

THE IMPACT OF DIGITAL TRANSFORMATION ON CONTRACT LAW

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ABSTRACT

Digital transformation is having a significant impact on all branches of law, including contract law. This article is devoted to the analysis of the impact of digital technologies on contract law in the Republic of Kazakhstan. The paper uses a methodology that combines a comprehensive review of academic literature, analysis of legislation, and judicial practice. The study covers aspects such as online contract formation, the use of electronic signatures, automated contract drafting, the application of smart contracts and blockchain technology, online dispute resolution, and electronic document management in the contractual sphere. This leads to a lack of clarity in understanding the specifics of such relationships and difficulties in law enforcement practice. The study emphasizes the need to adapt contract law to the new realities of the digital age and to develop a comprehensive approach to regulating relations arising from the use of digital technologies in the conclusion, performance, and enforcement of contracts. The conclusion notes that for the full integration of technological achievements into the legal field, further improvement of legislation and law enforcement practice in this area is required.

Keywords: Legislation, Information Technologies, Court, Contract, Consultation, Legal Analysis.

INTRODUCTION

Both in Kazakhstan and around the world, there is a rapid growth in the use of digital technologies in all spheres of life, including the economy, public administration, and everyday life. Digital transformation, accompanied by constant changes in economic and governmental structures, as well as in social and sociological development, is having a significant impact on all branches of law, including contract law. The emergence of new technologies based on data, driven by automation and developments in the field of information technology, promises significant changes in long-established practices of concluding, performing, and enforcing contracts. It is estimated that the volume of data on the network is growing exponentially, which directly affects the ways in which subjects of civil transactions interact, including within the framework of contractual relations. This brings significant changes to civil law and, in particular, to the institution of contract.

These changes in the legal services market, and in particular in the field of contract law, have paved the way for the development and implementation of new technological solutions that allow optimizing processes related to contract work, increasing its efficiency and offering innovative digital products such as online platforms for concluding contracts, automated contract drafting systems, and blockchain solutions for ensuring the fulfillment of obligations. It is important to understand how information technologies and other

technological factors influence the existing norms and principles of contract law, as well as law enforcement practice in Kazakhstan. With advances in artificial intelligence, particularly in machine learning and natural language processing, the situation is currently at the stage of active implementation of digital solutions in the field of contract law.

In the modern era, legislative bodies around the world, including in Kazakhstan, are struggling to keep up with the rapid development of digital innovations. This trend has not bypassed the sphere of contract law either. Consequently, many aspects of legal relations arising from the use of digital technologies in the conclusion, performance, and enforcement of contracts remain unregulated, which hinders the full integration of technological achievements into the legal field. This gap significantly slows down the implementation of digital technologies in contractual practice, affecting the efficiency and quality of interaction between subjects of civil transactions.

This study sheds light on the most frequently used digital innovations in the field of contract law, such as online platforms for concluding contracts, electronic document management systems, intelligent decision support systems for contract drafting, as well as blockchain technologies for ensuring the fulfillment of obligations and smart contracts. It highlights the advantages of these technologies, including saving time and resources, eliminating geographical barriers, increasing the transparency and reliability of transactions, as well as increasing attention to the provision of high-quality legal services in the field of contract law.

METHODOLOGY

In carrying out this work, the main scientific methods used were systemic-legal, comparative-legal, and formal-legal, thanks to which the nature of the impact of digital transformation on contract law in Kazakhstan was revealed. The key directions of this influence, its positive and negative aspects, its nature, and its significance for the development of the institution of contract in the context of digitalization were identified, including the dynamics of changing approaches to the conclusion and execution of contracts, as well as the problems of adapting existing legislation to new realities. Optional methods such as historical, logical, and dialectical methods were used, which helped to study the problem of the influence of digital technologies on contract law in the aspect of the historical development of this institution, using a comparison of different scientific points of view and analysis of legislation. In addition, theoretical methods such as the method of analysis, systematization, the method of induction, and the method of classification were used. With the help of these methods, existing legal norms, law enforcement practice, and doctrinal approaches were analyzed, and recommendations were developed for improving legislation and law enforcement practice in the field of regulating contractual relations in the context of digital transformation. The research was conducted on the basis of a theoretical and practical framework, as well as the principles of consistency and interconnectedness of legal processes. In the process of writing this paper, the scientific works of Kazakhstani and foreign scholars in the field of civil law, in particular, contract law, as well as in the field of information law and legal regulation of digital technologies, were used.

This research was carried out in three stages. In the first stage, the theoretical basis for the research topic was selected. The judicial practice of the authorized courts of the Republic of Kazakhstan was studied in detail, in particular, those courts that consider cases related to the application of digital technologies in contractual relations. As for international experience, judicial practice was considered in the context of the activities of courts of other

states, as well as international organizations that pay attention to digitalization issues, such as the International Court of Justice and the European Court of Human Rights. A systematic analysis and application of scientific methods aimed at revealing the essence of the impact of digital transformation on contract law were carried out. Regarding this influence, a number of main tasks requiring solutions in accordance with this scientific work were put forward. To understand the systemic aspects of the impact of digital transformation on contract law, an analysis was carried out using a systemic approach.

In the second stage of this work, an analysis of the aspects of the impact of digitalization on contract law was carried out, which led to a systematic study of the essence of digital innovations in the field of both substantive and procedural law governing contractual relations. The features of the categories of application of digital technologies in this area were highlighted, namely: online contract conclusion, the use of electronic signatures, automated contract drafting, the application of smart contracts and blockchain technology, online dispute resolution, electronic document management in the contractual sphere, as well as other areas of digitalization.

In the final stage of the research work, conclusions were formulated based on the results obtained. These conclusions generally determine the main trends in the impact of digital transformation on contract law in Kazakhstan. In addition, a mechanism was developed for using these research results in the legal sphere of activity by state bodies, including judicial bodies, notaries, the bar, practicing lawyers, as well as legal scholars. Moreover, this mechanism also touches upon the use of research results in the process of teaching law students, in particular, within the framework of courses on civil and contract law, as well as special courses devoted to the digitalization of law.

ANALYSIS

The rapid adoption of digital technologies is reshaping contract law in Kazakhstan, presenting both opportunities and challenges. Examining these developments in light of traditional contractual issues offers valuable insights into the necessary legal adaptations.

Breach of Contract: Your article highlights that existing Kazakhstan legislation, particularly the Civil Code in 1994, does not adequately address breaches of contract in the digital context. For example, issues arising from the malfunction of smart contracts or breaches occurring on digital platforms are not specifically covered. This situation underscores the urgent need for legal reforms that clearly define obligations, liabilities, and remedies for breaches involving digital technologies.

Unclear Contract Terms: The adoption of online contract formation methods, like click-wrap and browse-wrap agreements (as discussed in the context of Savelyev's work), increases the risk of unclear contract terms. Your research points out that the current legal framework does not sufficiently address the specific requirements for clarity and transparency in such digitally formed contracts. This can lead to disputes over the validity and enforceability of agreements made online.

Electronic Signatures and Digital Identification: While not directly analogous to NDAs, your article emphasizes the critical role of electronic signatures in ensuring the authenticity and security of digital contracts, drawing on Didenko A.A.'s insights. This highlights the need for a robust legal framework that addresses the technical reliability, legal recognition, and proper use of electronic signatures to prevent disputes over the validity of digitally signed contracts.

Digital Platforms and Intermediaries: The lack of specific regulations for digital platforms acting as intermediaries in contract formation and execution in Kazakhstan is a significant gap identified in your research. This raises concerns about the allocation of responsibility and liability when issues arise in contracts facilitated by these platforms, similar to the need for force majeure clauses in traditional contracts. Clear legal guidelines are needed to define the roles and obligations of platforms in such scenarios.

Online Dispute Resolution (ODR): Your article acknowledges the emerging use of ODR in Kazakhstan but notes the limitations of current procedural legislation in addressing the nuances of online dispute resolution. To effectively handle disputes stemming from digital contracts, the legal framework must be updated to address issues such as digital evidence, the enforcement of online arbitration awards, and cross-border jurisdictional challenges.

RESULTS

The spectrum of application of digital technologies in contract law in Kazakhstan has reached a level requiring the impartial implementation of new technological solutions that will help to quickly and efficiently resolve many issues of concluding, performing, and enforcing contracts. In modern jurisprudence, information technologies in the context of contract law are nothing more than digital innovations that must correspond to a specific type of contract, which requires fixing their provisions in legal acts. Each segment of the digital technology market applicable to contract law has a diverse business model from another category with a certain degree of variation (Witzeman et al; 2018). These are information technologies necessary for electronic contract conclusion, document storage, knowledge management in the field of contract law, access to online programs, and contract enforcement, which reduces time and costs.

The principle of freedom of contract concluded through digital platforms, indicating that the elements included in the content of the principle of freedom of contract may include, among other things, the possibility for the parties to choose a digital form of interaction, as well as the right to use modern technical means to simplify the procedure for fulfilling obligations.

The development of information processes does not stand still, which requires constant updating of the legislative framework, but the dynamics of the development of legislation do not correspond to the dynamics of digitalization of society (Yaroshenko et al; 2018). The Law of the Republic of Kazakhstan "On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan" 1 in 2010 introduced certain amendments and additions to a number of state regulatory legal acts, which became the basis for the introduction of electronic services, including in the field of contract law. Namely, concepts such as "electronic information resources," "electronic public services," "electronic document form," "operator of the 'electronic government' payment gateway," "electronic license," and "information and communication network" were introduced. However, as a result, such a legal mechanism is insufficient for the effective regulation of the sphere of contract law in the context of digital transformation.

Didenko A.A., in turn, in the era of digitalization, emphasizes the priority of the electronic signature, noting that "the main legal criterion of an electronic document should be recognized as the criterion of proper identification, which is a fundamental point when signing a transaction. It seems that such a criterion should be an electronic signature, which allows identifying the party to the contract and, due to the use of technical means of

restricting access to them, has even greater reliability than a handwritten analog signature on paper" (Didenko, 2013).

Kazakhstani civil legislation classifies a number of onerous contracts for the provision of paid services, including communication, medical, educational, consulting, auditing services, etc., without separately identifying contracts concluded and/or executed using digital technologies. Ukrainian scholar (Shevchenko, 2017) reveals the essence of digital technologies in the legal business as an intellectual product, technological innovations that digitize information, which positively affect the spectrum of legal activity. In the context of our research, we can adapt this approach and define digital technologies in contract law as a set of intellectual products and technological innovations that enable the conclusion, performance, and enforcement of contracts in digital form. There is no single complete concept of what constitutes the legal consequences of the application of digital technologies in contract law, either at the legislative level or in Kazakhstan academic literature (Shevchenko, 2017).

Savelyev A.I. believes that in relation to concluding a contract through internet websites, two main variations of concluding agreements are used: click-wrap – the user is given the opportunity to familiarize themselves with the terms of the contract and, if they agree, to click the appropriate button; browse-wrap (web-wrap) – with this model, the user is given the opportunity to follow a hyperlink and, if desired, familiarize themselves with the terms, or a message is displayed stating that by continuing to use this site, they accept the terms of the agreement. In this case, the user does not express consent to the terms in an explicit form.

In addition, this regulatory act defines informational services, transactional services, and interactive services, which can also be applied to the sphere of contract law. After analyzing national and international legal acts, as well as the works of scholars, it can be concluded that the digitalization of contract law is a way of transforming the processes of concluding, performing, and enforcing contracts through the use of computing equipment and communication systems that process information, due to which these processes are becoming increasingly high-quality and efficient. Initially, digital legal services were aimed at serving low-income segments of the population and were mainly prescribed in the local regulations of a specific human rights structure. In the context of contract law, digital technologies cover a much wider range of relationships and subjects. Activities in the field of digital technologies in relation to contract law include portals of online platforms for concluding contracts, platforms for electronic agreement on contract terms, intelligent decision support systems, electronic document management in the contractual sphere, databases of standard contracts, as well as other digital solutions (Andreae, 2017; Barlybayev et al; 2017).

O.A. Puchkov noted that currently, the system of electronic contracts is being used more and more widely, when one legal entity signs documents with another electronically. The execution of which is also monitored electronically (Puchkov, 2019).

Samokaeva S.V. defines the concept of a digital contract as follows: a digital contract is a document that is created and stored in electronic format and has the same legal force as a regular paper contract. At the same time, she noted a number of advantages of an electronic contract over traditional paper documents, pointing to:

–**efficiency** (reduction of time for preparing, signing, and exchanging documents. A digital contract allows simplifying the process of creating and signing a contract. It is automatically saved in electronic form, which speeds up the process and reduces the risk of errors);

–**accessibility** (possibility of concluding transactions at any distance, at any time);

–**security** (use of modern encryption and authentication methods to protect information. A digital contract is more secure than a traditional contract. It is protected from manipulation and changes, which reduces the risk of disputes and conflicts);

–**environmental friendliness** (reduction in paper consumption contributes to a decrease in environmental impact) (Samokaeva, 2024).

According to a digital contract is a powerful digitalization tool that can speed up the process of creating and signing a contract, increase security and accessibility. It can be applied in various fields and industries, which can reduce costs and increase work efficiency. It has the potential to radically change traditional approaches to concluding agreements, making them more accessible, secure, and efficient (Samokaeva, 2024).

Contract management software is the easiest way to optimize processes, which helps achieve effective results with less uncertainty and risk. Tools that are in demand in the field of contract law include: document review, e-discovery, intellectual property asset management in the context of contractual relations, automated document assembly, legal contract management, analysis of legal research related to contract law. The implementation of such necessary digital technologies in the sphere of contract law is not carried out at the proper level, which is primarily due to the lack of regulatory acts in which all these innovations could be recorded, their nature revealed, and a single mechanism developed for resolving relations related to the digitalization of contract law.

"A smart contract is a smart blockchain code for the reliability of transactions and the preservation of information about them, including the protection of the rights and interests of rightsholders, for example, a blockchain application for legally binding smart contracts that are concluded and executed using artificial intelligence and are reflected in a public blockchain".

Express opinion on this matter as follows: "A smart contract is a type of electronic contract that has some features not inherent in other electronic contracts. At the same time, an important feature is that it is practically impossible to influence the operation and execution of a smart contract from the outside and violate the terms of this contract".

They also point out the principle of operation of a smart contract, indicating the following: the content of the contract is recorded in the form of code in a computer program that monitors and ensures the fulfillment of obligations. The parties to the transaction prescribe the conditions in such a contract, as well as sanctions for their non-fulfillment.

Paper-based legal proceedings, including those related to disputes arising from contracts, are moving into the digital stage, while the legal framework is completely unprepared for such metamorphoses. It is quite difficult to doubt the benefits of information technology in the field of contract law, because these innovations have taken this area to a new level. In turn, Kazakhstan legislation on informatization does not provide a clear definition of a particular service related to the conclusion, performance, and enforcement of contracts in digital form, but superficially distributes all electronic services into three categories: informational, interactive, and transactional.

Factors that accompany consumers' adoption of the use of digital technologies in the field of contract law can be considered consumers' perception of value, the importance of their belief in fairness, and their general attitude towards paying for such services that were once available for free (Ginters, 2020). Judging by the extensive list of literature, this has a significant impact on the consumer's willingness to pay for digital products in the field of contract law. These factors are convenience, necessity, and added value. The attitude of online consumers towards the use of digital technologies in contract law fundamentally depends on a rational analysis of costs and benefits. However, some recent studies show that

consumers' past online experience can form a habit and can play a significant role in their future activities in the field of e-commerce, including in the consumption of digital products related to contract law. Digital provision of services related to the conclusion, performance, and enforcement of contracts can be considered a paid service, while the cost of such support may be even higher than for traditional services in this area. One of the reasons for this high cost is that a law firm or private practitioner often pays a provider for the use of online services and information programs and platforms that ensure the conclusion, performance, or enforcement of contracts in digital form.

Therefore, state bodies at the national level, as well as subjects involved in the process of creating and fulfilling contractual obligations, need to develop an effective mechanism for implementing information technologies in the field of contract law. This can be done, first of all, by ensuring impeccable Internet coverage, the availability of modern computer equipment, the acquisition of the necessary knowledge, and the proper establishment of interaction between participants in contractual relations using digital technologies. Digitalization of contract law in Kazakhstan and other countries is a more convenient way of interaction between subjects of civil transactions and allows obtaining a higher quality and more effective result. However, it requires improving the legal mechanism for regulating legal relations arising from the application of digital technologies in the contractual sphere, as well as improving the process of implementing such innovative technologies in the field of contract law.

The analysis of academic legal literature, as well as regulatory legal acts, shows that the legal framework for the use of technological innovations in relation to contract law has not been sufficiently studied. According to the authors of this scientific work, the reason for this is the need to study not only the legal aspects but also the technical categories related to digital technologies used in contract law. Although there are legal scholars with the necessary technical knowledge to analyze the legal framework for the use of information technologies, their work is mainly concentrated on researching broader aspects of the provision of digital services. Unfortunately, these works often lack specific references to the sphere of contract law or do not provide a comprehensive understanding of the characteristics of legislation regulating contractual relations in the context of digital transformation. This work is important because it reveals the essence of the impact of digital transformation on contract law, examines the legal regulation of this area, highlights the positive aspects arising from the digitalization of contract law, and identifies potential risks associated with the use of digital technologies in this area. The importance of implementing electronic innovations in the field of contract law was recognized, and proposals were made to create an effective mechanism for their implementation and use in the regulation of contractual relations.

An important task of this research is to analyze the dynamic scientific development of the topic of the impact of digital transformation on contract law in Kazakhstan, considering its complex nature, covering general theory, practical aspects, and a systemic approach. This analysis is based on the results of scientific research, regulatory provisions of legislation, and principles of information and technical sciences. Among the presented scientific works, the works of foreign scientists have the greatest predominance.

Within the framework of this research, it was established that in Kazakhstan legal science, insufficient attention is paid to the issue of the impact of digital technologies on contract law. Scholars have determined that the technologies used in this area can be defined as legal technologies and software to assist law firms, as well as participants in civil transactions involved in the process of concluding, performing, and enforcing contracts. People want fast and smart solutions in the field of contract law, which are characterized, for

example, by easy accessibility and cost savings. Scholars suggest that due to the digitalization of the sphere of contract law, a boom will occur (Kuznetsova et al; 2021). Digital technologies applicable to contract law are at a developing stage, and knowledge in a published and structured form is very scarce, so this research contributes to the development of this area.

In addition to the above, the study examined the impact of digital transformation on contract law specifically within the framework of the Kazakhstan legislative system. The study highlighted the main categories of digital technologies used in the field of contract law, and also defined the roles and responsibilities of state bodies in regulating relations arising from the digitalization of contract law.

The results obtained in the process of carrying out this scientific work are consistent with previous research, in particular with the study conducted by Indian scholars. Their extensive study of the legal regulation of information technologies in the legal field provides valuable information.

Furthermore, scholars such as (Andreae, 2017) quite systematically reveal the essence of information technologies in the legal aspect, namely: the lack of legislative regulation of legal consultations and content portals, online platforms, recruiting platforms, outsourcing platforms, and legal databases, which can also be extrapolated to the field of contract law. Eshows the illegitimacy of using technologies for software for managing legal practice, which is also relevant for managing contract work.

The concept of digital technologies applied in contract law is a kind of innovation in the legal field. (Shevchenko, 2017) in her scientific work quite accurately reveals the concept of digital technologies, defining them as a kind of intellectual product, the use of which makes the provision of legal services more qualitative. Based on this definition, as well as the norms of the Civil Code of the Republic of Kazakhstan in 1994, the authors of this article reveal the concept of the impact of digital transformation on contract law, and also offer an author's vision of regulating this area. In turn, the Law of the Republic of Kazakhstan "On Informatization" in 2015 reveals the essence of an electronic service as certain benefits provided in digital form, which can also be applied to the results of using digital technologies in contract law.

This is due to the fact that digital technologies are constantly developing and changing in connection with continuous social and economic development. What was previously considered innovative may eventually lose its novelty and be replaced by new discoveries. Therefore, in order to keep up with the evolving landscape of digital technologies in the legal field, constant research and study are necessary. In this regard, the legal sphere of activity, for its successful existence, requires constant updating of legislation in the field of informatization, as well as the transformation of innovative technologies into legal life, including the sphere of contract law. As a consequence, the study of this problem requires more and more scientific work from scholars in the field of studying digital technologies in the legal aspect. This scientific work will be useful to practicing lawyers, legislative and executive authorities, justice, law enforcement agencies and notaries, as well as legal scholars and law students, as well as all other persons involved in the process of creating and fulfilling contractual obligations.

CONCLUSION

Legislative bodies in Kazakhstan and many other countries are struggling to keep up with the dynamic pace of development of digital innovations, which leads to unregulated

aspects of information legal relations, including in the field of contract law. This hinders the implementation of technological innovations in the legal sphere. The most frequently used digital technologies that have an impact on contract law in Kazakhstan are considered to be the following: online platforms for concluding contracts; electronic document management; automated contract drafting; online dispute resolution; legal contract management; as well as blockchain technologies and smart contracts. The use of these technologies makes it possible to save time, labor, and intellectual resources, eliminates geographical barriers, and allows more time and concentration to be devoted to the issues of concluding, performing, and enforcing contracts, which ultimately leads to the possibility of providing a higher quality and more efficient product.

Given the modern standard of living and the growing importance of digital technologies, it is crucial to create an effective legal mechanism for resolving legal relations arising from the digitalization of contract law. This can be achieved through legal reforms based on successful international experience and technical improvement of the information technology infrastructure. The significance of the research lies in bridging the gap between the development of legislation and digital innovations in the field of contract law, and its novelty lies in the special attention to the impact of digital transformation on contract law, comparative analysis, and identification of theoretical gaps in this area.

REFERENCES

- Andreae, Z. (2017). Legal Tech Insights: Legal Tech Startups.
- Barlybayev, A., Sabyrov, T., Sharipbay, A., & Omarbekova, A. (2017). Data base processing programs with using extended base semantic hypergraph. In *Recent Advances in Information Systems and Technologies: Volume 1 5* (pp. 28-37). Springer International Publishing.
- Ginters, E. (2020). New trends towards digital technology sustainability assessment. In *2020 Fourth world conference on smart trends in systems, security and sustainability (WorldS4)* (pp. 184-189). IEEE.
- Kuznetsova, E; Gafurov, A; Loschakov, D; & Klyueva, A. (2021). Basic digital skills of a beginner lawyer. *Laplace in a Magazine (International)*, 7(3), 416-422.
- Puchkov, O. A. (2019). Transformation of contract law in the context of information technologies: New trends. *Legal State: Theory and Practice*, 2(56), 39-46.
- Samokaeva, S. V. (2024). Digital contract as a tool for digitalization. *Bulletin of Science*, 3: 6(75), 336-339.
- Shevchenko, L. S. (2017). Innovative transformations of the legal business and legal education. *Економічна теорія та право*, 3(30), 64-73.
- Witzeman, J. S., Henderson, P., Welling, A. G., & Cosner, R. (2018). The Future of R&D Leadership: Wider changes in the culture and the market will drive changes in the practice of R&D leadership. *Research-Technology Management*, 61(4), 35-44.
- Yaroshenko, O. M., Vapnyarchuk, N. M., Lozovoi, S. V., Yakovleva, G. O., & Yakovlyev, O. A. (2018). General-compulsory medical insurance: World experience. *Journal of Advanced Research in Law and Economics*, 9:5(35), 1829-1838.

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