

✓ qayta ishlash sanoati, xizmat ko'rsatish va servis sohalari korxonalarida ayollar uchun tadbirkorlik ish joylarini yaratish, qishloq xo'jaligi ishlab chiqarishida ayollar oilaviy tadbirkorligi uchun iqtisodiy imtiyozlar taqdim etish;

✓ qishloq joylaridagi ayollar tadbirkorlari uchun zarur bo'ladigan iqtisodiy axborot va maslahatlarni beradigan markazlar, biznes-inkubatorlar faoliyatini yanada takomillashtirish.

Adabiyotlar ro'yxati

1. Abdurahmonov Q.X. "Mehnat iqtisodiyoti va sotsiologiyasi" (2012) Darslik "Fan va texnologiya". 129 b.

2. Ubaydullayeva R., Ata-Mirzayev O., Umarova N. "O'zbekiston demografik jarayonlari va aholi bandligi" ilmiy-o'quv qo'llanma. T. "Universitet", 2004.- 68 b.

3. Mamaraimov Q. "Agrar sohada iqtisodiyotni erkinlashtirish sharoitida mehnat resurslaridan foydalanishning ijtimoiy-iqtisodiy muammolari" i.f.d. diss. avtoref. T. 2004 -25 B.

4. Qayumova A.A., Zaxirova G.M. "O'zbekiston Respublikasida aholi bandligining yosh-jins xususiyatlari" Iqtisod va moliya jurnali № 2 2016. 62 B.

5. O'zbekiston Res. Qonun hujjatlari to'plami 3-son (763), 2017 y. 3 B.

6. <http://www.norma.uz>. 2017

7. <https://uza.uz/posts/673693>

THE DEVELOPMENT OF INNOVATIVE SERVICES IN THE CONTEXT OF THE POSTINDUSTRIAL ECONOMY: EVIDENCE FROM A PUBLIC SURVEY IN TASHKENT CITY

Ayubov Rakhmatullo Ravshanbek ugli

Leading Specialist, Institute for Macroeconomic and Regional Studies under the Cabinet of Ministers of the Republic of Uzbekistan, Tashkent, Republic of Uzbekistan

r.ayubov@imrs.uz

Abduganiyeva Yulduz Toshtemirovna

Chief Specialist, Institute for Macroeconomic and Regional Studies under the Cabinet of Ministers of the Republic of Uzbekistan, Tashkent, Republic of Uzbekistan

y.abdiganiyeva@imrs.uz

Annotation: This article examines the development and application of innovative services in Tashkent City as an essential element of the postindustrial economy. Based on a sociological survey of 270 residents across six districts, the study explores patterns of usage, awareness, and satisfaction with innovative services such as digital payment systems, online transport platforms, e-learning tools, and co-working centers. The findings reveal that payment systems (74%) and online taxi services (40%) are the most widely used, while e-learning and electric vehicle charging services remain underdeveloped. Major barriers include lack of specialists (40%), insufficient infrastructure (28%), high costs (27%), and low public awareness (26%). The article also compares Uzbekistan's progress with international experiences (Estonia, India, and Canada) and provides strategic recommendations to enhance digital inclusion and foster innovation-driven growth within the framework of the postindustrial economy.

Keywords: innovative services; postindustrial economy; digitalization; Tashkent City; technological development; survey analysis.

РАЗВИТИЕ ИННОВАЦИОННЫХ УСЛУГ В КОНТЕКСТЕ ПОСТИНДУСТРИАЛЬНОЙ ЭКОНОМИКИ: НА ОСНОВЕ СОЦИОЛОГИЧЕСКОГО ОПРОСА НАСЕЛЕНИЯ ГОРОДА ТАШКЕНТА

Аюбов Рахматулло Равшанбек угли

Ведущий специалист Института макроэкономических и региональных исследований при Кабинете Министров Республики Узбекистан, г. Ташкент, Республика Узбекистан

r.ayubov@imrs.uz

Абдуганиева Юлдуз Тоштемиевна

Главный специалист Института макроэкономических и региональных исследований при Кабинете Министров Республики Узбекистан, г. Ташкент, Республика Узбекистан

y.abdiganiyeva@imrs.uz

Аннотация: В статье рассматривается развитие и использование инновационных услуг в городе Ташкент как ключевого элемента постиндустриальной экономики. На основе социологического опроса 270 жителей шести районов города проанализированы особенности пользования цифровыми платежными системами, онлайн-транспортом, платформами дистанционного обучения и коворкинг-центрами. Результаты исследования показали, что наиболее распространёнными инновационными услугами являются платёжные системы (74%) и онлайн-такси (40%), в то время как электронное обучение и станции зарядки электромобилей развиты слабо. Основными проблемами определены нехватка специалистов (40%), недостаточная инфраструктура (28%), высокая стоимость услуг (27%) и низкая информированность населения (26%). В статье приведено сравнение с международным опытом (Эстония, Индия, Канада) и предложены рекомендации по повышению цифровой грамотности и стимулированию инновационного роста в рамках постиндустриальной экономики.

Ключевые слова: инновационные услуги; постиндустриальная экономика; цифровизация; город Ташкент; технологическое развитие; социологический анализ.

POSTINDUSTRIAL IQTISODIYOTI SHAROITIDA INNOVATSION XIZMATLARNI RIVOJLANTIRISH: TOSHKENT SHAHRI AHOLISI O'RTASIDA O'TKAZILGAN SOTSIOLGIK SO'ROV ASOSIDA

Ayubov Rakhmatullo Ravshanbek o'g'li

O'zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Makroiqtisodiy va hududiy tadqiqotlar instituti
yetakchi mutaxassisi, Toshkent, O'zbekiston Respublikasi
r.ayubov@imrs.uz

Abdug'aniyeva Yulduz Toshtemirovna

O'zbekiston Respublikasi Vazirlar Mahkamasi huzuridagi Makroiqtisodiy va hududiy tadqiqotlar instituti
bosh mutaxassisi, Toshkent, O'zbekiston Respublikasi
y.abdiganiyeva@imrs.uz

Annotatsiya: Mazkur maqolada Toshkent shahrida innovatsion xizmatlarning rivojlanishi va ulardan foydalanish holati postindustrial iqtisodiyotning asosiy tarkibiy qismi sifatida tahlil qilingan. Shaharni oltita tumanidagi 270 nafar aholi o'rtasida o'tkazilgan so'rovnoma natijalariga asoslanib, raqamli to'lov tizimlari, onlayn taksi xizmatlari, masofaviy ta'lim platformalari va kovorking markazlaridan foydalanish darajalari o'rganilgan. Tadqiqot natijalariga ko'ra, aholi orasida eng ommabop xizmatlar to'lov tizimlari (74%) va onlayn taksi xizmatlari (40%) hisoblanadi. Shu bilan birga, elektron ta'lim va elektromobil quvvatlantirish xizmatlari hali rivojlanish bosqichida. Asosiy muammolar sifatida mutaxassislar yetishmasligi (40%), infratuzilmaning yetarli emasligi (28%), xizmatlar qimmatligi (27%) va aholining xabardorlik darajasi pastligi (26%) ko'rsatilgan. Estoniya, Hindiston va Kanada tajribasi bilan taqqoslash asosida raqamli savodxonlikni oshirish va innovatsion iqtisodiyotni rivojlantirish bo'yicha takliflar berilgan.

Kalit so'zlar: innovatsion xizmatlar; postindustrial iqtisodiyot; raqamli transformatsiya; Toshkent shahri; texnologik rivojlanish; so'rov natijalari.

1. Introduction. The transition toward a postindustrial economy has significantly redefined the role of innovation and digitalization in shaping urban development and economic competitiveness [1]. In this context, innovative services ranging from financial technologies to smart mobility and e-learning serve as key drivers of sustainable modernization. Their effective development reflects a society's ability to generate and apply knowledge as the core resource of growth.

For emerging economies such as Uzbekistan, the expansion of innovative services is a strategic necessity rather than a technological trend [3]. Over the past decade, national reforms have promoted digital governance, fintech systems, and entrepreneurship, positioning Tashkent City as the primary hub of technological transformation. However, despite substantial progress, challenges persist in ensuring public awareness, inclusivity, and widespread adoption. This study addresses these gaps by analyzing the state of innovative service development in Tashkent based on a sociological survey of 270 residents across six districts [9]. The research aims to identify key usage patterns, barriers to adoption, and policy measures to strengthen innovation-led growth.

2. Methodology. This study is based on a structured sociological survey conducted by the researchers in Tashkent City. The objective of the survey was to empirically assess the public's

engagement with innovative services and to identify both the technological and socio-behavioral barriers to their adoption.

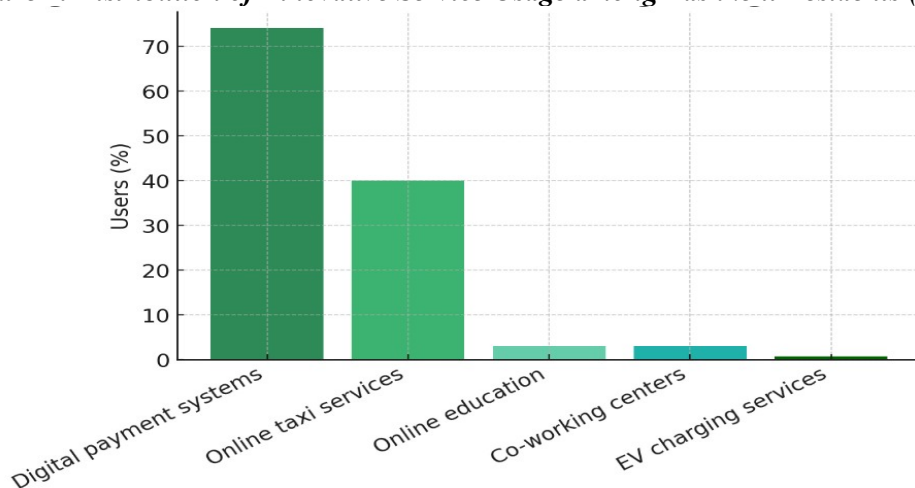
A **stratified sampling approach** was applied to ensure representativeness across the six administrative districts of Tashkent: *Olmazor, Mirobod, Mirzo Ulugbek, Shaykhontohur, Yunusobod, and Bektemir*. Within each district, **45 respondents** were selected randomly, bringing the total to **270 participants**. The survey covered both male and female respondents, with 53% men and 47% women, reflecting the city's gender distribution. In terms of age, **26%** of respondents were between 18–30 years old, **52%** were aged 31–60, and **22%** were above 60. Questions were designed using a **Likert scale** and multiple-choice format to allow quantitative analysis. Respondents were encouraged to provide open-ended comments for qualitative insights. Collected data were processed and analyzed using descriptive and comparative statistical methods. Percentage distributions were calculated to identify major usage trends, while cross-district comparisons revealed spatial disparities in adoption levels. The analysis also incorporated **inferential interpretation** to link observed differences with socio-economic and infrastructural conditions in each district. Additionally, findings were contextualized through a **comparative review of international experiences** in digital service implementation, particularly focusing on **Estonia, India, and Canada**, countries recognized for successful digital transformation models [5]–[7]. This allowed the study to connect Tashkent's empirical evidence with broader global trends in postindustrial development. The reliability of survey responses was ensured through direct, in-person interviews conducted by trained institute researchers. While the sample provides a comprehensive urban perspective, the study acknowledges potential limitations such as self-reporting bias and the exclusion of rural populations. Future studies may expand coverage to suburban regions to provide a more holistic national perspective on innovative service development.

3. Results and analysis

3.1 General Patterns of Innovative Service Usage

The findings of the survey reveal that innovative services are increasingly integrated into the daily lives of Tashkent residents, though their adoption remains uneven across service categories and districts. Among the surveyed population, **digital payment systems** (such as *Click, Payme, and Uzumbank*) emerged as the most widely adopted form of innovation, used by approximately **74%** of respondents. These systems have rapidly become embedded in urban consumer behavior, driven by their convenience, reliability, and alignment with Uzbekistan's broader fintech development strategy (*Figure 1*).

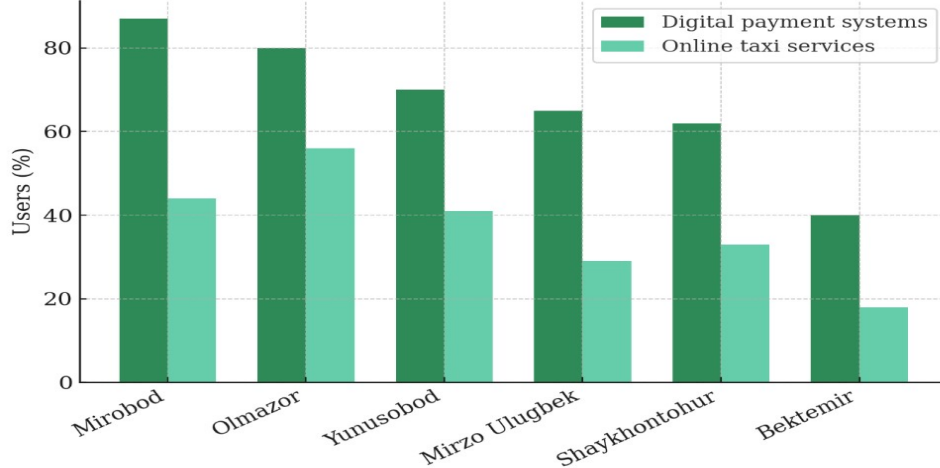
Figure 1. Distribution of Innovative Service Usage among Tashkent Residents (%)



Following payment platforms, **online transport services** (e.g., *Yandex Go, MyTaxi, and Uklon*) ranked second, with **40%** of participants reporting active use. These services have redefined urban mobility, offered cost transparency and time efficiency while reducing dependence on informal taxi networks.

In contrast, other categories of innovative services—particularly **online education platforms** (3%), **co-working centers** (3%), and **electric vehicle (EV) charging services** (0.7%)—exhibited significantly lower adoption levels. These low figures point to a disparity between technological availability and actual accessibility or awareness among citizens (*Figure 2*).

Figure 2. District-Level Adoption of Innovative Services in Tashkent (%)



The data also demonstrate district-level variations: for example, the **Mirobod District** recorded the highest engagement with payment systems (87%) and online taxis (44%), while **Olmazor** followed closely with 80% and 56% respectively. Conversely, **Bektemir District** displayed consistently lower rates across nearly all categories, largely due to infrastructural constraints and lower population density.

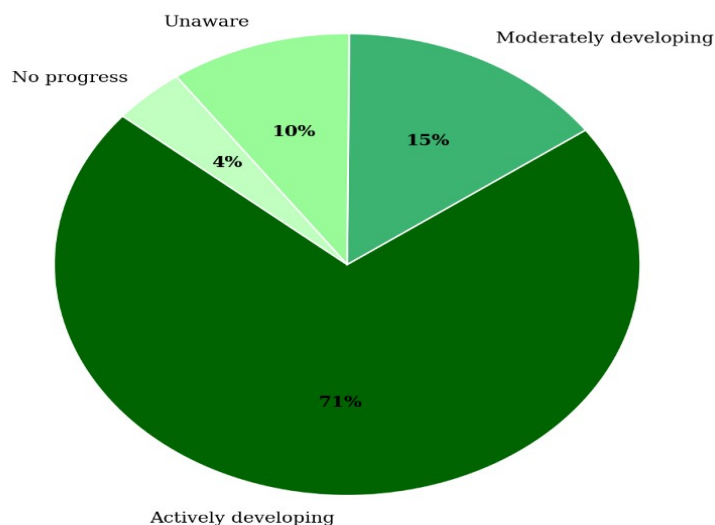
3.2 Frequency and Intensity of Use. The analysis of usage frequency provides further insight into behavioral trends. Approximately **43%** of respondents reported using innovative services on a **daily basis**, whereas **9%** indicated usage **once a month or less**. These results suggest a moderate but growing integration of digital services into everyday routines.

District-level differentiation again proved significant: **Olmazor (58%)**, **Mirobod (49%)**, and **Yunusobod (44%)** districts recorded the highest shares of daily users, reflecting higher levels of urbanization, digital literacy, and service availability. Meanwhile, **Mirzo Ulugbek District** showed the lowest rate (29%), indicating potential gaps in local awareness and infrastructural access.

This pattern underscores that service adoption in Tashkent is not solely determined by technological supply but also by socio-demographic factors—**income level, education, and age**—which influence digital engagement behaviors.

3.3 Public Perception of Development Dynamics. When assessing perceptions of sectoral progress, the majority of respondents (**71%**) viewed innovative services as “*actively developing*” in Tashkent. Another **15%** acknowledged noticeable progress but expressed concerns regarding accessibility, while **10%** reported insufficient awareness about ongoing developments. Only **4%** of participants believed that no tangible progress had occurred (*Figure 3*).

Figure 3. Public Perception of Innovative Service Development in Tashkent (%)



These figures indicate that, while the innovation ecosystem in Tashkent is still emerging, public sentiment toward digital transformation is largely optimistic. This positive perception aligns with

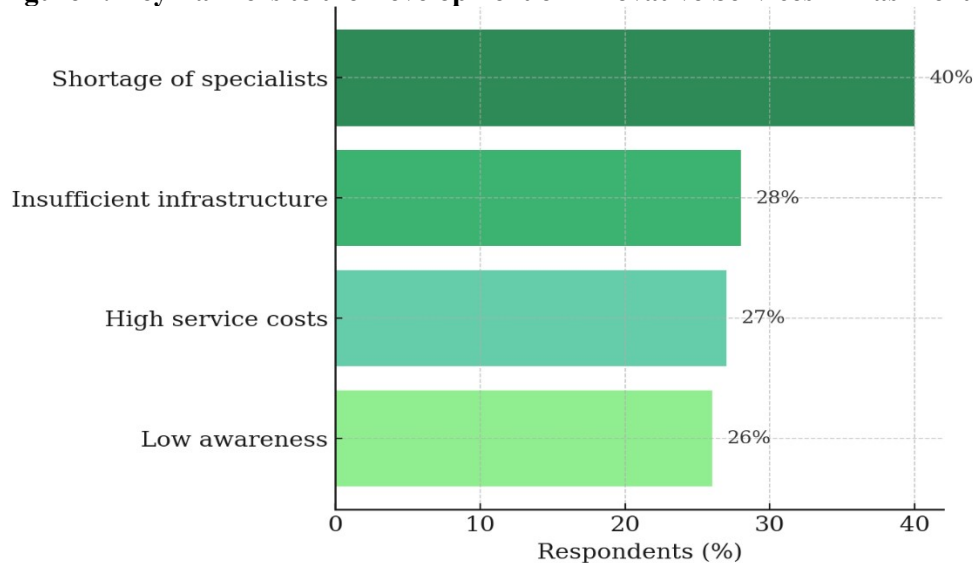
government-led digitalization initiatives, particularly the implementation of the “*Digital Uzbekistan – 2030*” strategy. However, the relatively high share of residents unfamiliar with these developments highlights the necessity of public information campaigns and digital literacy programs.

3.4 Key Barriers to Development. The survey identified several structural and behavioral barriers constraining the expansion of innovative services. The most frequently cited obstacles were:

- **Shortage of qualified specialists** – 40%
- **Insufficient infrastructure** – 28%
- **High cost of services** – 27%
- **Low public awareness** – 26%

These results highlight a multidimensional challenge. The shortage of skilled professionals limits the technical and managerial capacity required for large-scale service delivery. Infrastructure deficiencies—such as limited broadband access, insufficient EV charging points, or outdated utilities—further inhibit innovation diffusion (*Figure 4*).

Figure 4. Key Barriers to the Development of Innovative Services in Tashkent (%)



3.5 Comparative Insights from Global Experience. A comparative examination of global best practices illustrates those countries leading in the digital transformation process—such as **Estonia, India, and Canada**—have achieved progress through coordinated strategies of infrastructure investment, inclusive access, and digital education.

- In **Estonia**, nearly all government services (99%) are available online, with **98% of citizens filing taxes digitally**, underscoring the role of state-backed digital ecosystems.
- **India** has established over **500 million active users** of online public services through the *Digital India* initiative, with special programs targeting women and rural populations.
- **Canada** has implemented a comprehensive *Digital Inclusion Strategy*, ensuring **98% internet access coverage** nationwide, supported by subsidies for low-income families.

These international experiences demonstrate that sustainable innovation development depends not only on technological readiness but also on **policy coherence, equitable access, and human capital development**—areas that Uzbekistan is now increasingly addressing.

4. Discussion (shortened version). The findings confirm that Tashkent City is experiencing an early-stage postindustrial transformation, driven mainly by digital payments and mobility services [1], [9]. However, innovation diffusion remains uneven due to infrastructural limitations and low digital literacy [3]. Human capital emerges as a decisive factor, echoing Bell’s postindustrial theory that positions education and knowledge as the foundation of innovation-led growth [2], [4]. International experience from Estonia, India, and Canada demonstrates that digital inclusion and policy consistency are essential for sustainable transformation. For Uzbekistan, strengthening digital infrastructure, expanding public-private partnerships, and investing in education are critical steps toward a resilient, innovation-based economy [8], [9]. The results thus reinforce the notion that innovative services are both the driver and the outcome of postindustrial modernization.

5. Conclusion. The study confirms that innovative services play a pivotal role in Tashkent’s transition toward a postindustrial economy. While digital transformation is advancing rapidly in fintech and mobility sectors, progress remains limited in education and sustainable technologies. Structural

barriers—such as weak infrastructure, low digital literacy, and a shortage of skilled specialists—continue to hinder inclusive innovation. The findings emphasize that technology alone cannot drive modernization; success depends on human capital, governance, and education. Strengthening these pillars through policy coherence and public-private partnerships will accelerate Uzbekistan’s shift toward a sustainable, knowledge-based economy.

References

1. Bell, D. (1973), *The Coming of Post-Industrial Society: A Venture in Social Forecasting.*, Basic Books, New York, USA.
2. OECD. (2023), *OECD Digital Economy Outlook 2023.*, OECD Publishing, Paris, France.
3. Government of Uzbekistan. (2020), *Digital Uzbekistan – 2030 Strategy.*, Ministry for Development of Information Technologies and Communications, Tashkent, Republic of Uzbekistan.
4. Ministry of Electronics and Information Technology of India. (2022), *Digital India Annual Report 2022–2023.*, Government of India, New Delhi, India.
5. Statistics Canada. (2023), *Digital Inclusion and Connectivity Report.*, Government of Canada, Ottawa, Canada.
6. e-Estonia. (2022), *e-Governance in Estonia: Building a Digital Society.*, e-Governance Academy, Tallinn, Republic of Estonia.
7. Castells, M. (2010), *The Rise of the Network Society.*, 2nd Edition, Wiley-Blackwell, Oxford, United Kingdom.
8. Brynjolfsson, E. and McAfee, A. (2014), *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies.*, W.W. Norton & Company, New York, USA.
9. Institute for Macroeconomic and Regional Studies (IMRS). (2025), *Sociological Survey on Innovative and Green Services in Tashkent City.*, IMRS, Tashkent, Republic of Uzbekistan.
10. World Bank. (2023), *Uzbekistan Digital Economy Assessment.*, The World Bank Group, Washington, D.C., USA.

ВЛИЯНИЕ СОВРЕМЕННЫХ ФИНАНСОВЫХ ТЕХНОЛОГИЙ НА ЭФФЕКТИВНОСТЬ БАНКОВСКОГО СЕКТОРА УЗБЕКИСТАНА

Юсупов Бехзод Юсуп угли

ЧАБ «Трастбанк» ЦБУ «Ором», г. Джизак, Республика Узбекистан
bekzod130@gmail.com

Аннотация: В статье анализируются современные тенденции финтех, реализация цифровых решений в банковской сфере Узбекистана и их влияние на доступность услуг и эффективность банков. Приводятся примеры цифровой трансформации в местных банках и стартапах, рассматриваются проблемы (кибербезопасность, регулирование, дефицит кадров, цифровая грамотность) и оцениваются государственные и частные инициативы. Отмечается, что благодаря молодому населению и стратегической государственной поддержке («Цифровой Узбекистан – 2030», банковская стратегия 2025) Узбекистан динамично развивается в направлении финансовой цифровизации (рост числа финтех-компаний с 24 в 2018 г. до 103 в 2025 г. [1]), однако требуется активная совместная работа государства и частного сектора.

Ключевые слова: финтех, банковский сектор Узбекистана, цифровая трансформация, интернет-банкинг, мобильный банкинг, искусственный интеллект, биг-дата, кибербезопасность, государственное регулирование, доступность услуг.

INFLUENCE OF MODERN FINANCIAL TECHNOLOGIES ON THE EFFICIENCY OF THE BANKING SECTOR OF UZBEKISTAN

Bekhzod Yusupov

PJSC “Trustbank”, Center of Banking Services «Orom», Jizzakh, Republic of Uzbekistan
bekzod130@gmail.com

Annotation: The article analyzes modern trends in financial technology (fintech), the implementation of digital solutions in the banking sector of Uzbekistan and their impact on service accessibility and banking efficiency. It provides examples of digital transformation in local banks and startups, discusses issues such as cyber security, regulation, personnel shortage and digital literacy, and