This article from International Journal of Online Dispute Resolution is published by Eleven international publishing and made available to anonieme bezoeker

Smart Legal Contracts

A Shift in Conflict Prevention and Dispute Resolution

Aura Esther Vilalta Nicuesa[*]

Abstract

This article is aimed at clarifying the legal implications of blockchain when applied to contracts and the impact of smart contracts in conflict prevention and dispute resolution.

Keywords: smart contracts, blockchain, contracts, conflict prevention, ODR.

This article is aimed at clarifying the legal implications of blockchain when applied to contracts and the impact of smart contracts in conflict prevention and dispute resolution.

First, allow us to begin with some background information as to identify and describe what a smart legal contract really is. There have been many attempts to define smart contracts, by academia and the industry. The first main obstacles are the different perspectives or approaches maintained by technologists and legal experts. In order to clarify what "smart contract" means, we will follow Moorsei suggestion in distinguishing between: "Smart contracts", as self-executing code applied to many diverse functions; and "Smart legal contracts" as specific contracts from a legal point of view. Or, more specifically, any legal transaction between two or more parties (natural or legal entities), typically established by means of blockchain technology and electronic platforms, that becomes legally binding and ensures efficiency. Smart legal contracts fulfill the obligational content in the pre-established terms with no need for parties' intervention, and they do not leave completion to the discretion of only one of the parties. Smart legal contracts rely on self-implementation and/or self-execution of the agreements reached, and the authenticity and integrity of its content.

Such smart legal contracts can accommodate many diverse types of transactions. They are not, therefore, a specific new category of contract but rather a new means for the parties who wish to enter into a contract invested with unique traits.

From an analysis of the first-use cases in the industry we can identify a "normal" sequence that includes:

– Offer (Code phase) where the terms and conditions are written in natural language and in code, then inserted into a blockchain ecosystem and placed into

* Chair in Civil Law at the Universitat Oberta de Catalunya.

This article from International Journal of Online Dispute Resolution is published by Eleven international publishing and made available to anonieme bezoeker

an electronic platform or application that makes the offer available to the customers;
- Acceptance (Deploy phase), where customers accept the contract, typically by means of a tick box;
- And implementation (Call phase), as a final stage with the effective performance of the contract until its termination.

Therefore, the law should be in a position to consider smart legal contracts as a functional equivalent to electronic contracts.

Of course, and needless to say, not all contracts can be "blockchained". There are a number of limits on the use of smart legal contracts: Contracts with *intuitu personae* obligations; contracts where the assessment of parties' capacity is compulsory; Contracts containing subjective terms; Complex long-term contracts that may require ongoing adaptation.

There are some new challenges that need to be faced during the life cycle of a smart legal contract applied to high volume transactions:

First. The offer is typically made by means of electronic platforms and standard terms, which means that parties must comply with certain legal requirements. We are not going to expend much time on this, but it is important to understand the generally recognized legal implications at international and European level. For example:
- Parties must be clearly identified, so identities shall not be hidden, obfuscated or pseudo-anonymized in ecommerce.
- There is a need to identify the original authoritative version of the contract, which should be in natural language, because the will of the parties is based on the statements put in black and white.
- When it comes to the acceptance, in practice, it is made by means of a tick box, and there is an obligation for the supplier to confirm the reception of the acceptance.
- Also, the supplier shall provide some pre-contractual information.

Second. It could be argued that in all smart legal contracts there is a need to request a double acceptance: one regarding the content as such, and a second one to accept the self-performance of the contract. Yet, we should distinguish between performance and execution. The self- performance is connatural to the choice of such modality, like in e-contracts, the law does not require a previous agreement regarding the use of electronic means. It may, however, be advisable to reinforce transparency by establishing a duty to inform on the technical and legal characteristics of the blockchain and the smart contract. Needless to say, the implementation of a smart legal contract occurs automatically when the oracles verify that a certain condition has been fulfilled. Therefore, the legal duties by the parties to perform with undue delay, with good faith, loyalty and cooperation are guaranteed, because the contract is performed with no need for parties' intervention. This reduces many traditional conflicts derived from faulty compliance, delay or fraudulent behavior. Conversely, when a smart legal contract contains a mechanism of self-execution in case of controversy (e.g., self-interpretation and

This article from International Journal of Online Dispute Resolution is published by Eleven international publishing and made available to anonieme bezoeker

self-integration of the contract, or dispute resolution mechanisms) an additional acceptance should be required when it limits or prevents the access to the Courts in B2C transactions.

Third. It could be argued as well that in a trustless environment there is no need of "trust" among parties involved and, accordingly, they could make use of zero-knowledge proof not disclosing their identity. Yet smart legal contracts are not "infallible" and courts may require disclosure of identities under certain circumstances.

Fourth. Regarding remedies, the right of withdrawal in online transactions is mandatory when a consumer is involved. Accordingly, parties cannot waive it or the clause will be void. Within that context, how does one proceed to restitution of a smart legal contract where immutability is supposed to be key? The restitution could consist of either recovering the product or getting an economic equivalent.

Fifth. Payments can be made off chain by means of money and financial intermediaries, but ideally they could be made in the chain by means of cryptocurrencies. In fact, the European Banking Authority (EBA) describes them as digital representation of value not issued by a central bank or by a public authority and not necessarily associated with fiat currency. Therefore, although not money, cryptocurrencies can be accepted as a means of payment. They can also be transferred, stored or negotiated by electronic means. Legally speaking, they are not yet considered fiat currency (as counter performance) in a contract of sales and they still face the lack of regulation and legal supervision.

Sixth. An additional challenge comes from the integration of inbound oracles (that provide information) and also outbound oracles may that connect objects because in both cases parties need to rely on external sources for the performance. If the information or the connection is defective this may lead to a defective performance or execution of the contract itself, and eventually to damages as well.

It seems apparent, therefore, that the potential for a conflict during the life cycle of a smart legal contract remains alive, because although smart legal contracts may reduce many traditional conflicts derived from faulty compliance, delay or fraudulent behavior, the fact is that they are not infallible and the goods may not be of the quality as they appear to be on the screen, or the code may not reflect the will of the parties, or the content may not always be drafted in accordance to the law, or the blockchain infrastructure itself may be defective. As a result, it is important to understand the need to ensure the existence of online dispute resolution mechanisms (ODRs) tailored to this environment, because effective access to justice is a primary fundamental right, and domestic courts with small claims procedures are not considered a realistic first option for ecommerce.

The interaction between smart legal contracts and ODRs is providing two different modalities of dispute resolution:

This article from International Journal of Online Dispute Resolution is published by Eleven international publishing and made available to anonieme bezoeker

- External ODR service providers for smart legal contracts (*i.e.* Kleros, Jur, Juris, Mattereum), where parties have to agree in order to get involved. This helps to guarantee independence and impartiality.
- And in-house ODRs – embedded into the chain by one of the parties unilaterally (typically the trader). And here, again, as long as this may produce a conflict of interest, they may not be deemed to be independent and, therefore, they should not be considered ODR but rather internal customer services.

Summing up:

- Smart legal contracts have the potential to reduce a number of traditional conflicts derived from faulty compliance, delay or fraudulent behavior.
- ODRs are more needed in such new environment.
- ODRs shall comply with all the principles stemming from the UNCITRAL Technical Notes for ODRs and the Principles established by well-known recognized International Organizations like the NCTDR.
- As the outcomes (agreements, decisions) may need to produce a "change" in the code, such ODRs shall provide a "red button" to freeze or stop the implementation of the smart legal contract and provide tools with reversion power.

doi: 10.5553/IJODR/235250022019006002017