LAWS AND REGULATIONS ON SMART CONTRACT IN VIETNAM: FACTS AND SOLUTIONS

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ABSTRACT

In this article, the authors have mentioned and analyzed the following main issues: (i) The facts and the problem of Smart Contracts; (ii) Laws and regulations on Smart Contracts in Vietnam; (iii) Recommend solutions to improve the law on Smart Contracts in Vietnam for the next period.

Keywords: Smart Contracts; Laws and Regulations; Fact; Solutions; Vietnam.

INTRODUCTION

"Smart Contracts" is one of the prides and great achievement of the Industrial Revolution 4.0 because it has outstanding features compared to traditional paper or electronic contracts. Smart Contracts have had a big influence on the crypto world and they have certainly changed the Blockchain's space. When combined, Smart Contracts and Blockchain have the potential to change almost all areas of social life and the benefits from them are immense. This promotes a development and contemporary of the legal system of countries, including Vietnam. Therefore, the formation of a legal mechanism regulating commercial transactions is extremely necessary, especially with the current explosion of science and technology and global trade. The authors believe that Vietnam should soon have a full legal framework in the field of commercial contracts. The Internet is one of the greatest landmark inventions for mankind. The explosion of the Internet is considered the catalyst of the globalization economy. Thanks to this strong and outstanding development, the exchange and purchase of international goods has become easier, creating favorable conditions for many companies and enterprises to participate in international economic integration. Carrying out transactions in many fields. As a result, the level of use of smart devices increases because of remarkable strengths such as convenience, freedom as well as ensuring safety and transparency in operations. The Internet contributes to the success of businesses.

Because of the increasing coverage of the Internet network. As well as the widespread popularity of social networks and mobile devices, along with the undeniable advantages that the Internet brings are potential risks such as data breaches as well as hacker attacks on computer networks, etc. "Computer network risks are considered as one of the most serious economic and national security challenges facing all countries in the world"[i] that the people who directly face and suffer the most losses are individuals and organizations that have been applying scientific and technical achievements in transactions. That is why financial institutions need to keep up with the trend of applying new technologies, which are expected not only to reduce costs, time, and personnel, but also to ensure safety and beyond. revolutionize security solutions.

A new solution that is currently attracting great attention from not only businesses but also governments in developing countries is Blockchain. Invented and developed in 2008,

Blockchain acts as a ledger of all transactions, agreements, contracts and any other data that we need to independently record or verify to demonstrate its existence with high security as well as minimize the cost that consumers have to spend. Smart Contracts (hereinafter referred to as SC for short) - an application running on the Blockchain platform - has inherited all the advantages that this technology brings. Considered as a special set of protocols with the goal of recording, the SC can define and conduct the process of exchanging and executing contracts, allowing users to freely conduct transactions without necessarily informing them. through intermediaries while ensuring transparency and reliability. Smart Contracts have very unique characteristics compared to traditional contracts and thanks to the positive characteristics, the use of smart contracts is gradually becoming more popular, opening a potential application trend for many fields such as: in management, insurance, banking services, real estate, medical services…

With such a wide and fast development potential, Smart Contracts is really a great concern of science and technology fans. However, SC also entails the arising of many legal problems to control and manage this type of contract. Currently, most countries in the world have not really perfected the law governing SC. This makes the implementation of this type of activity potentially risky. Nevertheless, there are now some countries that are at the forefront of technology trends such as the United States and European countries. These nations have done research and gradually introduced relevant regulations to limit those risks to some extent. Therefore, an urgent requirement for Vietnam is to develop policies soon to promptly adjust the deployment of this increasingly popular application, especially when disputes arise between the parties. From a legal perspective, the authors propose solutions to improve the law on Smart Contracts based on legal science as well as current legal practice in Vietnam.

LITERATURE REVIEW

Definitions of Smart Contracts

Nowadays, the Internet plays not only an important role in society but also a great driving force for the development of the economy. Transactions between individuals and organizations take place with increasing frequency and volume. These transactions are entered into by the parties

in many fields and in many different forms such as oral, written, specific acts.[ii] Keeping pace with Industry 4.0, the contract between the parties does not simply stop at the mere signing of documents, the parties in the transaction have taken advantage of the convenience of science and technology to participate in contracts based on the Internet network. It is easy to see that the implementation of contracts based on science - information technology is an inevitable trend of economy and society. Meeting the above special needs, a new type of contract has appeared with the promise of their convenience and scope of application, which is Smart Contracts.

Civil transactions and civil contracts

To clearly understand the definition of Smart Contracts, the authors would first like to mention the concept of civil transactions and the concept of civil contracts under the provisions of the Vietnam's Civil Code 2015. Civil Code 2015 section 116, "Civil transaction is a contract or a unilateral legal act which gives rise to, changes or terminates civil rights and/or obligations". Specifically, on contract provisions, Civil Code 2015 section 385, "Civil contract means an agreement between parties in relation to the establishment, modification or termination of civil rights and obligations". Thus, it can be seen that SC is also a type of contract, because the nature of this type of contract also comes from the agreement of the parties on the establishment, change or termination of civil rights and obligations of the parties.

Smart Contracts

The term "Smart Contracts" is a new step forward with complex technology. Many programmers and scientists have come up with definitions related to this contract, but they are not satisfactory and even unrecognized. Many countries around the world have also mentioned the definition of SC through several laws, but these definitions only stop at the legal aspect and have not been analyzed deeply by the technology field.[iii] However, it is not that there are no definitions that are recognized by many people and carry more prestige. Nick Szabo - a computer scientist, a legal scholar and a cryptographer known for his research on digital contracts and digital currencies and the father of SC[iv] - mentioned the definition of this type of contract in 1994. He was the one who introduced the initial definition of commercial contract and received much support. At the time, Szabo called these "automatic computer programs that could execute the terms of a contract."[v]. Compared to the breakthrough in the development of

technology today, Szabo's concept is only mentioned in a narrow sense, helps people distinguish SC with conventional traditional contracts and not yet mentions all the SC's convenience and intelligence[vi]. Besides, Nick Szabo has very clear comments about the function of this type of contract such as "having a low-cost transfer function or even automates record-based value transfer with the feature of a decentralized consensus of countries around the world"[vii]. From the above statement, the definition of SC is formed in a more complete way as follows: "Smart Contracts are digital contracts that allow terms to be established based on decentralized consensus, which helps prevent fraud and has a self-executing property through enforcement mechanism".[viii] Then Ethereum appeared. They were established on the foundation of Blockchain, which led to the birth of the new generation of contracts, Ethereum Smart Contracts. In 2013, Vitalik Buterin introduced the definition of SC based on Blockchain as follows: "A smart Contract and a computer program, directly control certain types of digital assets through a computer program. This program will automatically go through certain conditions and determine who will receive the property."[ix]

Although there are many different views on Smart Contracts, the authors would like to introduce the definition of Smart Contracts as follows: "Smart Contracts are a special computer protocol. They are capable of automatically implementing terms and agreements between parties in the contract based on the support of Blockchain technology platform - a decentralized and distributed network. The terms in this type of contract are equivalent to a legally enforceable contract and are written in the language of programming."

The main goal of SC is to allow different parties, anonymous parties to work and transact with each other on the Internet without having to go through external enforcement mechanisms. These goals are designed to meet the conditions of a normal contract (such as payment term, property, security, and enforcement), minimize malicious exceptions, occur spontaneously and are less dependent on intermediaries.

Smart Contracts have a mode of operation based on Blockchain technology, so this type of contract has more outstanding features than traditional contracts. The agreement of the parties is carried out entirely on the network environment and decentralized data system of Blockchain. Blockchain is a hierarchical database model. This is a place to store information that is linked together through an encryption system and is constantly expanding over time.

Each block of data contains information about the time of creation with timecode and transaction data and is linked to the previous block. Blockchain is similar to a database that stores information. However, the main difference is that the data resides in a network of personal computers called data nodes without a central server such as the server system of a government agency or a bank to control the data. This means that no one can manage the activities in the Blockchain data environment, not even the programmer of this blockchain system. Therefore, many researchers have concluded that Blockchain is designed to resist the change of data. Once the information data is accepted by the network, it is difficult for the user to change the content. Taking advantage of this feature of the Blockchain network, SC also has certain regulations in the way and mechanism of operation of this type of contract.

All terms in the contract are expressed in a way that is transparent, verifiable, easily accessible, and requires the consent of both parties. Once the parties have agreed to the conditions in the contract, the terms in it will be automatically or partially enforced without any outside intervention. Therefore, it is extremely difficult to interfere with the content of SC after it has been coded into a programming language.

In terms of the operating mechanism, Smart Contracts operates relatively similar to a water vending machine. They will automatically execute pre-programmed terms before meeting the necessary requirements. To do the above, the terms in the contract will be set up according to the request logic mechanism and converted back into the form of an executable program through programming languages. Users will write the SC program code and start compiling it, then mark it with an address and pass it into a block on the Blockchain network. After moving into the block, this smart contract will be distributed and copied by the active nodes on that Blockchain network. When stored on the Blockchain, the smart contract will wait for the conditions to activate. When an event is triggered by executing a transaction on the Blockchain, the smart contract will be active and enforce the terms that were previously agreed upon. At the same time, it automatically checks the implementation of the commitments and terms stated in the contract. Transactions are understood as simple contracts that will be confirmed by nodes if certain conditions are met. When confirmed, these transactions will be executed, the value will be transferred from one person to another according to the requested transaction content. The terms of the commercial contract simply transfer an amount of value from one account to another and can also return the excess value from the output back to the sender, with some

additional costs. Specifically, if someone has a need to enter into a contract (party A) for a certain service or work, they can submit some appropriate terms and discussions on the Blockchain and find a partner that meets those requirements. The above information is published on the Blockchain network in an anonymous form, if the party receiving the offer (party B) finds that the terms and requirements of the other party are reasonable, they will proceed to send the code and show it. that they have accepted the other party's request to enter into a contract along with its certain terms. Once again, after realizing that the requirements of both sides are suitable for their purposes, a commercial council is born. The party requesting the conclusion (party A) will pay a part of the economic value of the contract in advance according to the agreement and send the remaining amount after receiving the complete code and successfully performing the contract. Their contract is simple - a proposal to hire and accept the work, that contract does not need to be in writing, although their actions on the blockchain have made the contract successful through a computer code system.

In order to ensure the correct implementation of the contract and the interests of the parties, the parties to the transaction may agree in advance to use a neutral arbitrator, a special third party, even impartial public to help them complete the transaction. Each of the three parties will keep a private secret key, two of which are a condition for access to the transferred funds. The offeror (party A) is obliged to send the money to an account in the intermediary fund. At this point, those funds can be viewed by anyone, but no one can access them. After the accepting party (party B) sees the money has been sent, they will terminate the contract. If after receiving the invoice, the party requesting the contract (party A) is not satisfied and feels something is wrong, they can refuse to provide party B with the second key code. The two parties will then seek the arbitrator, who holds the third key, to help them resolve the disagreement. The intervention of arbitrators is only called in in the event of a dispute like this, which does not mean that the arbitrator has access to funds – this is the mechanism that makes "smart contracts" increasingly popular.

Szabo, the father of SC, realized that parties can monitor and check the execution of SC by using a decentralized ledger. Contracts can be converted into computer code, stored and mirrored on the system, and monitored by Blockchain technology's network of peer-to-peer computers. While the standard contracts guarantee the implementation of provisions based on

legal relationships or trust, SC guarantee the enforcement based on cryptographic relationships and the reliability of the network of nodes on Blockchain.[x]

Some basic features of Smart Contracts

Formed from the Blockchain platform, SC has several distinctive features, namely:

Firstly, SC are automatic contracts. SC turn legal obligations into automated processes that can automate all tasks and activities similar to a self-executing program. But it must be noted that SC can in fact only execute automatically when they are activated. If SC are not activated, they will remain in the inactive state and do not conduct any transaction activities.

Secondly, SC are deterministic and cannot be modified. SC only execute the terms for which they are established, programmed, and only in cases where those conditions are satisfied. The reason for this is because SC are designed on a system of "if - then" statements, the following statement can only be executed when the condition of the preceding statement is satisfied. Furthermore, we cannot modify the contract after it has been implemented. Parties are only allowed to "delete" them if these functions have been programmed in advance. Therefore, it can be said that SC are like the anti-forgery cipher, the results of which will not change no matter who the implementer is.

Thirdly, Smart Contracts have the ability to perform transactions quickly and save costs. Smart Contracts use software codes and programming languages to automate the terms, and are done directly on the Internet, so SC can save hours and hours on many traditional business activities and costs for users during the operation process. In addition, the parties to the contract can directly engage with each other under the guarantee of an automated system on the Blockchain.

Fourthly, when using SC, users are guaranteed more secure information because Smart Contracts are transparent and safe.

Smart Contracts operate on a public Blockchain network, that means they are not monitored or managed by any centralized authority. No one can modify the source code of these contracts. The parties to the contract also cannot change the content stated in the contract. This ensures transparency in the content and performance of the contract by the parties.

On the other hand, Smart Contracts are encrypted on a common ledger and share information across the network, so it is difficult and almost impossible to get lost. Blockchain platform will ensure the security of the contract through cryptographic technologies. These contracts act as multi-signature accounts, so it is only activated when there is a certain percentage (%) consent of the claimants. Copies of the contract are stored on every node on the network and cannot be modified so no hacker can threaten them unless he or she has the power or resources to overwhelm the entire network (and very unlikely).

Fifthly, Smart Contracts have high accuracy. One of the main requirements of a contract is clear with detailed conditional clauses. Even a small omission can cause great damage affecting the process of signing and performing the contract of the parties. While using a normal contract, people can easily make unnecessary mistakes, but Smart Contracts do not. They work based on pre-set commands. This will avoid unexpected errors and bring high accuracy

RESEARCH METHODOLOGY

To do this research, the authors use different kinds of methodology to analyze international and national legal policy and documents[xi] related to smart contract. Moreover, statistics and surveys are also used to finish this research. The authors used the poll to survey the individual and associations in Vietnam. The authors also sent the questionnaires to ask them questions related to the laws and policies on smart contract. However, because of time and financial limitations, this research cannot cover inclusive aspects of researching issues. Thus, the author looks forward to taking the comments and opinions of readers and reviewers to do better in the next researches.

FINDINGS AND DISCUSSION

Laws and Regulations on Smart Contracts in Vietnam

In reality, Vietnamese law still does not have a specific regulation for Smart Contracts. Therefore, the authors will analyze how the current legal provisions can be applied in adjusting

the legal issues posed to Smart Contracts in Vietnam today by setting out and answering key questions.

Effectiveness of Smart Contracts

The first important question that needs to be addressed is whether Smart Contracts should be considered as a traditional contract or just a tool to support the performance of contractual obligations? To solve this problem, there are currently two views as follows:

Firstly, Smart Contracts are considered in terms of legal status like traditional contracts.

Civil Code 2015 section 116, "Civil transactions are contracts or unilateral legal acts that give rise to, change or terminate civil rights and obligations"[xii]. Thus, a civil transaction can exist in the form of a contract or can also exist in the form of a unilateral legal act. A civil transaction is the result of arising, changing or terminating the civil rights and obligations of the subjects in civil legal relations. Besides, the transaction is the conscious act of the subject to achieve a certain purpose, so the civil transaction is the willful act of the subject participating in the transaction, with the purposes and motives. certain[xiii]. Smart Contracts in essence still binds the parties to the contract through digitized rights and obligations and its ultimate mission is still to help the parties achieve their contract goals. In addition, Law on Electronic Transactions 2005, "An electronic contract is a contract established in the form of a data message in accordance with this Law." Accordingly, "Data message is information generated, sent, received and stored by electronic means" and "Electronic media is defined as means operating on technology electrical, electronic, digital, magnetic, wireless transmission, optical, electromagnetic or similar technology". From that, it can be understood that an e-contract is an electronic transaction agreed by the parties on the establishment, change or termination of rights and obligations and is sent, received and stored by the parties. means of operation based on electrical, electronic, digital, magnetic, wireless transmission, optical, electromagnetic or similar technology. For Smart Contracts, the parties will perform transactions on a peer-to-peer computer network (electronic devices) with digitized, stored, and freely exchanged terms. and minimal human intervention. Thus, the Smart Contracts are executed by electronic means and its content exists also thanks to the electronic means. Although there are different characteristics compared to electronic contracts, based on the above analysis, it is highly likely that Smart Contracts will be recognized as valid in accordance with Vietnamese law.

Then, we need to understand the concept of "effectiveness" and "contractual effectiveness". According to the Vietnamese Dictionary, "effectiveness" is understood as "the actual effect, as required" or the "enforceable value" of the document[xiv]. With this interpretation, the effectiveness of the contract can be understood as the legal validity or the actual effect of the contract.

In this case, in essence, the Smart Contract is also a civil transaction. Therefore, the valid conditions of civil transactions are also the valid conditions of Smart Contracts. Civil Code 2015 section 117(1), in order for a civil transaction to take effect, three factors must be satisfied, which are: (i) Participants in the transaction have legal personality and/or legal capacity in conformity with such transaction; (ii) Regarding the will of the subject: Participants in the transaction act entirely voluntarily; (iii) The purpose and contents of the transaction are not contrary to the law and/or social ethics.

All of the above criteria will be analyzed in detail in the section below of this research paper. And in addition, another factor when considering the validity of the contract, that is the effective time of the contract.

The determination of the effective time of the contract has certain legal significance because the validity of the contract is both the time when civil rights and obligations of the parties arise, and it is also the basis for determining the time when a breach of the contract term occurs. From the effective date of the contract, the parties must begin to perform the rights and obligations arising under the contract. In case the parties fail to perform or improperly perform the contract, they shall bear civil liability for breach of obligations. When a contract takes effect, one party may not arbitrarily modify or cancel the contract, unless otherwise agreed by the parties or provided for by law.[xv]

If Smart Contracts are legally considered the same as traditional contracts, then the issue of contract validity applies the same way as ordinary contracts, i.e.

"1. A contract legally entered into shall take effect from the time when it is entered into, unless otherwise agreed or otherwise provided by law.

2. From the effective date of the contract, contracting parties must mutually exercise rights and perform obligations as agreed. A contract may be amended or terminated as agreed by the parties or prescribed by law."[xvi]

According to this provision, the effective time of the contract will be the time when the proposed party enters into a transaction confirmation contract. In other words, the Smart Contract is signed by the parties who have reached an agreement on the contents of the contract.

However, each Smart Contract is "an exchange that has been negotiated and is in effect before the exchange occurs"[xvii] because when entering into this type of contractual relationship, the person offering to enter into a contract will submit a request or work to be completed, anonymously on a suitable discussion board. Others can see it. If the price and time are right, the person will send a portion of his "work". The person who proposes to enter into a contract will offer to cooperate with the person whose "product" he considers appropriate. This time is counted as the time when the parties have agreed on the terms and accepted to enter into the contract. The offeror will send half of the fee immediately and another half after receiving the complete "result".

As can be seen, Smart Contracts work on a very simple principle - a proposal to hire and accept the job. However, the agreement in the Smart Contract is approved if and only if the person offering to enter into the contract confirms it. Thus, the Smart Contract takes effect only at the moment when the offeror to enter into the contract confirms the transaction again, like an A - B - A loop. And with the above operating principle, Smart Contracts are established and signed, the contract will take effect at that time according to the Civil Code 2015.

So, it can be considered that Smart Contracts are contract's terms after being coded into the system which cannot be changed. There is no human intervention in the smart contract except the coding phase by programmers/technical experts. Therefore, the subjects participating in the conclusion of smart contracts can avoid the risk of being scammed or having the contract content changed. Not only that, any contract changes are also recorded and previous contract versions are fully saved on the Blockchain.[xviii] "Archives and updates to new versions while old contract versions are saved and cannot be modified has helped create a more accurate summary of processes and foster more honest parties."[xix] This helps to reduce the risks brought by "subjectivity" such as lack of goodwill, intentionally falsifying the content of the contract...

Meanwhile, the second point of view is that it should only be considered as a useful tool in supporting the performance of obligations in contracts and civil transactions.

According to this school of thoughts, Smart Contracts is simply a computer program that secures, enforces, and settles payments for recorded agreements between people and organizations and if desired to be acknowledged. Legally, Smart Contracts must be tied to a traditional contract. They therefore assist in negotiating and defining agreements and are subject to Intellectual Property Law. For example, for a contract for the sale of goods, instead of making a paper document, the programmer will digitize the contract terms in the form of a smart contract, and the parties comply or are forced to comply with the terms. pre-programmed contract of this contract on the blockchain platform. In other words, the process of agreeing and entering into a contract by the parties is still happening normally in reality, and a Smart Contract is only a "form" and "enforcement measure" of that contract. However, the question is whether a smart contract is considered "no more and no less" a computer program, will the rights and interests of the contracting parties be guaranteed or not, when the transactions are done? Translating through a smart contract is not recognized as a form of contract nor is it guaranteed by any legal mechanism? In other words, in this case, the Smart Contract has no legal effect. This is the disadvantage of smart contracts in particular and of blockchain technology in general. When an error occurs, your rights will not be protected.

To be able to exist independently and be legally recognized as a contract, Smart Contract still faces many barriers, the core of which is the difference between contract regulations in the legal system and the operation method of Smart Contracts. In view of this article, the authors believe that the recognition of Smart Contracts as a traditional contract is necessary because of the development of the 4.0 technology era and the application of scientific technology. If you study in all aspects and areas of life, the use of Smart Contracts in civil transactions is sooner or later. Not recognizing a smart contract as a common contract will lead to unnecessary disputes, costly in terms of effort and money, causing difficulties in the court process and not guaranteeing the right and legitimate interests of the parties. The content of the following article will focus on exploiting and analyzing smart contract regulations based on this point of view.

Entering into Smart Contracts

About the Subject:

When entering into a contractual relationship, an element that cannot be ignored is the subject. The subject of a contract is an individual, agency or organization (juridical person) and other subjects defined by civil law with civil act capacity who agree with each other in the form of a civil contract on the determination of civil acts, establishment, change or termination of civil rights and obligations. Just like traditional contracts, Smart Contracts, when given a legal status by the State, cannot ignore the notes on the subject. However, the subjects of Smart Contracts are special subjects, having their own characteristics compared to ordinary subjects.

According to the law, the parties to a contract must have full legal capacity and civil act capacity. However, when participating in a Smart Contract, when the operations are only shown through computers and algorithms, it will be difficult to determine whether the subject that establishes the Smart Contract is old enough to establish a civil transaction or not. Other than a random alphanumeric code generated with an online advertisement, there is no way to identify the parties to a contractual relationship unless they have exchanged emails through a centralized service together. However, if one of the parties takes advantage of this feature of the Smart Contract to perform dishonest acts, lack of goodwill in the performance of the contract, the other party can show that the party's public key is unreliable, thereby lowering the reputation score.

Collectively, the parties participating in the conclusion of Smart Contracts are difficult to identify. This can make it difficult for the parties to enter into contracts and control the management of State agencies.

The Smart Contracts' form:

The form of a civil contract is an external expression of the contents agreed upon between the subject parties. A contract can be established in the form of a verbal contract, an act contract, or a written contract. Following the trend of the new era, at present, our State has recognized data messages as a form of contract, also known as electronic contract. The convenience of this type of contract is that it is not limited to the scope of signing in space. Businesses in any region can quickly find customers to establish business relationships and expand markets through the Internet. In any form, the parties participating in the contract are guaranteed their legitimate rights and interests by the law and competent state agencies.

Nevertheless, it is not possible to completely consider Smart Contracts like an electronic contract because after all, the operating mechanism of these two types of contracts is not completely the same. If the electronic contract operates under the management of the State, or the individuals and organizations are its owners, the Smart Contract is operating in a decentralized environment. There is absolutely no governing mechanism for Smart Contracts. We can easily request a password reset when we accidentally forget the password of social accounts such as Twitter, Facebook ...; can easily complain to the operating organizations if they receive an unsatisfactory item as agreed on by Shopee, Lazada… But when entering into a Smart Contract, each individual is given a public code and a code security like a private key. In case you forget this security code, no one can stand to re-issue your password, which means that you will lose all money, transactions ... on the Smart Contract system. This is the fundamental difference between Smart Contracts and electronic contracts. Thus, find another name for the form of a contract in the form of a Smart Contract or we just have to wait until the technology is improved that allows the participation of the State, then we can "boldly" consider a Smart Contract as an electronic contract.

About the content of Smart Contracts:

The content of a civil contract includes a collection of terms agreed upon by the parties to the contract in order to determine the specific civil rights and obligations of the parties in the contract. Depending on the type of contract, the parties can agree on specific contents such as: The object of the contract; Quantity Quality; price, payment method; term, place and method of contract performance; rights and obligations of the parties; liability for breach of contract; argument settlement. In addition, a number of other contents may also be further agreed upon by the parties. These terms are referred to as terms and terms and conditions can be divided into three categories: Basic terms, general terms and discretionary terms. After signing the Smart Contract, the parties can agree to amend and supplement the terms to ensure flexibility in the contract implementation process.

However, for Smart Contracts, contract terms are a series of activities that all parties must sign to accept them, and the advantage of Smart Contracts in particular as well as Blockchain in general is immutability and cannot be modified after the command lines have been encrypted. Thus, if the parties wish to amend or supplement the contract terms, the Smart Contract has not

yet allowed this. This has somewhat hindered the parties because in fact obstacles may appear contrary to human wishes. The only way to temporarily overcome the above situation is that the parties must anticipate the possibility that the contract performance may be changed and list those cases through command line coding. Specifically, the parties anticipate force majeure events, possible objective obstacles and make new requests in that case. For example, if X did not deliver to Y because it was raining, which delayed the delivery, instead of X actively contacting Y and requesting a late delivery due to weather, the Smart Contract would have to foresee the situation and make it X's obligation. If neither of them could have foreseen it, they must accept the risk of having to accept the situation as a risk by the terms of the Smart Contract that cannot be changed or modified. This is considered a difficult problem because in this case, Smart Contract has eliminated the element of agreement in the signing process, as well as contract performance, and the exclusions here can only be guaranteed relatively- risky.

When considering the content of the contract, the legitimate interests that the parties want to achieve when entering into the transaction also need to be studied because the purpose and content of the contract are always closely linked. The content and purpose of the contract must be consistent with the provisions of the law, not violating the terms of the contract, not contrary to social ethics. For Smart Contracts, the terms of the contract are built mainly in lines of code. An ordinary person without professional knowledge will find it difficult to determine whether the content of the terms is in accordance with the law, while the terms of a Smart Contract are immutable (cannot be amendments and supplements). Whereas the failure to clearly define these factors may lead to the legal consequences of the contract being void under Civil Code 2015 section 123.

As such, the terms of Smart Contracts are a series of turns and cannot be modified or supplemented. Securing the rights and interests of the parties in the event of a force majeure event and ensuring the legitimacy of the terms when participating in Smart Contracts are legal issues to be faced.

About the process of entering and executing smart contracts

To establish a contractual relationship, the parties need to enter into a contract. The nature of this process is the agreement of the subject parties, expressing their will to each other to jointly establish, change or terminate civil rights and obligations. This process includes an offer to

enter into a contract and acceptance of an offer to enter into a contract. The problem for Smart Contracts is that if all information is encrypted on the blockchain, how can the consensus of the parties be determined when they are all unidentifiable participating accounts? If the agreement element of the parties is ignored, Smart Contracts should be considered as negotiation contracts or accession contracts.

- About the element of agreement

As mentioned above, the nature of entering into a civil contract is an agreement in which the parties express and unify their wills towards certain benefits. To achieve unity, there must be an agreement in terms of will.

According to the Wiktionary dictionary, "agreement" is "coming to an agreement after consideration and discussion". Legally, an agreement is an unification of will without opposing opinions of any of the parties involved on important issues. It can be said that an agreement is the willingness of the parties to perform the obligations that they have mutually accepted. This consensus may not be complete.

Legal science also recognizes a contract as an agreement between the parties on the establishment, change or termination of rights and obligations under the contract. The signing of the contract between the parties can be considered a legal event leading to certain legal consequences. A contract consists of two basic elements: the purpose of entering into the contract and the agreement of the parties. Thus, a contract is only established when there is an agreement of the parties, that is, when there is consensus and agreement between the subjects participating in the contract conclusion. It can be said that the agreement element in a contract is a very important basis for establishing a contractual relationship. Autonomy of the will and voluntary expression of will, if either of which is absent or inconsistent, there may also be no agreement. Voluntary consent is one of the most basic conditions for civil transactions to take effect.

Similar to the form of traditional contracts, the agreement can be expressed in the form of direct speech between the parties or in the form of a document, the form of an electronic contract is messages, data electronic.

However, all the process of establishing Smart Contracts are done on the cryptographic system. It means, there is no direct exchange in common language. Therefore, it is guaranteed that the party accepting the offer has understood correctly whether the offer to enter into a contract or not is also a big question when the algorithms and the command line are quite complicated. There will be differences when a part of the terms of Smart Contracts, expressed through a programming language, cannot have an equivalent interpretation in a natural language and vice versa. That's why the process of agreement in entering into a contract does not clearly show its nature. It can be said that Smart Contract has eliminated the agreement element of the parties.

So, should Smart Contracts be considered negotiation contracts or accession contracts? According to the provisions of law, "negotiated contracts" is a contract in which the agreement element is always put on top. Meanwhile, "accession contracts" is a special type of contract, pre-established between a trader and a consumer on the other to provide certain types of goods and services. Therefore, when studying Smart Contracts, it is necessary to study the issue that is: Can a subject show his true will when accepting the terms and conditions set by the other party on Smart Contracts? By the act of signing a Smart Contract, is it enough to constitute an agreement between the parties - a fundamental element that forms a legally valid contract?

As analyzed, one of the important conditions to create a contract is the agreement. In case the parties do not share the same intention and come to an agreement of will on the terms and conditions related to the contract, the contract will not be signed or void. The element of agreement in entering into a contract is still highly valued. Either way, all legally enforceable contracts must be a consequence of the agreement. However, when putting the agreement element in a normal contract with a Smart Contract on the "scale" for comparison, we draw a conclusion, that is, the negotiation process in the Smart Contract has been withdrawn due to not forming the negotiation and negotiation between the contracting parties. In other words, the agreement is only theoretical. This comes from the characteristics of Smart Contracts in which the terms and conditions have been standardized through digitization and cannot be modified or supplemented. The other party can only review the terms and make a decision to enter or not.

The agreement element in the conclusion of Smart Contracts did not take place as completely as in traditional contracts. Smart Contracts have completely "ignored" the intermediary stages to come to the final decision of the parties in the contract relationship.

Thus, although the process of interaction of wills, from which the parties agree to bind each other in terms of rights and obligations in a contract, does not exist. Nevertheless, the will of the subject parties is still maintained. This agreement in the conclusion of Smart Contracts is only recognized at a time and takes place when the proposed party accepts or does not accept the entire content of the contract. The unique operating principle of Smart Contracts has made the agreement almost annihilated in reality. This is the most basic difference between regular contracts and Smart Contracts regarding the element of agreement.

From the above analysis, the author believes that the development of science and technology has changed the traditional nature of the contract. The element to form a contract has been seen more flexibly than the appearance of Smart Contracts as a typical example. In such a context, an urgent problem is raised for the law, that is, it is necessary to develop specific legal regulations for Smart Contracts, in order to apply the outstanding advances of Smart Contracts and balance the legitimate interests of the parties.

Cancellation of Smart Contracts

The terms of the Smart Contracts cannot be further modified, and if an unresolvable problem arises during the signing process, the Smart Contract cannot be cancelled either. A Smart Contract cannot be cancelled or violated by one or the parties involved, as a result of the feature of "automatic execution" of terms with the nature of "code is law". Theoretically, this embodies the spirit of the "Pacta sunt servanda" principle in an absolute contractual relationship: the parties must perform what they have committed. All contractual obligations are conducted through the system and are monitored, so the parties cannot by their own will evade or violate the obligations, because if they do not perform, the Smart Contract will not activate, ie. contract does not come into force and is deemed to have not existed. If the parties want to continue to renew the contract, the parties must either re-create a new Smart Contract, or have a previous renewal of the data in the original Smart Contract. In case the parties have anticipated that there will be an extension of the contract, the payment and performance of obligations will be automated through the system without the need for any further actions by the other party.

This outstanding feature of Smart Contracts also causes conflicts, when it ignores the "right to cancel the contract" of the parties. Civil Code 2015 section 423 (1), a party has the right to cancel the contract and not have to pay compensation in the following cases:

"a) A violation of contract by the other party gives rise to cancellation as agreed by the parties.

b) The other party seriously violates the obligations in the contract.

c) Other circumstances as provided by law."

Following that, the right to cancel the contract also shows the element of free will and free agreement of the parties - the core principle of the contractual relationship. In addition, the legal consequences of contract cancellation is that the contract is not valid from the time of signing, the parties are not required to perform the agreed obligations, except for the agreement on fines for violations and compensation for damage and dispute resolution; and the parties must return to each other what has been received. This is not possible with Smart Contracts, because the consequences of cancelling the Smart Contract will be the requirement that "the contract does not exist and must disappear on the blockchain system" to restore the original status quo. This is not possible because once the command line has been encrypted and put on the blockchain system, it will be copied and saved on the server nodes participating in the system. Orders, once executed, cannot be regressed. In other words, Smart Contract is not allowed to be cancelled.

RECOMMENDATION

Based on the research process and experience from countries around the world, the authors offer some solutions according to individual points.

Firstly, there is the recognition of the legal validity of Smart Contracts. Currently, the law is indirectly regulating legal issues related to Smart Contracts when fully meeting the criteria and conditions of an electronic contract or a legal transaction. Therefore, the problem of applying Smart Contracts in practice is facing many difficulties because Smart Contracts can make

businesses timid and apprehensive. To solve the above situation, Vietnamese law should be adjusted in the direction of officially recognizing the legal value of Smart Contracts.

Secondly, provide specific guidelines for determining the validity of Smart Contracts. After being recognized as legal, Smart Contracts need to have clearer regulations on validity to be able to apply in social practice. The Vietnamese government can refer to the handling of the United States and Poland such as issuing regulations on "Proof consent form" or the State can continue to study the establishment of a specialized agency to ensure the security of user's information. Regarding the purpose and content of the transaction, although there is no specific solution to this problem, the Government can develop high-quality human resources and science and technology to solve the problem.

Thirdly, it is necessary to have specific provisions on the issue of contract conclusion. Currently, Vietnamese law has not clearly stipulated the adjustment of the time for entering into the contract and determining the place for the conclusion of the contract. Vietnam can refer to the provisions of Thailand in determining the time of signing to make reasonable additions to the current regulations. Furthermore, the Vietnamese government should introduce more open regulations to solve problems related to the place of contract.

Fourthly, it is necessary to have specific regulations guiding the implementation of the contract. Vietnamese law should study more specifically to find out the appropriate provisions in the matter of contract performance. The key point is to be able to find answers to problems and conflicts when going into the nature of the application. From there, it is possible to make legal provisions for the issue of guiding the implementation of Smart Contracts.

Fifthly, Vietnamese law should legalize payment in Bitcoin. In Smart Contract transactions, the parties transact with each other directly on the system, which will cause difficulties in the process of management and supervision by the state. When promulgating legal regulations on the flow of virtual money or cryptocurrencies will help the state control and strictly manage revenue sources and when resolving disputes arising on digital technology platforms. Courts will no longer wonder about the form of compensation, how to handle Smart Contract violations because they can use cryptocurrency as the object of compensation.

Sixthly, add specific guiding provisions related to dispute settlement. In some aspects related to the above issue, our country can absorb the experiences of countries which has laws adjusting SC, namely:

- Regarding the issue of determining the form of the contract:

Prescribing the form of a contract "must be in writing" will go against the updated, stable and long-term criteria of the law. However, it should be understood that the legal regulations of each country are different, if Vietnam applies this way to other countries in the world, it can cause great risks for transactions that need to be public evidence, or specific transactions involving state-owned assets, particularly land. Besides, there can be problems with the application of emergency measures.

The application of temporary emergency measures or the issuance and enforcement of judgments will be done quickly and safely when the Government of Vietnam legalizes Bitcoin, the main payment currency of Blockchain.

- On contractual effectiveness, dispute resolution and contract conclusion

The above issues can be solved and solved through the establishment of a model Smart Contract issued by a state agency, with basic terms including existing problems and legality available, including all the outstanding problems today. It can be considered as a specific guide for individuals and businesses to use. Users will feel more secure when approaching Smart Contract because they can anticipate possible risks in the future.

CONCLUSION

From the analyzing above, we can conclude that the smart contract is the trend of civil and trading transactions in the future. Vietnam's legal system has enough laws and regulations to govern these activities. However, to do better in the next period, Vietnam's authority should enact more legal documents to update new change of smart contract in convenient of international laws and global economics.

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ENDNOTES

[i] According to a report by Guy Carpenter - a global risk and reinsurance company under the Marsh & McLennan Group

[ii] Civil Code 2015 section 119(1), a civil transaction shall be expressed verbally, in writing, or through specific acts. Civil transactions by way of electronic means in the form of data messages prescribed in law on electronic transactions shall be deemed to be written civil transactions.

[iii] According to "Top 40+ Blockchain development companies"

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