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BLOCKCHAIN TECHNOLOGIES IN INTERNATIONAL DISPUTE RESOLUTION

*Islambek Rustambekov**Prof. Dr., Vice-Rector,
Tashkent State University of Law,
Republic Uzbekistan, Tashkent
E-mail: i.rustambekov@tsul.uz**Iskandar Musurmanov**Master student
Tashkent State University of Law
E-mail: i.musurmanov@tsul.uz*

БЛОКЧЕЙН ТЕХНОЛОГИИ В РАЗРЕШЕНИИ МЕЖДУНАРОДНЫХ СПОРОВ

*Рустамбеков Исламбек Рустамбекович**д-р наук, профессор, проректор,
Ташкентский государственный юридический университет,
Республика Узбекистан, г. Ташкент
E-mail: i.rustambekov@tsul.uz**Искандар Мусурманов**магистрант,
Ташкентский государственный юридический университет,
Республика Узбекистан, г. Ташкент
E-mail: i.musurmanov@tsul.uz*

ABSTRACT

This article explores some main technical and legal aspects for Blockchain in the context of international dispute resolution, discussing its application as well as identifying legal opportunities and challenges. The object of the research is regulation of blockchain-based technologies in international dispute resolution.

АННОТАЦИЯ

В статье рассматриваются некоторые основные технические и юридические аспекты блокчейна в контексте разрешения международных споров, обсуждается его применение, а также определяются юридические возможности и проблемы. Объектом исследования является регулирование технологий на основе блокчейна в разрешении международных споров.

Keywords: blockchain, alternative dispute resolution methods, international dispute resolution, arbitration, mediation, negotiations.

Ключевые слова: блокчейн, альтернативные методы разрешения споров, международное разрешение споров, арбитраж, медиация, переговоры.

On October 31, 2008, Satoshi Nakamoto, in his pursuit to create a pure peer-to-peer version of electronic money developed a protocol for digital cash that used Bitcoin. Bitcoin is a digital cryptocurrency and its

fundamentals use the technology of Blockchain. This technology has revolutionized financing of entrepreneurial businesses and as stated by Forbes investments in blockchain platforms exceeded venture capital investments,

attracting the participation of banks, big tech firms, and startups thus becoming the hot trend in contemporary finance. Blockchain is considered to have the greatest impact in the world and seems to be able to revolutionize and disrupt a whole range of industries, from financial services to manufacturing, supply chain management, and to health care records, by infusing transparency and trust in traditionally closed systems.

Blockchain was defined as:

a) “a public ledger containing information on every transaction made within a P2P-system” (Nakamoto, 2008) [1];

b) a global platform that contains a spreadsheet for tangible and intangible assets transaction records. Thanks to technology, one can track and monitor assets, communicate much easier, and information is shared. (Swan, 2015) [1];

c) a decentralized registry enabling parties involved in a transaction to store the information specific to its initiation and development; the information is encrypted in mathematical formulas, and each formula authenticates and validates another mathematical formula that refers to other encrypted data (Casota, 2018) [2];

d) blockchain is a global registry that works on computers and is made available by volunteers around the world (Tapscott, D. and Tapscott, A., 2016). At the bottom of the blockchain concept there is a network of computational nodes, each client logged on the network receives a copy of the updated and validated data [2].

e) blockchain is a magic computer that anyone can upload programs to and leave the programs to self-execute, where the current and all previous states of every program are always publicly visible, and which carries a very strong crypto-economically secured guarantee that programs running on the chain will continue to execute in exactly the way that the blockchain protocol specifies (Ethereum Co-Founder) [2].

At its simplest, blockchain involves recording information in a way that creates trust in the information recorded. As explained in nutshell by legal experts from Deloitte, “The blockchain software is used to synchronize data stored in a distributed manner amongst peers on all the computers or servers (“nodes”) participating in a particular network. This allows for multiple records of identical data. Trust is created because all the nodes in the network control, check and consent to any additions or changes to what is recorded.” [3] It can be used for keeping records, transferring the value, smart contracts that are stored in blockchain as the data stored cannot be manipulated or changed and thereby providing the data security. As every block contains unique token/data of the previous block any change would lead to the deformation of the puzzle. Any change will take time so to recreate the order any altered content has to be agreed with the nodes/users otherwise such proposed change will not take place and this offers high security and almost no unwanted infringement with the stored data.

The entire concept of blockchain is a combination of a handful of different concepts and techniques i.e. *a distributed ledger system, peer-to-peer network, key cryptography, hashing, and proof-of-work*, etc.

Even though the Blockchain is considered to be new technology, its use and actions it performs are not new

from the legal perspective. [4] Although there might be potential disruption due to its evolution as of current time its operations are manifested and integrated itself to the current technology that is used.

If functions that are carried out by the blockchain perform pre-existing actions, then legal frameworks have a direction to set a necessary starting point for its regulation. Examples can be pre-existing legal regulations on the anti-money laundering, IP rights protection, private privacy, transactions and its regulatory framework as well as tax evasion laws. [4] Usage of new technology to perform these actions does not change the content of the regulations therefore, can be used for that purposes.

The authors further maintain that blockchain technology raises a series of novel legal questions that refer to a new body of law, which is defined as *Lex Cryptographia*, [5] or rules administered through self-executing smart contracts and decentralized (autonomous) organizations. Legal theory has predominantly focused on the struggle between the individual, the state, and the market, seeking to harmonize competing power dynamics and trying to find the appropriate balance between the interests of the public sphere, eager to preserve public order and national security, and the interests of the private sphere, characterized by the need to support economic growth, while promoting individual autonomy and fundamental rights.

Despite the fact of using pre-existing laws for regulating the blockchain technology, it has given rise to the new issues that have to be approached by the legislators as a “fill-in” for the gaps. Mainly, the challenges can be divided to the international, public and private law domains.

There is no question but that conflict resolution, through the processes of negotiation, mediation and arbitration, has become an acceptable and, indeed, inevitable part of creative lawyering in the 21st century. Today, ADR processes are being applied worldwide to a universality of situations hitherto governed by either litigation or, in extreme cases, by warfare between nations [6]. Obvious examples of such situations are in the areas of international peace and world order, environmental and public policy, science and technology, sports, social development and community-related issues, crime control and prevention, schooling, restorative justice and the family. To this list may be added the more traditional areas such as commercial contracts, employment, labour relations and insurance. The argument has been made, however, that arbitration has become one of the principal means of settlement of commercial disputes, especially in international trade.

A worthy definition of arbitration is that it is ‘a consensual system of judicature directed to the resolution of commercial disputes in private’. An arbitrator, therefore, is described as ‘a disinterested person, to whose judgment and decision matters in dispute are referred’ [6].

International Commercial Arbitration is often the only adjudicatory process acceptable to both parties to state contracts. They may feel mutual distrust of each other’s national courts. A state may seek arbitration to avoid publicity, or to avoid subjection to a foreign state court which may appear as an affront to its sovereignty [7].

The multinational enterprises may fear that the courts of the host country might be unduly influenced by the government, or that without submission to arbitration there may be no certainty of waiver of the state's immunity [8].

With the event of mega-blocks and mega-markets generating increased trade between nations and commercial entities, it is reasonable to expect that we shall definitely be witnessing an unprecedented explosion of gigantic proportions in commercial arbitration. The sources of the law of international arbitration lie in a number of international conventions, such as the New York Convention of 1958, [9] the European Convention of 1961, the Panama Convention of 1975, the Convention Establishing the Multilateral Investment Guarantee Agency of 1985, the Convention on the Settlement of Investment Disputes of 1965, international model laws, model rules and institutional rules, such as those of the International Chamber of Commerce (ICC) and the London Court of International Arbitration (LCIA) [10].

In principle, this study of Sehata (2018) concluded that there is a wide gap between the international arbitration community and the blockchain tech community. [10] In other words, the blockchain tech community has not developed a single project that analyzes thoroughly all the risks associated with using the international arbitration mechanism for smart contracts dispute resolution.

Therefore, the tech community needs to develop their models exponentially to accumulate enough experience in the field of arbitration of smart contracts, when the rate of smart contract dispute raises to a level where it is profitable enough to engage in the field of arbitration of smart contracts. At present, there are two different approaches to dispute resolution for smart contracts. The first approach accepts that smart contracts can operate within the existing contract law framework, and can be adjudicated by the courts or existing Alternative Dispute Resolution (ADR) procedures [11].

The key features that make arbitration the optimal dispute resolution mechanism for smart contract disputes

are arguably the flexibility of arbitral proceedings and the straightforward enforcement of arbitral awards under the New York Convention (Currently there are 159 jurisdictions which are contracting parties).

Thus, the adoption of blockchain-based smart contracts will require courts and other forms of dispute resolution bodies to grapple with a number of difficulties when smart contract disputes arise including the interpretation of code, jurisdictional issues, and the application of traditional contract law principles (De Filippo and Wright 2018; Werbach and Cornell 2017).

The second approach contemplates smart contracts as distinct legal tools, rather than digital alternatives to traditional legal contracts. From this perspective, blockchain technologies and smart contracts may create new legal systems, or a new Lex Cryptographia (De Filippo and Wright 2018). [12] In this approach, Kaal and Calcaterra (2018) contend that several characteristics of blockchain-based technologies and smart contracts, such as its anonymity, automatic execution, and tamper-resistance, mean that "existing legal infrastructure cannot address legal challenges presented by crypto transaction disputes". [13] Instead these disputes require a 'distributed jurisdiction' – that is, blockchain-based governance. Such a distributed jurisdiction would need to be developed and created through a process of institutional innovations. Contrary to Kaal and Calcaterra (2018), The authors propose that there are several ways existing dispute resolution mechanisms could feed into smart contracts. [14] For instance, a new set of standards for judgements over smart contracts could assist with them acting as 'oracles'. [14] Standards setting could overcome the interoperability issues between coded smart contracts and standard forms of dispute resolution.

Blockchain might not just create economic and legal challenges through the tensions of code and incompleteness of contracting, however might also incentivize and facilitate new dispute resolution institutional possibilities. For instance, there is the potential to create new private decentralized dispute resolution mechanisms.

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