

The application of digital technologies in the conditional agreements

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Abstract. This article is devoted to the study of some theoretical and practical problems of concluding a conditional agreement in the form of a smart contract. The article defines and characterizes a conditional agreement and describes its differences from ordinary transactions. The author analyzes the possibility of expressing conditional agreements in the form of a smart contract, taking into account the features of setting program code, as well as features of the agreement (a condition that the special nature of the rights and obligations of the parties activity). As a result of the research, it was concluded that the conditional transaction structure is ideally suited to the elementary program code for creating a smart contract. However, the condition contained in the transaction must be strictly formalized and expressed in clear values, such as numbers. The main problems that arise when creating a smart contract are also identified: the complexity of getting data from the real world by the system, weak state control, and possible data leakage from the system. Thus, the use of digital technologies is a prospective direction for the development of conditional agreements, but this requires solving both legal and some technical problems.

1 Introduction

The whole world is currently in a state of tremendous changing because of transition to the informational society. Access to the global information space, the increasing informatization of the society and the main role of information technology changes not only economic, but also social reality. Digital technologies are increasingly used in the regulation of legal relations. The legal system must respond to changes in a timely and comprehensive manner. But the opportunities offered by modern technologies do not always succumb themselves to adequate legal regulation. This is a completely new area of legal control, which, so far, is quite difficult to implement.

2 Problem Statement

This article is devoted to challenges faced by contract law. Now more and more attention of researchers is attracted by the so-called smart contracts. Such contracts exist in a digital reality, so there are many advantages of their using, but many problems too.

The author's research interests include conditional agreement. For this reason transition process of conditional agreements into the digital environment and the potential for their existence in digital form are of considerable interest.

3 Research Questions

3.1 What is a smart contract?

In the last few years concepts such as "bitcoin", "blockchain", "cryptocurrency", etc. is firmly established in everyday life. The Blockchain technology made it possible to create not only digital "currency", but also smart contracts.

A smart contract is a self-executing contract written in software code based on Blockchain technology [1]. This is a contract that is written in a programming language (artificial language) and sealed with an electronic digital signature of each of the parties (or certified with a special key). Such contracts are concluded in a decentralized environment with using a specific protocol (for example, the Ethereum project), which allows you to exchange assets without intermediaries.

Many big companies already sign contracts in this format. For example, Alfa-Bank and S7 have already realized a financial transaction using blockchain in Russia [2]. They used two smart contracts at once – for opening and executing (closing) a letter of credit. It can be argued that there is a need to legally regulate this type of legal relationship, because the number of such transactions will increase.

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3.2 Features of conditional agreement

According to the article 153 of the Civil code of the Russian Federation, transactions are actions of natural persons and juridical persons aimed at establishing, changing or terminating civil rights and obligations. Conditional agreements are interesting because they have quite specific effects. The essence of a conditional agreement determines by the circumstance on the occurrence (non-occurrence) of which the occurrence (termination) of civil rights and obligations depends.

For example, an agreement made under a suspensive condition exists in some hypothetical form before the condition happens. The moment of making a deal has happened, but the consequences will only come when condition will occurs. We can't accurately determine the duration of the legal relationship if agreement includes a subsequent condition. The legal relationship may terminate at any time with the occurrence of a condition. Thus, the conditional agreement has a number of additional properties. The parties can foresee negative consequences for themselves and neutralize them. At the same time, new risks appear, which can be expressed both in the occurrence and non-occurrence of a condition, because nobody knows if condition occurs [3].

G.F. Shershenevich wrote that a condition is the occurrence or non-occurrence of a known circumstance in the future [4]. N.L. Duvernia argued that the use and meaning of the condition in the civil relationship based in its future character [5]. Any circumstance can be as a condition, for example, reaching a certain currency exchange rate, obtaining a license, and so on. The condition may absolutely not depend on the will of the parties to the contract, or it may depend to some extent (for example, to get a loan, a person must do certain actions).

V.S. Em the author believes that conditional agreement is a transaction where the parties make the occurrence or termination of rights and obligations dependent on some circumstance that may or may not occur in the future [6].

Some authors, such as Ivanova E.V. [7], Zenin I.A. [8], give the concept of conditional agreement in accordance with the position set out in the Civil code of the Russian Federation. In other words, a transaction is considered through specific concepts – a transaction made under a suspensive and subsequent condition.

The legal purpose of transactions made under the condition is to obtain the economic and legal result that is characteristic of transactions of this type, as well as the creation of conditional rights and obligations, creating a state of uncertainty that is good for parties of the contract.

As a result of a conditional transaction, there are two types of consequences. First, such transactions serve as the basis for the emergence of rights and obligations not in their classic version, but conditional rights and obligations. Secondly, from the moment of the transaction and until the condition occurs, the parties must maintain the possibility of consequences that will lead to the dynamics of legal relations: do not perform

actions that make it impossible for legal consequences to occur, take measures to ensure the safety of the property and its quality, inform the counterparty of significant changes in the condition of the property, etc.

The features of conditional rights and obligations which arising from suspensive conditional agreement are: 1) such rights and obligations should be sufficiently defined both by subject and by content at the time of conclusion of such an agreement; 2) they do not imply actual performance, but are a unique model of the rights and obligations that will arise with the occurrence (non-occurrence) of a suspensive condition [9]. The legal relationship that has arisen on the basis of such a transaction will not yet be either obligation, real, or corporate, but a special relative legal relationship.

The feature of conditional rights and obligations which arising from subsequent conditional agreement is that the parties of the agreement start their execution from the moment when the transaction is considered concluded. The legal relationship will not be considered conditional, but the continuation of its existence.

The occurrence of a condition is necessary for the dynamics of the legal relationship. This is a situation in which a circumstance (condition) occurs, or disappears (it is not carried out as it was provided for in the transaction, or it becomes obvious to everyone that such a circumstance can't occur ever. If the condition is suspensive, then its occurrence leads to the beginning of the performance of rights and obligations characteristic of this type of transaction. If the condition is subsequent, then its occurrence leads to the termination of rights and obligations and the transaction itself as a whole. The occurrence of a subsequent condition terminates the transaction for the future. Previous relationships as they were formed before the onset of the conditions are not changed. The onset of the condition has no retroactive effect.

4 Purpose of the Study

The purpose of the study is to research the possibility of using digital technologies in the conclusion of conditional agreements, as well as to identify problems that may arise in this case.

5 Research Methods

The methodological basis of research is the dialectical method of cognition, which presupposes the all-roundness, objectivity and interconnectedness of the phenomena under study; general scientific methods of cognition (analysis, synthesis, hypothesis, analogy, etc.); comparative-legal, functional methods.

6 Findings

6.1 Technology for including a condition in a smart contract

In order to find out whether a conditional agreement can be expressed in a smart contract, we need to understand the following. Conditional agreement — this is a legal structure, a complex legal composition consisting of two legal facts: a transaction that entails to rights and obligations, and the fact of occurrence or non-occurrence of a condition, which is expressed in the form of a legal action or legal event.

The structure by which the program code is set (when a smart contract is forming) must include certain reference points, after which events develop in one way or another. As a rule, the program is built on basic conditions, initially set parameters. After that, the algorithm of actions is set, and these actions are not linear, the options are calculated (yes/no, 1/0). That is, when a certain event occurs, the program performs one order of actions. When another event occurs, the order of actions may be completely different. When the third event occurs, the program code ends, and then nothing will happen.

The occurrence of consequences for a conditional agreement is caused the occurrence of certain circumstances. This is embedded in the source code of such a contract. The formula can be briefly described as: if...then... otherwise. Any modern schoolchild understands how to set program code using operations «If... then...» [10]. From the point of view of Russian civil law, the formula may well describe a conditional transaction, or a contract in which the performance of one party is conditional on the performance of the other's duties[1].

It should be noted that a smart contract has a number of distinctive features that will produce a positive effect in conditional agreements. A smart contract is a sequence of commands – this is the program code that is embedded in the Blockchain [11]. Therefore, the independence and self-enforceability of the terms of such a contract is ensured in the event of circumstances that are determined in advance.

Both parties of contract are in an equal position relative to each other in terms of available information because all the terms of the contract are formalized in advance and nothing "outside" can change them [12].

This is especially true for conditions that absolutely do not depend on the will of the parties. It is an event on the stock exchange, for example. The system can track such facts by itself [13]. In real life, one of the parties that does not benefit from the occurrence of the condition may not notify the other party about the occurrence of the condition. Therefore, the other side should always monitor the situation so as not to miss this moment. The system has a very important advantage. It is objectivity. In any case, the system will detect the occurrence of the condition and start acting on a specific way. None of the parties will be able to influence this process.

It can be concluded that conditional agreements in which the condition is objective (that is, absolutely independent of the actions of the parties) can exist in the form of smart contracts. There will be the positive aspects: the absence of intermediaries, automatic execution (which does not depend on the will of the

counterparty, who may, for example, delay the payment or not make it at all), strict regulation and interpretation of the specified conditions, the inability to interfere with the specified code from the outside, etc. Smart contracts allow to transfer everything that is of any value, whether it is money, shares or data, without any intermediaries [14]. If we consider the "ideal" concept of a smart contract, its using can significantly reduce not only the organization's costs for concluding a contract, conducting transactions, etc., but also the number of legal disputes.

However, not everything is so simple and there are many problems for the legislator and those who would like to use this type of contract.

6.2 Problems

The weak point of a smart contract is its connection to the real world [15]. The system must receive data from the outside about the occurrence of certain conditions. So-called Oracle programs are designed to perform this function. However, experts note the lack of development of such programs. Smart contracts exist in their own environment – the environment of the blockchain platform. Accordingly, they always have access to data that also exists within the platform. For example, the fact of making a cryptocurrency transaction. But getting data from the outside is still not so easy. Moreover, this data must not only be received quickly in the system, but also be reliable. Who should verify the accuracy of this data and how?

In the context of conditional agreements, the method of obtaining information can be both a strong and a weak side of the contract. The system can objectively evaluate information that it can get from outside. On the other hand, if this information is not strictly formalized – for example, it is not expressed in specific and accessible figures, but represents a specific action of the party to the agreement, the system will not record the occurrence of the condition. Also, the system cannot assess the unfair behavior of a party that prevents or facilitates the occurrence of a condition.

There is also a problem of state control. The blockchain platform guarantees the anonymity of participants, as well as absolute independence. However, this indicates a lack of state control. Although the entire legal system, the existence of norms of human behavior is an expression of the power of the state. If the blockchain gets out of the control of the state, then there can be no legal regulation.

There is more than one platform in the world where you can make such a deal. Due to their decentralization, there is no "superuser" who would provide the state with information about all contracts concluded. In this case, there is a risk that the parties may have to prove in court the fact of concluding the contract (if it is not duplicated on paper).

Blockchain platforms are decentralized and, for the most part, open. Accordingly, there may be a risk of data leakage (including, given the increased attacks on blockchain platforms). For many large companies, data

privacy may simply not allow them to use smart contracts and "open" their data to the system. Everyone can track the chain of transactions made, how much cryptocurrency was transferred, etc.

Therefore, despite the fact that digital technologies are already used for making transactions, there are still many legal and technical problems.

If there are such problems, a conditional transaction can be expressed in a smart contract only if the condition is an objective event that the system can get information about. If the condition contains a subjective component, then human participation in the process is necessary, that is, it is impossible to achieve full automation of such transactions today.

7 Conclusion

Technology does not stand still and the legal reality must change at the same pace. So far, one thing can be stated – smart contracts can be widely used as transactions with simple, measurable conditions. At the same time, transaction costs will disappear, and the behavior of the parties will not affect the execution of the conditional agreement. On the other hand, the legislator cannot yet interfere in the sphere of digital contracts without restricting the freedom of this activity. But freedom is the highest value of blockchain technology. Control should be associated with the recognition and legalization of a new reality, since it is already obvious that the digital economy is real. This is a completely new challenge to both the state and the legal system. It is quite possible that in the foreseeable future, lawyers will have to get a basic programmer's education in addition to knowledge of the law in order to fit into the new legal reality.

Over time, conditional agreement can become the very legal structures that can be implemented through smart contracts in everyday reality. The potential of conditional agreements can be revealed through a smart contract, as well as their development and application in the future.

Today, in our opinion, smart contracts can be an organic addition to traditional contracts, including conditional agreements, and simplify turnover by automating certain processes.

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