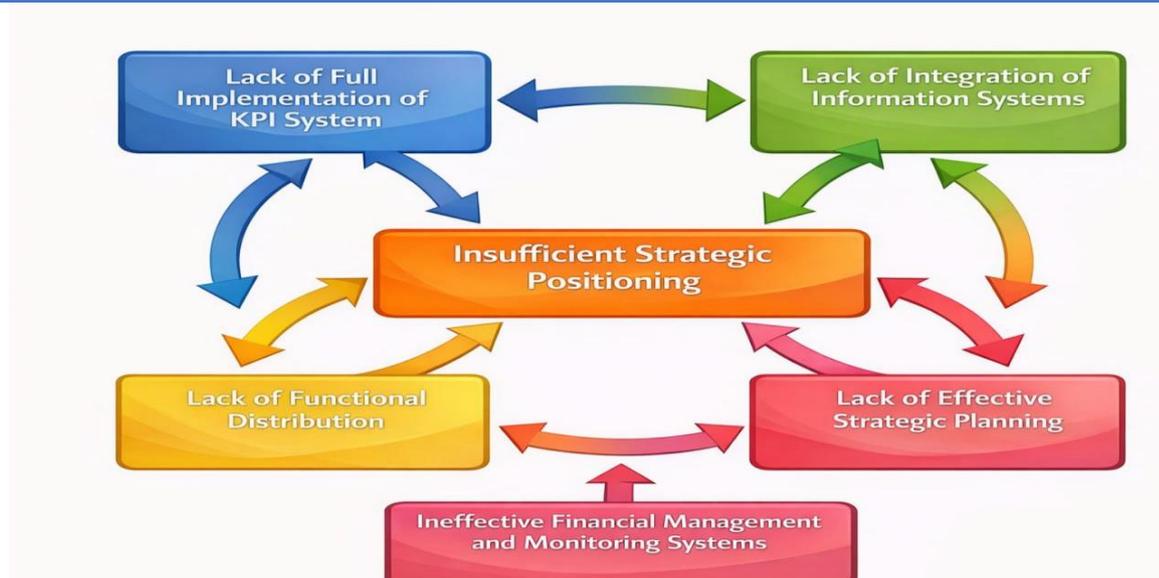
In our opinion, the lack of integration of information systems is also one of the pressing issues. At some higher education institutions, the Information Resource Center platforms are not fully integrated with the learning management system (LMS), research platforms, or the electronic dean's office system. As a result, data exchange is limited and the efficiency of services decreases.

There are also issues related to financial management. Funding for the acquisition of electronic resources, subscriptions to international databases, and infrastructure modernization is insufficient or lacks systematic planning. This reduces the renewal rate of resources and indirectly impacts the quality of education.

From a management perspective, another important problem is that the system for monitoring user needs is not sufficiently developed. In the absence of a mechanism for regularly studying and analyzing the information needs of students and faculty, the services of the Information Resource Center are not updated in response to demand.

It should be noted that, The organizational and management problems of Information Resource Centers are primarily related to an undefined strategic status, insufficient implementation of the KPI system, weak long-term planning, and incomplete integration of information systems. To address these issues, it is necessary to recognize the Information Resource Centers as strategic entities within the university management system, introduce unified evaluation indicators, and develop a digital management model.

A systematic analysis of the activities of information resource centers shows that the existing problems are not isolated but are interrelated and complex in nature. The insufficiently defined organizational status, the lack of standardized management mechanisms, the weakness of strategic planning, and the disintegrated information systems affect the overall efficiency of the Information Resource Center's operations. Systematizing these problems visually serves as an important methodological basis for identifying their cause-and-effect relationships and for developing subsequent proposals and recommendations. The following figure schematically depicts the main organizational and management problems in the activities of Information Resource Centers and their interrelationships.



**Figure 1. Systemic interrelationship model of organizational and management problems in the activities of information resource centers.**<sup>1</sup>

As shown in the figure, organizational and management problems manifest as mutually reinforcing systemic factors. Insufficient strategic status limits the Information Resource Center's involvement in management decisions, which negatively impacts the resource planning and modernization process. The incomplete implementation of the KPI system reduces the ability to objectively assess performance and complicates the identification of priority development areas. The lack of integration of information systems weakens the interconnection with the educational and scientific processes.

Thus, the problems depicted in the figure are not separate but are explained by the insufficient development of a single management model. To address these issues, it is necessary to reconceptualize Information Resource Centers as a strategic link in the university management system, introduce a unified monitoring and KPI framework, and deepen digital integration.

The introduction of digital technologies is one of the priority directions in the process of modernizing the activities of information and resource centers. Electronic library systems, repositories, automated information-library software, remote services, and integration with international scientific databases elevate the activities of information-resource centers to a qualitatively new level. However, practical analyses show that during the digital transformation process, there are a number of systemic constraints that directly affect the efficiency of the Information Resource Center.

First, infrastructural limitations are a significant factor. At some higher education institutions, insufficient server capacity, low internet speeds, and limited Wi-Fi coverage reduce the quality of electronic services. Although high-tech infrastructure is necessary for the stable operation of digital platforms, this condition is not the same at all universities.

The second constraint is the lack of financial resources. Subscribing to international scientific databases, purchasing licensed software, and upgrading infrastructure require significant funding. Due to budget constraints, some higher education institutions have limited ability to fully implement modern digital platforms.

<sup>1</sup> Author's work

The third important factor is the limitations related to staff competence. Implementing digital technologies requires not only technical infrastructure but also qualified specialists. Some Information Resource Center staff lack sufficient skills in digital systems, databases, bibliometric analysis, and electronic repository management. This limits the ability to fully utilize the implemented technologies.

The fourth constraint is organizational and governance issues. The digital transformation process is often carried out not on the basis of strategic planning, but in a step-by-step and fragmented manner. The lack of full integration between information systems, learning management platforms (LMS), research systems, and the electronic dean's office reduces the efficiency of services.

The fifth limitation is related to the level of users' information literacy. Although electronic resources and platforms are available, technological opportunities are not fully realized when students and faculty lack the necessary skills to use them. This situation shows the human factor's dependence on digital transformation.

Additionally, issues of regulatory and legal refinement and standardization also present certain constraints. The lack of unified technical standards or the incompatibility of different platforms complicates information exchange. This makes the issues of data security and system stability pressing.

Overall, the constraints in implementing digital technologies are complex, involving infrastructural, financial, personnel, organizational, and human factor issues. To overcome them, a strategic approach, phased modernization, staff upskilling, and the implementation of a single, integrated management model are necessary.

The digital transformation process is complex in nature, encompassing not only technological infrastructure but also management, financing, and human capital. The table below systematically analyzes the main constraints encountered when implementing digital technologies in Information Resource Centers, highlighting their impact on the educational and scientific processes and the directions for their resolution.

Table 1

**Limitations and their impact on the implementation of digital technologies in information resource centers <sup>2</sup>**

<b>№</b>	<b>Type of restriction</b>	<b>Main causes</b>	<b>Impact on the educational and scientific process</b>	<b>Mitigation measures</b>
<b>1</b>	Infrastructure limitations	Insufficient server capacity, insufficient internet speed, limited Wi-Fi coverage	Access to electronic resources slows down, efficiency of remote services decreases	<b>Server modernization, broadband internet, unified IT infrastructure</b>
<b>2</b>	Financial constraints	Lack of budget funds, high subscription costs for international databases	Access to international scientific resources is restricted, scientific output declines	<b>Government grants, consortium-based subscriptions, private sector partnerships</b>
<b>3</b>	Lack of staff competence	Low qualifications in information and communication	Digital platforms are not fully utilized, scientific support weakens	<b>Professional development courses, certification system, ongoing training</b>

<sup>2</sup> Author's work

		technologies, lack of bibliometric skills		
4	Organizational and management problems	Lack of a strategic plan, absence of a KPI system	Digital transformation is implemented in a fragmented manner	<b>Single strategy, KPI monitoring system, centralized management</b>
5	Limited integration of information systems	Incompatibility of LMS, repository, and Information Resource Center platforms	Data exchange is slow, service quality declines	<b>Integrated IT architecture, single platform</b>
6	Low user literacy	Lack of information literacy training	Utilization of electronic resources is low	<b>Mandatory courses on information culture</b>
7	Lack of regulatory and technical standards	Lack of unified technical standards	Platforms are incompatible, security risks increase	<b>Development of national standards, certification</b>

Our research findings indicate that the constraints in implementing digital technologies are interrelated and systemic in nature. Infrastructure and financial issues, combined with personnel competencies, hinder the full implementation of digital transformation. In particular, it is difficult to make the most of existing technological capabilities until governance and integration issues are resolved.

Therefore, a comprehensive strategic approach, phased modernization, and the implementation of a single, integrated management model are necessary for the successful implementation of digital transformation. This table will serve as a methodological basis for developing the digital development strategy in the next phase.

An analysis of the activities of Information Resource Centers shows that despite the existing infrastructure and resource potential, their full integration into the educational quality system has not been sufficiently established in all higher education institutions. Integration is understood as the organic connection of the Information and Resource Center's services, resources, and management mechanisms with the educational process, cultural and educational activities, scientific activities, and the system for assessing educational quality. In practice, the Information Resource Center often operates as a separate service unit and is not involved at the strategic level in the process of managing educational quality.

First, there is an observed lack of sufficient methodological alignment between the curricula and the Information Resource Center's resources. The involvement of Information Resource Center specialists in developing course syllabi is limited, and the selection of instructional materials and electronic resources is carried out episodically rather than based on systematic monitoring. As a result, existing resources are not fully utilized or do not fully meet the needs of the teaching process.

**Conclusion and Recommendations.** In many higher education institutions, academic indicators are used as criteria for the quality of education, academic indicators, scientific results, and ranking indicators are used as quality criteria in many higher education institutions, but metrics such as the level of use of Information Resource Center services, information literacy indicators, or the integration of electronic resources are not systematically taken into account. This makes it difficult to formally establish the Information Resource Center's activities as being interconnected with educational quality.

Another aspect is the lack of sufficient integration of digital platforms with learning management systems. Electronic libraries, repositories, and international databases are often not automatically linked with Learning Management Systems (LMS) or e-university (dean's office) systems. As a result, students access resources independently, but they are not fully integrated into the learning process.

This is linked to the need to reconceptualize the institutional role of the Information Resource Center in the pedagogical process. According to a modern approach, the Information Resource Center should not only be a provider of resources but also an active participant in the educational process, a pedagogical platform that shapes information literacy. In practice, however, this approach has not yet fully taken shape in many higher education institutions.

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