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LEGAL PROBLEMS

OF CONCLUSION OF INTELLIGENT SOFTWARE AGENT FOR SMART COMMERCIAL CONTRACTS IN THE ERA OF BLOCKCHAIN U. A. E AS A MODEL

PROBLEMAS LEGALES CON EL USO DE SOFTWARE DE INTELIGENTE ARTIFIAL PARA CONTRATOS COMERCIALES INTELIGENTES USANDO MODELOS U.A.E.

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ABSTRACT

This paper reviews the role of the smart agent implementation in applied technology from the commercialization perspective in the U.A.E. Blockchain has made a great progress in the field of contracts resulting in the emergence of what is called smart contracts, that have become a new challenge for the system of traditional contracts. They were made to run without the interaction of any human element, which helps to build the program of artificial intelligence or what is called intelligent software agent. Intelligent software agent technology is one of the fruits of research in the field of Artificial Intelligence. The intelligent software agent in the conclusion of smart contracts has benefits including, independence at work, the ability to communicate with others, and their implementation without having reference to the user each time. Therefore, this may raise many legal problems, such as the extent of legal personality that intelligent software agent distinguishes.

Keywords: Blockchain -Smart contracts -Intelligent software agent -UAE Civil Code

RESUMEN

En este artículo se analiza el el papel de la implementación de tecnologías inteligentes en la los contratos de comercialización denominados Blockchain. Estas tecnologías ha tenido un gran avance en el campo de las acuerdos comerciales dando como resultado la aparición de los llamados contratos inteligentes, que se han convertido en un nuevo desafío para el sistema de contratos tradicionales. Fueron hechos para funcionar sin la interacción de ningún elemento humano, lo que ayuda a construir el programa de inteligencia artificial o lo que se llama agente de software inteligente. La tecnología consta de toda una serie de software inteligentes basadas en la métodos de la inteligencia artificial. Entre los beneficios de estas tecnologías se incluyen la independencia en el trabajo, la capacidad de comunicarse con otros y su implementación sin tener contacto directo con el usuario. No obstantes sus ventajas las mismas pueden plantear muchos problemas legales, que deben ser estudiados.

Palabras claves: Inteligencia artificial, contratos de comercialización inteligentes,

INTRODUCTION

The Internet currently is the primary means of concluding smart commercial contracts, which have witnessed tremendous technological development that has been extended to the field of contracts. We have recently in the area of the Internet what is called blockchain technology. It has paved the way for the emergence of the second generation of the Internet, which will over time become a network that allows for the exchange of information and the conclusion of smart commercial contracts in a more secure and private system, thus allowing commercial and financial transactions without the exploitation by the agent of the principal. Blockchain technology is one of the techniques that begin to make a big difference in the shaping of the future of the Internet, as Blockchain technology adapts technology to make electronic transactions more easily and securely. On the other hand, blockchain technology helps increase economic opportunities for all sectors within the UAE in general, where the Emirate of Dubai for example, has a full vision of blockchain application technology in the Emirate Sectors, enhances Dubai's reputation as a world leader in technology, and became a leader in the field of the smart economy, which Supports increased world trade and Competitiveness.

Blockchain technology has made significant breakthroughs in the contracting industry, with what is called smart contracts or "compact agreements", which have become a new challenge for the traditional contract system. If the contract is in the traditional concept concluded between two parties, then the matter differs in the scope of smart commercial contracts, which electronically takes place without interaction of any human element, that led to the emergence of what is called intelligent software agent technology in the conclusion of smart commercial contracts, which are done through technology (Blockchain).

Intelligent software agent technology is one of the fruits of research in the field of artificial intelligence, which is a combination of information technology programs and artificial intelligence, whose operators are looking to develop, being able to communicate with users, whether directly or indirectly, and then the problem of the agent's exploitation of the principal ends, due to the intelligent agent's transparency of the information, and the impossibility of tampering with or modifying this information. A intelligent software agent is an object that can perceive the environment in which it is located, through the sensors that the object possesses, and then responds to it with the implementation mechanisms. The intelligent software agent in the conclusion of smart commercial contracts through the blockchain technology has qualities, including independence at work, the ability to communicate with others,

the assistance and initiative in the conclusion of contracts and implementation without having reference to the user every time.

METHODOLOGY

This articles Studies those questions:

 1. What is the intelligent software agent technology as for the concluding of compact agreements via Blockchain?

2. Is blockchain technology a way to conclude smart commercial contracts?

3. Are smart commercial contracts deemed to be contracts in the traditional sense?

4- What is the legal basis for the enforceability of the intelligent software agent's acts in smart commercial contracts against its user?

5- What is the fate of the legal acts done by intelligent software agent technology in the field of smart commercial contracts?

 6. Is the intelligent software agent just a communication tool that does not have a legal personality? Or can the intelligent software agent be given legal personality?

7. Is it possible to recognize the legal personality of the intelligent software agent technology to be independent of its user as for the conclusion of smart commercial contracts?

RESULTS AND DISCUSION

What is Blockchain Technology?

Concluding Smart commercial contracts is considered as one of the uses resulting from the use of blockchain technology, and some of the jurisprudence. (Mekki, 2017,p.3) has defined (blockchain) technology as a decentralized open-source database, based on mathematical equations and cryptography, to record any transaction, or information, such as cash transactions, transportation of goods, or general information. Blockchain technology is a platform in which the largest distributed and open digital record is embodied, through which the highest volume of transactions can be stored in a decentralized ledger or database. (Khalifa, Ehab, 2018, p.1) The blockchain database is an open database source to all for monitoring its development and recording the information contained in it that is impenetrable and non-modifiable. So, if the transaction is made, it cannot be changed or returned. As a consequence, there is no need for trust in a third party, responding to it in order to complete transactions between individuals. Moreover, individuals no longer require

e. knowledge of each other. Blockchain technology, as it has been thought by jurisprudence (Verbiest & Thibault, 2018, p.1144),dispenses with the idea of intermediary in dealing, and the untrustworthiness, whether it is a bank, a notary public, a department, and other forms.

Due to encryption technologies provided by blockchain technology, each user can access his database with a high degree of security, which is one of the most important features of blockchain technology, as a means of English translation. CCCompleting transactions and acts because it does not accept change, modification, or distortion, and from Another aspect it is an open and accessible way , in addition to its decentralized nature. (Moreau, Yves, 2016, p.185), Blockchain transactions are validated by storing them in the database automatically over the main contract in the network, by using a specific code for each transaction stored in the database, without need for an intermediary person, intermediary authority, or third party. In the event that there are some breakdowns in the central nodes of the network, or attacked electronically, the network is able to correct itself, verify the validity of the transaction, and protect its previous statement, by using a mathematical equation called proof of work, (Pilkington, Marc, 2016, p.6), making the interaction of human beings absolutely unnecessary.

In 2013, blockchain technology was used as a cryptocurrency in smart contracts to eliminate the need for a third party. The idea of using blockchain technology is to authenticate information between parties within the database and it is open for viewing in smart commercial contracts for replacing the third party, by authenticating the first person's ownership of the object in question, and by reviewing the contract book registered in the blockchain, then it verifies that the second party has the required value of the object in the sale, and then authenticates the transfer of ownership from the first to the second party and ends the contract authentication, which is constantly updated with the approval of blockchain technology(Al-Nimr, Mustafa, 2017, p.4). The blockchain platform plays the role of intermediary for authenticating smart commercial contracts, replacing traditional intermediaries such as banks in the context of money transfers, or the notary public as for property registration, and replacing real estate agents English translation. breal rr in sales and lease processes. It also replaces electronic brokers in the provision of services. For example, Uber, for the benefit of a modern broker, is represented by the millions of users in different countries all over the world who use blockchain technology, and benefit from the financial return that the traditional broker reaps it. (Mekki, 2017, p.1261) For example, if an individual wishes to purchase a real estate from another,

he or she can use blockchain technology since all individuals have registered their property in public and clearly in front of everyone in this platform, and then by purchasing the real estate he wishes to obtain , this technology (blockchain) allows him to trace all the movements that the property went through to verify its ownership, and the date of its transfer from one owner to another, until it reaches the hands of the last owner. This transaction done through the blockchain technology , appears to everyone in the future and there is no need to investigate or authenticate this transaction through the notary public, in addition to the fact that this process, which takes place within the blockchain, is authenticated by millions of participants in this network (Taria, Muammar Bin, 2019, p.8).

Blockchain has been able to create technology which communicates directly with the largest number of people, to ensure that information is not repeated, or penetrated via the network. Due to the ability of blockchain to eliminate the central third party of the equation, which was needed by the technology before the presence of blockchain, where these technologies needed a third party to be used for a place to store information about the network.

For example, if the country needs to place the data of its citizens on a single information network, the information will be stored in the country's organs, but if blockchain technology is used, the data stored will not be in the country apparatus and it will be on the record of information(Ledger).There is a copy with all citizens, which makes it almost impossible to manipulate the data in this book as it will require the penetration of the data book of all citizens at the same time and replace it with the new manipulated book. The information about citizens can be stored without the need for a third party to manipulate the information that it has (Al-Nimr, Mustafa, 2017, p 5-6).The main goal of blockchain is to facilitate transactions in a safer, less costly, and faster way.

Based on the above, we can use smart contracts to authenticate property rights and facilitate the registration of services in blockchain technology, so that we can convert the mechanisms of concluding and authenticating commercial contracts to automated ones, without the need for a human being or government employee to deliver the services related to the conclusion and authentication of contracts.

U.S. law recognized blockchain technology, the legality of dealing with smart business documents in blockchain in Vermont in June 2016 (Ann, 2016),and section (5) of the U.S. Electronic Transactions Act (ETA) stipulated that the signature being secured in blockchain technology to be considered as electronic. The authentication of a contract

secured by blockchain technology has become an electronic contract. The United States Federal Electronic Transactions Act (USETA) recognized blockchain contracts and use them as evidence. From this side, the fees imposed on English translation. clients through blockchain technology are abolished, and any license or certificate that this type of transaction may be performed on in blockchain technology is cancelled. The United States of America also has the largest number of companies involved in the development of blockchain technology in the world, and it is the largest developer of this technology. Thus, the U.S. federal government always issues laws, instructions, and regulations for blockchain technology.

In England, in 2017, the British Trust Chain Association was established and seeks to adopt and certify private and public institutions. These are the recommendations of the British House of Lords, which recommended exploring possible applications of the system of trust sequencing in connection with the government, particularly in the area of Transportation, finance and information security (Trendall, Sam, 2017).

In the UAE, Dubai is a leader, as the Government of Dubai seeks to implement blockchain technology, which helps to achieve efficiency and effectiveness in many areas, including property registration, financing, and smart commercial contracts.

The French legislator also recognized blockchain technology in Law No. ⟨520⟩ of 2016 on bonds, as he introduced a new type of bond in the name of minions (Code monétaire et financier, art. L. 223-12) and stipulated in Article ⟨223⟩ of the law that it is possible to issue or assign these bonds by an electronic system that allows the authentication of these transactions, in accordance with the security conditions issued by the State Council.

As per the situations of international institutions on blockchain technology, the IMF has urged its members to work with blockchain technology, and to take advantage of it, because of its trust, security, and privacy, efficiency, in addition to increasing international cooperation between institutions to address the risks and challenges posed by blockchain technology.

Besides, World Trade Organization (WTO) is working to raise awareness and take advantage of blockchain technology in the development and promotion of trade exchange, and held a symposium in collaboration with a number of institutions specialized in the development of blockchain technology in Geneva 2017 with the aim of raising awareness of the benefits of blockchain technology in promoting world trade exchange.

Characteristics of Blockchain Technology

Blockchain technology has many features as follows:

A-Blockchain Decentralization:

Blockchain is a technology that does not rely on centralized data in data preservation, auditing, and processing, where blockchain technology distributes risks, and the data is kept by several entities, and thus it becomes difficult to lose, hack, or modify that data.

Blockchain technology is decentralized, in spite of being highly transparent, but may increase Governments' fears of losing control with massive technological development, increasing the security risks of the technology (Ahmed, Munir Maher, 2019, p.12).

B- Blockchain Technology Is Not Subject to Change or Modification:

One of the characteristics of blockchain technology is that the data recorded, is non-delectable or non-changeable. This characteristic brings many benefits in connection with registration, transfer of ownership, and smart contracts. However, it has drawbacks in the event of missed transportation or authentication and it cannot be modified.

C-Blockchain Independence:

Each of the blockchain network centers is independent of the other, unaffected, and even equal to it and that achieves parity. Still, it is difficult to control it on one side if necessary.

D-Transparency of Blockchain Technology:

One of the most important features of blockchain technology is that everyone can access information that is intended to be known to all, to hide important information, which has a degree of privacy, and to show only specific people, making it a highly transparent and private technology.

H- Efficiency of Blockchain Technology:

Blockchain technology is highly efficient, and this is evident in its speed of data transfer compared to other current systems and is a low-cost technology that reduces the movement of consumers to accomplish their tasks, helping to reduce the costs involved in completing transactions in traditional ways. It is also a highly secure technology, with no penetrations proven yet.

Problems of Blockchain Technology

Each technology has gaps and problems. Although blockchain technology has a high degree of security, it is not far from these gaps and problems. Blockchain technology is faced with legal gaps and problems, but before talking

about legal issues, it should be noted that blockchain technology may face technological gaps, such as the penetration of supporting platforms, which is a breach of the security of this technology. Most attempts to penetrate the currency configuration, for example, were to penetrate the platforms supporting them.

Blockchain technology may also be subject to piracy. Although this hypothesis is difficult to happen, it must be regulated by provisions of a law criminalizing it, and its consequences are null and void.

In addition, the problem of ignorance of technical matters may make the spread of blockchain technology in society slow and may undoubtedly be accompanied by damages as a result of misuse (Marco Iansiti & Karim R. Lakhani, 2017, p.9-10). Regarding the legal problems that may face blockchain technology, the most important of them are as follows:

A-The difficulty of Law-Keeping Up With The Development of Technology:

One of the challenges which face jurists is the difficulty of being able to keep up with and understand modern technology. The development of legislation regulating blockchain technology will be incomplete if the legislator does not develop a comprehensive briefing on this technology and keep updated with this development. The law resorts to Blockchain technology specialists, and they are now a few. This makes legal and technological specialists in a challenge to keep updated with this tremendous technological development.

Therefore, we see with some jurisprudence (Paech, 2017, p1176-1177)that the international community should develop a system of governance for blockchain technology to protect it and the whole community before it goes into effect, and needs to be amended many times to avoid its high costs.

B- Problem of Funds Confiscation For Judicial Reasons:

One of the most important problems that may face blockchain technology is how to enforce the judicial decisions rendered for confiscating the funds in the blockchain. This is impossible in this technology because it is not possible to incorporate a third party. This makes this a challenge for jurists not to lose control of this technology.

Areas To Which Blockchain Technology Is Suitable To Be Applied.

One of the most prominent areas that are fit to be implemented through technology (blockchain) is smart commercial contracts, that are the subject matter of our research. Through blockchain technology which can complete the process of concluding commercial contracts from the beginning until the complete performance, without any human interaction, it helps to reduce the costs of the trade from one side to another and it is the reduction of human error, the speed of contract completion, and the safe authentication of contracts which is a significant shift in the field of contracts.

However, despite the advantages that blockchain technology offers in the field of smart commercial contracts, these advantages are undoubtedly offset by many difficulties, such as the difficulty of changing and modifying these contracts if necessary, which may result in losses in some cases, as well as making them contracts of adhesion whose conditions cannot be discussed, the difficulty of resorting to the courts to settle disputes arising from those contracts, the possibility of manipulation by technological specialists in some cases. We will try to find solutions to these difficulties.

Moreover, one of the most fields in which blockchain technology is suitable to be applied, is the field of intellectual property rights protection, as well as its use as cryptocurrencies. Also it can be used in the transfer of ownership, and as a mechanism for authenticating contracts.

What Are The Commercial Contracts That The Intelligent Software Agent Concludes Through Blockchain Technology?

A smart contract is a contract that is concluded through blockchain technology. This means that all stages of the contract are carried out through this technology, so that blockchain technology plays an untrusted role in the contract, with the aim of facilitating the process of executing the contract (ANCEL, 2018, p.20).

The emergence of smart contracts dates back to 2015 when the first smart contracts were concluded via the Ethereum platform that allows its users to create their own applications on a shared computer owned by everyone in the world, so that this application is relied on using smart contracts, storing and sending information (Mekki, 2017, p, 2160) That is the latest and most advanced blockchain system.

A smart contract is an information program that aims to execute the contract in a subjective manner without third-party interaction, as the use of blockchain technology allows people who have no credit relationship to conclude the acts safely, without need for third-party credit (Taria, Muammar Bin, 2019, p.10).

It was also the result of modern technology, the emergence of artificial intelligence, and blockchain technology the emergence of what is called Intelligent software agent that

replaced the human agent, which caused a debate in the legal community, that some tried to study and determine its characteristics and legal status in the conclusion of contracts.

Here, the question arises: Can traditional contract rules be applied to smart contracts? What is the role and legal liability of the intelligent software agent in connection with these contracts?

Smart Commercial Contracts and Traditional Contract Rules

One side of jurisprudence (Dondero, 2016, p.19)argued that a smart contract is a contract made in accordance with the legal definition, and this trend considered smart contracts integrated into the blockchain and another side of the jurisprudence (Szabo, 1997, P.9) went on to say that the smart contract is information technology that accompanies the traditional contract and which necessitates the existence of an earlier contract concluded in traditional way.

We believe that smart contracts are indeed carried out in accordance with the legal definition, executed from the beginning until their full execution through blockchain technology, which makes smart commercial contracts meet many challenges in the way of their execution, the most important of which is as follows: Will the traditional rules of contracts be applied to it? Or will it be committed to having its own rules? Can a smart contract correspond with the conditions of the traditional contract?

One side of the jurisprudence argued that the standard of definition of traditional contracts could accommodate smart contracts, where this criterion depends on the meeting of wills, where the meeting of the will of two or more persons is required, and the offer is coupled with acceptance through the exchange of phrases so that two or more will agree to establish or modify the contract that makes the contract valid.

If we analyze the stages and rules of traditional contracts and how they apply to smart contracts, we will find the following:

The Stage of Contract formation

A smart commercial contract is a contract concluded through blockchain technology, the stage at which the contract is formed between parties who do not often have a relationship of trust, and are not combined by a single contract place, which is one of the traditional rules in contracts. Thus, the parties have a problem of knowing the terms and content of the smart commercial contract and obligations that it entails, which is difficult to detect in this type of smart contract, in the absence of direct interaction by the contracting parties.

We believe that the conclusion of smart contracts through blockchain technology addresses this problem, and even works to conduct it in a way that reduces the risks that may occur at this stage, as well as reducing the cost of concluding contracts and shortening the dates of their conclusion, through the offer by blockchain technology of effective solutions to complete the contract in time and at the lowest cost.

This is through the possibilities of securing the exchange of documents, papers and comments in a secure manner, via the database, or the digital platform that interacts with all the parties of the contract, as confirmed by a side of the jurisprudence (Dondero, 2016, p.20), by saying that the blockchain information protocol can be following all the necessary procedures for concluding traditional contracts, securing the exchange of documents, shortening the time of the contract, providing the necessary guarantees, and protecting the rights of the parties to the contract.

Capacity for Contracting English translation.

The traditional rules of contracts for the validity of the contract require the will of the perfectly competent party, which is difficult to verify under the smart commercial contract, because even in the presence of a control program, we cannot ascertain the age of the contractors, because many of the programs that are being used in this circumstance. On the other hand, one contractor may fall into the wrong character of the other contractor, for example impersonating the other party.

Performance of the Contract Phase

The performance of traditional contracts may require the determination of certain contractual sanctions, such as rescission or termination of the contract, which are one of the pillars of the traditional contract theory (Taria, Muammar Bin, 2019, P 20). Although it is difficult to apply such sanctions to smart contracts because blockchain programs and artificial intelligence are unable to do so on one hand. On the other hand, this is contrary to the requirements of the theory of the contract, the most important of which is the principle of good faith and the power of will.

However, we believe that the parties can agree to apply these sanctions by electronic means. Therefore, there is no violation of the requirements of the traditional contract rules.

One of the consequences of these problems was that a side of the jurisprudence (Mekki, 2017,P 2167),went on

to say that a smart contract is not a contract in the real sense, considering that it is not right to recognize smart commercial contracts such as traditional contracts, and to consider them as merely an information protocol based on blockchain technology, then the smart contract from this point of view is just a program attached to the contract aimed at completing the stages of the contract.

We believe that the integration of smart contracts in blockchain technology helps to address these problems. Therefore, smart commercial contracts are the contracts of the future because blockchain technology provides advantages for commercial and civil transactions, saving time and expenses. We can clarify these advantages as follows :

Integrating Smart Contracts into The Blockchain:

The conclusion of smart commercial contracts via blockchain technology and the integration of this contract into the blockchain platform aims at completing the entire contract stages. Blockchain technology in this regard plays the role of the untrustworthy person, with the aim of establishing a self-performance method (Dondero, 2016, P.20) which helps the smart contract to provide many guarantees of performance for the contract, as well as strengthening the sanctions resulting from the non-performance of the terms of contracts (Taria, Muammar Bin, 2019, P 14). English translation.

We believe with one side of jurisprudence that the smart contract is a mechanism that eliminates human interaction, which is the management of the debtor or the management of the untrustworthy person, through the use of blockchain technology in the conclusion of smart commercial contracts. Besides, the funds due can be transferred after the delivery of documents is confirmed, or complete Facts or actions, so that these conditions are authenticated by blockchain technology.

A smart contract can also be a guarantee of immediate performance of the contract by using the premium execution mechanism for some of the terms of the contract, such as in the sale of installments, where blockchain technology can intervene in the smart contract to prove what was implemented from the contract using software, It is then transferred through a cryptocurrency, or by automatic payment in the bank balance (Mekki, Le contrat, objet des smart contracts , 2018, P. 416).

The smart contract, which is concluded through blockchain technology, is also a mechanism for applying contractual sanctions, particularly the penalty for absence of contracts in the case of multiple and interrelated contracts, so that the disappearance of one of these contracts would result in the absence of the effect of all other contracts (Mekki, Le contrat, objet des smart contracts , 2018. P.417).

As well as other sanctions that do not require the interaction of the debtor or the judge, such as the case of avoidance by individual will after notification of the debtor, in the case of the recovery of payments unjustly, or the implementation of the penalty requirement by individual will, all of these cases are examples of sanctions that can be imposed through Smart business contract, which helps provide a strong mechanism for its implementation and enforcement.

B-Smart contracts are a mechanism that helps to provide security for the contract and its implementation:

The conclusion of smart contracts through blockchain technology provides security at all stages of the conclusion and implementation of it, helping to reduce the risk of falsification of documents, facilitating the process of proving the receipt and delivery of documents, as well as helping to avoid the risks that may consequent to send documents accidentally to a wrong party.

the aspect of the jurisprudence. (Williamson, 1975, p.18) argued that blockchain technology helps reduce the exchange dates of documents and records, thus allowing everyone to confirm their validity in a timely manner, which helps to reduce the costs of concluding the contract and makes blockchain technology and smart contract an effective tool to enhance and increase Trade.

After the previous explanation, it is clear to us that a smart contract can displace conventional contracts, or minimize the risks arising from them, but even so smart contracts in general, and smart commercial contracts in particular, have not been regulated by law, which makes them isolated from the legal system, which cannot be enforced them in the absence of such legal regulation.

Therefore, we recommend the UAE legislator to understand modern methods of contracting, such as concluding smart contracts through blockchain technology by considering these methods as part of the pillars of the legal system, and the organizing of smart contracts in general and smart commercial contracts concluded through blockchain technology, to address The legislative vacuum in this area, to take advantage of the characteristics offered by these modern methods in contracting through the system of contracts in general.

We also recommend the UAE legislator to provide fields and cases in which smart contracts concluded through blockchain may be used ways, where smart contracts

should be discontinued if their use disrupts the use of the current contract system.

What an Intelligent software agent Is?

Although, the prevalence of the intelligent software agent concept in many jurisprudential opinions and legal legislation that deals with the actions of this type of agents, these opinions did not reach a clear concept known as what is a intelligent software agent, and still reaching concept of intelligent software agent a matter of difference.

We believe with some of the jurisprudence (Nuaimi, 2020, p. 162). the reason for this is the novelty of this topic, which is constantly evolving, in addition to the diversity of intelligent proxy forms, and its versatility that extends to all areas of e-commerce, and other areas that are prevalent in our daily lives.

Intelligent software agent is one of interest of many different scientists such as artificial intelligence, social sciences, computer science, economics and law, which has made each of the previous disciplines known as the intelligent software agent with a unique definition.

We can reach a definition of a intelligent software agent by displaying the technical and legal side and then reaching the comprehensive definition of a intelligent software agent.

Technical definitions of a intelligent software agent

The aspect of jurisprudence (Graesser, 1996, p. 22). defined the intelligent software agent as a program whose work is done, to achieve certain objectives, so that he has his own ideas on how to achieve those goals, as well as his own purposes that distinguish from other multifunctional applications.

Some criticized this definition by saying that the idea of the special purpose of a intelligent software agent is not unique to it, because other computer programs can be described as such (Al-Kasasbeh & Kurdi, 2013, p.134).

Another group of jurisprudence provided a definition that was largely in line with the idea of a intelligent software agent; in their environment, so that any change in the surrounding conditions leads to a change in the results required of it (Hermans, 2017, p.15).

Although this definition, including all aspects of the intelligent software agent, has overlooked the possibility of a intelligent software agent to interact with other agents, which is important in the area of contracting.

IBM, which specializes in information programs, has defined the intelligent software agent as a program that

performs various operations on behalf of the user to achieve its objectives and enjoys independence in the process of this task (Gilbert, 1995, p.201). but this definition was criticized by saying that it was lacking in determining the nature of the role, in addition, it did not address the characteristics of the nature of the intelligent software agent's work (Ahmed Qasim Farah, December 2017, p.6).

To avoid criticism soughs by previous opinions, a definition of the intelligent software agent provided by jurisprudence (Krupansky, 2005). Highlighting the characteristics of this type of agent, defined it as a computer program that works to achieve certain goals, in a dynamic environment, in which the intelligent software agent does business on behalf of other entities, whether they are human beings or intelligent software agents, duringEnglish translation. ddddduring a specified period of time, without direct continuous supervision and control. The intelligent software agent has a great degree of flexibility and creativity in the pursuit of the goals and tasks required of it.

After the previous presentation, we see that not every computer system can be a program for smart proxy technology. The intelligent software agent program must have special features that enable the tasks assigned to it, so as to determine the nature of the work of this intelligent software agent and its relationship with other users and agents.

Then we can define the intelligent software agent as a software program through which specific tasks and objectives can be performed on behalf of other users, without control from others, so that they have the flexibility and ability to communicate with others, whether human or intelligent software agent without interference or supervision.

Legal definitions of a intelligent software agent

The U.S. legislator defined the intelligent software agent through several legislations, where the Unified Electronic Transactions Act (UETA) of 1999. introduced the intelligent software agent in paragraph (6), article (2) of this Act, which states that (an electronic mean used to complete an action, or to respond in whole or in part for an electronic record, without user review or interference), the text of UCC II contains the same content.

The U.S. Computer Information Association (UCITA) of Article (102) provides for the definition of the intelligent software agent the same content of the previous definition, but added the phrase (without review or interference by the user at the time of action, response or performance), and we believe that the addition of The U.S. legislature for this term is an affirmation of the independence of

the intelligent software agent in accomplishing the tasks assigned to it.

Some jurisprudence (Ahmed Qasim Farah, December 2017, p.9). has criticized the definitions of the intelligent software agent contained in the U.S. legislation by saying that they are brief definitions, and do not address the privacy of intelligent software agent, in terms of the nature of its relationship with others, and the characteristics that it enjoys, especially since the character of independence applies to many electronic programs existing.

The UAE legislator used the term "electronic agent" instead of the word "intelligent software agent", as it stipulated in article 1 of the Federal Law No. (1) of 2006 on transactions and e-commerce the definition of the trusted electronic broker, by stating that it is electronic (program or system) that operates automatically, independently, without the supervision of any normal person at the time of work or response).

From our point of view, while the word e-agent has almost the same content, we believe that the word smart proxy is more accurate and comprehensive than the electronic proxy, especially in the era of blockchain technology, which is characterized by the reliance on artificial intelligence.

Article 2 of the Transactions and E-Commerce Law of Dubai No. 2 of 2002 also stipulates that the electronic broker is defined as "an electronic software or system for an automated account that can act or respond independently, in whole or in part, without the supervision of any natural person at the time when it is done the act or respond to it)

This definition is very close to the definition of the U.S.A legislator, which provided for the independence of the electronic agent expressly, in addition to specifying when to act and respond, and this is welcomed by the U. A. E federal and local legislator of the Emirate of Dubai, in order to ensure the independence of the Intelligent software agent, and give it the freedom to accomplish tasks assigned to them.

Based on the above, we can define the intelligent software agent as an electronic program used to accomplish tasks and business on behalf of users, without direct interference or control from them. A smart proxy has independence, flexibility, and ability to communicate and interact with users and other agents. English translation.

Intelligent software agent characteristics

Intelligent software agent technology has many characteristics and advantages that enable it to perform its contractual role, through the technology and network blockchain

quickly, accurately and flexibly (McCullagh, 2013, p.7). part of the jurisprudence went that these characteristics are divided into substantial characteristics that need to be available in intelligent software agent technology, and secondary characteristics their existence are considered to be an additional advantage to this technique, to improve its performance in the completion of tasks assigned to it (Kablan, 2008, p.2). we can illustrate these characteristics as follow:

Substantial characteristics

A-Independence

The intelligent software agent plays an important role in concluding of commercial contracts, and in doing so, represents users to a great extent in the role of the human agent, especially in the independence of users in decision-making, and this feature is the most important thing that distinguishes the intelligent software agent from other agents, as well as from other Artificial technologies, which operates under user control, and its use remains linked to the data provided by its user.

The intelligent software agent performs its work independently and separately from any interference, whether it is from another person, or from other intelligent software agents so that it has the ability to control his actions and internal situation.

Therefore, relying on a intelligent software agent in commercial contracts is more than just a reliance on a program that has the ability to move from one web page to another (Charles J. Petrie, 1996, p.32). but rather a intelligent software agent in certain tasks that it seeks to achieve, with a range of other entities represented by intelligent software agents as well.

The intelligent software agent in blockchain technology is provided with important data by users, that it has to implement, so that the intelligent software agent builds on this data, changes and renews it every time it deals with another consumer or agent, so that it benefits from its experiences and practical experiences, and which in this process has to complete its work independently, that allows it to control all the conduct of this process, which allows the intelligent software agent to make a purchase, or perform the tasks assigned to it , without need for user interaction or reference. Thus, each intelligent agent has his own experience that sets it apart, which is formed by it in the light of his past and independent dealings and actions (Nuaimi, 2020, p. 413). English translation.

A intelligent software agent has good knowledge of the user's own wishes, so he or she can take the lead in executing and concluding contracts. For example, it can

book a tourist trip and choose the booking date, after reviewing his user's agenda to ensure that he has no other obligations that could conflict with that date (Paraschiv, 2004, p.17).

We believe that, the independence of a intelligent software agent in concluding contracts, which varies depending on the type of work it does so that it is free to initiate the work required when the appropriate conditions are in place, whether at the moment of receipt or afterward.

So, we agree with jurisprudence (Paraschiv, 2004, p.22). who says that the independence of the intelligent software agent gives it the flexibility that helps to make suggestions to his user from the side , in addition to seeking to respond to the requests made to it on the other hand, as well as help this flexibility to choose the appropriate mean of implementation for these contracts, and to determine for actions that must be taken when necessary to complete the implementation process.

Therefore, side of the jurisprudence (Brazier & &Others, 2003, p.3). argued that the independence of the intelligent software agent is divided into two types: the first: Total independence, in which the agent is completely dependent on itself during the execution of the tasks assigned to him, without any instructions or restrictions received by the user, and the second: partial independence in which the agent depends on Other agents to achieve the goals assigned to it.

According to this jurisprudence aspect, we can divide the independence of the intelligent software agent into three types: E

Type 1: The role of the intelligent software agent is limited to collecting information and data related to a particular commodity that has been commissioned to search for it, and determine its price and specifications, without obligation to take any legal action, and the user has the freedom of choice to complete or terminate the transaction.

Type 2: Gives the intelligent software agent limited autonomy, so that it has the ability to make a decision, and carry out the tasks assigned to it without referring to the users, but this requires that the agent have the right conditions to accomplish these tasks and achieve the goal, and this will be in accordance with the conditions and restrictions set by it. The user, the agent may not depart from it.

Type 3: It is the kind in which the intelligent software agent can make the decision, and accomplish the tasks assigned to it completely free to act without reference or any restrictions from the users or the interaction of them, and this requires that the intelligent software agent have high intelligence so that he can do this tasks.

Based on the above, we believe that in order to be able to perform the tasks assigned to it independently, it must have high intelligence, as well as adequate information, in addition to the information acquires while doing his job, which the intelligent software agent stores. Use them when needed, and this autonomy increases as they gain experience.

B-The ability to Initiate and Deal with the Surrounding Environment:

A intelligent software agent is a technology that can take the lead in achieving its goal, if the environment is suitable for it, a technology that does not rely on user guidance and supervision.

A intelligent software agent can interact with the surrounding environment, and deal with the variables that occur on its own from the beginning of the implementation of the task assigned to it, until the implementation and achievement of the goal to be achieved (Etzioni & weld, 1995, p.16). The intelligent software agent's initiative to take action or act stems from his sense that his user may be already interested in the subject of this initiative, which relies primarily on the agent's input, interaction with the user and his surrounding environment (Ahmed Qasim Farah, 2017, p.15).

A intelligent software agent can interact with the surrounding environment, understand its elements, and automatically deal with the variables that occur (He & Leung, 2002, p.985). and this interaction not only affects its initiatives towards users, but also extends its reactions to its reactions in the interest of users.

For example, if the intelligent software agent is commissioned to buy a car through the blockchain network from virtual stores, and by searching for the best stores to sell cars, when choosing the shop he will send to buy, new stores appeared to sell this car, as it appeared that this car is sold in electronic auctions, in such case The intelligent software agent has to adapt to the emerged things, so that it quickly evaluates the new offers and selects the best ones, as per interest of the user.

The intelligent software agent also has the ability to change his offers every time the customer changes his wishes, or details; If there is up-to-date information reached by the intelligent software agent, it will affect the decision to sell, or modify the terms of the sale (Jurewicz, 2005, p.6).¡

C-The Ability to Interact with Others:

A intelligent software agent has the ability to interact and communicate with others, whether human or intelligent software agents, through a special language to

communicate with them, in order to obtain information that will help it successfully accomplish the task has assigned.

The intelligent software agent's access to information from other agents helps to follow developments and variables in the blockchain network, ensuring that it survives and maintains a rapid and accurate response level (Rudowsky, 2004, p.27). as well as providing information and data to its user about consumers, their tendencies, and their degree of satisfaction with the item, or the service provided to them, as well as. It can also provide its user, if a consumer, with sufficient information about the goods and the service assigned to them to conduct their sales and purchase suppositions (Ghannam, 2012, p.712). and a intelligent software agent can interact with his user, if he or she gives orders or instructions related to the performance of a specific task (Coppin, 2004, p.545).

And then the characteristic of communication and social interaction make the intelligent software agent very close in his qualities of the natural agent, and this attribute gives it high Rectifiers to do his work, thus greatly increase the chances of gaining the trust of all the people and agents dealing with it due to the development he can achieve in his work, and a change in its outputs, and the actions it can do on behalf of its user in an orderly, prompt and accurate manner (Ahmed Qasim Farah, 2017, p.16).

Secondary characteristics

A-Portability: The portable intelligent software agent is the one who has the ability to move through the blockchain network (Coppin, 2004, p.54). the intelligent software agent is able to move from a website to other websites in the same period of time as it performs its task assigned which has been assigned, English translation. ssooso that it can move to perform the tasks assigned to it and then return to the place from which it started, which helps to increase the demand for its use in the completion and implementation of e-commerce operations, in addition to being able to move once or several times in order to carry out the tasks had assigned (Al-Kasasbeh & Kurdi, 2013, p.145). English translation. Intelligent software agent technology has created a type of agent capable of moving freely in the electronic environment without any technical problems, such as IBM's Aglets Mobile Agents, which can move freely from other locations and then return to the original location again.

English translation. English translation. There is no doubt that the ability of the intelligent software agent to move and move freely makes the intelligent software agent very effective, compared to the fixed agent, since it accomplishes the tasks assigned to it at high speed (Mishra, 2008),

and high accuracy from anywhere, without need to move and run the program from one computer to another (Al-Kasasbeh & Kurdi, 2013,p.145).

Despite the above, there are very few intelligent software agents that combine the characteristics of independence with the ability to interact and move. This is because one of these characteristics is not always relevant to the scope of intelligent software agents.

B- Accuracy and Rationality:

The smart and rational agent is the one who does the right thing at the right time, and the right action leads to success in the performance of the task assigned to it (Russell & Nerving, 2009. P31). and therefore it works to remove any obstacles that may be encountered during the implementation of its task with calculated steps to be studied, so that users can get the required whether A commodity, service, or sale in a timely manner, without any risk (Lodder & Voulon, 2002,P.280).

To find out whether the intelligent software agent is rational or irrational in performing what is assigned to, a section of the jurisprudence. therefore, sets a standard based on four elements:

1-Adopting a personal performance standard. 2-The extent of the knowledge that the intelligent software agent has reached at the time of the performance of his task. 3-The extent to which the intelligent software agent understands the environment in which it is present and knows all its elements.4-The behavior that a intelligent software agent can do so that it cannot be blamed for something which cannot understand.

The role of the intelligent software agent in the conclusion of smart contracts

The intelligent software agent intervenes in the process of concluding smart contracts in two phases, the first is the pre-contracting phase, in which the intelligent software agent works to search for new customers, and the second stage is the stage of completion of the contract in transactions or deals , and the intelligent software agent also has a different role in the case of representing the seller Or the buyer, We can clarify this as follow:

Intelligent software agent as Deputy to Buyer

The role that an intelligent software agent can play as a deputy buyer can be limited in one Determine and search for the needs of the buyer. Virtual stores, as well as producing companies, require consumers who visit their sites to give detailed data about their identity, their personality, by identifying their needs and tastes.

Such as the identification of consumer products, and the social status of the consumer, the profession, etc., information, and then this profile information is promoted after each transaction, by recording and analyzing their successive claims, allowing retailers to submit offers adapted to the needs of the consumer Buyer. For example, Amazon's Designer Eyes, who monitors books for sale on the Internet, and notifies the customer about events that are of interest to them.

A intelligent software agent collects information and data about the desired commodity or service, lists them, and negotiates their prices and contract terms. The agent's task is not only at this stage, but also extends to comparing those goods and services offered in terms of price, quality and personal terms that are appropriate to the buyer and offering them to the buyer by recommending the purchase of a specific type, with reasons given.

The agent has an important role to play in determining the terms of the transaction at the pre-contract stage, including those that the user, whether a seller or buyer, may not know, Especially if an intelligent software agent is able to learn how to negotiate through a previous business. such as intelligent software agents designed for the purpose of negotiation (Tête-à-tête) developed by the Massachusetts Institute of Technology ⟨MIT⟩ (Moukas, Zacharia, Guttman , & Maes, 2000.P.150). this program negotiates various terms of the contract (Nuaimi, 2020,P.441).

The intelligent software agent designed for negotiation can also assess their experience in negotiating after the transaction has been completed, by measuring the level of customer satisfaction with the other party's compliance with its obligations, and the shortcomings in the performance of these obligations, and therefore the intelligent software agent will benefit from this information later in improving its performance.

The intelligent software agent also benefits from this evaluation by limiting his negotiation to use it in the coming times, by identifying a specific list of providers, who have gained the confidence of consumers in their performance of their obligations as agreed at the negotiation stage, as well as excluding those who have received a negative evaluation by Consumer buyers from the next negotiation circle , and after the buyer accepts the recommendation of the intelligent software agent to purchase, the agent concludes the contract as his deputy English translation. By issuing the offer and accepting the provider to conclude the contract (KERR, 2001, P,185). Part of the jurisprudence argued that a intelligent software agent could also pay the agreed price using the consumer's credit card and provider with(M, Michael , & Grosof, 2002, P.95).

Intelligent software agent as deputy to the seller

The intelligent software agent helps the seller collect consumer data, consumer and purchasing preferences, and their preferred services, which helps the seller to know all the information and data of the consumer, and then becomes the process of targeting new goods and services to entice him to buy. Easier than using any other method of marketing (Stuurman & Wijnands, 2001, P.92).

This data can also be used every time the seller deals with this buyer, or others, providing them with the required goods or services at high speed, and with high accuracy, better than traditional search engines.

Examples of this type of agent include (Broad vision) and (CBD) agent the (MIT) developed who is taking major steps in the sale process (Ghannam, 2012. P.44).

1. Identify the target group of buyers.

2. Find and compare products similar to the commodity to be sold

3. Search for prices and services provided to buyers of this type of goods

4. Negotiate with those who wish to buy

5. Contracting, delivering products, and collecting the price English translation.

6. Provide after-sales service information and evaluate the buyer's sales experience. The trader is thus aware of the full information in the electronic market.

English translation.The legal status of the intelligent software agent in the conclusion of contracts through Block Chain

Intelligent software agent is a technology capable of initiative and learning, and Characterizes independence, therefore can act in the place of his user in the conclusion of contracts through the blockchain network. Opinions differed about the legal status of the intelligent software agent in the conclusion of these contracts, and whether the responsibility for these actions and contracts attributed to it or attributed to its user, In other words, is a intelligent software agent just a communication tool that doesn't have a legal character? Or can a intelligent software agent be given legal personality?

Intelligent software agent as an Auxiliary communication tool in the conclusion of commercial contracts, through blockchain technology.

Some jurisprudence has led to the fact that the intelligent software agent is considered merely a mean of

communication such as a telephone or fax, and therefore any legal action that comes out of the user's behavior becomes a matter of the user, and therefore the use of intelligent software agent software in concluding commercial contracts via blockchain technology is an implicit obligation of the user for all actions issued by it, because the intelligent software agent, in this case, will only have its role to convey that user, and deliver it to the other party (Jurewicz, 2005, P.9).

According to this aspect, the role of a intelligent software agent in the conclusion of smart commercial contracts will make it lose independence because the effects of contracts from the intelligent software agent will be attributed to the user.

Considering the intelligent software agent as a mean of communication makes the user keener on the actions of this agent, because the actions of this agent will be attributed to this user, and he is responsible for it, and considering the intelligent software agent as a mean of communication will help the third party wishing to contract with the intelligent software agent without fear of losing his rights in the event of harm, because in this case, he will compensate his employee because he is responsible for it (Andrade, Novais, Machado, & C F M Ne, 2007, P.360).

If it is not required that the user be informed of the terms of a contract reached by the intelligent software agent with others, and also does not require the intelligent software agent to return to user to review the terms and conditions of the contract before concluding it with the other party, this user will ask about all the actions of this agent, as if it were a fact of his personal occurrence.

Article II of The United National in paragraph (c) states that (the term originator of the personal data message is intended to mean that the transmission or creation of the data message before it is stored, if it occurs, was made by him or on his behalf, but does not include the person acting as a broker in relation to this letter).

According to this law, a intelligent software agent is merely a reliable mean of communication for the user to deliver a message to the other party and is the sole liability in the event of any harm, the only will is the will of the user, which is reliable to conclude contracts, in the event of completion of contracts through the intelligent software agent.

Paragraph (D), article (107) of the Unified Computer Information Transactions Act (UCITA), stipulates that (a person who uses a intelligent software agent to make documentation, perform an obligation, or conclude an agreement, including show of consent, is bound by the operations of the intelligent software agent even if he or someone else is not aware or has reviewed Intelligent software agent transactions , or the results of its operations).

Article (12) of the United Nations Convention on the Use of Electronic Communications in International Contracts of 2005 states that "the validity or effectiveness of the contract that is made by interacting with an automated messaging system and a natural person, or by the interaction between two automated messaging systems simply for not reviewing a natural person's actions, shall not be denied. By implementing the automated messaging system, or the contract resulting from or not interfering with such acts).

According to this article, the contract concluded through the automated messaging system, or between two automated messaging systems, is valid even if the system operates independently, without the control of its user. The natural person who acts on his behalf, and therefore the only significant will, in this case, is the will of the user, and therefore is the will that counts in the conclusion of contracts, even if it is done through intelligent software agent technology.

However, we believe that this could have been accepted earlier, when the intelligent software agent was the mean of acting, and transferring only data, but in the era of blockchain technology, the intelligent software agent became independent in concluding contracts, as well as automatic and the ability to gain experience and learn from previous transactions, Amend and issue new orders and instructions in order to accomplish the task assigned to him.

The legal personality of the intelligent software agent in concluding commercial contracts through blockchain technology

Some of the jurisprudence (Chopra & White, 2004, P.35). went on to say that the intelligent software agent should be granted legal personality, and justified this by the fact that it is not a condition of enjoying the legal personality to be human, as the legal personality extends to include non-human, as in the case of moral persons such as companies and associations, and sometimes human is derived From it.

Another aspect of the jurisprudence (Andrade, Novais, Machado, & C F M Ne, 2007,P.360). as supported that granting the legal personality of the intelligent software agent will solve all legal problems resulting from the conclusion of the contract in an electronic manner by it, so that the satisfaction is the satisfaction of the intelligent software agent and the party dealing with it, as well as a consensus between the positive and acceptance, without

prejudice rules relating to the freedom of contracting and conclusion of contracts.

Thus, granting the legal personality of the intelligent software agent led to user protection, because the intelligent software agent in this case will be responsible in the event of errors, as well as protecting him from unexpected technical errors that fall from the intelligent software agent technology, as well as errors that he did not contribute in ,responsibility for his actions, which increases confidence in the use of intelligent software agent technology in the conclusion of commercial contracts via blockchain technology, and encourages its use in the field of e-commerce in general.

The intelligent software agent is then granted an electronic legal personality such as the corporate legal personality, in which the intelligent software agent is responsible for all errors that occur from the program, whether it is errors in the input of data and information provided to it, which user is causing, or technical errors related to the network as its working environment errors, in which the user did not participate, and this is neither fair nor legally reasonable (Zahra, 2018, P86).

Some of the jurisprudence (Ghannam, 2012, P.128). suggested adopting an electronic registration system, called the certified agent contract (CAAP) that includes registration of the name of the intelligent software agent and its manufacturer, the user name, and the degree of progress of the agent's technology, to be explained in this record, which bears the results of this agent work, and grants the company responsible of Registration an electronic certificate to those concerned, that includes this data, in return for a certain fee paid by the agent.

Agent Authenticated contract has two benefits: first: the inclusion of a intelligent software agent within the corporate community increases consumer confidence and enhances the disclosure and transparency of the intelligent software agent. The second is to prevent disputes that may arise from the use of a intelligent software agent in e-commerce.

Therefore, we believe that the intelligent software agent should be granted legal personality, and register this character in an Authenticated private register, so that the intelligent software agent is an independent entity with legal activities, to be implemented by technical means that respond to the needs of the current era, namely the effectiveness and speed of doing business that Human beings may not be able to do it alone, or they may be able to do it but not within an appropriate period.

If this will make the intelligent software agent a financial liability, and this is undoubtedly one of the obstacles facing the granting of a intelligent software agent legal personal, how will the financial liability of the intelligent software agent arise different from the responsibility of the user, and take responsibility without the user?

Therefore, we support the suggestion that has been used by some jurisprudence (Andrade, Novais, Machado, & C F M Ne, 2007, P.637) to resolve this problem by opening a bank account in the name of the intelligent software agent, to ensure that its financial obligations are met, with the need to alert the contractor of the intelligent software agent that the amount deposited in this agent's account should be sufficient, to meet his rights arising from the transaction that done by the intelligent software agent.

CONCLUSIONS

Due to Blockchain technology, and its advanced technical characteristics, led to a complete development in the form of commercial contracts in general, and smart in particular, the subsequent development of the role of intelligent software agent assigned to conclude these contracts on behalf of the user to reach the role of a traditional agent, but it has become a benefits More than a traditional agent.

Under blockchain technology, the role of intelligent software agent does not depend on the will of its user when concluding smart contracts, but the intelligent software agent has the initiative to make decisions and make appropriate offers, which correspond to the wishes and preferences of the user, based on his previous information and data, the data he acquired and retained from his previous dealings.

In concluding smart business contracts, an intelligent software agent has also the ability to modify the data, information, and data it has acquired, whether provided or acquired from his or her expertise, which helps to make the best decisions necessary to conclude future contracts and deals.

Study recommends the UAE legislator by the following recommendations:

1- The necessity to address the legislative gap in the field of smart commercial contracts, with legal provisions that accommodate modern methods of contracting, such as the conclusion of commercial contracts through blockchain technology, consider them as pillars of the legal system, and take advantage of characteristics that these contracts offer to economic life.

2- Using terminology of smart proxy instead of the electronic proxy, because the word intelligent software agent

is more accurate and comprehensive than the electronic proxy, especially in the era of blockchain technology based on artificial intelligence.

3-Enact legislation that defines the legal status of a intelligent software agent and gives him the necessary independence in concluding smart contracts via blockchain technology.

4-Issuance of legislations that defines the legal status of a intelligent software agent and gives it the necessary independence in concluding smart contracts via blockchain technology.

5- Giving the intelligent software agent legal personality to register this personality, with a private certified register.

6-Considering the intelligent software agent as an independent legal entity with legal activities that he implements through technical means.

7-The provision that the personality of an intelligent software agent is independent from personality of its user in the conclusion of smart contracts via blockchain technology.

8-Coordination over the international level, and with international organizations specialized in international e-commerce, which helps to establish developed legal rules, and is compatible with the rapid developments in the field of artificial intelligence and blockchain technology, in the development of legislation the organization of smart contracts concluded through blockchain technology and legislation governing the role of intelligent software agent in the conclusion of smart contracts.

9-The study recommends that those charges of computer science, advanced technology, and electronics work on a special mechanism through which intelligent software agent's financial liability can be regulated in the conclusion of smart contracts, and then legally regulated

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