

THE APPLICATION OF SMART CONTRACTS IN CIVIL LAW RELATIONS

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Annotation: This article analyzes the application of smart contracts in civil law relations. Smart contracts operate based on blockchain technology and contribute to increasing the efficiency of legal relations through automation. The article examines the advantages of smart contracts, their legal risks, and the possibilities of their application within the framework of civil law. The research results indicate the necessity of improving the legal regulation of smart contracts.

Keywords: Smart contracts, blockchain technology, civil law, smart contracts.

INTRODUCTION

The development of modern technologies has had a significant impact on civil law relations. In particular, as a result of the rapid growth of the digital economy, smart contracts based on blockchain technology are increasingly becoming an integral part of legal relations. Unlike traditional contracts, smart contracts operate through software code and are executed without human intervention. This ensures transparency in transactions, enhances legal reliability, and reduces the need for intermediaries.

In the Republic of Uzbekistan, significant reforms are also being implemented to introduce digital technologies into the legal sphere. In particular, the Resolution “On Measures for the Development of the Digital Economy and the Sphere of Circulation of Crypto-Assets in the Republic of Uzbekistan,” adopted in 2018, serves as a foundation for establishing the legal framework for smart contracts. Based on this document, opportunities for conducting economic activities using blockchain technology have been expanded in our country¹.

This article analyzes the role of smart contracts in civil law relations, their advantages, legal risks, and possibilities for application. In addition, the prospects for the development of smart contracts are examined based on foreign experiences.

MATERIALS AND METHODS

This study employed legal analysis, comparative, and empirical research methods. Both international and national experiences related to the application of smart contracts in civil law relations were examined. The specific features of applying legal norms within the framework of smart contracts were analyzed based on the Civil Code of the Republic of Uzbekistan, the Law of the Republic of Uzbekistan “On Electronic Document and Electronic Digital Signature,” as well as the Presidential Decree No. PQ-3832 mentioned above.

¹ <https://lex.uz/ru/docs/-5030957#-5031883>

In addition, the laws regulating smart contracts in foreign countries, including the United States, European Union member states, and the Russian Federation, were analyzed. Scientific articles and legal documents on blockchain technology, smart contracts, and their legal issues were also studied.

During the research process, the following main methodological approaches were used:

- Legal analysis – The current legislation of the Republic of Uzbekistan, international legal documents, and civil law norms of foreign countries were studied.
- Comparative method – The key differences and similarities between traditional contracts and smart contracts were identified, and their effectiveness was compared.
- Empirical approach – Previous research and real-life applications of smart contracts were reviewed, and their legal and technological aspects were evaluated.
- Expert assessment – Opinions of specialists in smart contracts and blockchain technology were analyzed, leading to conclusions regarding their role in civil law relations.

Throughout the research, observations on existing problems and their potential solutions were formulated, and recommendations were developed to improve the legal regulation of smart contracts.

DISCUSSION

If we look at the reforms that have taken place in our country in recent years, it becomes clear that smart contracts may also be introduced in Uzbekistan. For example, over the past five years, effective measures have been implemented and are still ongoing in the Republic of Uzbekistan to adopt digital technologies. In particular, the Presidential Decree approving the development of the "Digital Uzbekistan – 2030" strategy was adopted in 2020 to ensure the active development of the digital economy in our country and the wide implementation of modern information and communication technologies in all sectors and fields, especially in public administration, education, healthcare, and agriculture.

Smart contracts are agreements that operate on a blockchain system, are written in the form of software code, and are automatically executed based on pre-established conditions. Like traditional contracts, they include obligations, but the main difference is that these contracts are executed automatically without human involvement.

Blockchain is a distributed ledger system of information available to every participant in the network.

The main features of smart contracts include:

- **Automated execution:** Once the terms of the contract are fulfilled, the system automatically carries out the agreed actions.
- **Transparency and immutability:** All agreements are recorded on the blockchain network, and it is impossible to alter or cancel them.
- **Elimination of intermediaries:** Smart contracts are executed directly without the need for intermediaries, reducing costs.

Y.Y. Shcherbovskiy, in his work, emphasizes that "a smart contract is concluded between the parties, and the fulfillment of the contract terms is ensured by immutable computer code." He also highlights that the rapid development of information relations has outpaced legislation, resulting in a lack of regulatory mechanisms for "smart contracts." The application of this term in practice and the issues related to fulfilling its conditions and resolving related disputes remain urgent tasks for our legal system today.

In civil-law relations, smart contracts are used in various fields, including:

1. **Property rights and real estate transactions:** The process of buying and selling property can be automated through smart contracts. For example, once the buyer pays the specified amount, ownership rights automatically transfer to them.

2. **Insurance systems:** Insurance companies can use smart contracts to automatically process payments when insured events occur.

3. **Banking and financial services:** Smart contracts in lending, payment systems, and deposit agreements ensure fast and reliable execution of banking operations.

4. **Copyright and intellectual property:** Blockchain-based smart contracts can help protect copyright and automate royalty payments.

The advantages of smart contracts include:

- Saving time due to the automation of document verification and execution processes.
- Blockchain technology prevents data breaches.
- Contract terms cannot be altered or canceled once implemented.
- Operational costs are reduced due to the lack of intermediaries.

However, smart contracts as a legal mechanism also have several disadvantages. Smart contracts cannot be created without the necessary expertise in information technology. Specialists with knowledge and sufficient skills in the field of IT must participate in this process.

Another issue is the form of the transaction. Smart contracts can be used in areas that do not require notarization. As is known, according to the current legislation of the Republic of Uzbekistan, contracts for the purchase and sale of real estate and vehicles must be notarized.

Smart contracts are playing an increasingly important role in modern legal relations. Their automated, transparent, and secure nature contributes to the efficiency of civil-law relations. At the same time, developing comprehensive legal frameworks and addressing technological issues is essential to strengthening trust in this area. While smart contracts provide clarity and security in the implementation of agreements in civil-law relations, they still face legal and technological challenges. For example, resolving unforeseen circumstances or legal disputes not covered by the contract through traditional courts or arbitration remains an open issue.

In legal literature, scholars interpret this concept differently. Many authors emphasize that smart contracts are used exclusively in digital environments with the full involvement of information technologies. Others consider them a special type of traditional contract. For example, A.N. Yakubov states in his article that a "smart contract" is an electronic contract based on pre-established software and algorithms, fully automated in its formation and execution, where at least one party is not a person, and its actions are assessed by artificial intelligence to determine whether the author's objectives have been achieved. This type of contract also creates copyright for the developer alongside contractual relations².

E.V. Zaynutdinova, in her work, notes that "a smart contract is concluded in a decentralized distributed information system, ensures the automated fulfillment of obligations, and facilitates the circulation of digital rights and digital currency³."

RESULTS

² Yakubov Akhtam Nusratilloevich. "Smart Contracts in Civil Law Relations and Issues of Their Effective Implementation". Journal of Legal Research, Volume 7, Issue 2. ISSN: 2181-9130. DOI: 10.26739/2181-9130.

³ Диссертация на соискание ученой степени кандидата юридических наук – «Смарт-контракт в гражданском праве»- Зайнутдинова Елизавета Владимировна.

As a result of this study, several key aspects regarding the widespread application of smart contracts in civil law relations were identified. The research led to the following specific findings:

1. **Legal effectiveness of smart contracts** – Compared to traditional legal agreements, smart contracts are faster, more transparent, and automated, ensuring clarity and reliability in legal relations due to the reduced human factor.
2. **The significance of blockchain technology** – Since smart contracts operate on blockchain systems, it was found that altering or tampering with them is nearly impossible. This increases the security level within contractual relations.
3. **Practical areas of application** – The study determined that smart contracts are most effective in the following areas of civil law relations:
 - **Real estate transactions** – Contracts are executed automatically, simplifying the process of document registration.
 - **Insurance systems** – Automatic payments can be executed in the event of insured incidents.
 - **Banking and financial services** – In credit agreements and payment systems, smart contracts ensure rapid and reliable transactions.
 - **Intellectual property rights** – They allow for the protection of copyright and the automation of royalty payments.
4. **The need for legal regulation** – In the Republic of Uzbekistan, a comprehensive legislative framework for regulating smart contracts has not yet been fully developed. It is necessary to create and implement legal norms specifically governing smart contracts.
5. **Technological and legal challenges** – The research identified the following main issues related to smart contracts:
 - **Notarial certification of contracts** – In Uzbekistan, certain contracts require notarial certification, and it is necessary to determine how smart contracts comply with this requirement.
 - **Mechanisms for dispute resolution** – Clear mechanisms must be developed to resolve disputes arising from smart contracts through courts or arbitration.
 - **Cybersecurity issues** – Ensuring the security of smart contracts is essential; otherwise, there is a risk of their illegal use.

In general, the research results indicate that smart contracts offer significant opportunities to further develop and enhance the efficiency of civil law relations. However, to implement them fully, it is necessary to improve the legal and technological foundations.

CONCLUSION

Smart contracts are gradually becoming an integral part of civil law relations. Their automation, transparency, and reliability create new opportunities in legal relations. However, in order to establish their comprehensive legal foundation and expand their scope of application, it is necessary to improve the legislative framework.

In the Republic of Uzbekistan, it is crucial to develop specific legislative acts regulating smart contracts, establish clear norms for their application in judicial practice, and strengthen cybersecurity measures. In the future, these contracts may become an inseparable part of the legal system, and creating an effective legislative framework in this area remains one of the most urgent tasks.

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