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# A Study on Smart Contracts and Blockchain- Legal Issues

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## ABSTRACT

*The nature of contracts has witnessed a shift with the help of newfangled technology. The effectiveness of contract law has been placed to the test in the course of this changeover from paper-based conventional contracts to virtual contracts. The Act does not specifically address smart contracts. This has led to some uncertainty as to how the smart contracts will be treated under Indian law. Although the term smart contracts has been used for almost two decades, there is no clarity on its meaning. It investigates smart contracts in the setting of the general principles of contract making or formation that is meeting of the minds, offer, acceptance, consideration, capacity, performance as well as enforceability. The major objective of this study is to understand the basic concept of smart contract & blockchain technology. The research method followed here is Empirical Research. Convenient sampling method is used to collect the samples. The sample size of the research is 200. Independent variables are gender, age, education qualification and occupation. The dependent variables are whether smart contracts can be enforceable in India, level of agreeability towards smart contracts that have the potential to revolutionize the way contracts are formed and enforced, legal issues that arises with smart contracts in India and level of satisfaction towards the use of smart contracts leading to a more transparent and efficient contracting process. The statistical tools used in this study are Pie chart, Simple bar chart and Clustered bar chart. This research therefore concludes through the findings of the empirical study that the Smart contracts are a new technology that has the potential to revolutionize the way contracts are formed and executed. Smart contracts are said to be utilized widely in today's world, so it is necessary to observe and understand problems like the issue of jurisdiction which is unpredictable.*

**Keywords:** Smart Contracts, Blockchain, Technology, Indian, Contract, Challenges.

## I. INTRODUCTION

Smart Contracts are plainly programs stowed on a blockchain that run when preordained

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terms & conditions are met. They are generally utilized to computerize the performance of an agreement so that all attendees can be instantly certain of the result, without any mediator involvement on time loss. They can also self-act a workflow, prompting the next action when conditions are satisfied. Smart Contracts are used for Government voting systems, Healthcare, Supply Chain, Financial Services etc. If we take Government Voting Systems smart contracts are applied to give a safe territory making the voting systems less exposed to manipulation. Votes that make use of smart contracts would be ledger-protected which makes it highly challenging to solve. One of the biggest challenges in the legal field of smart contracts is regulatory conformity as these technologies are constantly utilized in the financial sector, there are various amounts of regulations that must be undertaken in order to ensure acquiescence with anti-money laundering & know your customer rules. The evolution of smart contracts & blockchain- legal issues & implications for Indian contract law as blockchain technology gained its eminence with the arrival of Bitcoin in 2009. It also established the concept of a segregated, immutable ledger that document transactions across a chain of computers, The plan of smart contracts was suggested by Nick Szabo in the year 1990s but attained practicable importance with Ethereum's launch in 2015, Regulatory growth as in the year 2019, the Indian government commissioned a bill titled "Banning of Cryptocurrency and Regulation of Official Digital Currency Bill", which gave an idea to prohibit cryptocurrencies, inclusive of Bitcoin but not clearly on blockchain technology or smart contracts.

The Government Initiatives undertaken in the field of smart contracts & blockchain-legal issues & implications for Indian Contract Law wherein National Blockchain Strategy as the Indian government had shown interest in advancing a National Blockchain Strategy to probe the possible use cases & administrative structure for blockchain technology for blockchain technology, NITI Aayog's Blockchain Pilot Projects as the NITI Aayog, the policy think tank of our indian government, has been associated with blockchain pilot projects in fields like land documents, pharmaceuticals & supply chain administration. The factors affecting the smart contracts & blockchain-legal issues & implications for Indian contract law are the regulatory environment examining the present regulatory skeleton in India regarding blockchain & smart contracts. looking at how Indian law describes & treats smart contracts, cryptocurrencies & blockchain technology. Another factor is Contract Validity assesses whether smart contracts are legally identified as valid contracts under our own indian law. Analyze the standards that must be satisfied for a smart contract to be considered lawfully binding. The most vital factor affecting smart contracts & blockchain is digital signatures as

there is a need to explore the function of digital signatures in smart contracts & how they adjust with Indian e-signature legislation & regulations.

The Singapore Court rules that Smart Contracts are legally binding as it was a recent decision by a Singaporean court that discovered that smart contracts are legitimately binding. This was the inaugural time that a court gave a verdict on the application of smart contracts in a big jurisdiction. Legislators in Switzerland offer new regulations for smart contracts as it clearly states a new pattern of regulations for smart contracts that have been given by the lawmakers in Switzerland. The regulations would need smart contracts to be crystal clear & auditable, & they would also demonstrate rules for burden in the occurrence of a breach. US Securities & Exchange Commission alert of danger of Smart Contracts talk about caution of smart contracts. The SEC warned that smart contracts could be utilized to carry out fraud or infringe securities rules. EU Parliament calls for regulations of smart contracts as it converse about a call by the European Parliament for the ordinance of smart contracts. The parliament alarmed for the development of an official framework that would make the safety & security of smart contracts, India's Supreme Court to Hear Case on Legality of Cryptocurrencies & Smart Contracts. The case is anticipated to have a significant effect on the regulation of blockchain technology in our country. China has been very stringent in its management of cryptocurrencies & blockchain technology. In the year 2017, the Chinese government prohibited cryptocurrency trading & drilling. It has also popped down on ICOs & other kinds of fundraising by utilization of blockchain technology. Whereas the situation is quite different in India as our country has undertaken a wary approach to blockchain ordinance. In 2022, the Indian government charged a 30% tax on cryptocurrency earnings. It has also informed investors about the danger of cryptocurrencies. The Indian government is still examining how to control blockchain technology but it is clear that the government is not against the technology & it is desirable that India may come in the future as a main hub for blockchain creation in the near future.

**(A) Objectives:**

- To determine whether smart contracts can be enforceable in India with respect to gender of the respondents.
- To ascertain the level of agreeability towards smart contracts that have the potential to revolutionize the way contracts are formed and enforced with respect to age of the respondents.
- To examine the level of satisfaction towards the use of smart contracts leading to a

more transparent and efficient contracting process with respect to the occupation of the respondents.

### **(B) Review of literature**

**Richard Susskind (2017)** has reviewed a comprehensive overview of the legal issues surrounding smart contracts. Susskind argues that smart contracts are fundamentally different from traditional contracts and that they will require a new legal framework to be enforceable. **(Lessig, L., & De Filippi, P. (2017))** has studied a more technical analysis of the legal implications of smart contracts. Lessig and De Filippi argue that smart contracts can be used to create new forms of governance and that they have the potential to revolutionize the way we interact with the law. **(Mohammed, A. (2021))** has concluded a specific analysis of the legal implications of smart. The law of the blockchain. Contracts in India. Mohammad argues that smart contracts can be enforceable under Indian law, but that there are some potential challenges that need to be addressed. **(Yermack, D. (2017))** has revealed a comparative analysis of the regulation of smart contracts in different jurisdictions. Yermack argues that there is no one-size-fits-all approach to regulating smart contracts and that different jurisdictions will need to tailor their regulations to their own specific needs. **(Casey, M j., and Vigna P 2018)** have stated a look at the future of smart contracts and the challenges that they will face. Casey and Vigna argue that smart contracts have the potential to revolutionize the way we do business, but that they will need to be carefully regulated to avoid fraud and abuse.

**(Bracha, O. 2017)** have stated a discussion of the implications of smart contracts for the law. Bracha argues that smart contracts could lead to a new form of law, which he calls "algorithmic law. **(Lex Forti, 2022)** has concluded a legal analysis of the legality of smart contracts in India. LexForti argues that smart contracts are enforceable in India, but that there are some potential challenges that need to be addressed. **(Birla, R. 2021)** have stated a discussion of the implications of blockchain and smart contracts for the law. Birla argues that blockchain and smart contracts could revolutionize the way we interact with the law. **(Mortenson, J. 2018)** has revealed a legal analysis of the relationship between smart contracts and traditional contracts. Mortenson argues that smart contracts can be enforceable under traditional contract law, but that there are some potential challenges that need to be addressed. **(Geist, M. 2017)** has concluded a discussion of the implications of smart contracts for the law. Geist argues that smart contracts could have a significant impact on the way we create, enforce, and interpret contracts.

(**De Nardi, M.A. 2017**) has studied a legal analysis of the application of blockchain technology to contract law. De Nardi argues that smart contracts can be used to create more efficient and secure contracts. (**Hoppe, D. 2018**) has concluded a legal analysis of the implications of smart contracts for property law. Hoppe argues that smart contracts could be used to create new forms of property ownership and to automate the transfer of property. (**Heller, M. A. 2018**) has analyzed the implications of smart contracts for tort law. Heller argues that smart contracts could be used to create new forms of liability and to automate the resolution of tort claims. (**Kaser, M., & Schilling, M 2019**) has studied a comparative analysis of the legal implications of smart contracts in different jurisdictions. Kaser and Schilling argue that there is no one-size-fits-all approach to regulating smart contracts and that different jurisdictions will need to tailor their regulations to their own specific needs. (**Christopher Sprigman 2019**) has reviewed a legal analysis of the implications of smart contracts for intellectual property law. Sprigman argues that smart contracts could be used to create new forms of intellectual property protection and to automate the enforcement of intellectual property rights.

(**Burstein, M. J. 2019**) have reviewed a legal analysis of the implications of smart contracts for international trade law. Burstein argues that smart contracts could be used to create new forms of international trade agreements and to automate the execution of international trade transactions. (**Fisch, M. A. S. 2020**) has concluded a legal analysis of the implications of smart contracts for tax law. Fisch argues that smart contracts could be used to automate the calculation and payment of taxes. (**Sullivan, M. K. 2020**) have studied a legal analysis of the implications of smart contracts for cybersecurity law. Sullivan argues that smart contracts could be used to create new forms of cybersecurity risks and that they will need to be carefully designed and implemented to mitigate these risks. (**Krishnaswamy, A. 2021**) has concluded a legal analysis of the implications of smart contracts for privacy law. Krishnaswamy argues that smart contracts could be used to collect and store personal data in new and innovative ways, and that they will need to be carefully designed and implemented to protect privacy rights. (**Calo, R. 2021**) has revealed a legal analysis of the implications of smart contracts for artificial intelligence law. Calo argues that smart contracts could be used to create new forms of artificial intelligence systems, and that they will need to be carefully designed and implemented to mitigate the risks of bias and discrimination.

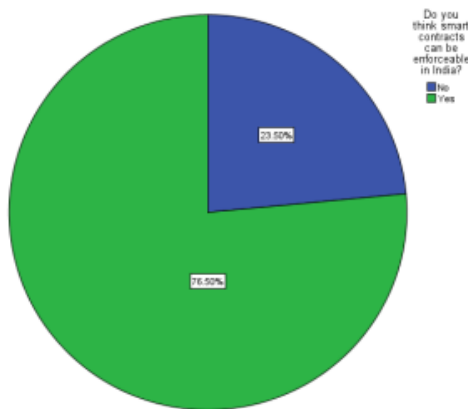
### **(C) Methodology**

The research method followed here is Empirical Research. A total of 200 samples have been

collected of which all samples have been collected through convenient sampling methods. The sample frame taken here is of public areas in and around Chennai, Tamil Nadu. The independent variables are Age, Gender, Education Qualification, and Occupation. The dependent variables are whether smart contracts can be enforceable in India, level of agreeability towards smart contracts that have the potential to revolutionize the way contracts are formed and enforced, legal issues that arises with smart contracts in India and level of satisfaction towards the use of smart contracts leading to a more transparent and efficient contracting process. The statistical tools used are Pie chart, Simple bar chart and Clustered bar chart.

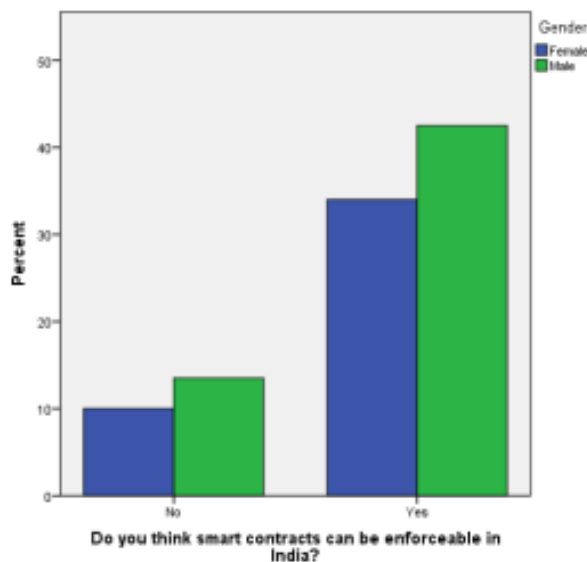
## II. ANALYSIS

**Figure-1**



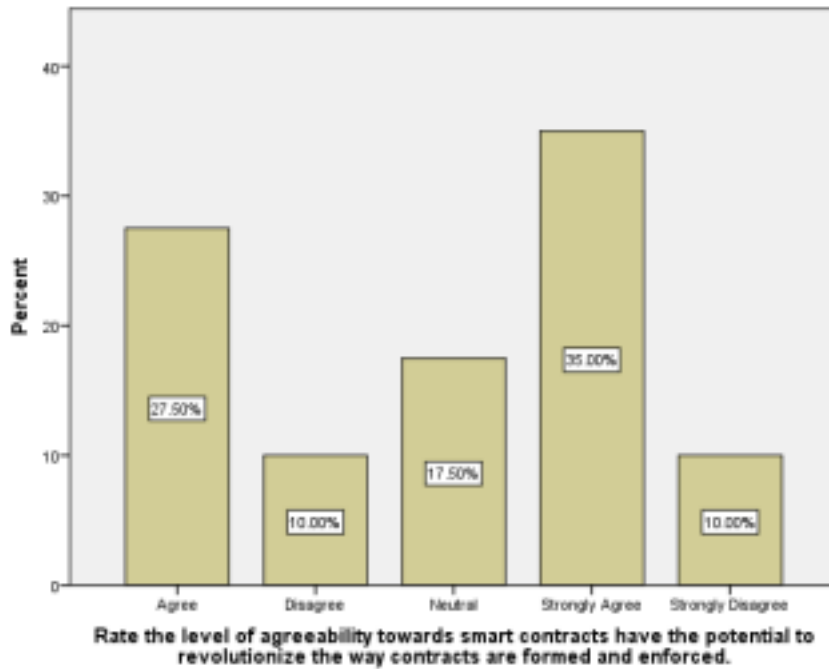
Legend: Figure-1 represents the pie chart of whether smart contracts can be enforceable in India.

**Figure-2**



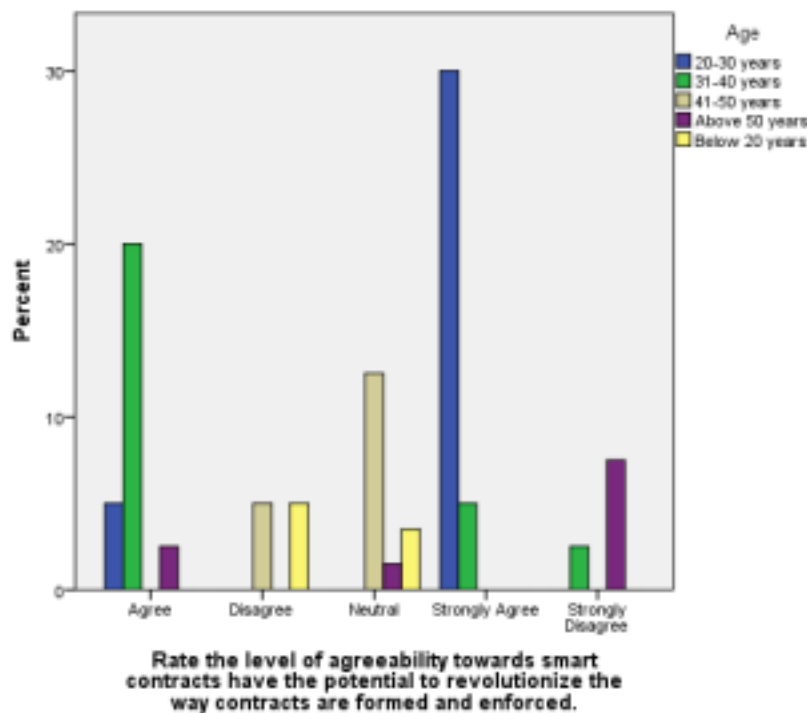
Legend: Figure-2 represents gender with respect to whether smart contracts can be enforceable in India.

**Figure-3**



Legend: Figure-3 represents the bar chart of the level of agreeability towards smart contracts have the potential to revolutionize the way contracts are formed and enforced.

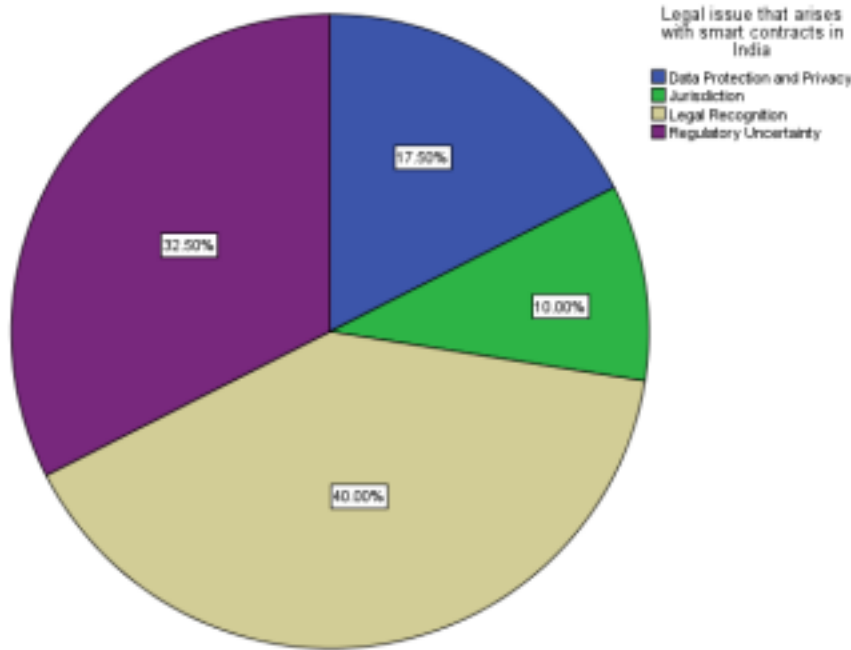
**Figure-4**





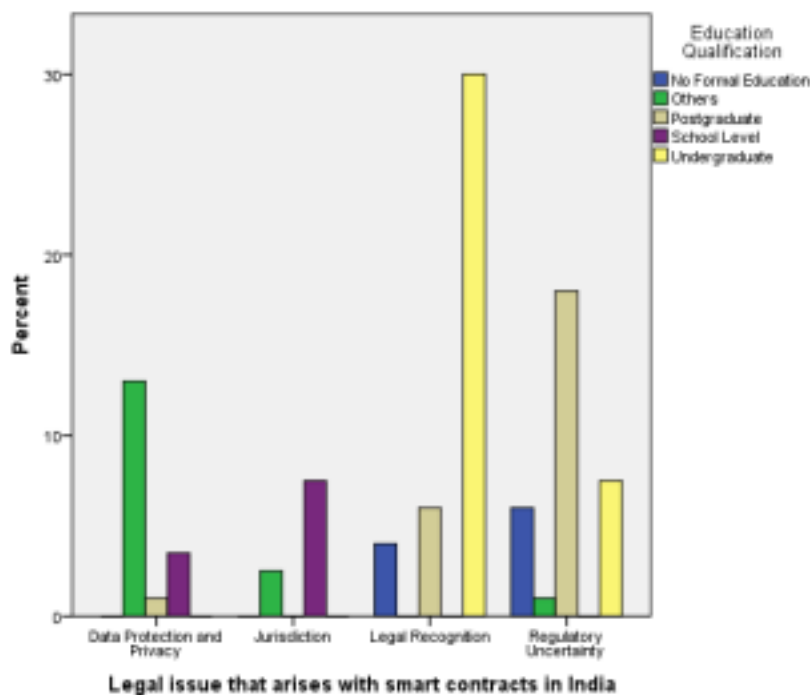
Legend: Figure-4 represents age with respect to level of agreeability towards smart contracts have the potential to revolutionize the way contracts are formed and enforced.

**Figure-5**



Legend: Figure-5 represents the pie chart of the legal issue that arises with smart contracts in India.

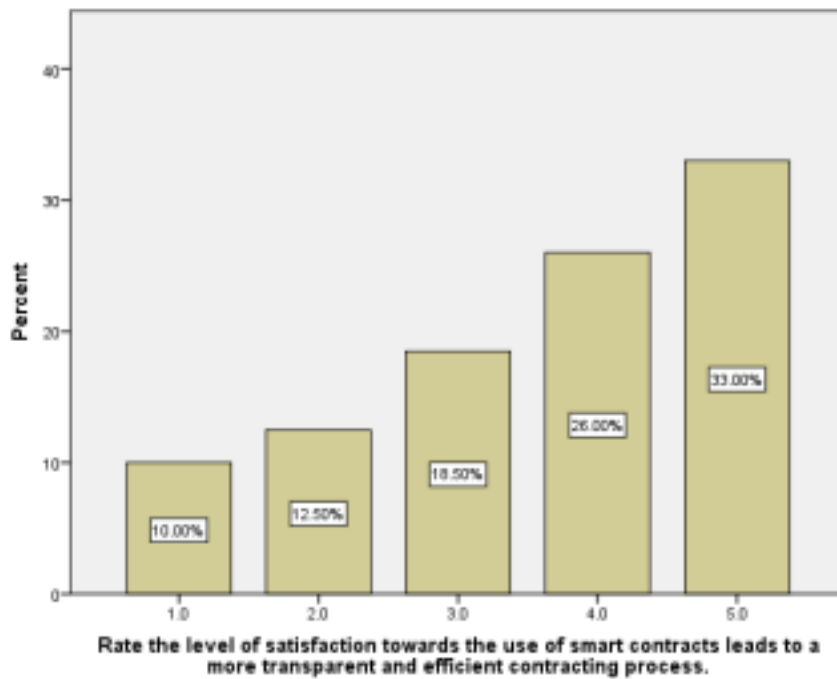
**Figure-6**



Legend: Figure-6 represents education qualification with respect to the legal issue that arises

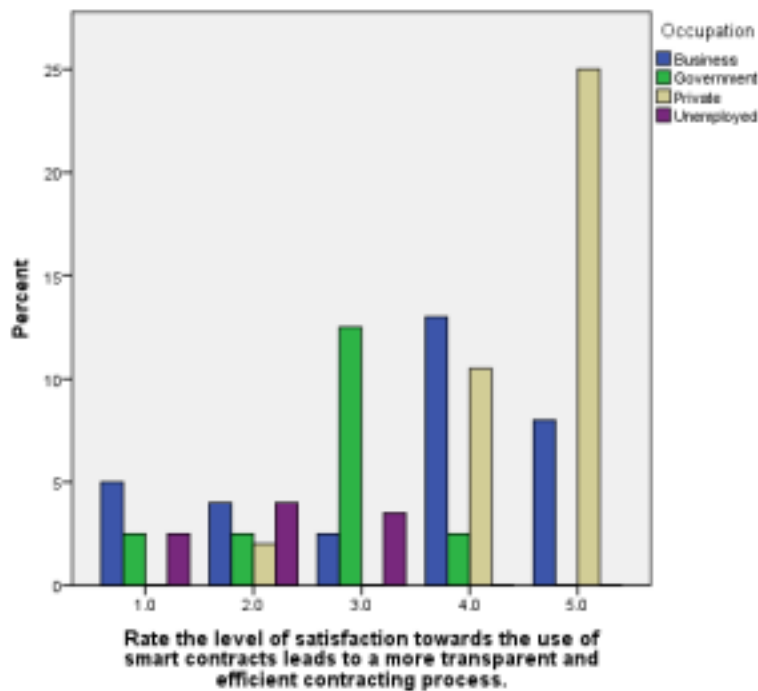
with smart contracts in India.

**Figure-7**



Legend: Figure-7 represents the bar chart of the level of satisfaction towards the use of smart contracts leading to a more transparent and efficient contracting process.

**Figure-8**



Legend: Figure-8 represents occupation with respect to the level of satisfaction towards the use of smart contracts leading to a more transparent and efficient contracting process.

### III. RESULTS

In **figure-1** 77% of the respondents have said yes that smart contracts are enforceable in India. In **figure-2** most of the respondents are male and said yes that smart contracts are enforceable in India. In **figure-3** 35% of the respondents have strongly agreed that smart contracts have the potential to revolutionize the way contracts are formed and enforced. In **figure-4** most of the respondents are from 20 to 30 years of age and have strongly agreed that smart contracts have the potential to revolutionize the way contracts are formed and enforced. In **figure-5** 40% of the respondents have said that legal recognition is the main legal issue that arises with smart contracts in India. In **figure-6** most of the respondents are undergraduates and said that legal recognition is the main legal issue that arises with smart contracts in India. In **figure-7** 33% of the respondents are completely satisfied towards the use of smart contracts leading to a more transparent and efficient contracting process. In **figure-8** most of the respondents are from the private sectors and are completely satisfied towards the use of smart contracts leading to a more transparent and efficient contracting process.

### IV. DISCUSSION

**Figure-1** suggests a positive perception among participants regarding the legal standing of smart contracts within the Indian context. It would be interesting to explore the reasons behind this belief and whether it aligns with the current legal landscape. **Figure-2** highlights a gender disparity among respondents, with a higher proportion of males expressing confidence in the enforceability of smart contracts. This gender-based divergence in attitudes may warrant further investigation to understand the factors contributing to these variations, potentially related to educational backgrounds or professional experiences. **Figure-3** indicates a notable level of enthusiasm and belief in the transformative power of smart contracts among the survey participants. **Figure-4** correlates age groups with perceptions, showing that respondents aged 20 to 30 are more likely to strongly agree on the transformative potential of smart contracts. This age-related trend could be indicative of a generational inclination towards embracing emerging technologies and novel approaches to contract formation. **Figure-5** underscores the financial constraints individuals may face in seeking legal support and implies potential opportunities for cost-effective legal solutions. **Figure-6** suggests that undergraduate respondents associate legal recognition as the primary legal issue with smart contracts. This insight underscores the significance of legal education in shaping individuals' perceptions of the legal challenges associated with emerging technologies. **Figure-7** suggests a positive impact perceived by a considerable portion of

participants, although further exploration could uncover specific areas of satisfaction or concerns. **Figure-8** shows that respondents from the private sector are more likely to be completely satisfied with the use of smart contracts. This finding may indicate that the private sector, with its emphasis on efficiency and innovation, sees a more tangible benefit in the adoption of smart contracts.

#### **(A) Limitations**

One of the major limitations of the study in the sample frame. There is a major constraint in the sample frame as it is limited to a small area. Thus, it proves to be difficult to extrapolate it to a larger population. Another limitation is the sample size of 200 which cannot be used to assume the thinking of the entire population in a particular country, state, or city. The physical factors have a larger impact, thus limiting the study.

### **V. CONCLUSION**

Smart contracts, a revolutionary technology, hold the potential to transform contract formation and execution in India. Key legal issues must be addressed for widespread adoption. Enforceability under the Indian Contract Act, 1872, is paramount, requiring adherence to essential contract elements globally. Validity of smart contract terms, executed automatically under specific conditions, poses another legal challenge. The implications for the Indian legal system, including the potential displacement of intermediaries like lawyers and courts, necessitate adaptability to this technological shift. Smart contracts could streamline transactions, from insurance claims to supply chain management, mitigating fraud and corruption. The Indian government contemplates the legal and regulatory dimensions, likely formulating a framework that balances innovation with regulation. While in its nascent stage, the adoption of smart contracts in India presents significant benefits for the economy. However, several challenges persist, such as the lack of awareness, understanding, and technical expertise among businesses and consumers, coupled with the need for a reliable and scalable blockchain infrastructure. Addressing these challenges, alongside careful planning and regulation, will be crucial for maximizing the potential benefits of smart contracts in India, paving the way for their integration into the fabric of the Indian economy.

#### **(A) Suggestions**

There are only a few notable laws against the topic of smart contracts & blockchain- legal issues & implications for indian contract law. The knowledge of smart contracts & blockchain in our country remains only with a limited number of people like law graduates, IT companies & business people in the entire country but on other hand the poor, local shopkeepers & other

people except law students & graduates have minimal or no idea about these concepts even though these are prevailing from some years still it remain unknown to them. Since, everything we do in our day-to-day life is based on some kind of contract that is directly or indirectly binding people. The Government should come up with some more laws & policies, even with some schemes to safeguard the smart contracts & blockchain to safeguard them from various legal issues & implications in our country's contract law. More awareness programmes should be conducted by various NGOs along with the Government among poor as well as uneducated people regarding the uses & importance of smart contracts & blockchain technology in Indian contract law apart from legal issues & various other implications. The government should also make an attempt to encourage smart contracts incorporation into our existing contract laws to free the parties from various problems that may arise from the non-performance & damages that are given as a compensation to the aggrieved party. Moreover, it is need of the hour for our country to make a fast & dynamic progress in various fields so it is important to introduce these type of things to reduce failures & re- agreement for the same purpose since it may affect the success of the country in its GDP as big countries take various big projects to help the nation progress in the right path & direction.

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**VI. REFERENCES**

1. Susskind, R. (2017). Smart contracts: The legal challenge. Oxford University Press, 4(7), 89-52, DOI-07.09.2017.
2. Lessig, L., & De Filippi, P. (2017). The law of the blockchain. Harvard University Press, Volume:20, Issue:1, pg no:58-63, DOI-16.03.2017.
3. Mohammad, A. (2021). Smart contracts and Indian law. Springer Nature Singapore Pte Ltd, Volume 2, Issue 4, pg no:906- 916, DOI-06.09.2021.
4. Yermack, D. (2017). The regulation of smart contracts. NBER Working Paper, Pg No. 230-046, DOI-01.10.2017.
5. Casey, M. J., & Vigna, P. (2018). The future of smart contracts: Law, regulation, and compliance. MIT Press, Volume:12, Issue:4, pgno:126-145, DOI-30.05.2018.
6. Bracha, O. (2017). Smart contracts: The new wave of law and technology. Minnesota Law Review, 102(1), 317-368, DOI-28.09.2017.
7. LexForti. (2022). The legality of smart contracts in India, LexForti, Volume:18, Issue:2, pg no:257-267, DOI-24.06.2022.
8. Birla, R. (2021). Blockchain and smart contracts: The future of law. Springer Nature Singapore Pte Ltd, 136(9), 1859-1764, DOI-11.04.2021.
9. Mortenson, J. (2018). Smart contracts and the law of contracts. Texas Law Review, 96(8), 1989-2037, DOI-27.06.2018.
10. Geist, M. (2017). Smart contracts: The new frontier of law. University of Ottawa Law & Technology Journal, 4(1), 29-58, DOI-25.07.2017.
11. De Nardi, M. A. (2017). Smart contracts: The application of blockchain technology to contract law. Columbia Law Review, 117(7), 1877-1966, DOI-09.07.2017.
12. Hoppe, D. (2018). Smart contracts and the law of property. Columbia Law Review, 118(4), 995-1060, DOI-13.05.2018.
13. Heller, M. A. (2018). Smart contracts and the law of torts. Harvard Law Review, 131(4), 1769-1854, DOI-09.06.2018.
14. Kaser, M., & Schilling, M. (2019). Smart contracts and the law of contracts: A comparative analysis. European Review of Contract Law, 15(3), 491-523, DOI-10.01.2019.

15. Sprigman, C. (2019). Smart contracts and the law of intellectual property. *Columbia Law Review*, 119(2), 375-444, DOI-05.03.2019.
16. Burstein, M. J. (2019). Smart contracts and the law of international trade. *Virginia Law Review*, 105(5), 1203-1260, DOI-29.08.2019.
17. Fisch, M. A. S. (2020). Smart contracts and the law of taxation. *Florida Tax Review*, 20(2), 157-226, DOI-26.04.2020.
18. Sullivan, M. K. (2020). Smart contracts and the law of cybersecurity. *Berkeley Journal of Law, Technology & Policy*, 26(1), 1-50. DOI-14.01.2020.
19. Krishnaswamy, A. (2021). Smart contracts and the law of privacy. *Yale Law Journal*, 130(6), 1725-1794, DOI-27.05.2021.
20. Calo, R. (2021). Smart contracts and the law of artificial intelligence. *University of Pennsylvania Law Review*, 169(7), 1955-2066, DOI-29.08.2021.

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