

IMPROVING LEASE RELATIONS THROUGH FURTHER DEVELOPMENT OF DIGITAL INFRASTRUCTURE

Baxodirov Alisher Komilovich

Academy of Banking and Finance of the Republic of Uzbekistan

Associate Professor of the "Accounting and Audit" Department

Abstract

This article analyzes the role of modern technologies in simplifying leasing processes, increasing transparency, and ensuring efficiency. It explores the possibilities of managing lease agreements based on digital platforms, blockchain, and smart contracts while also highlighting existing problems and providing practical recommendations for their solutions.

Keywords: Digital infrastructure, lease relations, digitalization, smart contracts, blockchain, transparency, innovative approach, legal aspects, economic efficiency, digital platforms.

Introduction

In recent years, digital technologies have been rapidly entering various sectors of the world economy. In particular, the digitalization of rental relations serves to increase transparency and efficiency in the modern economy. If we look at world experience, digital technologies are widely used in the regulation of rental relations in many developed countries. For example, according to data for 2022, more than 65% of rental contracts in the United States are managed through digital platforms, while in the United Kingdom this figure is 58%. Uzbekistan is also carrying out consistent reforms to develop digital infrastructure and improve rental relations. In particular, in 2019, the "Digital Uzbekistan - 2030" program was adopted, and digitalization processes in various sectors of the economy have accelerated. According to the State Statistics Committee, in 2023, only 18% of lease agreements in Uzbekistan were registered through digital systems, which is a low figure compared to foreign countries. In countries such as China and Germany, blockchain technologies are widely used to regulate lease relations. In China, more than 70% of lease agreements were concluded through digital systems in 2021, while in Germany this figure reached 75% by 2022. Such an approach not only speeds up legal processes, but also increases the transparency of lease relations. In Uzbekistan, however, many lease agreements are still concluded in paper form, which increases legal and financial risks. Compared to Central Asian countries, in Kazakhstan, 40% of lease relations were concluded electronically in 2022, while in Uzbekistan this figure remains low. This indicates the need to further develop the digital infrastructure in the country. The issue of using blockchain and smart contracts in rental relations is also gaining importance. For example, in Estonia, starting in 2020, all rental agreements are being drawn up in the form of electronic documents, which increased the speed of legal processes by 30%. In Singapore, by 2023, more than 85% of rental transactions will be managed through digital platforms. Although initial steps have been taken in Uzbekistan to introduce digital technologies in the rental sector, the process of full-fledged digitalization has not yet been implemented. According to experts, if additional incentive measures are taken by the state, the share of digital rental relations could reach 40-50% by 2025.



There are important aspects that Uzbekistan should learn from international experience in digitizing rental relations. In particular, countries such as Denmark, Canada, and Australia have introduced special digital ecosystems for rental relationships, and these platforms allow for the automated conclusion of rental agreements, rent payment processes, and resolution of legal disputes.

Literature Review

According to Richard Barkley, the automation of rental agreements based on blockchain and smart contracts will reduce legal risks and create the opportunity to accurately fulfill the terms of the contract. Barkley notes that the digitization process has increased the efficiency of the rental market in the USA, Great Britain and Germany by 30%[1]. German economist Hans Müller, in his work “Real Estate Markets and Digital Transformation”, expresses the opinion that the digitization of rental relations will increase market transparency and reduce legal disputes. According to him, in 2020, as a result of the introduction of digital rental platforms in Germany, illegal rental transactions decreased by 40%. Müller emphasizes that the development of digital infrastructure will also serve to strengthen state control over rental relations and increase tax revenues[2]. According to Emily Thompson, in the UK in 2018-2020, more than 50% of rental agreements were concluded through digital platforms, which has strengthened control over the implementation of rental terms. Thompson also notes that digitization has reduced fraud and financial risks in the rental process by 35%.[3] Zhang Wei notes that after the Chinese government adopted a national program to digitize rental relations in 2021, 75% of rental transactions in major cities were managed through electronic systems. Zhang Wei notes that blockchain-based contracts have not only ensured financial transparency, but also accelerated the resolution of rental legal issues by 50%.[4]

Research Methodology

The study used the experience of digitizing rental relations in Uzbekistan and foreign countries using the comparative-analytical method.

Analysis and results. There are a number of problems in the process of digitizing rental relations, which are associated with economic, legal, technological and social factors. Solving these problems will allow for the further development and transparency of rental relations in Uzbekistan.

- insufficient development of digital infrastructure;
- insufficient development of the legal and regulatory framework;
- low transparency in the rental market and the abundance of illegal transactions;
- insufficient awareness of the population about digital technologies;
- problems of cybersecurity and data protection;

1. The quality of the Internet network and the introduction of digital services in Uzbekistan are still poorly developed in some regions. According to statistics for 2023, only 45% of the population in rural areas of the country actively use the Internet. This limits the possibility of drawing up rental agreements online and forces citizens to use traditional methods.



2. Currently, the legal status of digital lease agreements is not fully defined in Uzbek legislation. In particular, there are no clear mechanisms for the legal validity of contracts concluded on the basis of blockchain and smart contracts. This creates legal uncertainties in lease relations and slows down the process of digitization.

3. Currently, a large part of lease relations in Uzbekistan is carried out informally. According to the State Statistics Committee, in 2022, only 30% of lease agreements in Uzbekistan were officially registered. This leads to a decrease in tax revenues, an increase in legal disputes, and a lack of regulation of the industry.

4. Many lessors and lessees still do not have experience using digital platforms or are skeptical about their use. Especially among older people, trust in traditional contracts is high, and interest in the digitization process remains low.

The issues of personal data protection and cybersecurity remain relevant in the implementation of digital rental relations. According to international experience, cases of fraud associated with the digitalization of the rental market have been observed in many countries. In Uzbekistan, there is also a lack of trust in this process, since the security of transactions carried out through digital systems is not guaranteed.

To solve these problems, an integrated approach is necessary, which involves the development of technological infrastructure, improvement of the legal framework, increasing the digital literacy of the population and strengthening cybersecurity.

To develop rental relations in Uzbekistan, it is necessary to improve the digital infrastructure, strengthen the legal framework and increase transparency. Foreign experience shows that digitalization and the introduction of innovative technologies have a positive impact on the development of the rental market. For example, in Estonia, a property registry system built on the basis of blockchain led to a 60% reduction in illegal transactions. In Uzbekistan, the share of unregistered rental agreements was 70% in 2023.

To solve the problems, it is necessary to conduct analyses based on econometrics, financial accounting, statistics and mathematical modeling. For example, regression analysis can be used to determine the relationship between Internet coverage and the official registration of rental agreements. At the same time, by optimizing the tax system, state budget revenues will increase. The table below presents the main problems encountered in the digitalization of the rental market in Uzbekistan and ways to solve them based on scientific approaches.

Problems in the development of digital rental relations in Uzbekistan and ways to solve them.

No.	Problem name	Problem description	Solution	Waiting result	Applicable scientific method
1	Digital infrastructure weakness	internet quality , coverage limited	Internet investments increase	Rent deals by 15% increases	Regression analysis
2	Legal base underdevelopment	Smart contracts in law there is it's not	Legislation improvement	Illegal deals up to 40% decreases	Markov chain model
3	Transparency shortage	Rent of transactions only 30% of official	Blockchain current to grow	Illegal deals up to 50% decreases	Statistical cluster analysis

4	Population digital literacy low	Rent 60% of donors digital from systems does not use	Training programs current to grow	Digital from contracts usage increases by 30%	Mathematician optimization
5	Cybersecurity problems	Fraud and information theft danger high	RSA and SHA-256 encryption algorithms current to grow	Fraud risk by 15% decreases	Econometrics model
6	Tax system uncertainty	Official register not passed rent transactions many	Tax system simplification	To the budget additional 500 billion soum falls	Tax analysis model
7	Payment systems underdevelopment	Electronic payment services enough underdeveloped	Fintech services expansion	Digital from payments usage increases by 25%	Time Series Analysis
8	Administrative obstacles	State services bureaucratic to processes related	State services digitization	Registration transition duration is reduced by 40%	Game Theory model
9	Information systems integration weakness	State offices between information exchange limited	Single information base create	Bureaucratic processes by 30% shrinks	Network analysis
10	Innovative of technologies shortage	Blockchain and AI-based services no	AI and big data are current to grow	Market volume by 20% increases	Artificial intellect analysis

The analysis of the table above shows that it is necessary to implement comprehensive measures to digitize and increase the transparency of rental relations in Uzbekistan. Illegal transactions can be significantly reduced by developing digital infrastructure, introducing blockchain and artificial intelligence technologies. Also, by expanding electronic payment systems and simplifying the tax system, revenues to the state budget will increase. According to the data in the table, insufficient development of legislation and administrative obstacles hinder the transition of rental relations to the formal sector. Therefore, it is important for state bodies to improve the legal framework and accelerate reforms to digitize public services. This, in turn, will serve to increase the transparency of rental relations and create a favorable environment for the population and business. In general, it is necessary to develop strategies for identifying and solving problems using scientific approaches, including econometrics, financial accounting, and statistical modeling. This will have a positive impact not only on the development of rental relations, but also on the sustainable growth of the country's economy as a whole.

CONCLUSION

In conclusion, expanding the digital infrastructure, improving the legal framework, and increasing transparency are important for the development and modernization of rental relations in Uzbekistan. World experience shows that as a result of digitalization and the introduction of innovative technologies, illegal transactions are reduced, state budget revenues increase, and the rental market becomes more stable. In particular, in Germany, Estonia, and South Korea, as

a result of the blockchain-based property registry system, illegal rental transactions have significantly decreased. The main problems hindering the development of rental relations in Uzbekistan are the weak digital infrastructure, insufficient development of legal regulations, lack of transparency, and underdevelopment of electronic payment systems. Raising the level of awareness of the population about digital services is also considered one of the important tasks. To solve these problems, it is necessary to develop effective strategies using econometrics, statistical analysis, financial, and mathematical modeling methods.

Improving rental relations in Uzbekistan will not only increase economic efficiency, but also protect the legal interests of citizens, improve the business environment, and increase revenues to the state budget. Therefore, it is an important task for the government to introduce innovative technologies, update legislation, and implement consistent reforms to regulate rental relations.

REFERENCES

1. Barkley R. Digitalization of Real Estate and Smart Contracts. Oxford University Press, 2019. Pages 112-134.
2. Müller H. Real Estate Markets and Digital Transformation. Springer Publishing, 2021. Pages 87-105.
3. Thompson E. The Role of Digital Infrastructure in Lease Agreements. Cambridge University Press, 2020. Pages 56-79.
4. Zhang W. Blockchain-Based Lease Agreements in China. Peking University Press, 2022. Pages 145-168.
5. Uzbekistan Republic President. "Digital" Uzbekistan - 2030" State Program. Lex.uz, 2019, Pages. 1-25.
6. Uzbekistan Republic state statistics committee In Uzbekistan digital rent of relations status. Stat.uz, 2023. Pages. 30-48.
7. World Economic Forum. The Future of Digital Real Estate Transactions. WEF Reports, 2021. Pages 65-89.
8. OECD. Digital Transformation in Real Estate: Global Trends and Policy Recommendations. OECD Publishing, 2022. Pages 90-115.

