

Kluwer Arbitration Blog

How Does Arbitration Intersect with the Blockchain Technology that underlies Cryptocurrencies?

Dena Givari (Blaney McMurtry LLP) · Saturday, May 5th, 2018

Dena Givari assisted by Ralph Cuervo-Lorens

Yes, there is something to be said on this topic. The first page of the Google search results for the term “smart contracts blockchain” shows an article with the following first line: “[Smart Contracts: The Blockchain Technology That Will Replace Lawyers](#)”. While overly dramatic, the sentiment that blockchain technology will change the demands placed on lawyers and the legal system at large is not unfounded.

Cryptocurrencies and Blockchain Technology – A Primer

Bitcoins, cryptocurrencies, Ethereum, smart contracts, blockchain – these are the buzzwords that have spawned from the 2008 paper titled “Bitcoin: A Peer-to-Peer Electronic Cash System” written by the anonymous person, or a team, who go by the name Satoshi Nakamoto. These terms, however, are not interchangeable.

Bitcoin (and e.g., Litecoin, Namecoin and Ether) is a type of cryptocurrency. Each cryptocurrency is unique and based on a different blockchain technology platform. As a common feature, every such platform updates an unchanging and ever-growing ledger which tracks ownership of an underlying asset. All members of the network can access the ownership information contained in a ledger.

In turn, smart contracts are not cryptocurrencies or legal contracts. What cryptocurrency and smart contracts do have in common is that blockchain technology gives them practical utility. For example, a bitcoin can exist but it has no use unless it can be transferred from one entity to another. The blockchain platform underlying bitcoin is the medium which makes this transfer possible. Similarly, while a computer can understand the “if-then” instructions that smart contracts contain, the blockchain allows consumers to make practical use of this capability by connecting them to each other on a trusted and immutable network.

It is a myth that blockchain platforms which enable smart contract technology will replace lawyers. This is not to say that they will not have any effect on the way we practice law. Quite the contrary: smart contracts will be something that lawyers may recommend as a measure to backstop enforceability of the traditional legal agreement they have been retained to prepare.

The lawyers who make such recommendations will find themselves having to work closely with

computer scientists who will translate the operational clauses of the agreement into code, for example, on Ethereum's platform. It may also be that upon a dispute arising, smart contracts may be considered in determining the intentions of the parties. An operational clause is one that has conditional logic. By contrast, non-operational clauses will not be translatable into a smart contract for purposes of enforcement. These clauses require an individual to exercise personal judgment in order to advise a party of their obligation under an agreement. Examples include entire agreement clauses or clauses that require performance of the contract in a commercially reasonable manner.¹⁾

What Arbitration Can Do for Businesses which Embrace Blockchain:

To grasp the revolutionary potential of blockchain technology and why arbitration is the ideal forum for resolution of disputes that arise from its use, it may be helpful to understand it in comparison and contrast to the internet.

At the heart of the value of both the internet and the blockchain is communication. Prior to the internet, the ways in which businesses could access markets and resources from across the world was through phone, fax and mail. The internet provided businesses a platform by which they could communicate in a more timely and substantive fashion with others across the globe. This meant more efficient access to markets and resources. As sophisticated as the internet and its applications are today, enhanced communication is at the core of its influence.

Blockchain is simply a platform that further enhances our ability to communicate. However, where the internet arguably addressed the issue of distance and the cost in time associated with that distance, blockchain addresses the issue of trust and the cost in time associated with bridging that gap. That is, it allows its users to trust the information that is being communicated and to be able to do so instantaneously. Users can skip the need to validate the information communicated over the blockchain because by virtue of its construction, the blockchain is incapable of presenting fraudulent information. Of course, that is only in theory and hence the need to practically address the intersection and interplay of blockchain technology and arbitration.

The comparison with the internet highlights some of the reasons why arbitration is a well-suited mechanism for resolving disputes that arise from the use of blockchain technology. First, it is better tailored to deal with issues of jurisdiction where the entities using blockchain to communicate information with one another are from different legal jurisdictions. Second, as smart contracts evolve to at least partially represent the parties' intentions, the freedom to select arbitrators who can understand the limitations of coding language when determining such intentions will become highly valuable. Along the same lines, arbitration also allows parties some room to detach from the traditional framework of contract law whose doctrines of contract validity, formation and interpretation may not be readily applicable to contracts that adopt the use of smart contracts on blockchain platforms.

Another important consideration which favours the use of arbitration in this context from a business perspective stems from the fact that blockchain technology was introduced by way of cryptocurrencies. Cryptocurrencies are a unique application of blockchain technology in that, to be dramatic, they are a threat to our central governments' ability to regulate our economies. Cryptocurrencies open the door to a shift of power from government to the people at large. At the extreme ends, opponents could scream "anarchy" and proponents, "freedom". Either way, blockchain technology has entered the world by way of a very controversial application. This presents a threat of more scrutiny and stricter regulations than would otherwise be warranted. Thus,

in the face of uncertainty as to how different legal systems will react to this technology, it may be the best course to embrace the control arbitration allows its parties to have over the resolution of their disputes.

What Blockchain Can Do for Arbitration:

Smart contracts enabled on blockchain platforms may assist in situations where arbitrators find themselves involved in the process of forming a legal agreement that is incidental to the matter submitted or to be submitted to arbitration. One example that comes to mind involves multi-signature smart contracts and an arbitral institution. These entities could jointly condition the release of funds to one of two addresses upon the electronic signing of either the two parties, or one of the two parties and the arbitrator/arbitral institution, in pre-hearing proceedings in aid of arbitration. This means that funds which have been earmarked for a specific purpose under the legal agreement, cannot be transferred by one party alone. If a dispute arises as to whether the obligations under the agreement have been met thus triggering the release of such funds, both parties are forced to comply with the process before either can access those funds. This is because in the absence of the electronic signature of the other contracting party, in a multi-signature smart contract that requires two electronic signatures to transfer funds, the party would need the arbitrator/arbitral institution's electronic signature in addition to its own.

We are entering into an exciting new era although admittedly less exciting than the internet would have you believe. Nonetheless, blockchain technology is rapidly developing and changing many of the ways industries traditionally carry out their processes. As it does this, the list of possibilities for interplay between blockchain and arbitration will grow and one of the leading topics for discussion should be the role arbitrators can play in the many disputes that are to come our way as this technology gains a foothold across a large swath of our economies.

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References

For more information on the application of smart contracts to operational clauses, see the August 2017 publication of International Swaps and Derivatives Association called “Smart Contracts and Distributed Ledger”.

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