MANAGEMENT OF INTELLECTUAL SERVICES IN THE HIGHER EDUCATION SYSTEM USING DIGITAL PLATFORMS

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Abstract: *This article analyzes the importance of digital platforms in the development of intellectual services in the higher education system, their role in the management mechanism and efficiency factors on a scientific basis. The author defines the concept of intellectual services, their types and practical manifestations in higher education, and reveals the possibilities of offering and commercializing them through digital management tools. In particular, the advantages of such mechanisms as scaling intellectual services using digital platforms, user orientation, quality monitoring, and the introduction of data analysis based on artificial intelligence are shown. The article also provides analysis on the example of advanced practices (EduMarket, LegalTech) being implemented in the higher education system of Uzbekistan and proposes priority areas for development, comparing with foreign experience. The author has developed scientific and practical recommendations on creating a single national digital platform, increasing digital literacy, strengthening cooperation based on the Triple Helix model, and improving the regulatory and legal framework.*

Keywords: *digital platform, intelligent service, higher education, digital governance, artificial intelligence, innovative services, commercialization, Triple Helix, EduMarket, digital economy.*

In the context of globalization and digital transformation, intellectual resources are recognized as a key factor in the sustainable development of the national economy. In particular, the modern higher education system operates not only as an institution providing knowledge, but also as a subject of the intellectual services market in the areas of innovation, science and consulting. Intellectual services are understood as services that are knowledge-based, have high added value, are developed through digitized or cognitive processes. Among them, educational and methodological, scientific and technical, consulting, authoring, startup acceleration and patent services occupy a special place.

In recent years, the factors of the digital economy have required a fundamental change in the management mechanisms of higher education institutions. In particular, the possibilities of offering, managing, evaluating and commercializing intellectual services using digital platforms are expanding. Such transformations simultaneously increase the quality of services, increase the convenience of using services, and ensure their competitiveness in national and international markets.

In the scientific literature, digital platforms are interpreted as digital ecosystems aimed at automating interactions between multiple users, providing fast and transparent service delivery, and continuously monitoring service quality. In the higher education system, these platforms provide services such as distance learning, scientific consultations, exchange of educational resources, management of intellectual property rights, electronic archives, and startup incubation.

Therefore, this article analyzes the role of digital platforms in the management of intellectual services, the advantages of their use, existing problems and priority areas for their improvement based on a comprehensive approach. The relevance of this issue is that it is of great importance not only for the digital transformation of the higher education system, but also for strengthening the institutional, technological and economic foundations of the intellectual services sector.

In the context of digital transformation, digital platforms play an important role not only in the automation of economic processes, but also in the formation of a market for intellectual services with high added value. In the scientific literature , a digital platform is interpreted as a digital tool or technological infrastructure that organizes interactions and value exchange between multiple user groups. These platforms allow users to communicate with each other, produce and use services and products, and introduce innovations.

Intellectual services provided through digital platforms in the higher education system include:

Scientific and technical services: publication of articles, preparation of projects for grants, patenting, scientific and methodological examinations.

Consulting services: academic consulting, business consulting, technical solutions.

Educational services: distance learning courses, webinars, online testing and assessment systems.

Startup and innovation services: startup project development, incubation and acceleration programs, technopark services.

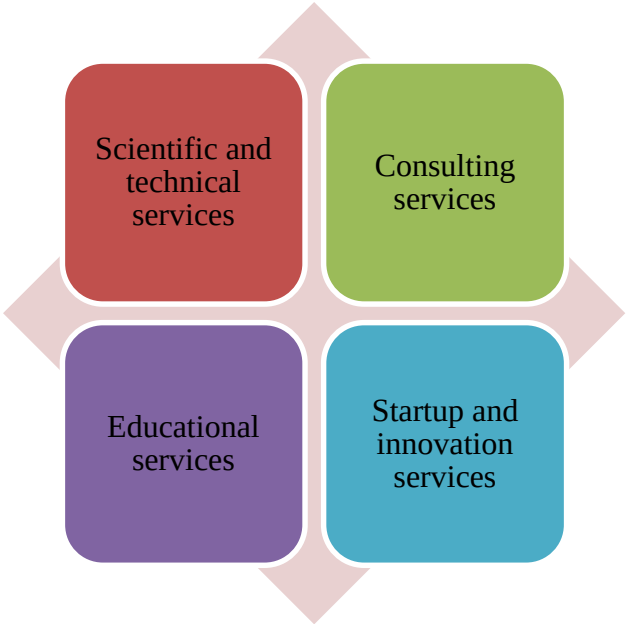

Figure 1. Types of intellectual services provided through digital platforms in the higher education system

The role of digital platforms in intellectual services is determined by their flexibility, availability, and scalability. Platforms such as Moodle, Google Workspace for Education, Zoom, Microsoft Teams, and EdX, which operate in higher education institutions, provide rapid delivery of intellectual services to a global audience. In addition, platforms such as Coursera for Campus and OpenEdu allow HEIs to commercialize their courses.

One of the socio-economic advantages of digital platforms is the transparency of services and the presence of a monitoring system. The quality of services is analyzed in real time, and improvements are made based on user experience. This, in turn, serves to expand the scope of services and increase their commercialization.

In Uzbekistan, a number of higher education institutions have introduced their own digital platforms and begun to independently provide intellectual services on the market. For example, through the “EduMarket” platform launched by the Tashkent State University of Economics, students and professors are providing their online services (course modules, consultations, analytical reports) on a paid basis. This increases the status of intellectual property products as an economic asset.

Also, services provided through digital platforms are based on the principles of "open innovation." In this model, universities, businesses, and government organizations collaborate to create new ideas, knowledge, and services and introduce them to the market.

Effective management of intellectual services in the modern higher education system is unthinkable without digital tools. Unlike traditional management, digital management technologies allow for data-based decision-making, real-time monitoring, and the creation of services tailored to user needs. Therefore, managing intellectual services through digital platforms offers many technological, economic, and strategic advantages.

The main advantages of digital control.

1. Flexibility and scalability. Digital platforms overcome geographical and time boundaries. Intellectual services (e.g., consulting, scientific expertise, online courses) can be delivered to users in any region and at any time. This will facilitate the development of educational exports, transnational service provision, and the expansion of on-demand service offerings.

2. Operational management and automated processes. Digital management tools automate service stages - ordering, execution, analysis, and reporting. For example, service simulation is being automated through digital twin technology, and consultation presentation is being automated through AI-assistant.

3. Data-driven decisions. Using artificial intelligence (AI) and big data technologies, user behavior, service quality, pain points, and service personalization opportunities are analyzed. This leads to management decisions that are clear, objective, and tailored to user needs.

4. Cost optimization. Using digital platforms, the costs of developing and distributing intellectual services are significantly reduced compared to traditional methods. For example, e-textbooks, remote consultations, documents in the cloud are tools for reducing costs.

Digital management of intelligent services is being implemented in Uzbekistan in several areas.

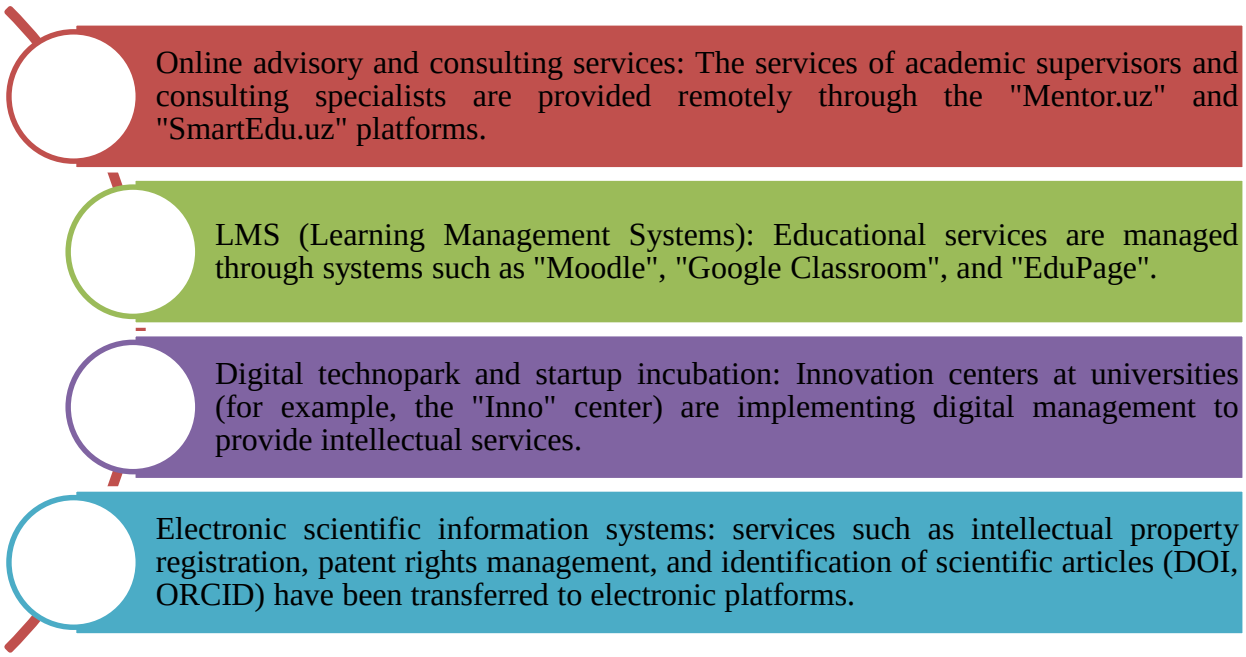

Figure 2. Areas where digital management of intellectual services has been introduced in Uzbekistan

For example, Tashkent State University of Law has introduced digital management of legal consulting services based on legal technologies through the LegalTech Center. This project has not only improved the quality and convenience of the service, but also serves to increase the university's income through its commercialization.

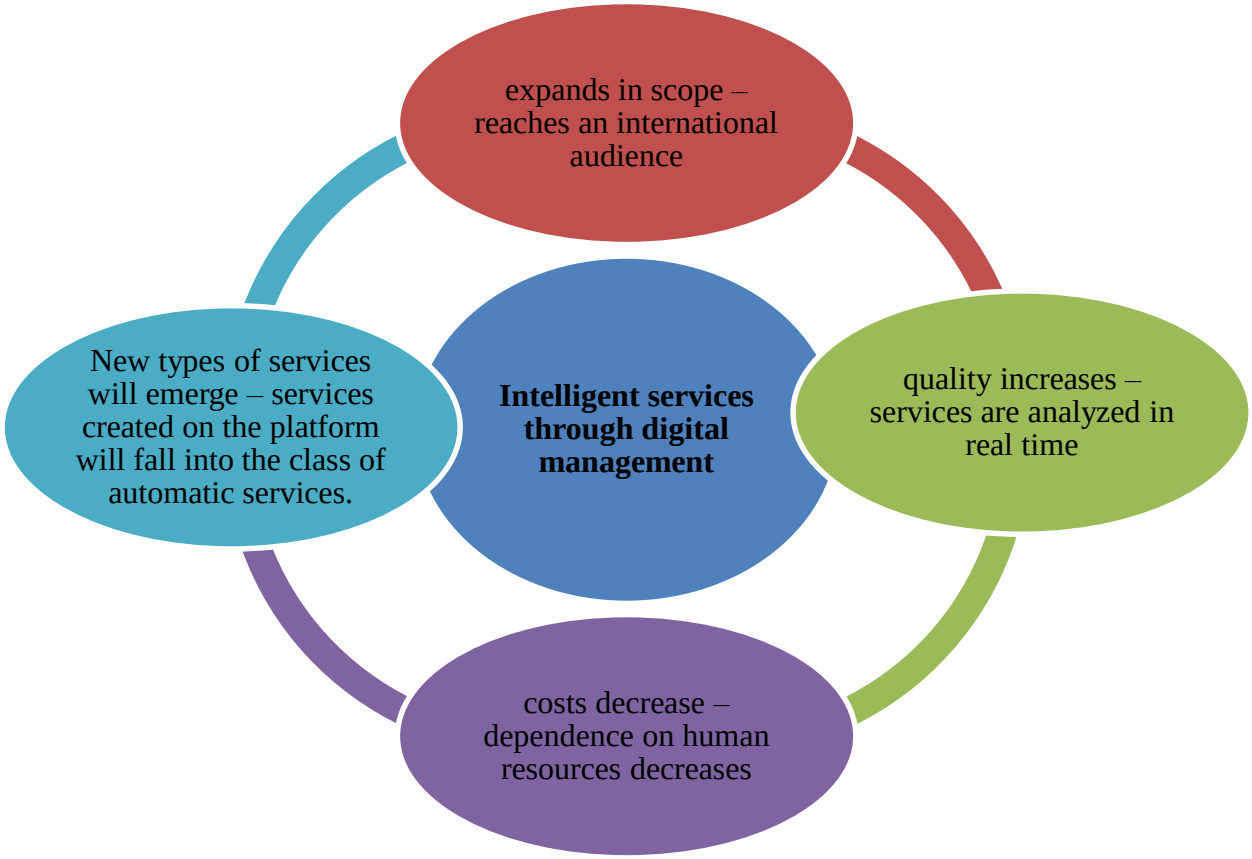

Figure 3. The impact of digital governance on economic efficiency and development potential

Therefore, the widespread implementation of digital management at the level of higher education institutions remains a key direction in increasing the efficiency of intellectual services and adapting them to the market.

Although the practice of managing intellectual services through digital platforms in the higher education system is developing, the institutional, technological and economic mechanisms of this area are not yet fully formed. Therefore, in order to effectively use the existing potential, it is necessary to improve flexible, sustainable and innovative management mechanisms aimed at developing intellectual services.

Today, higher education institutions use different local systems. This makes it difficult to standardize and integrate services. Therefore, it is advisable to create a single national intellectual services platform.

Such platforms have successful practices abroad (for example, the Republic of Korea - KERIS, the European Union - OpenEdu).

To manage digital intelligence services, faculty, technical staff, and project managers must have modern digital skills. Therefore:

introduction of specialized advanced training courses in digital service design, service management, big data, and AI-based management;

Establishing a "Digital Skills Center" in each higher education institution;

Opportunities for students to participate in innovative projects as digital service creators should be expanded.

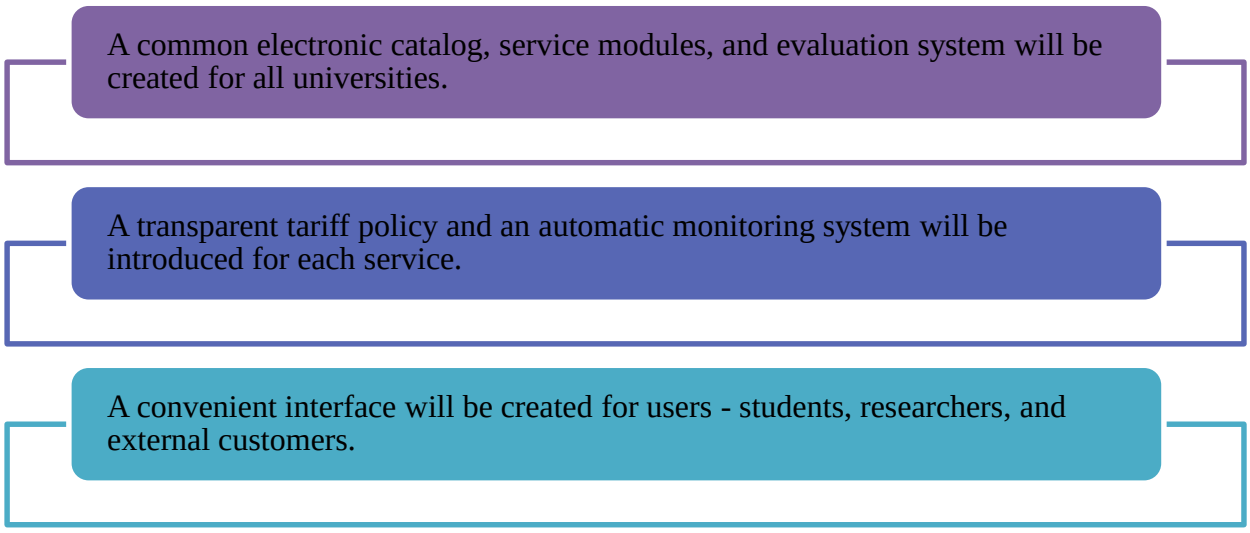

Figure 4. Benefits of creating a national intelligent services platform

A three-way collaboration model is needed to commercialize digital intelligent services. Based on the Triple Helix model:

universities – as a source of knowledge and service provider;

business entities - as technological partners, service consumers;

The state participates as a supporting institution through regulatory frameworks and grants.

For example, in Germany, universities have formed "Smart Services" ecosystems together with startups and have achieved international export of digital services.

The intellectual services sector is often faced with legal uncertainties. In particular:

The copyright, commercialization mechanisms, and licensing rules for digital services are not clearly defined;

The taxation of service income and its impact on the financial independence of HEIs have not been clarified.

Therefore, it is proposed to update the Law of the Republic of Uzbekistan "On Intellectual Property" based on the requirements of modern digital services, as well as adopt a "Strategy for the Development of Service Activities in Higher Education."

Conclusion

The development of intellectual services in the higher education system has become one of the important directions for deepening the integration of education and science in the era of modern digital transformation, expanding the opportunities for export and commercialization of services. Based on the research conducted in this article, the following scientific conclusions were drawn:

Digital platforms are emerging as a strategic tool for increasing efficiency in intelligent service management. They play an important role in expanding the scope of services, monitoring quality, and shaping a user-oriented service system.

The advantages of digital management of intellectual services are scalability, operational efficiency, cost-effectiveness, and the ability to make analytical decisions based on AI. This increases the economic, innovative, and scientific potential of higher education institutions.

The following were proposed as important areas for development:

creating a single digital platform infrastructure;

formation of digital service management competencies;

strengthening university-business-government cooperation (based on the Triple Helix model);

improving the legal framework regulating intellectual services in the digital environment.

Offering intellectual services in digital form will expand the possibilities for their institutional development, market adaptation, and compliance with international standards. This will serve as an important factor in transforming the higher education system of Uzbekistan in accordance with the requirements of the knowledge economy.

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