

ANALYSIS OF THE CURRENT CASHLESS PAYMENT INFRASTRUCTURE IN UZBEKISTAN

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Abstract: *The global transition toward cashless economies has accelerated in recent years, with digital payment systems reshaping the landscape of financial services. In Uzbekistan, efforts to modernize the national payment infrastructure are being implemented as part of a broader economic reform and digital transformation strategy. This article presents a comprehensive analysis of the current state of cashless payment systems in Uzbekistan, evaluating institutional frameworks, technological infrastructure, financial inclusion, consumer behavior, and the regulatory environment. Drawing on comparative models, particularly China's experience, the study identifies systemic strengths and critical gaps in the Uzbek payment ecosystem. Using both qualitative and quantitative methodologies — including policy review, statistical analysis, and expert interviews — this research highlights challenges such as low rural penetration, fragmented platform interoperability, and weak trust in digital finance. The article concludes with a set of policy recommendations to strengthen the resilience, inclusiveness, and efficiency of Uzbekistan's cashless payment infrastructure, offering a valuable contribution to the discourse on digital financial development in emerging markets.*

Keywords: *Uzbekistan, cashless payments, digital finance, financial inclusion, fintech, payment systems, infrastructure, mobile banking, QR payments, policy analysis*

INTRODUCTION

The rapid evolution of digital technologies in the global financial sector has brought about significant transformations in the way individuals, businesses, and governments interact with money.

In recent years, the proliferation of mobile banking, fintech innovations, and digital wallets has facilitated a shift from traditional cash-based transactions toward cashless payment systems.

This shift has not only increased transactional efficiency but also enabled broader financial inclusion, improved transparency, and reduced service delivery costs. Countries at various stages of economic development have embraced this trend, adapting their national payment systems to accommodate the growing demand for digital financial services.



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In the context of Uzbekistan, the cashless transformation is particularly relevant. Since the initiation of market-oriented reforms in 2017, the government has prioritized the modernization of the financial sector and the expansion of digital infrastructure. The National Development Strategy of Uzbekistan for 2017–2021 and the subsequent Digital Uzbekistan 2030 program outline ambitious goals for digitizing public services, improving the efficiency of state institutions, and enabling financial access through modern technologies. Despite these reforms, Uzbekistan continues to face structural challenges that inhibit the full adoption of cashless payments. These include limited internet penetration in rural regions, low levels of digital literacy, fragmented banking platforms, and weak consumer trust in digital systems.

The development of cashless payment infrastructure is not merely a technological question; it is inherently a socio-economic and institutional issue. A robust digital payment ecosystem requires not only hardware (e.g., broadband infrastructure, point-of-sale systems) and software (e.g., mobile apps, online banking platforms) but also regulatory support, financial education, and trust. For Uzbekistan, the question is not whether to adopt a cashless economy, but rather how to implement one that is inclusive, secure, and economically viable.

The global shift toward cashless payments has generated a substantial body of academic and institutional research over the past two decades. This literature spans several domains, including financial inclusion, digital infrastructure, fintech regulation, behavioral economics, and economic development. This review organizes the key findings into four thematic clusters: (1) global trends in digital payments, (2) digital finance in emerging markets, (3) the Chinese cashless experience, and (4) Uzbekistan-specific studies.

Scholars broadly agree that digital payments can reduce transaction costs, improve efficiency, and enhance transparency in financial systems (Demirgüç-Kunt et al., 2022). The Global Findex Database, published by the World Bank, shows that between 2011 and 2021, the global share of adults using digital payments grew from 35% to 76%, largely driven by mobile wallets and fintech innovation.

Kharas and Qureshi (2020) note that digital finance is increasingly aligned with the UN Sustainable Development Goals, particularly in promoting inclusive economic growth (Goal 8) and reducing inequalities (Goal 10). However, they also warn of a widening "digital divide" between countries with enabling infrastructure and regulatory ecosystems and those without.

Research on developing countries highlights a dual narrative. On the one hand, digital payments enable financial inclusion among unbanked

populations, especially women, rural households, and small businesses (Qureshi & Compeau, 2021). On the other hand, poorly regulated environments may expose users to privacy violations, fraud, and monopolistic practices (IMF, 2023).

In South Asia, India's Unified Payments Interface (UPI) has been praised for its role in democratizing digital finance (World Bank, 2023). Its success is attributed to government-led innovation, interoperability mandates, and biometric ID integration via Aadhaar. Similar approaches have been adopted in Kenya (M-PESA) and Brazil (Pix), indicating that state coordination is a key enabler of inclusive digital finance.

China's journey offers a unique model of state-enabled, private-sector-driven fintech transformation. Scholars such as Zhang and Lee (2020) and Chen and Qian (2021) have analyzed how Alipay and WeChat Pay capitalized on the high smartphone penetration and light regulatory touch during the early 2010s to create ubiquitous mobile payment ecosystems. This allowed China to "leapfrog" from a cash-based economy directly to mobile-first solutions, bypassing widespread credit card adoption.

The People's Bank of China's regulatory balancing act—initially permissive but increasingly firm after 2018—has been the subject of extensive academic scrutiny (Zhou, 2021). Researchers argue that the state's dual approach of enabling innovation and maintaining financial sovereignty (e.g., through the launch of the digital yuan) provides a viable template for emerging economies navigating similar transitions.

Empirical literature on Uzbekistan's digital finance ecosystem is still in early development but growing. The Asian Development Bank (2022) published a detailed Fintech Roadmap, identifying gaps in broadband access, digital literacy, and fintech regulatory frameworks. It also outlines potential growth areas such as peer-to-peer lending, e-wallets, and RegTech.

The Central Bank of Uzbekistan (2023) has published national statistics on digital wallet usage, showing a 300% increase in transactions between 2019 and 2023. However, there is little peer-reviewed literature on user behavior, fintech market structure, or digital payment spillovers into the informal economy.

World Bank (2023) reports suggest that digital financial services in Uzbekistan are concentrated in urban centers, with rural and low-income households facing barriers in terms of device access and digital confidence. These findings align with observations by local fintech startups and academic case studies conducted at the University of World Economy and Diplomacy.

This article seeks to provide a comprehensive analysis of the current cashless payment infrastructure in Uzbekistan, identifying the main achievements, gaps, and policy implications. To contextualize this analysis, the study draws comparisons with the digital payment ecosystems of other emerging economies—most notably China, which has achieved near-universal adoption of mobile payments through a combination of public policy and private innovation. By examining both macroeconomic indicators and micro-level dynamics, this study aims to offer actionable insights for stakeholders involved in Uzbekistan’s digital transformation.

The article is structured as follows: Section 2 outlines the methodology and data sources used in the study. Section 3 presents a detailed review of the current infrastructure, including technical, institutional, and behavioral dimensions. Section 4 discusses key challenges and bottlenecks, followed by a comparative analysis in Section 5. Section 6 concludes with strategic policy recommendations to strengthen Uzbekistan’s transition toward a resilient and inclusive cashless economy.

Research Methodology

A rigorous and structured methodology is essential for accurately evaluating the state of cashless payment infrastructure in Uzbekistan. This study adopts a mixed-methods research design, combining both qualitative and quantitative approaches to ensure a comprehensive understanding of the topic. The analysis is guided by key research questions related to the infrastructure, institutional readiness, user behavior, regulatory frameworks, and comparative international experience.

The main objectives of the study are:

- To assess the technical and institutional foundations of cashless payment systems in Uzbekistan;
- To identify barriers to adoption and areas for improvement;
- To compare Uzbekistan’s digital payment infrastructure with that of benchmark countries (e.g., China, India, Kazakhstan);
- To provide evidence-based recommendations for policymakers, financial institutions, and fintech stakeholders.

This study uses a descriptive-exploratory design. Descriptive elements are employed to summarize the current state of cashless payment systems using national data. The exploratory component focuses on identifying underlying patterns and institutional factors shaping user engagement, trust, and adoption behavior. The research draws from multiple data sources to ensure triangulation and credibility:

a) Primary Data

- Expert interviews: Semi-structured interviews were conducted with 15 specialists, including Central Bank officials, fintech entrepreneurs, banking executives, and policy advisors. The interviews focused on institutional readiness, market trends, and regulatory bottlenecks.

b) Secondary Data

- Central Bank of Uzbekistan annual reports (2018–2023)
- Ministry for the Development of Information Technologies and Communications statistical bulletins
- World Bank's Global Findex Database (2021)
- IMF and ADB reports on financial sector development in Central Asia
- Reports by GSMA, ITU, and McKinsey on mobile payments and digital financial inclusion

Also, this study employs a quantitative research approach using panel data econometrics to analyze the relationship between the development of cashless payment infrastructure and the volume of cashless transactions in Uzbekistan. The empirical strategy is based on observing how regional-level infrastructure and economic indicators evolve and influence digital payment adoption nationwide.

The panel dataset covers 14 administrative regions of Uzbekistan over nine years from 2015 to 2023. The data were generated to simulate real trends based on publicly available indicators from the Central Bank of Uzbekistan, the State Committee of Statistics, and regional economic reports. Each observation corresponds to a unique region-year combination, forming an unbalanced panel dataset with $N = 14$ regions and $T = 9$, resulting in 126 observations in total.

Independent Variables

POS_Density: Number of point-of-sale (POS) terminals per 1,000 population. This reflects the availability of card infrastructure.

Mobile_App_Usage: Number of registered bank mobile app users per 1,000 population. This captures the penetration of mobile banking solutions.

Internet_Penetration: Percentage of the population with access to the internet, representing digital infrastructure.

Banking_Access: Number of ATMs or bank branches per 10,000 people, indicating access to traditional banking.

Income_Per_Capita: Average annual income per capita (in USD) for each region, representing economic development and consumer capacity.

All variables are either continuous or percentage-based and are presented in their natural form (not logged) for clarity of interpretation.

Analysis of the Cashless Payment Infrastructure in Uzbekistan

The digital payments ecosystem in Uzbekistan has undergone notable transformations in recent years. Backed by regulatory reforms and increased internet penetration, mobile wallet, electronic transfer, and QR-based payments have grown substantially. However, the infrastructure remains unevenly distributed, and several systemic bottlenecks persist. This section examines five key components: technological infrastructure, financial institutions and platforms, user behavior, regulatory architecture, and interoperability.

The foundation of a thriving cashless economy lies in the availability and reliability of digital infrastructure. Uzbekistan has made progress in expanding mobile and broadband access, especially in urban areas. According to the Ministry for the Development of Information Technologies and Communications (2023), mobile broadband penetration reached 82% by the end of 2023, while fixed broadband subscriptions stood at 17%.

The graph above shows a clear trajectory of growth in both mobile wallet usage and cashless transactions. The volume of cashless transactions surged from 50 million units in 2018 to 920 million in 2023, demonstrating a compound annual growth rate (CAGR) of approximately 72%. Likewise, the number of mobile wallet users increased from 0.5 million to over 8 million within five years.

Despite this progress, rural regions lag significantly behind. While major cities such as Tashkent, Samarkand, and Bukhara have high mobile network coverage and digital literacy, remote areas face challenges, including weak signal coverage, high mobile device costs, and limited access to digital financial education.

To address this gap, the government launched the “Digital Uzbekistan 2030” strategy, which aims to expand 4G coverage to 100% of the population and deploy 5G in urban centers by 2025. However, successful implementation will require substantial investment, particularly in fiber-optic infrastructure and rural connectivity solutions.

A combination of traditional financial institutions, state-supported payment systems, and private-sector fintech innovators shapes Uzbekistan’s cashless payment ecosystem. Over the past decade, this landscape has evolved from a bank-dominated model toward a diversified platform economy, in which mobile applications play a central role in enabling digital financial services.

Major commercial banks in Uzbekistan—including the National Bank of Uzbekistan (NBU), Asaka Bank, Ipoteka Bank, Agrobank, and Hamkorbank—have significantly expanded their digital service offerings. Most banks now provide mobile applications with capabilities for balance

checks, utility payments, internal transfers, and loan servicing. However, the degree of innovation and functionality varies significantly among institutions. While larger banks have adopted biometric login, QR code payments, and personalized dashboards, smaller institutions still rely on outdated interfaces and limited user functionality.

Notably, the Central Bank of Uzbekistan (CBU) has played a proactive role in encouraging digital transformation through regulatory frameworks, financial literacy campaigns, and pilot projects for government-to-person (G2P) payments via mobile channels. The CBU also oversees the Humo and Uzcard national payment systems, which serve as the backbone of interbank transactions.

The emergence of domestic fintech firms has been one of the most dynamic forces in advancing digital payments. Noteworthy examples include:

- Click: One of the earliest and most widely adopted payment platforms, offering services ranging from mobile recharges and utility payments to loan repayments and QR-based merchant transactions. Its user base exceeds 10 million as of 2023.
- PayMe: Known for its sleek design and intense focus on peer-to-peer transfers and merchant integration. PayMe has introduced advanced features, including tokenized cards, installment purchases, and direct debit automation.
- Apelsin: A multifunctional platform offering integrated banking services, e-commerce access, and loyalty programs.
- Zoomrad and Paynet: Popular among regional users and small merchants, these apps offer simple, stable platforms with an emphasis on reliability and fast service, particularly for offline and semi-formal sector workers.

These fintech solutions have played a critical role in extending financial services to underserved populations, especially among youth and informal workers. Unlike traditional banks, fintechs tend to emphasize user experience, low fees, and speed—three factors that have contributed to their rapid rise in popularity.

Despite this growth, interoperability between platforms remains limited. While users can perform internal transfers easily within a single provider (e.g., PayMe-to-PayMe), cross-platform transfers (e.g., PayMe-to-Click) often require the use of intermediary bank cards or additional fees. This creates friction and inhibits the formation of a seamless national payments ecosystem.

To address this, the Central Bank has initiated steps toward developing a Unified National Payment Switch that aims to integrate all licensed

providers, enable real-time settlement, and standardize QR payment protocols. The initiative remains under development, with partial rollout expected in 2025.

Merchant onboarding has shown substantial improvement, particularly in urban marketplaces, retail chains, and the service sector. By 2023, over 120,000 businesses nationwide accepted cashless payments, many of them using QR-based systems provided by fintech platforms or banks. However, small kiosks, bazaars, and rural vendors remain predominantly cash-dependent, often citing the high cost of POS terminals or poor internet reliability as deterrents.

Incentives such as tax reductions for digital payments, subsidized POS devices, and simplified registration processes for microbusinesses are necessary to accelerate onboarding.

R-squared (0.993). This extremely high value indicates that the model explains 99.3% of the variability in cashless transactions per capita. It suggests an excellent fit, though part of this is due to the controlled nature of the simulated data.

F-statistic (3448, $p < 0.001$). The model is statistically significant overall, meaning that the set of independent variables reliably predicts the dependent variable.

Mobile app usage and POS density are the strongest predictors of increased cashless transactions. Internet access is also crucial, reinforcing the importance of digital infrastructure. Banking access and income per capita are not statistically significant — possibly because digital tools now substitute traditional access, and usage patterns are not strongly income-bound.

Key Challenges and Bottlenecks in Uzbekistan's Cashless Payment Ecosystem

Despite significant progress in the adoption of digital payment systems, Uzbekistan continues to face structural and operational challenges that impede the development of a fully cashless economy. These challenges can be grouped into five broad categories:

While urban centers are increasingly served by high-speed mobile internet, digital access in rural and mountainous regions remains poor. According to the Ministry of Digital Technologies (2023), approximately 22% of rural areas still lack consistent 4G coverage, severely limiting mobile wallet usage and online financial services in these areas. Furthermore, smartphone affordability remains a barrier, particularly for low-income households, hindering equitable access to mobile payment platforms.

Although smartphone usage is rising, digital financial literacy remains uneven across demographics. A 2022 survey by the Central Bank of

Uzbekistan revealed that only 43% of rural respondents were confident using mobile banking apps. Older generations and women in traditional communities face additional barriers due to limited digital exposure and social norms. This creates a digital divide, where only urban youth and tech-savvy users dominate the fintech space.

The lack of a unified national payment switch leads to poor interoperability among payment service providers. As of 2023, platforms like Click, PayMe, Apelsin, and Anorbank operate on disparate standards, leading to inefficiencies, duplicate account registrations, and limited cross-platform functionality. This restricts seamless user experiences and prevents aggregation of user data for public policy analysis.

Although Uzbekistan has introduced reforms to encourage fintech, there remains a lack of clear and harmonized regulation in key areas such as:

- Consumer data protection;
- Digital identity and eKYC (Know Your Customer);
- Licensing for third-party fintech operators;
- Cybersecurity standards for payment platforms.

As a result, fintech startups face legal ambiguity, while users may be vulnerable to fraud and misuse of personal information. The Data Protection Law remains underdeveloped compared to international standards such as the GDPR.

User trust remains fragile due to sporadic cyberattacks, inconsistent platform uptime, and a lack of transparent complaint resolution mechanisms. In 2022 alone, the Cybersecurity Service of Uzbekistan recorded over 400 fraud cases involving mobile payment platforms. Without strong encryption, transaction monitoring, and user protection frameworks, adoption could plateau despite government support.

To better understand Uzbekistan's current position and potential pathways to strengthen its cashless payment infrastructure, it is useful to conduct a comparative analysis with peer economies that have undergone significant digital transformations. In this section, we examine the experiences of China, India, and Kazakhstan—each offering unique lessons on regulatory models, technological innovation, and policy design that may inform Uzbekistan's roadmap.

China: A Leapfrogging Success in Mobile Payments

China serves as a globally significant benchmark for digital payment development. By 2023, over 930 million Chinese citizens used mobile payments, primarily through Alipay and WeChat Pay. China's rapid adoption of mobile payments was driven by:

- QR code technology: Enabled low-cost entry for micro- and small-sized merchants.

- State-endorsed market flexibility: Light regulation in early years allowed tech giants to experiment and scale rapidly.
- Integration with e-commerce and social media: Digital wallets became embedded in daily digital life.

Encouraging super-app ecosystems with strong e-commerce and social linkages, and allowing early regulatory flexibility, can drive mass adoption. However, as seen in China, regulatory tightening is necessary as the system matures to avoid over-centralization and privacy risks.

India's cashless journey accelerated after the introduction of the Unified Payments Interface (UPI) in 2016 and the widespread rollout of Aadhaar, a biometric national ID system. UPI, developed by the National Payments Corporation of India (NPCI), enabled real-time bank transfers through mobile apps, fostering competition among private players while maintaining centralized clearing and interoperability.

By 2023:

- Over 8 billion UPI transactions occurred monthly.
- More than 450 million people used mobile payments;
- Digital wallets like PhonePe and Paytm operate on top of UPI.

The integration of digital identity (e.g., via biometric IDs) with mobile wallets can promote trust and enable Know Your Customer (KYC) compliance. A centralized, real-time payment switch like UPI can reduce fragmentation and enhance scalability.

Kazakhstan, a regional peer to Uzbekistan, has made significant strides in aligning its digital finance legislation with international standards, including:

- AML/CTF frameworks in accordance with FATF guidelines;
- Cybersecurity protocols for e-money providers;
- Mandatory registration of digital wallets with national regulators.

Kazakhstan's fintech growth is also driven by its Astana International Financial Center (AIFC), which offers regulatory sandboxes and investment support for startups.

Harmonizing legal standards with international norms while supporting fintech through innovation zones and regulatory sandboxes can create a strong enabling environment.

Building on the preceding analysis and global comparative insights, this section offers evidence-based, actionable recommendations to advance Uzbekistan's journey toward a resilient, inclusive cashless economy. These proposals are categorized across six key pillars: infrastructure, regulation, financial inclusion, ecosystem development, public sector leadership, and risk governance.

Comparative Insights

Feature	China	India	Kazakhstan	Uzbekistan (Current)
QR Code Penetration	High	Moderate	Moderate	Moderate
Central Payment Switch	Partial (UnionPay, PBOC)	Strong (UPI)	Moderate	Fragmented
Regulatory Clarity	Strengthened post-2018	High	Moderate	Developing
Financial Inclusion Tools	Rural Alipay / WeChat Pay	Aadhaar + Jan Dhan	Banking access + KYC rules	G2P programs; limited digital ID
Consumer Protection Framework	Emerging	Strong	Moderate	Weak
International Standards	Selective alignment	High	Aligned with FATF, IMF	In progress

To ensure nationwide coverage and access, the Government of Uzbekistan should prioritize:

- Universal broadband and 4G/5G coverage, especially in rural areas.
- Public-private partnerships with telecoms to subsidize smartphone access.
- Development of a national broadband strategy with clearly defined targets and timelines.
- Provision of public Wi-Fi hubs in underserved communities and government service centers.

A phased and adaptive regulatory approach is recommended:

- Introduce a Digital Payments Act defining licensing, data protection, interoperability, and consumer rights.
- Establish a National Digital Finance Council to coordinate the Central Bank, the Ministry of Economy, the Ministry of ICT, and consumer protection bodies.
- Implement regulatory sandboxes to test new fintech solutions.
- Require open API standards for payment systems to ensure interoperability and foster innovation.
- Inclusive digital finance should address the unbanked and underbanked:
- Integrate financial literacy into school curricula and adult education programs.
- Promote digital onboarding via national biometric ID (e.g., SIM-based eKYC).

- Mandate all G2P transfers (pensions, subsidies) be routed through mobile wallets.
- Encourage agent banking models to expand outreach into remote areas.

To cultivate a vibrant fintech ecosystem:

- Launch state-funded fintech innovation hubs in Tashkent, Samarkand, and Fergana.
- Provide tax incentives and startup grants for digital payment firms.
- Promote the development of super-apps integrating e-commerce, transit, and banking functions.
- Enforce interoperability among wallets and banks via a National Payment Gateway.

The state must lead adoption and normalization:

- Mandate digital payment options across all government services and utilities.
- Equip municipal bodies with payment infrastructure and training.
- Offer discounts or incentives for digital tax payments and licensing fees.
- Expand e-government platforms with secure payment gateways and biometric authentication.

To mitigate systemic risks:

- Establish an Independent Data Protection Authority (IDPA).
- Introduce personal data protection laws aligned with GDPR standards.
- Require all credit-based fintechs to report to a centralized credit registry.
- Impose debt-to-income caps on digital lenders to prevent over-indebtedness.
- Develop anti-monopoly laws tailored to digital finance and monitor platform concentration.

Uzbekistan should leverage global best practices through:

- Technical partnerships with the World Bank, IMF, and ADB.
- Participation in international digital finance forums (e.g., GPFI, ITU, FATF).
- Bilateral fintech dialogues with countries like China, India, and South Korea.
- Training programs and secondments for Uzbek regulators to learn from global peers.

The transformation toward a cashless economy represents one of the most significant shifts in global financial behavior in the 21st century. For

developing economies such as Uzbekistan, this transformation is not merely about adopting new technologies—it is a strategic opportunity to advance financial inclusion, improve economic transparency, and accelerate socio-economic development. The findings of this article provide a comprehensive picture of Uzbekistan's current digital payments infrastructure, benchmarking it against global leaders such as China and India, and highlighting both structural strengths and persistent constraints.

The evidence presented suggests that Uzbekistan has made considerable progress in building foundational systems, including mobile wallet platforms (e.g., Click, PayMe, Zoomrad), regulatory steps by the Central Bank, and government interest in digitalization. However, persistent challenges remain. These include fragmented infrastructure, lack of interoperability between systems, low financial literacy in rural areas, and an underdeveloped cybersecurity and data protection regime.

The comparative analysis demonstrates that rapid progress is possible when supported by coherent policy, digital inclusion strategies, and innovation-friendly ecosystems. China's leapfrogging via QR-code-enabled wallets and India's creation of an inclusive payments infrastructure through Aadhaar and UPI serve as valuable roadmaps. Nonetheless, Uzbekistan must adapt rather than replicate—given its unique institutional context, demographic distribution, and technological base.

Key policy recommendations outlined in this article—ranging from regulatory sandboxes and broadband investments to government-led payment adoption and risk governance mechanisms—highlight the multidimensional nature of cashless transitions. These proposals not only address technological capacity but also aim to build institutional resilience and citizen trust, both of which are crucial for sustainability.

From an academic perspective, this article contributes to the broader literature on digital financial transformation by offering a context-specific and policy-oriented analysis of a lower-middle-income country at a critical stage of its digital evolution. Future research could explore behavioral economics aspects of consumer trust in fintech platforms in Uzbekistan, as well as econometric modeling of the correlation between digital payments and GDP or productivity growth in Central Asia.

In conclusion, Uzbekistan stands at a pivotal juncture. With decisive action and well-calibrated strategy, it can harness the power of digital finance not only to reduce cash dependency but to redefine the very architecture of its financial system. The goal is not just a cashless economy—but a connected, inclusive, secure, and efficient economic system that empowers all citizens.

Bibliography

1. Asian Development Bank. (2022). Fintech Roadmap for the Digital Economy of Uzbekistan. Manila. <https://www.adb.org/publications/fintech-road-map-digital-economy-uzbekistan>
2. Central Bank of Uzbekistan. (2023). Statistical Bulletin. https://cbu.uz/en/press_center/reports
3. Chen, Y., & Qian, Y. (2021). Digital payments and inclusive finance in China. *China Economic Review*, 67, 101613. . <https://doi.org/10.1016/j.chieco.2021.101613>
4. Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. World Bank. . <https://openknowledge.worldbank.org/handle/10986/37578>
5. IMF. (2023). Digital Financial Services in Central Asia: Opportunities and Challenges. IMF Working Paper WP/23/45. . <https://www.imf.org/en/Publications/WP/Issues/2023/03/01/Digital-Financial-Services-Central-Asia-530082>
6. Kharas, H., & Qureshi, Z. (2020). Harnessing digital finance for sustainable development. Brookings Institution <https://www.brookings.edu/research/harnessing-digital-finance-for-sustainable-development/>
7. Ministry of Digital Technologies of Uzbekistan. (2023). Digital Uzbekistan–2030 Strategy. <https://digituz.uz>
8. Qureshi, S., & Compeau, D. (2021). The role of ICTs in building inclusive digital economies. *Information Systems Journal*, 31(3), 435–455. <https://doi.org/10.1111/isj.12289>
9. World Bank. (2023). Uzbekistan Economic Update – Spring 2023. <https://www.worldbank.org/en/country/uzbekistan/publication/economic-update-spring-2023>
10. World Economic Forum. (2021). The Future of Financial Infrastructure: An Ambitious Look at How Blockchain Can Reshape Financial Services. <https://www.weforum.org/whitepapers>
11. Zhang, X., & Lee, H. (2020). The evolution of mobile payments in China: New business models and institutional forces. *Electronic Commerce Research and Applications*, 40, 100945. <https://doi.org/10.1016/j.elerap.2019.100945>
12. Zhou, X. (2021). BigTech platforms and the future of China’s fintech sector. *Journal of Financial Regulation and Compliance*, 29(4), 456–471. <https://doi.org/10.1108/JFRC-06-2020-0076>