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# Smart Contracts and Online Dispute Resolution the New Era

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HIMANSHI KHIVSARA<sup>1</sup>, PROF. ABHIJIT D VASMATKAR<sup>2</sup> AND PROF. SHIRISH D. KULKARNI<sup>3</sup>

## ABSTRACT

*Today technology has completely integrated itself with the world. It is associated with innovation and invention. The continuous growth of technology is the key driver of the economy of any country. Millions of dollars are spent each year by the countries to up their technological game. It is present in all the sectors ranging from real estate, manufacturing, finance and even the health sector. Blockchain is one of the numerous technological marvels. It is a kind of database that is different from the others. This is because it stores information in numerous blocks and all these blocks are connected to each other, thus forming a chain. It is also one of the most favored platforms for trading of the crypto currencies. Of the numerous things that can be stored in blockchains, one of them is the smart contract. This is a computer programme, the purpose of which is to self - execute and document certain legally pertinent actions and events. They are currently being executed only at the international levels. Smart contracts are a fairly new concept, whose legal regulations are yet to be formulated by the world. The authors of this study will solely focus upon the same. As there exists a lack of legal regulations, issues can arise in the execution and the termination of the contract. Though there do not exist regulations tailor made for such contracts, there do exist certain regulations that can be referred to. This article will focus upon the regulations that are present in India and the EU. Further, it will also outline the various options for resolving a disagreement if one occurs.*

**Keywords:** *Blockchain, Smart Contract, EU, India, Issues, Dispute Resolution, Online Dispute Resolution.*

## I. INTRODUCTION

Technology is booming and disrupting various sectors including Law.<sup>4</sup> It also revolutionized traditional contract by transforming them according to dynamic conditions. The days of most

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<sup>1</sup> Author is a LLM student at Symbiosis Law School, Pune, India.

<sup>2</sup> Author is a Professor at Symbiosis Law School, Pune, India.

<sup>3</sup> Author is a Professor at Symbiosis Law School, Pune, India.

<sup>4</sup> Richard Susskind, tomorrow's lawyers: an introduction to your future (oxford univ. Press 2013).

transactions being discussed in person and concluded with a handshake are long gone.<sup>5</sup> Instead many things are now performed online and the traditional seal is replaced by ‘accept’ button.<sup>6</sup> Even big corporates are working online and communicating via emails etc.

This envelop of digitalization is further pushed by “smart contracts”. These contracts varied from conventional or basic e-contracts as smart contracts are based on computer codes.<sup>7</sup> So, contracts made without using computer code cannot be termed as smart contracts. Once made the contracts are distributed all over the world. The broader interpretation of smart contracts and its working is provided under the consecutive heads.

Smart contracts largely eliminate the need of third party and the associated cost like the security agreements etc. Despite of its automated nature just like the traditional contracts the terms or in smart contract the complexities of codes and interpretation results in disputes. Indeed, under general legal provision coders may be sued for their wrong doing. However, to date there is no settled legal provisions or the system to solve the disputes of smart contracts.<sup>8</sup> The statute is sound about for the traditional contracts but no indeed there is no trace for coded contracts. This gives birth to very crucial question: Where do the parties go in case of disputes? Nonetheless, the provided remedies of traditional contracts suffice in some cases but for others it is still is major lacuna.

The study is divided into four parts: Firstly, the paper will start by conceptualizing blockchain technology, smart contracts & its working. Secondly, it will determine numerous statutes applicable to smart contracts in India & EU. Thirdly, it will critically appreciate the issues arising out of smart contracts. Finally, since there is no universal method for resolving conflicts, an effort has been made to suit several models for resolving smart contract conflicts.

## **II. BLOCKCHAIN TECHNOLOGY**

Stuart Haber and W. Scott Scornetta, two researchers, came up with the concept of blockchain technology in 1991. They came up with the notion of creating a technique that would use encryption to matriculate data into little digital pieces. The blocks are made up of codes that not only safeguard the data but also time-stamp it for future reference. The information is stored in such a way that altering it, hacking it, or tricking the system is very difficult. They

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<sup>5</sup> Amy J. Schmitz & Colin Rule, *The New Handshake: Online Dispute Resolution and The Future Of Consumer Protection*, At IX (2017).

<sup>6</sup> Id.

<sup>7</sup> David Zaslowsky, *What to Expect When Litigating Smart Contract Disputes*, LAW360 (Apr. 4, 2018)

<sup>8</sup> Szczerbowski, *supra* note 9, at 335.

are basically “nodes” which are generated by computer codes and live in a de-centralized ledger.<sup>9</sup>

In a nutshell, it's a digital log of transactions that's copied and spread throughout the blockchain's whole network of computers. It organises data into blocks and then links them together to create a unified, unblemished record of that data. Each user receives the transaction ledger in precisely the same manner. Users are interconnected and take part in the transaction. All users have almost identical control over their transactions. As a result, even if one block in the chain is changed, it is instantly visible, assuring the security of the data stored. The hackers would have to change all of the copies, which would be an extremely difficult task.

### **III. SMART CONTRACTS**

The translation of contractual terms and conditions into self-executing computer software that automatically enforces and governs the terms and conditions between the parties is achievable with blockchain. They are capable of imitating and following a logical approach to contractual provisions. They are capable of imitating and following a logical approach to contractual provisions.

These are self-executing contracts in which the terms and conditions of the buyer-seller agreement are written or inserted directly into the lines of code. The agreement's conditions are written in codes that are part of a distributed, decentralized blockchain network.

As a result, a smart contract may be defined as a kind of computer protocol that digitally fulfils the functions of assistance, advancement, verification, and enforcement, i.e. contract performance. The following are the main characteristics of a smart contract:

- Even for its designers or owners, changing the terms and conditions of a smart contract after it has been uncorked is nearly impossible.
- For the completion and execution of the contract, no physical document or submission is necessary. The computer codes make sure that enforcement takes place.<sup>10</sup>

The basic example of a “primitive” smart contract is the simple vending machine. On the insertion of adequate funds, the machine will discharge the requested item. Law firms are

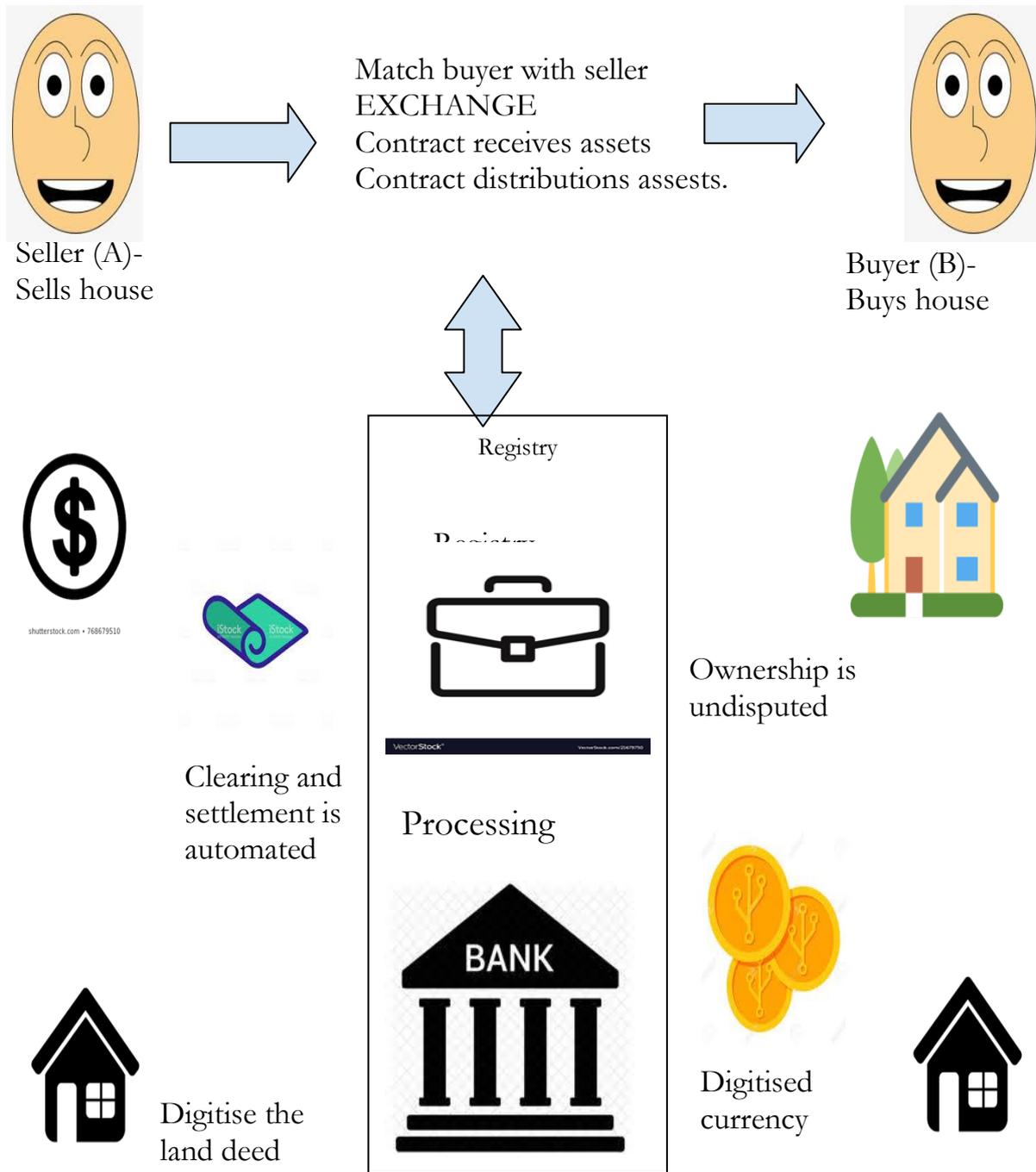
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<sup>9</sup> Jakub J. Szczerbowski, Place of Smart Contracts in Civil Law. A Few Comments on Form and Interpretation, SSRN 333 (Jan. 8, 2018),

<sup>10</sup> Marco Dell’Erba, Demystifying Technology. Do Smart Contracts Require a New Legal Framework? Regulatory Fragmentation, Self-Regulation, Public Regulation 27-28 (Aug. 20, 2018).

also building blockchain department.<sup>11</sup> It is worth noting that blockchain is more secure than general cloud system but hacking is also not impossible & therefore it has its own risk.<sup>12</sup> However, the risk is less in smart contracts.<sup>13</sup>

**WORKING OF SMART CONTRACTS**



<sup>11</sup> Roger Aitken, Accord Project’s Consortium Launching First Legal ‘Smart Contracts’ with Hyperledger, FORBES (July 26, 2017).

<sup>12</sup> Angela Walch, Blockchain’s Treacherous Vocabulary: One More Challenge for Regulators, 21 J. INTERNET L. 1, 5-7 (2017).

<sup>13</sup> Brant Carson et al., Blockchain Beyond the Hype: What is the Strategic Business Value?, MCKINSEY DIGITAL (June 2018)

In the given example, Party A wishes to sell his house and Party B wishes to buy Party A's house. The rights holder, who is party A, publishes the ownership information in different blocks on the blockchain through cryptography. The methodologies for registered works are incorporated into smart contracts that instinctively transfer usage rights. The royalties and fees are delivered instantly, transparently and spontaneously based upon the stakeholder information contained in the blockchain database. The open platform assists with boundless potential roles, applications and business models. Because the clearing and settlement process is out of date, Party A is able to sell the house after ensuring that ownership is undisputed, and Party B purchases the same thing.

To summarise, two parties agree to the sale of a property and record the terms and conditions of the same on the blockchain. The blockchain holds the buyers' funds in escrow. In blockchain transaction private access key is sent by the buyer via transaction of blockchain. By inserting transaction to the blockchain buyer's fund is released to seller.

#### IV. CONTRACTS VS SMART CONTRACTS

Basis	Traditional Contract	Smart Contracts
Functionality	Only upon the execution of the legal terms agreed upon.	Execution is done by the computer programme
Modification	Is possible only upon the consensus of both the parties involved.	Modification is nearly impossible even after to be done with the consensus of the parties involved as changes would have to be made in each block and copies of such blocks.
Security	There is always a threat of the contracts being manipulated and or tampered with.	Tampering with these contracts is nearly impossible.
Execution	These contracts are executed through human participation.	They aim to reduce the participation of the humans to minimal.

## **V. RECOGNITION & REGULATIONS FOR SMART CONTRACTS: EU & INDIA**

### **EU**

#### **eIDAS**

A regulation dealing with digital identity in the European Union is the electronic identification, Authentication, and Trust services regulation. These regulations have a profound influence on the decentralised identity framework. They usually belong to the government agency that issues identification cards.

Blockchains are, by definition, electronic contracts in accordance with the eIDAS. As a result, the data contained in blockchains, including smart contracts, cannot be disaffirmed solely due to their electric nature.

#### **Rome I Regulation**

It is the paramount regulation that concludes the laws that ought to be applied to international contracts in the European Union. Article 1 of the regulation states that this regulation covers all contractual obligations in both civil and commercial matters. This would imply that the regulation also covers smart contracts. But one exception to this implication is that the regulations apply to contractual obligations only in the legal sense. A smart contract is simply a software program that directs, monitors, and/or documents the execution of an existing contract. This means that the regulations only apply to the contracts which the smart contract executes and not the smart contracts.

Parties are allowed to submit their contracts to any law that they desire, without any territorial connection by the virtue of article 3 of the regulation. This principle of partial autonomy can help provide legal certainty in the case of smart contracts that operate in a virtual and often decentralized environment. Since, a choice is given to the parties to bind themselves to any law present, it is mandatory that this choice should be either expressly provided in the contract or must be stated in any other separate declaration.

In certain circumstances, this choice of law is already implied, pre-determined. Certain contracts, for which it is used to carry out, may have their own legal system. In these cases, it can be assumed that the parties to the contract will be governed by this specific legal system only. However, Article 3 (1) of the regulation prioritizes the option of implied choice of law. This means that through the terms of the contractor through the circumstances of the case it must be 'clearly demonstrated' by way of evidence that the parties to the contract had the will to choose the applicable laws, that they have through their own desire chosen the legal

system.

According to Art 4, if the parties have not chosen any applicable laws, then the members or the panel of the regulation shall<sup>14</sup>. In such circumstances, many times, the laws of the habitual residence of the party apply. For example, smart contracts for the execution of any service or sales shall be governed by the laws of the seller's or service provider's country of residence. Though this method can be adopted, it has its own difficulties. For example, determining the country of residence, as these contracts are made virtually and so can be processed anonymously through a blockchain.

The provisions of specific choice of law rules are found in Articles 5 to 8 of the regulations. These rules can be for carriage, insurance, consumer and employment contracts. These are more to protect the weaker parties. They are directly linked to the habitable residence of the party. So, for example, if no law has been chosen by the parties, these laws can come into the picture. Carriage laws for the habitual residence of the passenger etc.

## **IN INDIA**

There is no specific regulatory authority in India to regulate smart contracts, but as they are legal in India, right now they are governed by different acts which regulate contracts.

### **Indian Contract Act 1872**

It predominantly dominates all the contracts which are made in India & it also governs the regulatory framework of contracts.

- Section 10: Provides for the definition of contract. - All agreements which are made by free consent, intention & for a lawful purpose between the parties are termed as contracts.

Hence, any contract which fulfils the essentials of a contract can be enforceable in the eyes of the law. This opens a gateway to acceptance for Smart Contracts in India.

### **Information Technology Act 2000**

The main aim of this Act is to carry out lawful online transactions. It is made to facilitate electronic transactions & to reduce cybercrime.

- Section 5: If any document has a digital signature in it, which shows the consent of the party, the same will be acceptable in the court of law.

The signature shows the acceptance of the terms & so works as proof between the parties. As

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<sup>14</sup> 'subject the contract that is to be executed to its closest connection and determine the applicable laws with the help of a complex combination of specific choice of law rules, residual choices of law rules, and escape clauses.'

a fully online concept, smart contracts include digital signatures in all processes.

- Section 10: It recognizes the validity & enforceability of electronic contracts. Section 10 A of the IT Act, in particular, states that digital or electronic contracts are valid and binding on the parties. The only requirement is that it meet all of the essentials outlined in the contract act.

#### Indian Evidence Act, 1872

This act basically sets the rules that govern the acceptance or rejection of any evidence admitted to the court.

- Section 65B addresses the admissibility of evidence in court. It states that digital signatures and electronic documents are admissible and acceptable in court. Therefore, the government can take initiatives to solve conflicts & to uphold the dignity of traditional & digital or smart contracts.

#### Legal Functioning of Smart Contracts In India:

- Smart contracts provide a platform for people to conduct transactions all over the world, but the downside is the consequences of a negative or failed implementation of any term that must be defined by the party, as there is no law that governs Smart Contracts specifically.
- One of the reasons for not accepting smart contracts could be the term consideration, according to the Indian Contract Act. Contracts can be unilateral in nature, which means that the other party is adding the block and the consideration is not mutual; he is unable to negotiate the terms and most likely violates the important terms of the contract.
- Sections that promote the growth of smart contracts in India, despite the lack of a legal framework, are also subject to challenge on grounds such as:
- Section 35 of the Information Technology Act provides that the electronic signature will be acceptable only if it is provided by any government official & the Smart Contract hash key is generated by the blockchain technology, which works as an identity to authenticate. Hence, there is no legal authority which assigns electronic signatures.
- Section 88 A of the Indian Evidence Act gives the validity of the admissibility of electronic records before the Court. But it ignored the major factor & that is it does not make any assumption about who is the sender, which leads to complicating the smart contracts issue as the signature in the very first movement signature is not obtained as per

the IT Act & that directly leads to rejection of the electronic signature itself before the court.

The legality of Smart Contracts permits their use, but there is no clear framework in place for them. In the event of a breach, no specific procedure or damage is specified anywhere. In current times, the extent to which law can help the best will be when Smart Contracts are made within the boundaries of India & do not create problems with multiple jurisdictions.

## **VI. PECULIAR FEATURES**

The most important features of smart contracts are:

1. **Immutable:** Smart contracts cannot be changed easily. This implies that once anything is added to the blockchain, it is hard to modify it. This reduces the contract's security risk since, unlike regular contracts, smart contracts are difficult to tamper with, and this piques people's curiosity.
2. **Automated:** Because these contracts do not need human interaction, they are considered automated. They operate using codes that have been entered into the system for each sort of contract.

These are the fundamental characteristics of smart contracts that distinguish them and enable parties to save time, money, and dependability. Despite their intelligence, there are a number of obstacles that prevent nations from adopting smart contracts and enacting particular laws for them.

## **VII. SMART CONTRACTS CONCERNS**

In order for a smart contract to be qualified as a valid contract, it should satisfy the basic elemental factors of a conventional contract. They are:

- A legitimate offer;
- An acceptance;
- Consideration;
- Consensual consent

The main gist of any contract depends upon the 'intentional consent' as if it is not present than the contract per se is not valid.<sup>15</sup> At present, court terms smart contracts as subordinate contracts as recognition is given to the codes which are inserted in them. As a result, the

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<sup>15</sup> Meg Leta Jones & Elizabeth Edenberg, *The Legal Roots and Moral Core of Digital Consent*, SSRN (Feb. 27, 2018).

difficulties are less about legal recognition or legality per se, and more about how smart contracts work and concerns with their fundamental structure. Acceptance may be hampered by technology for a variety of reasons, including:

#### 1. FORMATION OF CONTRACT

Any contract has some basic elements that both parties must agree and follow. That make any contract a valid and enforceable contract, commonly known as a "contract of will," with no threat or force. Smart contracts are translated into codes unlike clear terms.<sup>16</sup> There are a number of issues with smart contracts in terms of contract creation. Here are a few examples:

a. Negotiation/Draft

b. Adjudicate

These are the fundamental characteristics of every contract that the smart contract overlooks.

For example, suppose A and B are undertaking smart contracts, and C is adding a block to the chain that A and B are working on. C is forced to accept the terms and conditions set out by A and B, and his right to negotiate terms and conditions is violated. Here, the contract's most fundamental element is violated, requiring him to accept all of the conditions, even those he does not wish to accept.

Smart Contracts promise to lower the cost of the parties, and unlike conventional contracts, they do not need attorneys to read the contract. Instead, parties may just come in and agree the terms of the contract, making them more time efficient. However, in the actual world, we notice that the parties are having difficulty decoding the words, necessitating the hiring of a technical specialist to develop the codes, which are typically unknown to the parties or non-lawyers. This is also a complete loss for non-programmers who are unable to determine what exactly a contract is or what the contract's particular conditions are. There are also occasions when parties wish to validate if the code they have put will operate correctly or not, and as previously said, parties without technical expertise will be unable to do so, necessitating the use of a third party who is technically sound. As a result, we may conclude that practically all smart contracts need the assistance of a technical specialist to express their true meaning. As a result, the contracts' draughts might be a little perplexing and difficult to comprehend.

Furthermore, since the legality or enforceability of the codes is often questioned in court, the court may need to establish a panel to decode the codes so that everyone can comprehend them. This is also required in the event of normal contract dispute resolution.

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<sup>16</sup> Mark Verstraete, *The Stakes of Smart Contracts*, SSRN (May 17, 2018).

As a result, the properties of smart contracts themselves cast doubt on the formulation or fulfilment of fundamental necessities of a normal contract, posing a significant obstacle that must be overcome.

## 2. NATURAL LANGUAGE OF CONTRACT

A contract is a legal document that spells out the parties' responsibilities as well as how the terms should be carried out. Simultaneously, if we look into smart contracts, they have a fixed implementation language in which the code is set & according to which the code is like:

- If you answered yes, you are correct. If you answered no, you are incorrect. If not, this plainly demonstrates a mismatch between the contract's communication and implementation. Because smart contracts are rigorous in nature, it will be impossible for the parties to update or amend them after they have been entered into the blockchain.

Smart contracts have no understanding of the parties' inherent status or circumstances. It just executes the instructions, and if the party fails to meet specific commitments, smart contracts automatically trigger the punishment, which in this case implies (If not, then).

Many times, in the case of smart contracts, parties misread the conditions, and by accepting the conditions, they are simply obligated to execute the task. It goes against the party's free will. They have no choice but to fulfil such responsibilities since they have no other choice.

It also raised the issue of what the "Final Agreement" is. As The last document shared in a typical agreement is considered the final agreement, however with smart contracts, multiple unofficial emails are sent between the parties, as well as non-official contact.

For example, if 'A' initiates a smart contract, he creates a code that the other party decodes, and the conclusion is determined by performance. Although the procedure is shown as an official document, there may be many emails sent between the participants for which there is no official record. It has a significant influence on the result of the final agreement between the parties since it just indicates the procedure followed and does not contain all of the minor phases. One of the key benefits of smart contracts is that they make work easier and more intelligible, but in fact, they only cause confusion and are often misread by the parties.

Another example of this problem may be: What if the agreement's coding was incorrect? Therefore, if smart contract regulations are ever enacted, the rigidity must be resolved.

## 3. AUTOMATED

It is evident that in this 21<sup>st</sup> century the unique automated feature has pulled everything

towards it as be it movies or the contracts.<sup>17</sup> Previously, the automatic function of smart contracts was touted as a positive, but when we turn the tables, this function may be demonstrated to be a liability for the contract. Because the codes are tough to decipher and even if the party decodes and discovers that it is incorrect, he cannot do anything but conduct it owing to its automated nature. Because the contract will only operate if the code is placed correctly.

Sometimes it is not possible for a party to perform all of the terms that are stated, so the party accepts to perform half of the duties, which is sometimes accepted in traditional forms of contract by making changes to the older contract, but this is not possible in smart contracts because they cannot be modified or terminated. This creates an issue for the party, and it may occasionally result in the loss of economic relationships.

Smart contracts, unlike real-world contracts, do not take into account long-term economic relationships or any real-time problems. This has an impact on subsequent contracts with the same party as the parties do not have other option other than performing the contract once entered.

#### 4. TERMINATION AND MODIFICATION

Due to their immutable nature, smart contracts face significant challenges in modifying specific phrase. Because of this, the contracts are impervious to tampering but provide the maximum degree of security. If a party makes a change in one system, it will not affect all other linked devices; nonetheless, the alteration will affect all linked devices.

This limits the contract's flexibility by preventing quick change. However, because of the protective function of smart contracts, they are still in use throughout the globe. The immunity from change, on the other hand, operates as a barrier between the parties. It will be difficult task for the courts also to fill the gaps.<sup>18</sup>

In case of termination also if any party finds error in the smart contract & wishes to terminate, then that party has to undergo a big procedure for the same. However, we may say that smart contracts are attempting to make contracts as flexible and agreeable as possible.

#### 5. DETERMINING THE MEANING OF A HAZY OR UNCLEAR PHRASE

In a contract, there are various phrases that have an implicit meaning for the parties. It's conceivable because individuals from other countries or cultures understand the phrase in

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<sup>17</sup> Kal Raustiala & Christopher Jon Sprigman, *The Second Digital Disruption: Streaming & the Dawn of Data-Driven Creativity*, SSRN 6-16 (Aug. 8, 2018).

<sup>18</sup> Usha Rodrigues, *Law and the Blockchain*, SSRN 5 (May 6, 2018) .

their own unique way. This leads to uncertainty between the parties as a result of the incorrect interpretation due to ambiguity.

Furthermore, sometimes data protection also becomes the major concern as the information shared online is much more unsafe than the offline one.<sup>19</sup> Additionally hacking old systems is much easier which in result is a big loss to smart contracts.<sup>20</sup>

Governments and other institutions are promoting smart contracts and believes it to be new tool to ease the traditional contracts.<sup>21</sup> These problems affect both developed and developing nations. After reviewing the topic, it is evident that smart contracts still have a long way to go before they can do everything on their own, since these contracts have issues with fundamental contract aspects like formation or draught, as well as natural or communicating language. All of the difficulties stated above are important aspects of the contract, but they are also substantial barriers to smart contract adoption.

### **VIII. COMPARISON BETWEEN DEVELOPED & DEVELOPING COUNTRIES ON IMPLEMENTING SMART CONTRACT**

Smart contracts have different impacts on different regions due to certain reasons like:

1. Technical Adaptability
2. Awareness & Education
3. Fair Competition
4. Data protection

One of the conditions for a nation to be classified as a developed nation is its technicality, or the fact that it is technically superior to other developing nations. Here in case of Smart Contracts the main work is of technology & a reliability of a country's technology when it comes to creating and decoding codes. If the code is misread, the whole contract is a waste & becomes the potential source of liability. As a result, technology makes a significant difference in the implementation of effective smart contracts.

If we look at India as an example, many contracts are not legitimate if they are executed online. Indeed, in many circumstances, it is acceptable to engage into an online contract, although the government does not promote the advantages of doing so. There are

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<sup>19</sup> Mike Orcutt, Blockchain Smart Contracts are Finally Good for Something in the Real World, MIT TECH. REV. (Nov 19, 2018).

<sup>20</sup> Steve Ellis, Ari Juels, & Sergey Nazarov, ChainLink: A Decentralized Oracle Network, CHAINLINK (Sept. 4, 2017).

<sup>21</sup> Joseph J. Bambara & Paul R. Allen, Blockchain: A Practical Guide to Developing Business, Law, And Technology Solutions 84-95 (2018).

various advantages in Smart Contract that would entice the public to establish such a contract, but they are not operating properly owing to a lack of understanding.

Until recently, it has been evident that the application of smart contracts in developed and underdeveloped nations is vastly different. It is obvious that a developed nation has a significant advantage over underdeveloped nations in terms of executing smart contracts due to enough help in fulfilling duties. As a result, it stifles fair competition.

One of the essential terms for any contract is data protection or security, yet the EU has extremely tight data protection laws but evidently no specific laws for smart contracts. To play on safe side without any legal issues the EU may opt not to take any risks or add any agreements by aggregating in implementing smart contracts, but this would not be the case in any other developing nation which does not have any special legislation for data protection.

Ultimately, it can be stated that in order to put smart contracts into practise as a regulatory body, the challenges must be overcome, and a perfect model must exist that will regulate smart contracts from beginning to end. Both developing and developed countries must collaborate to integrate.

## **IX. ROBUST DISPUTE RESOLUTION METHODS**

Smart contracts do not need any physical processing since they are created and performed entirely online. Furthermore, there are no restrictions on who may engage into these contracts. This benefit may often become a disadvantage since individuals from various backgrounds may perceive things differently, resulting in conflict. Due to the intricacies of smart contracts, traditional courts may not be able to resolve conflicts. There is currently no established method for resolving smart contract disputes, but there can be number of ways which can be used in solving disputes like: a) Online Dispute Resolution might be an appropriate option (ODR). Although ODR is not a revolutionary phenomenon, but its use here may provide positive outcomes in resolving conflicts. As of now, there are a variety of ODR systems working around the globe. b) Arbitration: Technological. c) Justice by anonymous. ‘

All these suggestive ways are further discussed in detail:

### **1. UNCITRAL MODEL- ODR<sup>22</sup>**

In 2016, UNCITRAL (engaged in developing legal instruments to facilitate international trade law) report of working group also focused on ODR mechanism.

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<sup>22</sup> UNCITRAL Working Group II (2016).

This model consists of a broad range of approaches like ombudsmen, mediation, arbitration, conciliation, and many others which can be referred to for settling of the disputes. The underlying principles of this are fairness, accountability and transparency. Transparency because if there is any relation between the ODR administrator and either of the party, the same can be highlighted and avoid any kind of conflict of interest. All the relevant information is made public making it available upon the administrator website. The anonymous data of the party which is related to the dispute is shared to all the parties concerned in order to have an overall and complete understanding. This making available the anonymous data is always consistent with the principles of confidentiality.

The ODR administrator has to adopt such guidelines which are not biased in nature. That is, its code of ethics shall be neutral in identifying and resolving the conflicts of interest. Further there must be an internal quality check assurance process to ensure that the administrator stands upon the neutral grounds. These features would be especially helpful as through this the ODR administrator would gain the trust of the parties, and so refer to it for the settlement of the dispute. Thus, fulfilling the sole objective for which this mechanism was devised.

#### Stages of the ODR

There are primarily 3 stages in the process, they are negotiation, facilitated settlement and the final stage. The claimant initially files a notice of claim to the administrator, which is subsequently sent to the respondent through the ODR platform. When the responder receives such notification, he or she informs the claimant. On a technology-based ODR platform, the parties then negotiate with one another.

If the parties are unable to reach an agreement during the negotiating phase, they will proceed to the second stage, which is the assisted settlement. In this case, the ODR administrator appoints a neutral to assist in the resolution of the dispute.

Even if no progress is made in the second stage, the neutral should notify the parties about the nature of the stage in the third stage, which is the last stage, and should then urge that the parties establish an agreement. That is, the ODR has exhausted all of its available resources for resolving the disagreement, and the parties should resolve the conflict themselves.

Although the ODR mechanism states that it would be useful in settling conflicts, still no specific provision in its technical notes could be identified that would provide light on the relevant legislation. This reflects its enforcement status & that is non-binding. Hence, ODR decisions are guiding principle & the enforcement totally depends on parties. However, due to its online and less formal nature it is winning many systems.

## 2. ARBITRATION

It took rise in very infancy stage as an ‘out of court’ settlement procedure.<sup>23</sup> This form of solution has now become popular because of its cost efficiency & quick justice. It is also applied by start-up companies to resolve disputes about smart contracts. This legal solution is one of its kind because there is no involvement in any court or proceedings.

- It is applied as SAGEWISE:

This start-up is based in Los Angeles, and its goal is to provide solutions for smart contract disputes.<sup>24</sup> It is a kind of technology which is inserted in smart contracts at the time of forming smart contracts & under this technology, the extension period will be mentioned & one can also insert the solution for the future dispute, if any. It is claimed as “dispute resolution agnostic”<sup>25</sup>.

This will function as a Google alert, and if either party misuses or doubts the work, it will continue automatically. In the meantime, the parties can negotiate about the dispute and resume the work but if they are not able to solve the problem, they can also shift to the provider which was inserted to solve the dispute. He will work as an arbitrator to solve the disputes.

This way, they are trying to comply with the different mindsets or cultures of the parties & are trying to solve the disputes.

## 3. JUSTICE BY ANONYMOUS

It is the inverse of arbitration in that people on the blockchain vote for the party they support. The jurors on the winning side will gain some rewards & this will push the person to participate.<sup>26</sup>

- It is used on the JUR.IO.

It is claimed to be the fastest & most trusted dispute resolution processes.<sup>27</sup> In this, the disputing parties put forward their proposal & then they give a token to the other people & according to that, the party receiving the highest number of votes will win. It is a kind of form which is surveyed by different people. It can be open or closed, as in open for everyone

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<sup>23</sup> Julius Henry Cohen, *Commercial Arbitration and the Law* 25 (1918) (quoting John Montgomerie Bell, *Treatise on the Law of Arbitration in Scotland* 1 (2d ed. 1877)).

<sup>24</sup> Smart Contract Checker, Sagewise, Links with Hedera Hashgraph, *ARTIFICIAL LAW*. (June 8, 2018).

<sup>25</sup> Sagewise Puts Focus on Blockchain Immutability and Dispute Resolution, *THE DAILY HODL* (May 11, 2018).

<sup>26</sup> ICOURTHOUSE (2019).

<sup>27</sup> JUR, White Paper, JUR.IO, <https://jur.io/content/uploads/2018/07/JUR-WhitePaper-v0.3-eng.pdf> (last updated July 2, 2018).

or restricted to some people. Once the voting is done, then the person automatically wins the dispute. It is a solution which is often named as "crowd sourcing".

If the party inserts arbitration or any other clause only to look into it in the case of any dispute, then it will be helpful in the case of smart contracts, like the traditional form of contract. Expert advice will be equally important in smart contracts because all of the terms are the same and the only difference is the code. In smart contracts, the clause of the ODR can be applied just like the Andon System. The Andon System is an element of the Jidoka quality-control method pioneered in Japan by Toyota.

As smart contracts are fully digitalized the best solution for solving disputes should also be online & ODR is a great platform to solve the disputes between the parties & somehow it will also remove the problem of jurisdiction if parties themselves decide where to go in case of any dispute.

## **X. CONCLUSION**

Growth and adoption of smart contracts appears inevitable, since smart contracts not only reduce overhead costs, but also increase efficiency. Although there is yet no legislation dealing with the finer aspects of smart contracts, it cannot be claimed that they are not enforceable. Statues from various regulations, when read together validate the enforceability of these smart contracts. What is required to resolve the issues and make these smart contracts streamlined is an efficient and commanding statutory body with a dynamic and robust dedication which will demonstrate a sophisticated framework to regulate the functioning of smart contracts. Till statutory regulation is not formed, the intellectual ability of smart contracts will remain a question mark.

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