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REGIONAL CHARACTERISTICS OF INNOVATION DEVELOPMENT IN THE SERVICE SECTOR OF THE REPUBLIC OF UZBEKISTAN

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Abstract: This article examines the regional characteristics of innovation development in Uzbekistan's service sector. It focuses on how differences in economic specialization, infrastructure, human capital, digital connectivity, and institutional capacity shape opportunities for introducing new services and improving service delivery. Particular attention is given to the relationship between regional resources, business capabilities, and demand for innovative services. The article discusses approaches to assessing territorial differences and developing support measures adapted to regional conditions. It also considers cooperation among enterprises, educational institutions, and public authorities as a potential mechanism for strengthening regional innovation capacity. The study aims to develop an analytical framework for examining regional disparities and identifying directions for more balanced innovation development in the service sector.

Keywords: service sector, innovation development, regional disparities, regional innovation systems, digital infrastructure, human capital, economic specialization, service innovation, regional policy, Uzbekistan.

Introduction

Innovation in the service sector involves the introduction of new or improved services, delivery processes, organizational practices, and forms of interaction with users. Its development depends on the capabilities of enterprises and the conditions in which they operate. A regional perspective is therefore important: infrastructure, workforce skills, market size, economic specialization, and institutional cooperation can shape the opportunities available to service providers.

For the Republic of Uzbekistan, examining these territorial conditions offers a framework for understanding how service innovation can contribute to regional development. The relevant question extends beyond whether enterprises introduce digital technologies. It also concerns how they identify local needs, adapt business processes, improve accessibility, and create services suited to their regional environment. Innovation may involve technological solutions, but it can also emerge through changes in management, distribution, customer interaction, and cooperation between organizations.

Regional economic specialization provides one starting point for analysis. Tourism-oriented territories, industrial centers, agricultural areas, and administrative centers may generate different patterns of demand for services. These patterns can influence the relevance of innovations in accommodation, logistics, maintenance, professional services, trade, and other

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activities. Consequently, evaluating regional innovation requires attention to the structure of the local economy and the connections between service providers and the sectors they support.

Digital and physical infrastructure constitute another dimension. Connectivity can enable enterprises to communicate with customers, coordinate operations, and deliver services remotely. Transport accessibility and reliable utilities can also influence the feasibility and cost of service provision. However, infrastructure availability should be distinguished from effective use: enterprises need appropriate skills, organizational capacity, and viable business models to translate access into improved services.

Human capital is equally relevant. Service innovation often depends on employees' ability to interpret customer needs, solve practical problems, and apply knowledge within daily operations. Cooperation with educational institutions and training providers may help enterprises develop these capabilities. The regional analysis should therefore examine both the availability of skills and the mechanisms through which knowledge reaches service businesses.

Institutional conditions also require consideration. Public authorities, business associations, financial institutions, universities, and enterprises can influence the environment for innovation through their decisions and interactions. Their contributions may include information exchange, workforce development, financing, and support for collaborative initiatives. Assessing these relationships can help explain whether regional resources are connected effectively to the needs of service providers.

An important methodological issue is the distinction between the scale of service activity and its innovative character. A large service market does not automatically demonstrate a high level of innovation, while a smaller regional market may contain enterprises introducing useful improvements. Similarly, the adoption of digital tools should not be treated as sufficient evidence of higher productivity or better service quality. Evaluation requires indicators that connect innovation activities with their implementation and intended outcomes.

The purpose of this article is to examine the regional characteristics of innovation development in Uzbekistan's service sector and identify the conditions that should guide differentiated support measures. The proposed analysis focuses on economic specialization, infrastructure, human capital, enterprise capabilities, and institutional cooperation. It aims to establish a framework for comparing regional conditions and developing recommendations that reflect territorial needs, while recognizing that conclusions about actual disparities require verified regional evidence.

Literature Review

The literature on regional innovation in services combines innovation measurement, territorial development, and sectoral transformation. These perspectives help distinguish the introduction of new services and business processes from the broader expansion of service activity. They also provide a basis for examining how regional resources and institutional relationships influence enterprises' innovation opportunities.

The OECD and Eurostat's *Oslo Manual 2018* provides the methodological foundation for defining and measuring innovation. It distinguishes product innovations, including new or improved services, from business process innovations and emphasizes that an innovation must be implemented. This approach is particularly relevant to regional service-sector analysis because it extends assessment beyond research expenditure and patents. It also indicates that purchasing digital equipment or planning a new service does not independently establish that an innovation has been introduced.

The OECD report *Broad-based Innovation Policy for All Regions and Cities* (2020) develops the territorial perspective. It argues that innovation policy should reflect differences in

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regional capabilities and support knowledge diffusion alongside frontier research. The report emphasizes the involvement of enterprises, educational institutions, public authorities, and other local actors. For the present study, this supports examining regional innovation as a system of capabilities and relationships rather than evaluating territories solely through research intensity or the presence of high-technology firms.

An important implication of the OECD's analysis is that adopting and adapting existing knowledge can contribute to regional innovation. Regions differ in their ability to absorb technologies and organizational practices developed elsewhere. Consequently, policy instruments suitable for research-intensive centers may not address the needs of territories where enterprises require basic managerial skills, access to expertise, or assistance with technology adoption. Applied to services, this suggests assessing the practical capacity of firms to improve delivery processes and respond to users.

The World Bank report *At Your Service? The Promise of Services-led Growth in Uzbekistan* provides a country-specific perspective. It identifies connectivity, market contestability, and capabilities as important conditions for service-sector development. The report also distinguishes knowledge-intensive services from activities with different productivity and skill characteristics. Its relevance to this article lies in identifying national structural conditions that can guide regional investigation. However, national findings cannot independently establish the size or causes of differences between individual Uzbek regions.

The World Bank's *Services for Development in Uzbekistan* (2025) further emphasizes digital connectivity, technology adoption, competition, and workforce capabilities. It describes analytical work involving enterprise surveys and policy reviews, illustrating the importance of combining business-level evidence with institutional analysis. This approach supports examining whether infrastructure and support measures translate into changes within service enterprises, rather than assuming that their availability automatically produces innovation.

Taken together, the reviewed sources support a framework with three connected levels: implemented innovations within enterprises, regional conditions affecting knowledge absorption and cooperation, and national policies shaping service markets. Their synthesis suggests that regional comparisons should distinguish innovation inputs, enterprise activities, and resulting changes in service provision. The present article applies this framework to identify relevant assessment dimensions for Uzbekistan, including economic specialization, infrastructure, skills, enterprise capabilities, and institutional cooperation. Establishing actual regional disparities and their determinants would require comparable regional statistics and enterprise-level evidence.

Research methodology

This study employs a qualitative, desk-based approach to examine the regional characteristics of innovation development in Uzbekistan's service sector. The source material comprises the OECD/Eurostat innovation measurement guidelines, OECD publications on regional innovation policy, and World Bank analyses of Uzbekistan's service economy discussed in the literature review. The sources are used to establish conceptual definitions and identify conditions relevant to regional comparison.

Thematic analysis organizes the material into five dimensions: economic specialization, physical and digital infrastructure, human capital, enterprise capabilities, and institutional cooperation. Comparative analysis distinguishes national conditions from regional characteristics and separates innovation inputs, enterprise activities, and implemented outcomes. Service-sector growth and digital technology adoption are considered contextual indicators rather than direct evidence of innovation.

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The findings are synthesized into an analytical framework for subsequent regional assessment and differentiated policy recommendations. The study does not construct a regional ranking, estimate an innovation index, or conduct econometric analysis. No original surveys or comparable region-level dataset are used; consequently, its conclusions identify analytical relationships and research priorities rather than measured disparities or causal effects across Uzbekistan's regions.

Analysis and results

The qualitative synthesis identifies five interconnected dimensions for examining regional innovation development in Uzbekistan's service sector: economic specialization, infrastructure, human capital, enterprise capabilities, and institutional cooperation. The principal result is an analytical framework explaining how these conditions may shape the introduction of new or improved services and business processes. Since the study does not use a comparable regional dataset, the findings represent interpretive relationships rather than measured differences between individual regions.

The first finding concerns the identification of service innovation. The *Oslo Manual 2018* requires an innovation to differ significantly from an organization's previous products or processes and to be introduced to users or brought into operation. Applied to regional services, this means that innovation assessment should identify an implemented change. Growth in service turnover, the purchase of equipment, or participation in training may provide relevant context, but none independently demonstrates an innovation outcome.

This distinction has practical implications for regional comparison. A territory with a large service market may record substantial turnover because of its population, business concentration, or purchasing power. These characteristics do not establish that its enterprises introduce innovations more frequently. Conversely, improvements within smaller service businesses may be significant relative to their previous operations despite producing modest aggregate revenues. Regional assessment should therefore distinguish the scale of economic activity from the incidence and characteristics of innovation.

The second finding concerns economic specialization. The World Bank's analysis of Uzbekistan distinguishes service activities with different skill requirements and productivity characteristics, including knowledge-intensive services. This supports examining the composition of regional service economies rather than treating the sector as homogeneous. Regional specialization may influence both demand for services and the capabilities required to improve them. However, the national evidence does not establish which Uzbek regions possess particular innovation advantages.

Within the proposed framework, specialization can guide the selection of research questions. In a tourism-oriented setting, assessment might examine changes in reservation systems, visitor information, or coordination among providers. In an industrial setting, it might address maintenance, engineering, logistics, or professional support services. In rural areas, relevant questions could concern access to financial, distribution, and advisory services. These examples illustrate possible assessment directions; they are not findings about the actual innovation performance of specific territories.

The third finding relates to physical and digital infrastructure. The World Bank identifies connectivity as an important condition for Uzbekistan's service-sector development. The analytical implication is that regional infrastructure should be examined through both availability and effective use. Access to broadband, transport networks, or digital payment facilities may create opportunities, while their contribution depends on whether enterprises can integrate them

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into viable service activities. Infrastructure indicators should therefore be connected with evidence about business practices and user access.

The fourth finding concerns human capital and enterprise capabilities. The World Bank's country analysis emphasizes skills and capabilities, while the OECD's regional framework highlights the capacity to absorb knowledge and adopt innovations. Together, these perspectives suggest that access to technology and the ability to use it productively require separate assessment. Relevant enterprise capabilities include identifying customer needs, adapting processes, training employees, and evaluating the results of introduced changes.

Table 1 presents the proposed dimensions and evidence requirements.

Analytical dimension	Main question	Evidence required for regional assessment
Economic specialization	Which regional activities generate demand for innovative services?	Service-sector composition, business linkages, and customer requirements
Infrastructure	Can enterprises and users access and effectively use essential networks?	Connectivity, transport accessibility, reliability, costs, and actual usage
Human capital	Are relevant skills available and accessible?	Workforce qualifications, training participation, and identified skill gaps
Enterprise capabilities	Can firms introduce and sustain meaningful changes?	Implemented service or process innovations, management practices, and development activities
Institutional cooperation	How effectively do regional actors exchange knowledge and resources?	Enterprise partnerships, educational links, support participation, and evidence of joint outcomes

Source: *Author's synthesis of the OECD/Eurostat, OECD, and World Bank publications reviewed in this article. The table proposes assessment dimensions and does not report observed regional results.*

The fifth finding is that institutional cooperation should be assessed through functioning relationships rather than the number of organizations present. The OECD's regional innovation framework emphasizes engaging local actors and adapting policy to regional assets and capabilities. For the present study, this supports examining whether enterprises can obtain useful expertise, training, finance, or development partners through regional networks. The existence of a university, business association, or support center does not independently demonstrate effective knowledge exchange.

These findings also support differentiated policy design. Where assessment reveals limited access to basic business knowledge, support may need to prioritize managerial development and practical advisory services. Where firms possess relevant capabilities but face weak connections with knowledge providers, cooperation mechanisms may be more appropriate. Where infrastructure constrains delivery, investment in access and reliability may be necessary. These are conditional recommendations derived from the framework; identifying their relevance to particular regions requires empirical evidence.

A further analytical result is the need to distinguish innovation activity from its effects. Introducing a new service or process establishes implementation, but it does not prove that productivity, accessibility, or service quality has improved. Outcome assessment should examine

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indicators corresponding to the objectives of the change, such as delivery time, operating costs, reliability, customer uptake, or access for underserved users. Changes in these indicators should also be interpreted cautiously because market conditions and other interventions can influence performance.

The proposed framework therefore connects national service-sector conditions with regional capabilities and enterprise-level implementation. It provides a basis for organizing subsequent data collection and comparing territories without assuming that service growth or digital adoption automatically demonstrates innovation. The study does not identify leading or lagging regions, quantify territorial disparities, or establish causal relationships. Its contribution is to specify the dimensions and evidence needed for a defensible assessment of regional service innovation in Uzbekistan.

Conclusion and recommendations

The study concludes that regional innovation development in Uzbekistan's service sector should be examined through the interaction of economic specialization, infrastructure, human capital, enterprise capabilities, and institutional cooperation. These dimensions provide a framework for understanding why service providers may face different opportunities and constraints across territories. Their actual influence, however, requires verification using comparable regional and enterprise-level evidence.

The analysis also establishes the importance of distinguishing service-sector expansion, digital adoption, and implemented innovation. Increasing turnover or acquiring technology does not independently demonstrate the introduction of a significantly improved service or business process. Likewise, implementation should be assessed separately from its effects on productivity, service quality, and accessibility.

Based on these conclusions, the following recommendations are proposed.

First, regional assessment should use consistent definitions of service innovation. Data collection should identify implemented changes, their objectives, and the business functions affected. Innovation inputs, activities, and outcomes should be recorded separately.

Second, regional support measures should reflect economic specialization and demonstrated enterprise needs. Policy design should begin with an assessment of local demand, existing capabilities, and barriers to improvement rather than the uniform replication of support instruments across territories.

Third, infrastructure development should be coordinated with measures supporting effective use. Investments in connectivity and accessibility should be accompanied, where necessary, by practical training and assistance in adapting business processes.

Fourth, human capital policies should strengthen skills relevant to service delivery and innovation. Cooperation between enterprises and educational institutions should address identified gaps in digital competence, management, customer analysis, and specialized professional knowledge.

Fifth, institutional cooperation should be evaluated through its practical contribution to enterprises. Support mechanisms should facilitate access to expertise, development partners, and training, with attention to whether these relationships produce implemented improvements.

Sixth, monitoring should connect innovation initiatives with clearly defined outcomes. Relevant indicators may include service reliability, delivery time, operating costs, customer uptake, and access for underserved users. Indicator selection should reflect the purpose of each intervention and be supported by baseline information where possible.

Finally, future research should combine official regional statistics with enterprise surveys and comparative case studies. Such evidence would allow researchers to identify territorial

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disparities, test the relationships proposed in this article, and assess the effectiveness of differentiated support. The present study provides an analytical foundation for this work rather than an empirical ranking of Uzbekistan's regions.

References

1. OECD/Eurostat. (2018). *Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation* (4th ed.). OECD Publishing.
2. OECD. (2020). *Broad-based Innovation Policy for All Regions and Cities*. OECD Publishing.
3. World Bank. (n.d.). *At Your Service? The Promise of Services-led Growth in Uzbekistan*.
4. World Bank. (2025, January 29). *Services for Development in Uzbekistan*.
5. Tidd, J., & Bessant, J. R. (2020). *Managing Innovation: Integrating Technological, Market and Organizational Change* (7th ed.). John Wiley & Sons.
6. Chesbrough, H. W. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press.
7. OECD. (2019). *University–Industry Collaboration: New Evidence and Policy Options*. OECD Publishing.
8. Xashimov, A. (2024). *Innovatsion iqtisodiyot*. Toshkent: G'afur G'ulom nomidagi nashriyot-matbaa ijodiy uyi.
9. Yo'ldoshev, N. Q., Mirsaidova, Sh. A., & Goldman, Ye. D. (2011). *Innovatsion menejment*. Toshkent: Toshkent davlat iqtisodiyot universiteti.
10. Shane, S. (2004). *Academic Entrepreneurship: University Spinoffs and Wealth Creation*. Edward Elgar Publishing.
11. National Statistics Committee of the Republic of Uzbekistan. (2026, September 3). *Which Types of Services Are Growing the Fastest in Uzbekistan?*
12. Central Bank of the Republic of Uzbekistan. (2026, July 1). *The Central Bank of the Republic of Uzbekistan Has Released Its Latest Analytical Review on the Labor Market*.