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A Study on Implementation of Blockchain Arbitration in the E-Commerce Sector

SHRINIVAAS BALAJI¹ AND MOHAMMED ZUHAYR²

ABSTRACT

The essence behind introduction of ADR methods is to provide a private and expeditious relief to the aggrieved party since Court proceedings can be lengthy and time consuming. Arbitration has proved to be an ADR method that closely resembles Judicial procedure yet acts as a flexible substitute. The problem arises when parties enter into physical contracts where enforceability of agreements between parties and commercial transactions takes a beating. This is where smart contracts and blockchain arbitrations are introduced. Smart contracts are digital contracts which have predetermined terms and conditions stored on blockchain technology and when those conditions are met, the contracts are automatically enforced. Blockchain arbitration deals with disputes relating to those contracts but does not limit itself to them alone. E-commerce is a field where smart contracts are extensively utilized. Circulation of goods through e-commerce has been the most prevalent form of commercial transaction in the current era. Due to the influx in the amount of companies preferring e-commerce transactions, the number of disputes arising in such transactions have also climbed up which the Courts cannot handle efficiently. The crux behind our paper is to give a brief idea about what smart contracts and blockchain arbitrations are, and identify the potential areas and methods in which blockchain arbitrations can be implemented in e-commerce transactions.

Keywords: *ADR methods, smart contracts, blockchain arbitration, e-commerce, implementation.*

I. INTRODUCTION

Decentralization of justice is a concept that has to be given extraordinary importance in the modern era to delegate the amount of pending cases piled up in courts to various ADR methods such as arbitration, mediation, conciliation and judicial settlement through lok adalats . This concept would also be preferred by the public due to minimal interference of Courts and the expeditious nature of the proceedings. Thus arbitration became a method that companies adopt to solve the disputes that arise between them when enforcing agreements and contracts. Online

¹ Author is a Student in India.

² Author is a Student in India.

dispute resolution techniques evolved and proliferated due to globalization, privatization and liberalization which promoted trade and commerce internationally leading to competitions in the global market. The COVID19 pandemic created a necessity whereby companies had to compulsorily go with ODR methods which further manipulated and influenced the general public into getting to know the benefits of such methods.

Smart Contracts played a quintessential role here by minimizing the amount of human intervention in the execution and enforcement of a contract. If cryptocurrencies are the talk of the town in the present era, e-commerce was essentially the topic which has had the highest impact on consumers and businesses around the world for the past two decades. But reports provide us with the information that the rate of growth of e-commerce transactions per year has come down significantly in the past 5 years. The reason behind this increase in cybercrime, transaction issues, copyright/trademark issues and privacy issues. Let us first discuss how smart contracts and blockchain arbitrations work and then give a clear idea on areas in which blockchain arbitration can be implemented in the e-commerce industry.

Generally Online contracts in the field of e-commerce can be of threefold. These are the types of contracts people would entail to go through in their day-to-day scenarios.³

- 1.) Browse wrap contracts - These types of contracts act as blockades that prevent users from utilizing the contents of a page without them agreeing to the disclaimers that the webpage provides for. The terms mentioned herewith are mentioned in the website but the existence of browse-wrap may be hidden.
- 2.) Shrink wrap contracts - These are license agreements that are to be entered between parties for utilization of a product. The usage of the product solely may depend on the acceptance of the contract by the consumer.
- 3.) Click wrap contracts - While the first two types of contracts had a bargaining power over the consumer, click wrap contracts are just take it or leave it type of contracts whereby the consumer is offered with a product to which he can accept or refuse.

II. FUNCTIONING OF SMART CONTRACTS AND BLOCKCHAIN ARBITRATION:

Smart contracts are contracts which contain, as normal contracts do, the terms and conditions that have to be fulfilled for the execution of the contract but in a decentralized network of blockchain technology. When these terms and conditions are fulfilled by either one of the

³ Types of e-contracts by Rachna Choudhary- <https://jcil.lsyndicate.com/wp-content/uploads/2017/10/Rachna-Choudhary.pdf>

parties, the contract gets automatically executed in the name of the parties and reduces human intervention. For example, while a passenger buys a ticket for a journey in a particular flight governed by a flight company, he automatically enters into a smart contract with the company. The terms of the contract state that, if the flight is delayed for two or more hours, a part of the sum paid for the ticket or a certain amount of money as compensation will automatically be credited back into the passenger's bank account. Smart contracts are immutable and no person can alter them. Which provides a sense of security and trust for the passengers towards the flight company. Commercial transactions can entirely be modified by the use of blockchain technology when a total shift happens from cash transactions to fully automated and decentralized blockchain based marketplaces where contracts are self-executing in nature.⁴

Blockchain technology enables transparency and provides for consumer security while he purchases a particular product. But issues regarding cyber-security, jurisdictional controversies, intellectual property issues are some of the problems smart contracts involving blockchain technology can incur. Thus blockchain arbitration comes into picture and becomes a handy solution to these problems as courts will be overburdened if cases relating to smart contracts are introduced before them.

To explain how blockchain arbitration works, let us take a case. For example, two parties enter into a smart contract whereby there arises a breach of contract or a legal bug in the smart contract. Now either one of the parties wants to solve the issue through arbitration and enters a particular function for calling upon commencement of arbitration which has been included in the smart contract. Notice is automatically sent to the arbitration appointing authority where the parties themselves can appoint arbitrators or the authorities shall propose one and the parties can consent to the arbitrator. The proceeding commences as the claimant and respondent sends their respective statements of claim and defense to each other. If necessary, the arbitrator shall call upon a hearing to be conducted. Either the parties with the support of the arbitrator reach a settlement or the arbitrator decides upon the case and sends the arbitral award. Depending upon the award, three solutions can occur. Firstly if the parties arrive at an amicable settlement whereby the contract can continue, a similar function is entered into the smart contract. Another function is entered, if either of the parties have to compensate the other. If the parties or the arbitrator feels that contract cannot subsist for any longer, they can enter a function to terminate or end the smart contract. Every possible outcome entails a fee that can be retained when the

⁴ Implementation of blockchain arbitration in India by Raghav Saga and Harshit Upadhyay <https://indiacorplaw.in/2022/06/blockchain-arbitration-in-india-adopting-the-hybrid-model-envisaged-by-mexican-kleros-case.html>.

arbitral award is being executed.

Thus blockchain arbitration preserves each and every advantage that a smart contract brings into a transaction and the disputes need not be put forth before a state court but can be solved by an expert arbitrator. The rules that should be followed in the proceeding of a blockchain arbitration would be exactly similar to United Nations Commission on International Trade Law (UNCITRAL) rules.

III. TYPES OF E-COMMERCE TRANSACTIONS AND THE IMPLICATION OF BLOCKCHAIN ARBITRATION:

E-commerce is generally classified into four types of transactions wherein goods and services are transferred from one to the other. This would include Business to business transactions, business to consumer transactions, consumer to business transactions and consumer to consumer transactions. Generally these transactions are not constrained by national borders as they occur via the internet. Therefore disputes arising from such transactions need to be solved virtually through a cheap, speedy and plausible dispute resolution system that can adapt to the type of case it deals with. For blockchain arbitration to come into picture, the contracts entered between parties in e-commerce transactions should be smart contracts. These smart contracts would entail all financial interactions between businesses.⁵

- 1.) Business to business transactions: These transactions can either be complicated or simple. They cover the secure trading of goods, information and services via the internet between two businesses. For example; e-market places are intermediaries that exist between a contract that has been signed between two businesses. They are sites in which businesses can find other sellers, connect with them and indulge in the purchase and selling of goods.
- 2.) Business to consumer transactions: These transactions include everyday transactions that the public go through via e-commerce portals of individual businesses. The businesses may advertise the goods and public offers to buy them. While Amazon is an intermediary which acts as an agent which procures the goods and delivers it to the doorstep of consumers, the other example namely Walmart directly buys the product from the producers and sells it through their official online portals.
- 3.) Consumer to business transactions: These are transactions wherein the consumers are

⁵ Understanding the different types of e-commerce business models - <https://www.bigcommerce.com/articles/e-commerce/types-of-business-models/>

the ones selling the products and businesses buy them through online portals. Examples include a youtube promoting a company's services in his youtube channel and for this service, the company offers commission. Another example would be consumers filling out surveys and ads in websites and getting rewarded.

- 4.) Consumer to consumer transactions: These are transactions concluded by consumers themselves between each other. Generally this occurs through an online platform namely eBay, OLX etc., which act as intermediaries whereby the consumer interested in selling a particular item of his own can post the details regarding the same on their webspace and a consumer interested in buying them can connect easily.

Now disputes that arise in these circumstances can be termed under the category of contractual disputes. Business transactions that occur between two businesses or one business and a consumer can see disputes such as

- non performance of contractual obligations,
- complaints from customers,
- breach of privacy policy and
- any dispute that arises over the leak of any confidential information.⁶

Although smart contracts are advertised to be immutable and impenetrable, in public contracts the transaction that occurs between two businesses can be viewed by the public. It will have an ID covering the transaction obviously but the consideration that the business received for the performance of the contract is discernible. Let us look into an example; a contract has been entered between business A and business B for transfer of certain goods. Since it is a smart contract, the buyer obviously transfers bitcoin or ethereum through blockchain technology and the other party would not receive the consideration until the completion of the contract. Now after he transfers the goods, the consideration automatically reaches his account. Now this process is clearly visible in a public contract to the general public in such a way that although the public cannot recognize the codes of the transaction, persons following these transactions keenly can identify them from the looks of it.

To resolve these disputes, the process of litigation seems lengthy and exhaustive. Parties do not have the time and ability to enter into judicial procedures and scrutiny. Therefore they prefer to partake in alternative dispute resolution mechanisms which include arbitration and online

⁶ Electronic commerce and contractual obligations by Court of Justice of the European Union-
https://curia.europa.eu/jcms/upload/docs/application/pdf/2019-06/fiche_thematique_-commerce_electronique_et_obligations_contractuelles_-_en.pdf

dispute resolution systems. This is where blockchain arbitration comes into picture. The disputes can be solved in split seconds as codes and programmes essentially written to make the process simple.

IV. EXPLANATION OF THE PROCESS

1.) Breach of Contract;

The requirements of a valid offer are not fulfilled, there are no acknowledgements, there is no legal consideration, there is no intention to create lawful relations, the parties are not eligible to contract, there is no free and unaffected consent, the object of the contract is not lawful and there is no possibility of performance. These are some of the issues that can arise when parties enter into contracts in e-commerce. Since the process happens through the medium of a smart contract, it must obviously have an arbitration clause with a particular function for calling upon the commencement of arbitration when a dispute arises.

2.) Putting the arbitration clause into function:

Invoking the function of arbitration necessarily means that a code or a functional input is entered into and the process of arbitration automatically commences since the consent of both parties has already been obtained when the persons involved already agreed to be parties to arbitration during the entering of contract. Notice of the commencement of arbitration is sent to the arbitrator appointing authority whereby the parties themselves can choose the arbitrator who has the potency to resolve the dispute in an amicable manner.

3.) Arbitration proceedings:

After the appointment of arbitrators, the proceeding commences and the parties can send their respective statements of claim and defense. Since oral hearings are happenings of exceptional situations in arbitration procedure, only if the arbitrator feels that there is a necessity for oral hearings to be conducted, he/she shall call upon the parties for oral hearing. Submission of evidence, calling upon experts and other proceedings in accordance with arbitration occur. Either the parties themselves arrive at a settlement when the arbitrator facilitates them or the arbitrator provides a binding arbitral award with respect to the matter in hand.

4.) Enforcement:

The enforcement of arbitral awards depends on the type of award received by the parties. If it is compensatory in nature, (i.e.,) if a party has to compensate the other through monetary means or any other source, then a similar function is entered into in the contract. If the parties by the way of settlement reach an agreement to continue with the contract, they can do so but if the

parties want to terminate the contract or the arbitrator gives a decision to terminate the same, a function is entered into to terminate the contract. The fees that the parties owe towards the arbitral tribunal shall be mentioned along with the award.

V. CONCLUSION

Implementation of blockchain technology in every sector of life due to its immutable nature and privacy that it offers, has become prevalent over the years. Out of the other ADR methods, arbitration is the process that provides for a binding award and it is the method which seems the most suitable when multinational corporations are involved in commercial disputes. Blockchain arbitration proves to be a one step solution in resolving disputes due to its efficiency, the expeditious way in which the process occurs and efficacy. With the increase in the number of internet users, e-commerce and smart contracts are predicted to increase rapidly and implementation of a proper dispute resolution system is essential.
