SMART CONTRACTS: NEED OF MODERN LEGAL FRAMEWORK

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ABSTRACT

In today's world everything is getting digitised and in the same manner the commerce and trade is changing. Therefore, many of the developed nations have sought resort to smart contracts. Smart contracts are basically the e-contracts that work upon the blockchain technology wherein the contract upon the fulfilment of certain conditions discussed prior to agreement are met. Smart contract but in today's legal framework in India are not accepted and recognised in coherence to any law which are today in function and operation. Indian Contract Act, 1872 which takes into consideration the working and execution of contract in India are still in dilemma in respect to adjudicating the smart contracts, also Indian Evidence Act, 1872 which talk about electronic record and its admissibility is reluctant about admission of the same because the blockchain is not recognised by the IT authority in India. Therefore, this paper calls for re-evaluation of laws to govern e-contracts.

KEY WORDS- Smart Contracts, Blockchain Technology, Indian Contract Act, 1872, Indian Evidence Act, 1872, Electronic Record.

INTRODUCTION

In today's world there has been a quick progression that we have observed in terms of commercial relations and the agreements and drafts governing the same. Starting from the juncture of hefty contracts piled up with rights and obligations between the parties the similar position has now changed and is significantly changing with the introduction and application of artificial intelligence and blockchain technology. New ideas such as the blockchain, artificial intelligence and corporate progressive operations have made their significant mark upon the global populace. The contracts which we mentioned above have now upgraded itself to form a new modus operandi and nomenclature. Smart contracts, therefore are now working at a new high and each and every thing is getting accommodated to the smart contracts. But the prevailing questions which intrigued us to write this research paper were, that what exactly is the modus operandi of the smart contract and that, what legal obligation under the Indian laws does this hold or bestow. Smart Contract is the part and parcel of the blockchain technology which is based upon the practise of peer-to-peer lending platforms[1]. In simple terms the smart contracts are the sophistication of the contracts which can be executed upon and by itself if the conditions of the performance of the contract is/are pre-determined. The present notion of the concept and working of smart contract is not new rather it can be traced from a paper in 1996 written by American Computer Scientist Nick Szabo, and titled the paper as "Smart Contracts: Building Blocks for Digital Markets[2]", under the same paper Szabo has sought to discuss the repercussion which shall arise under the breach of the obligation if dine by one or either of the parties. He states that the contractual provisions and obligations decided between the parties are embedded under the algorithm of the hardware of the computer. Therefore, seeing this technicality the parties thus incur huge costs and losses upon the breach of the same. According to famously renowned propounder of the Smart Contracts and its practical application, Josh Stark has made an attempt to define the term Smart Contract which is as follows, the specific type of contracts which are executed between the parties and the transaction is stored on the blockchain database are the Smart Contracts. Let us put this system in a practical layout where there is a particular vending machine and then you put code or a command in a vending machine therefore the command is a kind of offer and the money thus put in is the consideration and the machine when it particularly delivers the product is the acceptance of the offer thus

[1] Levi, S, Lipton, A, (2018) *"An Introduction to Smart Contracts and their Potential and Inherent Limitations",* Harvard Law School Forum on Corporate Governance.
[2] Jani, S. (2020). Smart Contracts: Building Blocks for Digital Transformation. *Indira Gandhi National Open University*.

initially made through the command. As we have now discussed a bit about the concept of smart contracts, let us now discuss the formal definition of smart contract, smart contracts are the set of specifically written codes in a particular algorithm which executes itself once the conditions that are pred-decided or determined are fulfilled. Therefore, these are codes are usually set of rules and regulations which are fulfilled upon a given condition. The other name of the smart contracts is the 'If' and 'Then' contract, because it states that IF a condition is fulfilled THEN execute the contract. The smart contracts in other words are also called as 'E-Contracts'. As we have a brief idea about the smart contracts and it brief functioning, now let us discuss the prevalent difference between smart contracts and traditional contracts. Traditional contracts are the contracts which can be enforced or executed only the action and conduct of the parties whereas the smart contracts are the contracts which can be executed by itself based upon the exeat codes they are made by their coders and creators. Smart contracts remove and eliminates the scope of intermediaries and loss of time. Smart contracts are extensive approach to lead the cause of action as continuous conditions are met and the smart contracts are executed by itself upon the condition's fulfilment. As soon as in traditional contracts the condition is fulfilled then in that case the contract is executed and the cause of action rests. The traditional contract is not continuous in nature. Traditional contracts can be tampered with, but in the case of smart contracts this does not happen as each and every aspect of the contract is conditioned by the codes. Another aspect of smart contract is about the distinction between strong and weak contracts, as the name suggests, the weak contract are easy to alter and can be changed at any stage of the contract procedure[3].

MODUS OPERANDI OF SMART CONTRACTS

Smart contracts were initially proposed by Nick Szabo in the 1990s, he was a lawyer as well as a computer scientist. He compared the concept of smart contract with vending machines. In a vending machine you put the required amount of money let's say a quarter to have in return a drink of your choice or a snack of your choice from the machine storage. If the product you want is available then the machine will provide you with it and if it is not then the machine will ask you to choose another option or you get your money back if you do not prefer another option. This is how smart contracts work. It works without any intervention of human intermediary; it is an exchange virtually. It is a decentralised programme that adapts business

[3] Raskin, M, (2017), *The law and Legality of Smart Contracts*, Volume 1, Issue 2, Georgetown Law Technology Review

logic to the situation. A smart contracts execution can result in a trade of assets, the arrangement of administrations, the arrival of tightly locked content, or other types of information control, such as modifying a land title's name. Smart contracts can also be used to implement security insurance by, for instance, enabling a specific arrival of protected information to consent to a certain solicitation. Smart contracts are essentially calculations that run on the blockchain when specific criteria are met. They are widely employed to automate the implementation of agreements so that both parties can be certain of the outcome right away, without the need for a middleman or unanticipated setback. They can also automate a process such that it will carry out the associated action when certain circumstances are satisfied. They can be handled as a portion of a blockchain or other distributed ledger development and integrated into different section parts and modern exchanges that can combine bitcoin and other cryptographic forms of money.

Simple "if/when...then" phrases that are typed into code and placed on a blockchain are how smart contracts operate. When predefined conditions have been confirmed to have been met, computer networks will complete the activities. These can involve paying out cash to the entitled individuals, registration of a vehicle, conveying notices, or composing a ticket. At the point when the exchange is done, the blockchain is then refreshed. Thus, the exchange can't be adjusted, and just gatherings to whom authorization has been allowed can see the result.

As many conditions as are required to reassure the participants that the activity will be successfully accomplished can be included in a smart contract. Participants must agree on the "if/when...then" rules that govern those transactions, consider any potential exceptions, and design a framework for resolving disputes in order to set the terms. Participants must also decide how transactions and their data are represented on the blockchain.

The smart contract can then be developed by a developer, but an increasing number of businesses using blockchain for business are using templates, online interfaces, and other internet-based tools to make creating smart contracts easier. The most popular way of creating a smart contract begins with company groups working with planners to outline their needs for the best way to implement the smart contract in light of various circumstances or events. Conditions like a fraction being authorized, a product being received, or a utility metre setting limit are examples of clear events.. A security part may be conveyed if there were to be a death or other catastrophic event, or other perplexing events could be encoded using more complex

logic, such as valuation of a subordinate financial asset and handling a transaction of the auxiliary.

The contract is then built and tested by the designers in a stage of smart contract formulation to make sure it works as planned. The application is submitted to another group for a security review after it has been made. This might be an insider or a company that specializes in screening the security of smart contracts[4]. The agreement is sent on a current blockchain or some other relevant record structure after it has been approved.

To further understand the working of smart contract let's take an example. Consider that X is at the airport and has a flight to catch. The flight gets delayed due to some circumstances. Y an insurance company gives insurance for the delayed flight using smart contract policies. X gets insurance for the delay in this case because of the data recording the status of the flight. Smart contracts are created on the base of terms and conditions. The condition her is that if the flight gets delayed the insurance company will pay the customer. Because of the set code the smart contract has the money of Y till the condition is met. When all the nodes put up similar results the result is recorded and if the flight is delayed then the smart contract executes itself and X is compensated for the delay[5].

EGALITY OF THE SMART CONTRACTS

In today's world we have observed that blockchain technology and cryptocurrencies have dominated the global scenario. Rather the working principle of these smart contracts is based on the blockchain technology. Indian government is now taking an active role in respect to bring in systematic regulations and rules in respect to the blockchain and cryptocurrency. But the recent jolt in the case of Internet Mobile Association of India v. Reserve Bank of India[6] did create an uproar in the crypto market as it held contrary to the directions given by the RBI which said that, retention of the cryptocurrency in India to be illegal and also that it is illegal for banks to be illegal if they deal with present prospect of the cryptocurrency. Smart contract does give enabling effect to the transactions and make them secured in such a way that one of the parties do gain something out of or from the value of the other's party collateral which is

[4] Vinzanekar, A, Venkat, S, (2018), D*ecentralising the Internet: The Technicality and Legality Behind Smart Contract*, RSRR Law Review.
[5] Telecom Regulatory Authority of India, *"The Telecom Commercial Communications Customer Preference Regulations, 2018"*, Gazette of India (July 19, 2018).
[6] Internet Mobile Association of India v. Reserve Bank of India, 2020 SCC online SC 275.

attached to the contract. The party executing the contract in its favour thus get only the specific collateral. Distributive ledger system and protection of data through cryptography is a premium feature of smart contracts.

Under the Indian Statues there are very less provisions which specifically talk and mention about the term and concept of smart contracts.

Under section 10 of the Indian Contract Act, 1872, which basically governs the nature of contracts in India. Rather there are some of the conditions which section 10 makes it necessary for the parties to make a binding contract, these are as follows:

1. Presence of a legal and/or legitimate offer;
2. Acceptance of the other party;
3. Lawful consideration made by the party giving the acceptance;
4. The object of the agreement should be lawful in nature;
5. Presence of free consent of the parties in respect to each and every aspect and part of the contract.

Thus, if we apply the definition thus proscribed under section 10 of the ICA, 1872 we can state that the smart contracts are thus valid as they fulfil the conditions thus mentioned above but to the practicality, these contracts are yet not recognised in India. Apart from the essentials given above there are other things too that come into play whenever there is a test to determine the legality of the smart contracts in respect to the enforceability. Like for example, if we are left with a test that consideration is to be given so as to enforce the smart contracts and then what if the consideration to be paid is in the form of cryptocurrency[7] and then what shall that determine that is the cryptocurrency valid in India, rather this will be a huge confusion to remove. Under the essence for the smart contract to work under the ambit of Indian Contract Act, 1872, the presence of a particular party's willingness to do or to not do a particular thing in coherence to gain other party's assent for doing or not doing an act[8]. Basically the contract to be drafted here shall be levied upon the assent and act of doing or of omission to levy the contract as valid[9].

[7] STA Law Firm, Mondaq, *"The Enforceability of Smart Contracts in India",* "(Published in December 13, 2019)."
[8] Section 2(a) of Indian Contract Act, 1872.
[9] SK, G. (2019). *The Enforceability of Smart Contracts in India*. Ct. Uncourt, 6, 6.

Information Technology Act, 2000, has indeed played an important role in respect to to deal with importance and authentication of the digital signatures. The premise upon which the IT Act, 2000, is based upon the criteria of authentication of the affixed signatures upon the perused documents which coherently play the part of executing the document. Rather the Indian courts have agreed that if there is a digital signature present upon a e-agreement or a contract then the contract bears in full legality and obligations of the parties. The IT Act, 2000 never bars the private individual to produce in a private digital signature to be perused on the document. As far as the discussion of smart contracts is concerned in respect to the IT Act and its implementation then in that case it is important to know that smart contract do use the digital signatures as these smart contracts are based upon the coding of crypto sequences and ledger system. The only point of concern that can be raised under this head is that the digital signatures which are coded and embedded under the smart contracts are self-generated and thus it cannot derive its authority from the Information Technology Act, 2000. The section which gives the IT Act, 2000 the authority to subjugate the digital signature is Section 35. The effect of the smart contract therefore under the purview of IT Act, 2000 shall stand to be under null effect as the pure functioning contract shall not be bearing the authentication value until and unless the statute provides so which in this case is not provided for. The cryptocurrency RBI circular can also be therefore interpreted in lieu and respect to the smart contracts which says that, in kind of commercial transaction which derives its authority from the commercial contracts, there is an element of payment which can be significantly considered and adhered to therefore, in the ambit of smart contracts the mode of payment for it is the cryptocurrency and that therefore, globally the payment under the smart contract is done through cryptocurrency. Under the Indian Laws we haven't yet analysed and made way for the stature which governs the cryptocurrency. As we know that cryptocurrency is a digital currency which bears its price upon the emotion of the financial rail. Therefore, when the smart contracts are duly executed the cryptocurrency automatically from the account of the buyer gets deducted in the escrow account of the seller[10]. Also, the payment of crypto-related or based products is done through a platform which is self-governed by the cryptocurrency holders.

In today's Indian Landscape there are many smart contracts that are into play. Let us study the case of Bajaj Electricals, the main problem for Bajaj Electricals (hereby BE) arose when they

[10] Dalmia, VP, (2020*), Blockchain and Smart Contracts- Indian Legal Status*, Mondaq, Published on 5th February, 2020), (Accessed on 26th June, 2020, 6:58PM), https://www.mondaq.com/india/fin-tech/889458/blockchain-and-smart-contracts-indian-legal-status?type=mondaqai&score=80.

had to pay various vendors for the raw supplies of the materials to be used in electrical instruments manufacture therefore the company ensured that, the transactions between the company and the vendor are appropriate and accurate. The old method which BE resorted to was of show of the invoice on the behalf of the Vendors which granted them payment by the company but this was time consuming and the company was unhappy with this mechanism. Then the company used the blockchain application known as Supplier Financing in which Yes Bank was an intermediary[11]. Therefore, this step yielded results and that the functioning was now more paperless. Rather RBI has given the banks autonomy to decide upon the blockchain journey.

Under Indian Evidence Act, 1872, Section 85B possesses the role of giving legal santity to the electronic documents and it also states that the electronic document will be bearing in the legality only and only if the document is duly registered and authenticated with a digital signature from the governmental authority. Another systematic problem which arose under the ambit of the smart contract can be in the form that, under Section 88A the court always presumes that the electronic evidence thus perused before the court is genuine and it does not place up any question in reliance to the originator. Therefore, if a transaction is subjected to the scrutiny of the court then in that case the document shall not be allowed to be submitted before the court of law because the document generated and executed through blockchain derived under smart contract thus does not bear the approval of the authority which authenticates the electronic record under Section 65B of the Evidence Act.

CONCLUSION

A recent report presented by Capgemini held that the smart contracts will be seemingly effective to a power and bar of three to eleven billion USD therefore it shall help the customers save up to 980 USD globally. Rather the working principle of these smart contracts is based on the blockchain technology. Indian government is now taking an active role in respect to bring in systematic regulations and rules in respect to the blockchain and cryptocurrency. The contracts which we mentioned above have now upgraded itself to form a new modus operandi and nomenclature. Smart contracts, therefore are now working at a new high and each and every thing is getting accommodated to the smart contracts.as far as the situation of India is concerned then in that case a committee should be set up so that there is a legal framework that

[11] STA Law Firm, Mondaq, *"The Enforceability of Smart Contracts in India",* "(Published in December 13, 2019)."

governs both the cryptocurrency and the smart contracts. They can also automate a process such that it will carry out the associated action when certain circumstances are satisfied Smart contracts are essentially calculations that run on the blockchain when specific criteria are met. They are widely employed to automate the implementation of agreements so that both parties can be certain of the outcome right away, without the need for a middleman or unanticipated setback. Though in India there are provisions of law which describe and can be used to give effect to the smart contracts but the consideration doctrine under the contract law will be playing an important role in deciding the nature and future of the smart contracts because the payment upon receiving the product under the smart contract is done through the cryptocurrency which is so far not regulated in India though there has been effort being made like levying up of the taxes on the crypto portfolio though this shows the welcoming nature of the government towards crypto but it doesn't not show the efforts which in this case will be requiring a lot. In today's Indian Landscape there are many smart contracts that are into play. As we discussed in the case of Bajaj Electricals and how they have revolutionised the ambit and prowess of smart contract, therefore in India more and more such practises should be made prevalent. In recent times we have indeed seen the introduction and use of Propy which is a hybrid cross-continental smart contract portfolio market which enables the people around the world to compute and trade internationally through the help and virtue of cryptocurrency. Another being AXA's Fizzy which enables the person to ensure the flight cancellation claims through a mode of smart contracts. Though there are far more important uses of smart contracts, simultaneously the use of AI, blockchain and other virtual portfolios shall be used and made to be operated under scrutiny without any haste as there will be a lot many loopholes coming up.