

INNOVATION SCIENCE AND TECHNOLOGY

ISSUE 7, PART 1 / JULY 2026

 Acceptance of papers



**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences



EDITOR-IN-CHIEF:

Mirzaliyev Sanjar Makhmatjon ugli

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Ochilov Bobur Bakhtiyor ugli – Senior
lecturer at TSUI

THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL **"INNOVATION SCIENCE AND
TECHNOLOGY"** HAS BEEN REGISTERED
UNDER THE NUMBER **C-5669633** BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

CONTACTS

Phone: **+998 50 737 87 88**

Website: <https://ist-journal.uz>

Email: innovationist2025@gmail.com

The scientific electronic journal "Innovation
Science and Technology" has been
included in the list of scientific publications
recommended for the publication of
main scientific results of dissertations
for the award of PhD and DSc degrees
in economics and technical sciences, in
accordance with the Resolution No. 370
of the Presidium of the Higher Attestation
Commission of the Republic of Uzbekistan,
dated May 8, 2025.

Editorial board:



Sharipov Kongiratbay Avezimbetovich,
Doctor of Technical Sciences (DSc), Professor



Abdurakhmanova Gulnora Kalandarovna, Doctor of
Economic Sciences (DSc), Professor



Cham Tat Huei,
Doctor of Philosophy (PhD), Professor (Malaysia)



Muhammad Imran Sadiq
Doctor of Philosophy in Economics (PhD), Professor,
Malaysia



Ahmed Aziz Ismail
Doctor of Technical Sciences (DSc),
Professor (Egypt)



Lee Chin
Doctor of Philosophy in Economics (PhD), (Malaysia)



Asongu Simplice
Doctor of Philosophy in Economics (PhD), Cameroon



Rui Dang
Doctor of Chemistry (DSc), Professor, China



Zahoor Ahmed
Doctor of Philosophy in Economics (PhD), Turkey



Shujaat Abbas
Doctor of Philosophy in Economics (PhD), Russia



Tina A Coffelt
Doctor of Philosophy in Educational Sciences (PhD),
USA



Abdikarimova Dinara Rustamxanovna
Doctor of Economic Sciences (DSc), Professor

Kurbonbekova Mohichehra Turobjonovna
Doctor of Economic Sciences (DSc), Professor

Alimardonov Ilkhom Muzrabshokovich
Doctor of Economic Sciences (DSc), Professor



Razakova Barno Sayfieva
Doctor of Philosophy in Economics (PhD)



Khasanov Sarvar Ulugbek ugli
Doctor of Philosophy in Economics (PhD)



Kholikova Rukhsora Sanjarovna
Associate Professor (PhD)

CONTENTS

PLATFORM MIDDLEWARE-MANAGEMENT: FROM RESOURCE CONTROL TO INTERACTION COORDINATION IN DIGITAL SERVICE ECOSYSTEMS.....	8
Ilgor Abdullayev	
APPROACHES TO IMPROVING KNOWLEDGE EXCHANGE PROCESSES IN INDUSTRIAL CLUSTERS.....	16
Mamadaliyev Anaxon Ziyodillayevich	
IMPROVING EXPENDITURE ACCOUNTING IN HIGHER EDUCATION INSTITUTIONS	21
Islom Ergash ugli Khonimqulov	
MANAGEMENT OF FOREIGN EXCHANGE AND CONCENTRATION RISKS IN THE OPERATIONS OF COMMERCIAL BANKS	26
Qurbonov Ilhom Jumaqulovich	
WAYS TO IMPROVE THE USE OF NATURAL RESOURCES IN THE DEVELOPMENT OF HEALTH SERVICES.	29
Sobirov Kayum Xamraevich	

WAYS TO IMPROVE THE USE OF NATURAL RESOURCES IN THE DEVELOPMENT OF HEALTH SERVICES

Sobirov Kayum Xamraevich

Independent Researcher of the Samarkand Institute of Economics and Service. A member of Uzbekistan writers association.

E-mail: qayum.sobirov795@gmail.com

Abstract- This article focuses on the fact that the economy of health services is being formed on the basis of the integration of medicine, tourism, ecology, innovative technologies and services. In particular, wellness centers, SPA complexes, rehabilitation centers and health clusters established on the basis of mineral water sources, thermal areas, healing climatic zones, phytotherapeutic resources, mountain and forest landscapes are an important factor in increasing the economic competitiveness of regions, creating new jobs and improving the quality of life of the population, and proposals and recommendations are made on the need for rational use of natural resources, maintaining ecological balance and developing health services for the population.

Keywords - Medical Services, Health Services, Medicine, Tourism, Ecology, Innovative Technology, Mineral Water Sources, Healing Climatic Zones, Mountains, Recreational Zones, Phytotherapeutic Resources, Biodiversity.

INTRODUCTION

The demand for medical services has been increasing for the past five years and is gradually gaining a stable position in the world. This development can be seen in the fact that in the world rankings for medical services, Taiwan was ranked among the countries with the strongest health care system in 2024 with a rating index of 78.7, South Korea - 77.7, Australia - 74.1, and Canada - 71.3. Today, the medical services sector, as one of the main sectors of the world economy, makes a significant contribution to the socio-economic development of individual countries and regions. Uzbekistan, on the other hand, has a rating index of 36.26 in the strongest health care system in 2024 and ranks 64th out of 110 countries in the world.

In developed countries, the share of the service sector in the GDP is 60-80 percent, and the funds spent on investing in science and innovative activities are 3.0 percent of GDP, with 2/3 of the total funds falling on the business sector. Today, the development of the medical services sector of the service sector economy and the improvement of its organizational and economic mechanisms are of urgent importance. According to the results of sociological research, 39 percent of day patient clients in our country visit medical clinics and 61 percent of outpatient clients visit rehabilitation and wellness centers. Statistical analysis showed that in 2023, more than 5,000 patients went abroad to receive cheaper medical services, with the most popular type of medical services being cosmetic surgeries. It also showed that healthcare consumers (patients) spent more than \$1 million on foreign medical services. The most popular international clinical destinations among patients undergoing treatment abroad are India, Turkey, and Russia.

LITERATURE REVIEW

Medical services in the field own in turn again one how much to groups are divided. These medical economy services, transportation services, as well as medical services to the composition current at the time to patients morning breakfast organization to do services included and their price to the hospital placement at the price is added.

Medical services sector in the republic were studied, and the scientific views of a number of scientists on the development of medical services, along with "medical services", were studied. For example, B. Mamatkulov, D. Kasimova - the health care system of Uzbekistan, the basic principles of health care, the nomenclature of health care institutions, information and communication in health care, and health care economics were widely covered in their research works [1].

A.I.Ikromov - conducted research on priority areas of healthcare reform [2]. Developed proposals and recommendations on the tasks of local khokimiyats and management organizations in providing modern

medical services to the population.

A.V.Alimov - studied the practical aspects of promising areas of reforming the healthcare system of the Republic of Uzbekistan [3].

Economist M.K. Pardaev analyzed theoretical issues of the medical services sector, the main directions and prospects for the development of the sector by sector, and its specific features [4].

RESEARCH METHODOLOGY

This research work used methods such as the logical approach to the theory of knowledge, induction and deduction, comparative and factor analysis, time and space, comparison, and monographic observation.

ANALYSIS AND RESULTS

Today, in developed countries, the economy of health services is being formed on the basis of the integration of medicine, tourism, ecology, innovative technologies and services. In particular, wellness centers, SPA complexes, rehabilitation centers and health clusters established on the basis of mineral water sources, thermal areas, healing climatic zones, phytotherapeutic resources, mountain and forest landscapes are emerging as an important factor in increasing the economic competitiveness of regions, creating new jobs and improving the quality of life of the population.

Strengthening the health of the population, developing a healthy lifestyle, expanding the market for health services, and improving tourism and recreation infrastructure are among the priorities of state policy in the Republic of Uzbekistan. The mineral water sources, healing climatic zones, mountain and recreational zones, phytotherapeutic resources, and biodiversity available in our country have great economic potential for the development of health services.

Despite the reforms being implemented in our country to develop health services, scientific and methodological issues related to assessing the efficiency of natural resource use, identifying the health potential of regions, introducing innovative management mechanisms, increasing investment attractiveness, forming digital monitoring systems, and ensuring environmental sustainability have not been sufficiently researched.

In this context, the development of health services for the population is of great scientific and practical importance in improving the theoretical and methodological foundations of the effective use of natural resources, assessing regional potential, increasing the efficiency of health services, integrating environmental and economic factors, and conducting scientific research aimed at developing innovative development mechanisms.

The development trends of the population health services market in Uzbekistan were studied, and the growth rates of the market of sanatorium-resort institutions, rehabilitation centers, SPA and wellness services were assessed. The analysis revealed that health services are one of the steadily developing areas in the country's service sector.

Regional analyses have shown that the level of development of health services is directly related to natural resource potential, transport infrastructure, environmental conditions, and investment attractiveness. The dynamics of the development of the health services market in Uzbekistan and the Samarkand region have been analyzed and the main economic indicators of the sector have been assessed (Table 1).

Table 1
In Uzbekistan the population health improvement services market change dynamics (2020—2024)

Indicators	2020	2021	2022	2023	2024
Sanatorium and health promotion objects number (pcs)	164	178	201	236	284
Wellness and preventive centers share (%)	18	22	28	35	43
Health promotion services market size (million \$)	310	365	452	590	740
Medical tourism share (%)	72	68	62	56	49
Wellness & prevention services share (%)	28	32	38	44	51
Innovation services (VR, smart-hydro, telehealth) share (%)	6	9	14	21	29

Indicators	2020	2021	2022	2023	2024
Smart- sanatoriums number (pcs)	4	9	18	31	47
Wearable & health-app users (million person)	0.6	1.1	2.3	3.8	5.2
Average one to the customer right incoming service value (\$)	95	112	145	185	230
Preventive from services users share (%)	21	27	34	41	48

The analysis showed that the effective use of natural resource potential will increase the competitiveness of health services, create new jobs, and enhance the investment attractiveness of regions. On this basis, investment and economic mechanisms for the development of health services have been developed.

Table 2 .
Samarkand eco - healthcare cluster management model

Management subject	Ministries / agencies	Home function
State policy	Tourism Committee , Ecology Ministry of Health storage ministry	Licensing , regulatory and legal order , territorial status , standards designation
Innovation and technology	IT Park, Innovations ministry	VR rehabilitation , digital monitoring systems current to grow
Public-private partnership and finance	ADB, UNDP, Ipoteka Bank, ITFC	Investment , PPP , grants , leasing through financing
Private operators	Urgut thermal-healing zone , Bulung'ur Agro-healing valley , Kongil Eco-Rehabilitation Park (Silk Eco-Rehab Park)	Sanatorium , Eco-Spa, Wellness Center, service show and management

The analysis showed that innovative solutions for using natural water resources include rainwater and snow collection, gray water reuse, the introduction of energy-saving technologies, and the development of the "Smart Sanatorium" concept. These technologies are considered an important factor in increasing the environmental and economic efficiency of health infrastructure.

Re-Creation Environment Model (REM), which assesses the interrelationships between health services, natural resources, and the ecological environment . This model allows for a systematic representation of the interrelationships between natural resources, ecological status, health services, and economic outcomes.

Regions health promotion potential to evaluate aimed at Eco-Wellness Resource Efficiency Index (EWREI) working This is a index natural from resources use efficiency, ecological condition, health services quality and economic the results complex assessment opportunity Based on EWREI of the regions health promotion potential determination and develop priorities designation according to methodological approach offer done .

This to the model naturally resources basically healer environment is formed . Healing environment health promotion of services to develop service does . As a result population health improve, work hard productivity increases, tourism income increases, new work places is created and of the regions stable to develop is achieved .

Regions health promotion potential and natural from resources use efficiency complex assessment The Eco-Wellness Resource Efficiency Index (EWREI) was developed to was released .

This index health promotion in services natural water from resources of use ecological , economic and social single integrated indicator of efficiency based on assessment opportunity gives .

EWREI index mineral and natural water from resources use efficiency , climate and natural environment sustainability, environmental situation and sanitation safety , human to capital impact and health promotion services market development level own inside received five structural block based on shaped .

$$EWREI = \sum (a_i \times W_i), i = 1...5$$

this on the ground :

W_i — structural blocks according to normalized values;

a_i — expert assessment based on determined weight coefficients.

This index regions each other comparison , investment priorities designation , health infrastructure planning and innovative water technologies current to grow efficiency assessment opportunity giver new methodological approach as offer was done.

CONCLUSION AND RECOMMENDATIONS

Based on the calculations and analyses conducted, a promising model for the development of health services in the Samarkand region was developed, and the concept of the “Zarafshan Health Corridor” was formulated.

This concept is based on the integrated use of the natural resource potential of Urgut, Nurabad, Pastdargam, Kattakurgan and other regions, and serves to develop health tourism, create new jobs, and ensure regional economic growth.

REFERENCES

- [1] B. Mamatkulov, D. Kasimova. “Public health and health care management” Tashkent. Ilm ziya, 2013;
- [2] A.I. Ikromov. Priority areas of reforming the health care system. Tashkent, 2012;
- [3] A.V. Alimov. Promising areas of reforming the health care system of the Republic of Uzbekistan. Handouts for participants of training seminars for deputy mayors of Tashkent, assistants for spiritual and educational work, district and city mayors. Tashkent, 2013;
- [4] M.K. Pardayev, Q.J. Mirzayev. Economics of the service sector. Textbook. T.: “Economics-Finance”, 2014. P. 256-263;
- [5] Akhmedov Z.A. Development trends, structural classification and marketing segments of medical services in Uzbekistan // Green Economy and Development, 2025, No. 3, P. 244-249;
- [6] Akhmedov Z.A. The role of medical insurance in the development of medical services and analysis of the experience of foreign countries // Collection of materials of the international scientific and practical conference “Modern technologies for implementing structural changes in the service sector”, Part II, March 25, 2025, P. 86-89;
- [7] Abdurakhmonov K.Kh., Kholmuminov Sh.R. “Labor economics and sociology”. Textbook - T.: Publishing house of the Literary Fund of the Writers' Union of Uzbekistan, 2004;
- [8] Ricardo, David (1817) On the Principles of Political Economy and Taxation. Piero Sraffa (Ed.) Works and Correspondence of David Ricardo, Volume I, Cambridge University Press, 1951, p. 135.

Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2026. № 7

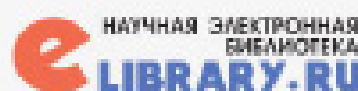
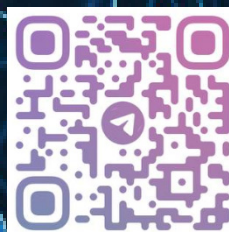
© When materials are reproduced, the INNOVATION SCIENCE AND TECHNOLOGY journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted materials will not be returned to the editorial office.

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

“The journal “INNOVATION SCIENCE AND TECHNOLOGY” has been registered by the Agency for Information and Mass Communications under the Administration of the President of the Republic of Uzbekistan from 09.10.2024 under the registration number №390637. License number: C-5669633. PNFL: 30407832680027

Our address: Tashkent city, Yunusobod district, 19th block,
House 17.



Acceptance of articles

Published every
monthly



Directions

Social, economic, political,
technological, scientific



Scopus || Scientific electronic journal specializing in Scopus

CERTIFICATE NUMBER: №390637

**ORDER NUMBER ACCORDING TO
THE LICENSE REGISTER: C-5669633**

CONTACT:



Contact us
+998 50 737 87 88



Telegram channel
t.me/scopus_IST2100



Journal official website
<https://ist-journal.uz/index.php/IST>