

The Prospect of Legalising Smart Arbitral Award in Malaysia: An Analytical Overview

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Abstract

The role of smart contract and blockchain is growing at astonishing speed globally and especially in the law world, owing to their valuable advantages. However, the Malaysian arbitration industry is still employing the traditional approach in practice. Specifically, the term smart arbitral award remains mysterious because the arbitral award in Malaysia is still based on the traditional approach. This means that the arbitration award should be made “in-writing” and contained the signatures of the arbitral members. This article examines the prospect of legalising smart arbitral award in Malaysia using doctrinal legal research. Primary and secondary data are used and collected through a library-based approach. Concerning the data analysis, both types of data are analysed using analytical and critical approaches. As a result, it is discovered that blockchain technology has eliminated the third party while maintaining a secure, immutable, irreversible, and authentic network, whereas smart contract has introduced an automatable and self-executable computer protocol. Furthermore, the smart arbitral award might be valid and legitimate in Malaysia. For more legal certainty, it is suggested that Malaysian lawmakers have to reform section 33 (1) of the Arbitration Act 2005 (Act 646).

Keywords: Blockchain, dispute resolution, smart contract, traditional arbitration.

1. INTRODUCTION

Decentralised technology has gradually become an essential element of the lives of people. It has gained popularity among consumers and businesses in almost every sector due to its immersive benefits and distinctive qualities (Tochen, 2019). Blockchain represents a core and vital element of this technology and the pillar that all other technologies rely upon. It allows technology, such as the smart contract, to operate as designed and achieve the intended objectives of this technology (Christidis & Devetsikiotis, 2016).

Blockchain established for the first time a “peer-to-peer” (P2P) network that can facilitate, process, and store electronic transactions of value without the need for a third (3rd) party while maintaining the trust in the network (Zheng et al., 2017). Numerous scientists and computer experts have contributed to the creation of the current blockchain, and each of them has contributed to a specific aspect of this technology’s functionality.

Bitcoin was the first operational blockchain introduced by Satoshi Nakamoto. It comprises a record stored as data-storing blocks and chains connecting them (Abd Aziz et al., 2022). This technology is supported by cryptography and hashing functions. Each block includes transaction data, a timestamp, the block’s hash, and the hash of the block that preceded it (Swan, 2015). The European Parliament defined blockchain as “a mechanism that uses an encryption technique known as cryptography and a set of specific mathematical algorithms to create and verify a continuously growing data structure to which data can only be added and from which existing data cannot be removed, taking the form of a chain of transaction blocks that functions as a distributed ledger” (Houben & Snyers, 2022).

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Beyond serving as a network for exchanging cryptocurrencies, blockchain has evolved to serve various purposes over time to work with other technologies (Zhu, 2021). It can be utilised for validation, tracking, registries, supply chain management, and any other task requiring secure and unchangeable data storage and/or digital transactions. However, the smart contract is one of the blockchain technology. It is an automated digital protocol that self-executes the conditional statements coded by the parties (Szabo, 1994). This innovative technology did not see the light until the emergence of blockchain, which provides a safe and suitable platform where the smart contract can operate in a secure, immutable and decentralised way (Vacca et al., 2021). The real revival of the smart contract came after the introduction of blockchain 2.0 by Ethereum Blockchain (Nzuva, 2019).

In the context of this article, the interest in using the smart contract in Malaysia is increasing (Zain et al., 2019) due to its valuable advantages, specifically in the arbitration industry (Labanieh, Hussain & Mahdzir, 2021). For instance, the smart contract is decentralised, self-executable, immutable, secure and highly useable (Papantoniou, 2020). However, the Malaysian arbitration industry is still employing the traditional approach in practice. Specifically, the term of the smart arbitral award remains mysterious. This is because the arbitral award in Malaysia is still based on the traditional approach. This, in turn, means that the arbitration award should be made “in-writing” and contained the signatures of the arbitral members.

Therefore, it is the right time to introduce the term smart arbitral award to the arbitration industry in Malaysia and examine its validity according to Arbitration Act 2005 (Act 646) (henceforward as “AA-646”). The rationale behind this is driven by the need to revolutionise the practice of arbitration in Malaysia and align it with Industrial Revolution 4.0 (IR.4.0). This would play a vital role in enhancing and strengthening the position of the Malaysian arbitration industry.

2. BLOCKCHAIN AS AN ESSENTIAL ELEMENT OF SMART CONTRACT

Blockchain is a growing ledger composed of blocks connected using cryptography and hashing functions (Sarmah, 2018). Both of them guarantee the ledger’s security, immutability, and authenticity. Again, all blocks in a blockchain are linked sequentially, leaving no room for manipulation (Zheng et al., 2018). Furthermore, each block enjoys a hashing value that serves as a signature for the block generated by hashing all the data or transactions contained within the block, the timestamp, and the hash of the previous block (Yaga et al., 2018).

Moreover, each block stores data and hashes them to produce the block’s hash value. This hash value is used as the block’s digital fingerprint (Riadi et al., 2021). Consensus mechanisms also ensure the integrity and dependability of a network through the efforts of nodes, which are system participants. Various blockchains employ distinct consensus mechanisms (Pilkington, 2016). The objective is to ensure that the transaction is valid, processed, and permanently added to the blockchain.

Additionally, it is worth noting that every user on the blockchain owns a public key and a private key (Ahram et al., 2017). Anyone can access the public key, while the private key is a secret code that should only be known by its owner (Golosova & Romanovs, 2018). The payee and the payer have a “public and a private key”. The payee encodes the transaction information into the public key of the payor and then sends the document to the payor, who would be capable to access it using his or her private key. After the parties have completed the transaction, the transaction goes to the unconfirmed transaction pool, where nodes take this transaction, validate it, process and store it. This demonstrates the role of nodes in facilitating such transaction and ensuring its validity and security.

3. SMART CONTRACT

The smart contract is not a new idea. It dates back to the '90s when Nick Szabo, a computer scientist, coined the term “smart contract” to emphasise the goal of incorporating what he calls “highly evolved” contract law and related business practices into the design of internet-based electronic commerce protocols (Laubscher & Khan, 2020). In one of his early papers, Szabo defines a smart contract as “a set of promises specified in digital form, along with the protocols within which the parties perform on these promises” (Szabo, 1994). In another publication, Szabo defines the smart contract as a “digital, computable contract in which the performance and enforcement of contractual terms occur automatically, without human intervention.” To simplify the complexity behind a smart contract, Szabo compared the concept of a smart contract to a soft drink vending machine, stating that when the money is paid, an irreversible sequence of actions is initiated. Specifically, the cash is retained and a beverage is provided. This is because the transaction cannot be halted during its progress, the money cannot be refunded once the beverage has been provided, and the transaction terms are embedded in the machine’s hardware

and operating system software. Currently, a smart contract as flight insurance could also be used to de-execute/execute terms and conditions (clauses) that rely on a particular behavior; for example, if the data show the cancellation or any delay in the flight, the passenger will be refunded automatically.

It is important to note that the smart contract differs from the traditional contract as it is computer-generated that composed of programming language. It is also a computer protocol that automatically executes the embedded terms and conditions coded by the parties (Giancaspro, 2017). So, there is no need for a third (3rd) party to interfere in order to enforce it (Raskin, 2017) since it is based on the “If-Than” approach (Sillaber & Waltl, 2017). On the other hand of the spectrum, the traditional contract, such as the arbitral award, is written in the native and understandable language (human language) (Mik, 2017), and it needs a third (3rd) party to enforce it. For instance, the Malaysian High Court is responsible for recognising and enforcing the arbitral award.

Furthermore, a smart contract passes through several stages that demonstrate its uniqueness. These stages start from negotiating the “terms and conditions” agreed upon between the parties and coding the smart contract until the final execution of it (smart contract). Figure 1. provides a simple illustration of the working mechanism of the smart contract.

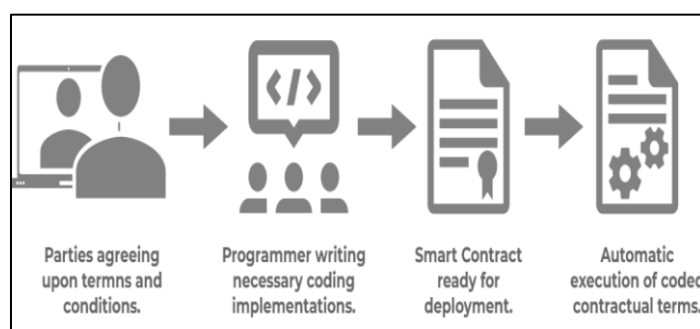


Fig. 1. Simple Illustration of the Working Mechanism of the Smart Contract (Lareo, 2022).

Currently, smart Contract is executed on a platform that relies on distributed ledger technology (DLT) or blockchain. This ensures a smart contract’s safe and secure use (Khan et al., 2021). Moreover, there are many blockchains with different characteristics and purposes. Each blockchain has its own method for developing a smart contract and interacting programmatically with the network. After providing a comprehensive and detailed explanation of a smart contract and blockchain technologies, it is important to examine to what extent the AA-646 is sufficient to validate and recognise the smart arbitral award.

4. THE LEGAL STATUS OF THE SMART ARBITRAL AWARD ACCORDING TO THE AA- 646

First and foremost, the lawmakers in Malaysia have defined a traditional arbitral award as “a decision of the arbitral tribunal on the substance of the dispute and includes any final, interim or partial award and any award on costs or interest but does not include interlocutory orders” (section 2 of AA-646). Section 33 (1) of the AA-646 determines exactly the legal requirements for a valid traditional arbitral award. It mentioned that the traditional arbitral award should be made “in-writing” (paper form) and contained the traditional “hand-written” signatures of the arbitral members. Additionally, section 33 (2) of the same act indicates that if the arbitral tribunal contains more than one (1) arbitrator, the traditional arbitral award should include the majority of signatures of the arbitral members along with the reason behind any omitted signatures (the arbitrators that refused to sign the traditional arbitral award).

In the context of this article, it is vital to indicate that the term smart arbitral award differs from the term traditional arbitral award. Specifically, the smart arbitral award comes in a coded form (programming language), and it carries the digital or electronic signatures of the arbitrators, unlike the traditional arbitral award that comes in a paper form and contains the traditional “hand-written” signatures of the arbitrator. Consequently, there is a need to examine two (2) issues. Firstly, whether the arbitral award, which comes in a coded form (programming language), fulfils the requirement of “in writing” according to the AA-646. Secondly, whether the smart arbitral award, which carries the digital or electronic signatures of the arbitrators, fulfils the requirement of a “hand-written” signature according to the AA-646.

In order to examine the first issue, it is necessary to analyse other prevailing laws in Malaysia, such as Electronic Commerce Act 2006 (Act 658) (henceforward as “ECA-658”). Under section 5 of the ECA-658, the electronic message is defined as “an information generated, sent, received or stored by electronic means”. Furthermore, section 7 of the ECA-658 elucidates how the requirement of “in-writing” can be satisfied. It provides that;

“Where any law requires information to be in writing, the requirement of the law is fulfilled if the information is contained in an electronic message that is accessible and intelligible so as to be usable for subsequent reference.”

In the light of the foregoing, it could be said that a smart arbitral award might be legitimate according to the AA-646 if it meets specific requirements stipulated in section 7 of the ECA-658. This materialises if the smart arbitral award’s content is accessible for the following/subsequent reference (if necessary). Therefore, since the smart arbitral award would be reserved and recorded in a blockchain platform that is immutable, secure, unchangeable, and accessible for the following/subsequent reference (if necessary), it would be legally admissible and valid according to the AA-646.

Concerning the second issue, as mentioned earlier, the AA-646 still requires that the traditional arbitral award should include the traditional “hand-written” signatures of the arbitrators. However, a smart arbitral award, which is signed digitally or electronically, could be valid in Malaysia because, since 1997, Malaysia has acknowledged a digital signature through the enactment of the Digital Signature Act 1997 (Act 562) (henceforward as “DSA-562”). Section 2 (1) of the DSA-562 defines a digital signature as;

“A transformation of a message using an asymmetric cryptosystem such that a person having the initial message and the signer’s public key can accurately determine (a) whether the transformation was created using the private key that corresponds to the signer’s public key; and (b) whether the message has been altered since the transformation was made.”

Side by side, section 62 (1) of the DSA-562 determines the legal criteria for a valid digital signature. It also gives any “document signed with a digital signature the same binding power as the document signed with a hand-written signature, an affixed thumbprint, or any other mark” (section 62 (2) (a) of the DSA-562). Further, the DSA-562 does not ignore the legality “of any symbol from being legitimate as a signature under any other Malaysian applicable law” (section 62 (2) (a) of the DSA-562). This leads that the DSA-562 would not disregard the legitimacy of electronic signature (e-signature) under the ECA-658.

The level of legal development does not stop at that stage because Malaysia has also recognised the concept of e-signature by enacting the ECA-658, which regulates the e-signature. According to Part 1 (5) of the ECA-658, e-signature means;

“Any letter, character, number, sound or any other symbol or any combination thereof created in an electronic form adopted by a person as a signature.”

In the light of the previous, it is obvious that the ECA-658 demonstrates that an e-signature should have the same legal power as a hand-written signature, provided that some requirements are fulfilled (sections 9(1) & (2) of the ECA-658). For example, an e-signature must sufficiently determine the signer and demonstrate her /his acceptance on the data and information to which this signature associates.

Based on the previous facts, it seems that from a logical and legal perspective, there is no obstacle affecting the legitimacy of the smart arbitral award that is electronically or digitally signed by the arbitrators, especially when the e-signature or the digital signature satisfies the requirements mentioned in section 9 of the ECA-658 and section 62 (1) of the DSA-562, respectively.

Nonetheless, for more legal certainty and sustainability, the Malaysian lawmakers have to think out of the box and reform section 33 (1) of the AA-646 in a way that clearly recognises the smart arbitral award comes in a coded form (programming language), and it carries the digital or electronic signatures of the arbitrators. This can be accomplished once they re-define the arbitration award in the AA-646.

5. CONCLUSION

The role of disruptive technologies, such as a smart contract and blockchain, is growing at astonishing speed globally and especially in the law world, owing to their valuable advantages in enhancing the performance and efficacy of several industries, including the arbitration industry. Specifically, it is discovered that blockchain technology has eliminated the third party while maintaining a secure, immutable, irreversible, and authentic network, whereas smart contracts have introduced an automatable and self-executable computer protocol for the first time.

Furthermore, the term smart arbitral award remains mysterious in Malaysia. This is because the arbitral award is still based on the traditional approach. This, in turn, means that the arbitral award should be made “in-writing” and contained the signatures of the arbitral members. However, it is clear that there is no legal obstacle affecting the legitimacy of the smart arbitral award according to the AA-646. In short, it might be valid and legitimate in Malaysia due to the enactment of the ECA-658 and the DSA-562. Nonetheless, for more legal certainty and sustainability, the Malaysian lawmakers have to think out of the box and amend section 33 (1) of the AA-646 in a way that clearly recognises the smart arbitral award comes in a coded form (programming language), and it carries the digital signatures or e-signatures of the arbitrators. This can be accomplished once they re-define the arbitral award in the AA-646.

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