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The Development of New Technology Intergration in E-commerce Dispute Resolution in Vietnam

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Abstract: Regulatory authorities all over the world are making plans to observe and advise cryptocurrency action in their countries in a responsible way. This is to ensure, among other things, market rate behavior, market economics, the implementation and regulation of tax laws, and consumer safety inside the distinctive attributes of the investments, all while encouraging the development of a profitable bitcoin economy. Vietnam is no different, especially as cryptocurrencies are known to be cross-jurisdictional, and as such, supervisory difficulties do not end at state boundaries. Recent developments in Vietnam indicate that they are moving toward cross-jurisdictional regulatory norms to promote regulatory clarity, remove loopholes, and prevent regulatory arbitrage, all while adhering to stringent currency control. There also has been some recent recognition of crypto-based inventions and efficiency in money and trade, notably for cross-border dealings. Some progressive examples in this paper are illustrated to develop dispute resolution mechanisms for e-commerce using new technology. Recommendations are made in respect to the use of viewpoints of a comprehensive cross-section of the Quadratic Voting /Smart Contracts with permission-based blockchain network as useful tools to assist Vietnamese controllers in emerging online dispute mechanisms towards a streamlined e-commerce economy.

Keywords: Quadratic voting; Smart Contracts; E-commerce; Blockchain; Online Dispute Resolution; Legal Framework

Introduction

Online dispute resolution (ODR) in Vietnam combines several technologies and methodologies, with blockchain being one of the most prominent tools. Quadratic voting is suggested as a way to arrive at a decision in an ODR. Smart contracts are suggested as a way to enforce decisions of ODR systems. In this paper, we shall also study: what issues/ disputes in commercial transactions such a technology will resolve; what challenges lead to it being a solution; how it can be used and what will help facilitate and promote its usage from legislations, regulations, caselaw, directions, and the 2019 Singapore Convention? Whether blockchain shall be used as an innovative and useful means of dispute resolution?

A blockchain is an essential component in a data structure that helps in ensuring that all the transactions are confirmed and performed within units or blocks. It is a shared electronic ledger that enables for verified transactions and data storage. The blockchain refers to the interconnecting blocks. The blockchain gradually improves with each lodge added. Blockchain is not a financial technology, but it is vital in today's internet generation, including public services, IOTs, energy management, and supply chain services. The Ministry of Technology and Communication of Vietnam¹ has identified blockchain as relevant in various fields of the country and offers exploitation of vital data and information. Blockchain technology has greatly aided Vietnam's economic growth, and firms greatly benefit from it. Blossey, Eisenhardt & Hahn (2019) stated that Blockchain is a general purpose technology that focuses on productivity enhancements and risk vindication, which excludes the assistances of better financial organization owing to original official provisions.

Methodology

To complete this paper, the authors have combined data collection and analysis. Data collection methods included written reflection and secondary source verification. The study has also introduced typical ODR models to be deployed in several countries in Asia. This article uses a normative legal approach to address new issues in commercial dispute resolution.

Results and discussion

The usage of blockchain technology supports organizations in changing business operations and consumer interaction, such as storage to users (VU &

¹ HUNG, 2021, p. 112-250.

TRINH, 2021).² Accordingly, blockchain technology makes it easy for Vietnam to become democratic and transparent and lead as a heavy country in terms of research and development, among other services. It is to be noted that blockchain cannot be considered the solution to any problem; however, it plays a great role in improving financial services, public services, the Internet of Things, supply chain management, energy, and resources, among many others (Nguyen, 2019).³

Cryptocurrency used to be a controversial topic worldwide, but now it has become a popular one particularly among the Vietnamese youth. Despite Vietnam is graded as a little to a medium-salary state with a GDP per capita of USD 2,786 and ranked 119th out of a total of 176 countries in FY 2020 (DAO, 2021).⁴ According to Chainalysis,⁵ Vietnam is a good model of a nation whose economic standing is much behind its participation in bitcoin transactions. The Global Crypto Adoption Index from Chainalysis presented that Vietnam graded in the 10th spot out of a total of 154 nations in the Global Cryptocurrency Acceptance Index in 2020. In 2021, Vietnam was ranked first place. This is one of the rare situations where Vietnam even outperforms many more developed countries such as the US, UK, China, France, Germany, Japan, and Korea (DAO, 2021) showcased below in figure 1.

Figure 1 – The 2021 Global Cryptocurrency Acceptance Index

Country	Index score	Overall index ranking	Ranking for individual weighted metrics feeding into Global Crypto Adoption Index		
			On-chain value received	On-chain retail value received	P2P exchange trade volume
Vietnam	1.00	1	4	2	3
India	0.37	2	2	3	72
Pakistan	0.36	3	11	12	8
Ukraine	0.29	4	6	5	40
Kenya	0.28	5	41	28	1
Nigeria	0.26	6	15	10	18
Venezuela	0.25	7	29	22	6
United States	0.22	8	3	4	109
Togo	0.19	9	47	42	2
Argentina	0.19	10	14	17	33
Colombia	0.19	11	27	23	12
Thailand	0.17	12	7	11	76
China	0.16	13	1	1	155

Source: Legal Guild.

² VU & TRINH, 2021. *Applications of Blockchain in E-commerce*, p. 1278-1289.

³ NGUYEN, 2019. *Blockchain-an indispensable development trend of the logistics industry in Vietnam: Current situation and recommended solutions*, p. 14-22.

⁴ DAO, 2021.

⁵ PHONG, D. T., 2021. *The Blockchain & Cryptocurrencies Framework in Vietnam*. In *Legal Guild*. Retrieved from: <https://nearlegal.com/the-blockchain-and-cryptocurrencies-framework-in-vietnam/>.

Vietnam is thriving in the bitcoin, blockchain-Gamefi, and metaverse industries. For example, Sky Mavis, a Vietnamese gaming studio, developed Axie Infinity, an NFT-based game (DAO, 2021).⁶ However, despite the growing popularity of bitcoin in Vietnam, its use remains illegal due to a lack of regulation recognizing digital coins as legal assets. Currently, these payment instruments are not usable. The State Bank of Vietnam announced in 2017 that cryptocurrency, BTC, and Lite coin are not legal currencies and should not be utilized as payment methods in Vietnam (DAO, 2021). Due to the increasing number of Vietnamese cryptocurrency users, the Vietnamese government has begun to focus on its acceptability. In 2021, Vietnam had at least three important crypto-related laws:

- (i) Decision No. 942/QĐ-TTĐ, made on June 15th, 2021, approves the plan for the growth of e-government towards a public administration from 2021 to 2025. It is extremely pertinent since the government considered bitcoin study and use as one of the possibilities for developing the digital government.
- (ii) Decision No. 942/QĐ-TTĐ made Vietnamese investors think that this was a signal for the government's acceptance of the use of cryptocurrency.
- (iii) With Decision 942/QĐ-TTĐ showcased a more receptive view of the digital currencies making investors feel more comfortable using cryptocurrencies in Vietnam.

The Vietnamese Ministry of Finance announced in April 2021 that it has set up an investigation committee on digital resources and cryptocurrencies to develop a rule and a method for their use. It is currently drafting amendments to the Law on Information Technology 2006, Decree 71/2007/ND-CP, and associated legislation to provide a legal corridor for the growth of Vietnam's ICT business. Ho Chi Minh City⁷ has also been granted the right to build a Digital Asset Management Center. This is the first of its sort in Vietnam, yet there are no official regulations or a TSS⁸ license. Only Taurus SA from Switzerland has worked with this license type. It was the world's first independent regulated digital asset marketplace, authorized by the Swiss Financial Market Supervisory Authority (FINMA) (DAO, 2021).

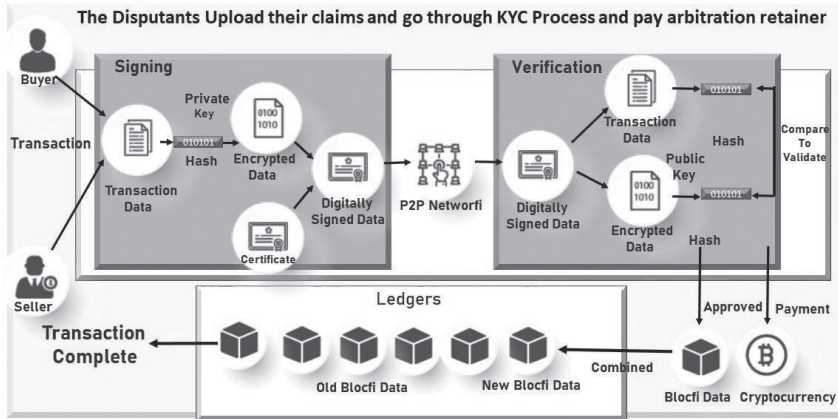
⁶ DAO, 2021. Vietnam has been a leader in cryptocurrency usage for the past few years. Despite the country's lack of legal framework for owning, trading, and using cryptocurrencies, the adoption rate of these digital currencies among its population has been among the highest worldwide. The majority of Vietnamese investors, especially younger ones, are aware of and have expressed positive sentiments towards cryptocurrencies as a type of investment.

⁷ DAO, 2021. *Digital transformation meets national development requirements*.

⁸ PHONG, D. T., 2021. *The Blockchain & Cryptocurrencies Framework in Vietnam*. In *Legal Guild*. Retrieved from: <https://nearlegal.com/the-blockchain-and-cryptocurrencies-framework-in-vietnam/>.

Exhibit 1 – Blockchain as E-commerce Platform Architecture

Larger Unresolved or Cross Border Disputes
Tier 2 Process: Ecommerce and Validation on a Private Permissioned Blockchain Platform



Blockchain as E-commerce Platform Architecture

Image Source: Guaranteed Original



Source: L Ismanto *et al.*, 2019. J. Phys.: Conf. Ser. 1179 012114 *Journal of Physics: Conference Series*.

The Use of Blockchain Technology for E-commerce Dispute Resolution

There are a few known ways that most E-Commerce platforms use in case of a dispute, and most of them fail. From the time of negotiation to the time it reaches the courts of law, bureaucracy is involved. However, using blockchain technology provides a more reliable and trustworthy alternative for e-commerce dispute resolution.

Figure 2 – Disputes Resolution Modality & Methods

Organization	Dispute Resolution Modality	Method
Mattereum	Adjudication embedded into organisational structure	Adjudication as a standard governance protocol
LTO Network	Embedded in ‘live contract’	Agreed ‘deviations’ in workflows and off-chain arbitration
Sagewise	Pre-agreed smart contract monitoring agent	Monitors and freezes smart contracts to pre-empt disputes
Kleros	Independent online dispute resolution mechanism	Crowdsourced jury system
Blockchain Arbitration Forum	Stand-alone dispute resolution service	Smart contract arbitration library and independent arbitration
Jury.Online	Embedded in smart contract	Randomly selected jury

Source: Darcy Allen; Aaron Lane; Marta Poblet. *The Governance of Blockchain Dispute Resolution*, January 2019, SSRN Electronic Journal.

Kleros Blockchain Technology

Kleros is a popular online dispute resolution platform that uses blockchain and crowdsourcing to resolve disputes quickly. The main goal of Kleros is to create a decentralized, flexible organization. It also ensures an affordable, transparent, and arbitrated dispute resolution process. Kleros also influences all blockchain technology used by the enterprise in creating economic incentives and aligning major benefits (HUNG, 2021)⁹. As a result, juror behavior can be predicted and evaluated. A randomly selected panel of jurors receives the disputes sent to Kleros and must resolve them. No one can tamper with the evidence or the jury selection because smart contracts automatically enforce their rulings. Although blockchain provides strong protection, data privacy becomes an issue when an independent third party, such as an oracle, is involved in dispute resolution. For Anil Changaroth of ChanAroth International Consultancy (CIC), Asia Pacific¹⁰ (2022), e-popularity commerce’s raises questions about platform usage. The Covid-19 protocols and new market trends require traditional dispute resolution systems to be revised. To connect ODR with people’s emotional intelligence, business management,

⁹ HUNG, 2021, p. 12001.

¹⁰ *Ibidem*.

and client onboarding, CIC's subsidiaries ODRasia and ODRanz have developed ODR platforms. Permission or private blockchain can help (HUNG, 2021).¹¹ Table 1 shows the various types of online dispute resolution systems available in blockchain, along with their modes of operation.

RheaNet Blockchain Technology

RheaNet is the enterprise support streaming system that resolves disputes. This platform's main goal is to host and facilitate nautical transactions and disputes, similar to Vietnam's online dispute resolution. RheaNet is inspired by the 2021 Suez Canal Blockade and its effect on e-commerce logistics. It creates smart contracts to help manage maritime trade and contracts. An Oracle database provides real-time data on contract performance, allowing smart contracts to track steps such as compensation for completed work or dispute for work not completed (ALEX, 2021).¹² RheaNet also uses smart contracts to automate contract performance and maritime trade (EBNER & RAINEY, 2021).¹³ Oracles were consequently integrated into the platform to give contractors with real-time data and increase contractual performance. As a result, it also directs further actions, such as payment of compensation or initiating a legal dispute. Each transaction's genesis block also contains documentation of the transaction, including pre-contractual conversations, shipping container temperature logs, and so on (BERGOLLA; SEIF & EKEN, 2021).¹⁴

The authors of this study recommend Kleros and RheaNet for resolving e-commerce conflicts. Unlike Kleros, RheaNet relies on quadratic voting from experts and professionals. Then it arbitrates. These two blockchain combined with Quadratic Voting, devised by researcher Glen Weyl,¹⁵ may represent the ultimate e-commerce dispute settlement. Quadratic voting allows people to express their opinions rather than merely support or opposition. Participants can add another vote if they strongly support or oppose a choice (LEE, 2018).¹⁶ In a system where the real leaders are unknown, decisions are made by individuals who are not accountable to democratic institutions or developers trying to enhance the protocol. Adding this to a blockchain ensures tighter network security because it

¹¹ Chan Aroth International Consultancy, 2022.

¹² ALEX, 2021. "In RheaNet Digital Dispute Resolution Platform for Maritime Trade Finance". <https://devpost.com/software/rheanet>.

¹³ EBNER & RAINEY, 2021. "ODR and Mediation. Rainey".

¹⁴ BERGOLLA, Seif & EKEN, 2021. *Kleros: A Socio-Legal Case Study of Decentralized Justice & Blockchain Arbitration*.

¹⁵ LEE, 2018. <https://www.forbes.com/sites/shermanlee/2018/05/30/quadratic-voting-a-new-way-to-govern-blockchains-for-enterprises/?sh=79547db96ef8>.

¹⁶ *Ibidem*.

helps regulate a blockchain more effectively. Attempts to take control will be easily spotted. It prevents anonymous assaults and unexpected blockchain interruptions (LEE, 2018).¹⁷

Unlike Kleros, there is no requirement to use or buy bitcoin in RheaNet (DYLAGE & SMITH, 2021).¹⁸ While Kleros employs a permission-based cryptosystem, RheaNet uses a non-permission blockchain. RheaNet also uses Quadratic Voting to establish a decentralized blockchain for e-commerce. Trokt, a RheaNet application, promises private blockchain usage with its many branches and perks. RheaNet ensures the authenticity of data by receiving, disseminating, and validating it all in one data format (TROKT, 2021).¹⁹ Trokt's private blockchain is a patent-pending architectural advancement used in online dispute resolution to remove circumstantial exposures and other complexities. It also enables "n-party validation" without revealing sensitive data context.

Trout is a cloud-based platform designed to perform efficiently in complex and crucial scenarios (EBNER & RAINEY, 2021). It is expensive to protect public inventions and new businesses. Secrecy can help Vietnamese businesses safeguard their intellectual property and manage online conflicts effectively. According to Trokt (TROKT, 2021),²⁰ Trokt is a key player in e-commerce online dispute resolution in Vietnam. Trokt's thumb printing capabilities help businesses grasp internet conflict theories. Moreover, the Trokt non-public blockchain verifies the presence of secrets and facts without notifying all stakeholders (SCHMITZ & ZELEZNIKOW, 2021).²¹

Recommendations for developing models of E-commerce Dispute Resolution by the Vietnamese legal framework

Blockchain technology would be useful in disputes that need documents to be authentic and untampered with. Blockchain seems not to be a popular tool in resolving e-commerce disputes,²² as it would create a rather cumbersome system, needing a lot of processing power and energy for commercial dispute resolution. Smart contracts, Robotic Process Automation (RPA) and Artificial Intelligence (AI)²³

¹⁷ *Ibidem*.

¹⁸ See DYLAGE & SMITH, 2021, p. 1-16.

¹⁹ TROKT, 2021. *The Promise of Nonpublic Blockchain* <https://medium.com/trokt/the-promise-of-neopublic-blockchain-6993e7eba1d4/>.

²⁰ *Ibidem*.

²¹ SCHMITZ & ZELEZNIKOW, 2021, p. 2021-24.

²² Interviewed with Toh See Kiat, Goodwill Law Corporation, Singapore on January 31, 2022.

²³ AI and RPA: What's the difference and which is best for our Organization?

"Artificial intelligence (AI) and Robotic Process Automation (RPA) are two of the most successful technologies for organizations to achieve the seemingly incompatible goals of increasing customer satisfaction and employee morale while reducing operational costs". www.nice.com.

might do a better job in quick and efficient resolution of e-commerce disputes. Given the current Vietnam Civil Law system, there is not suitable to have a crowd-sourced jury, that involve manpower and financial cost and time to resolve a dispute, as in reality, most e-commerce disputes will be low-value disputes. To develop models of E-commerce Dispute Resolution shall be a strategic legal framework of Vietnamese law makers in the coming time.

Raising awareness of online commercial mediation via Vietnamese Law school curriculum

It is fair to say that law schools and faculties in Vietnam do not adequately teach mediation and bargaining, despite the country's significant expansion in e-commerce. Although online commercial conciliation is included in the "dispute resolution" portion of the Vietnamese law school curriculum, it is not used systematically in the colleges where future lawyers and entrepreneurs are educated. In light of the recent commercial mediation decree, which will be sent to over twenty law schools in Vietnam that are members of the clinical legal education network (CLE), a set number of credits for teaching ADR²⁴ and mediation in particular should be added to law school curricula.

Clear stipulation of evidence in mediation proceedings via codification of commercial mediation

To find conciliation choices that satisfy both parties' needs, will and interests, a commercial mediation proceeding involves repeated information exchanges between the parties, with the mediator's support, concerning solutions from the parties to problems that need conciliation. In order to reach a conciliation resolution, parties and mediators must communicate information, viewpoints, and even documents. Parties won't feel "comfortable" or "open" sharing information if their views expressed in papers they present in mediation can be used against them if mediation fails or if they are used as evidence. This is avoided by not accepting a party's information, papers, or viewpoints as evidence in later proceedings.²⁵ These rules encourage parties and mediators to share information and documents during the mediation process, bringing them closer together in terms of interests and improving the chances of agreement.

²⁴ The Promise of Nonpublic Blockchain: Trokt, 2021. <https://medium.com/trokt/the-promise-of-neopublic-blockchain-6993e7eba1d4/>.

²⁵ *Ibidem*.

Adopting the 2019 Singapore Convention

The 2019 Singapore Convention on Mediation establishes an international rule for the execution of agreements made through mediation, similar to the Convention²⁶ on the Recognition and Enforcement of Foreign Arbitral Awards (the New York Convention). Contrary to popular belief, the Singapore Convention²⁷ on Mediation allows disputing parties to enforce and implement settlement agreements across borders.

The Singapore Convention also supports the outcome of business mediation. When a country joins the Convention, the mediator's success in one country is recognized and enforced in another. This goes on to advocate the effective use of dispute resolution processes to increase and enhance global economic cooperation opportunities. The 2019 Singapore Convention is significant because trade wars negatively impact global economic growth, global trade, and bilateral ties. The most prominent is the US-China trade war. The Vietnamese government must be enthusiastic about the 2019 Singapore Convention. Vietnam must expedite this process, updating and augmenting laws like the Civil Procedures Code and the Law on Civil Judgment Execution, among others. (SALMA; MATTEUCCI, VAN NAM, 2021).

Consideration to study and pursue the Glen Weyl quadratic voting system

The Glen Weyl quadratic voting technique can help organizations handle governance issues. Glen Weyl quadratic voting facilitates decision-making. It shows individual preferences against a construct, thus removing majority tyranny. Glen Weyl's quadratic voting requires people to pay for votes and then receive redistributed tokens to vote at the conclusion of the cycle Glen Weyl proposed:

Quadratic Voting offers a better way to make collective decisions that avoid the tyranny of the majority by allowing people to express how strongly they feel about an issue rather than just whether they are in favor of it or opposed to it.

²⁶ AYED, Salma Ben; MATTEUCCI, Giovanni; VAN NAM, Tran, 2021. *Commitment To The Sustainable Development Goals*. Retrieved from: <https://www.casadellibro.com/libro-compromiso-con-los-objetivos-de-desarrollo-sostenible/9788419045225/12798020>.

²⁷ AYED, Salma Ben; MATTEUCCI, Giovanni; VAN NAM, Tran, 2021; *Ibidem*.

Exhibit 2 – Glen Weyl quadratic voting system

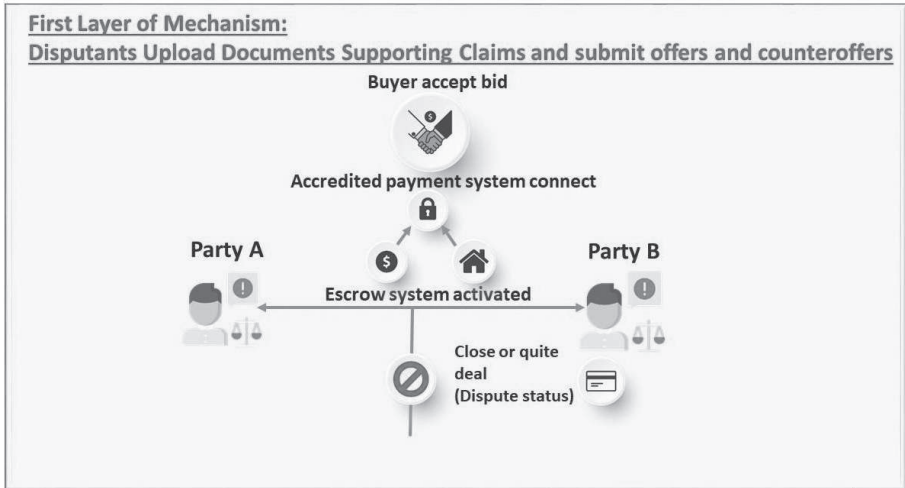


Image Source: Guaranteed Original



Exhibit 3 – Exim chain Governance (1/3) - Quadratic Voting

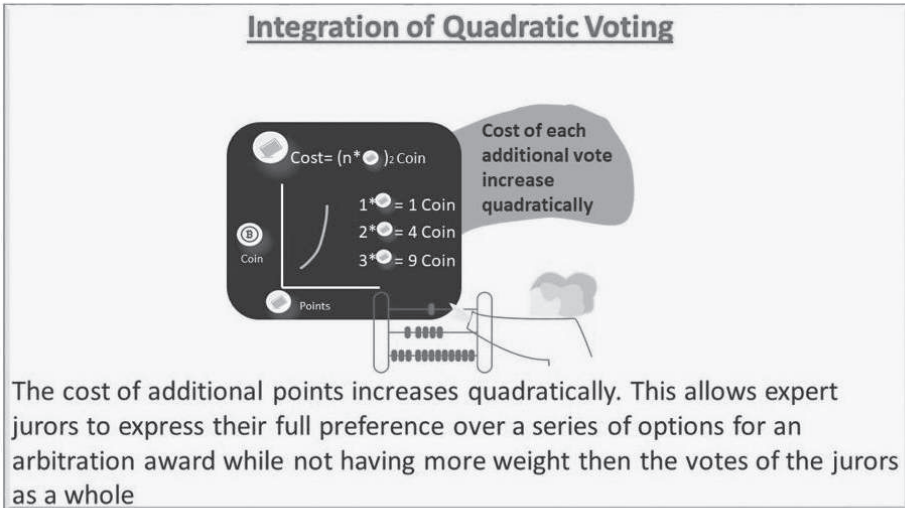
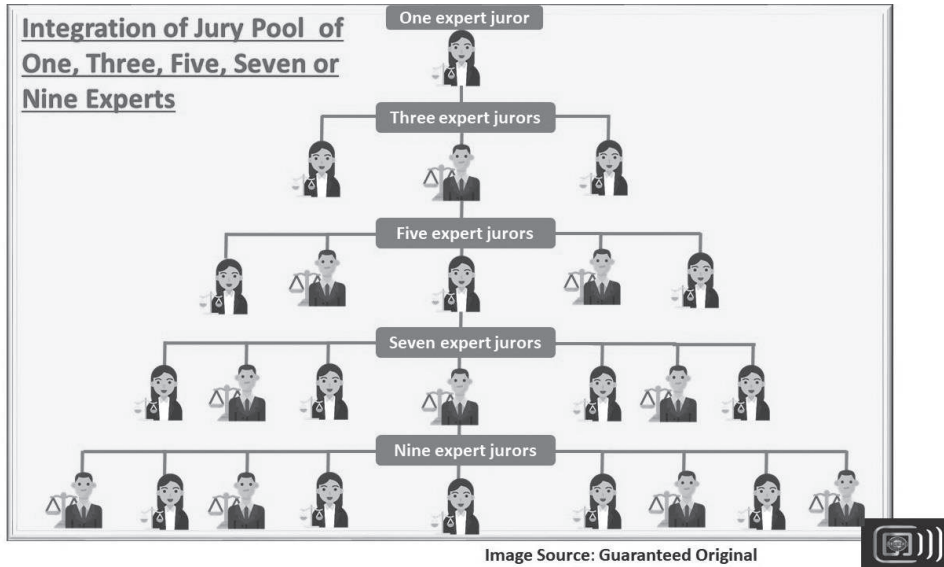


Image Source: Guaranteed Original



Exhibit 4 – Integration of Jury Pool Model



Conclusion

The study recommends innovative models such as, Quadratic Voting; smart contracts with permission-based blockchain to deploy in Vietnam in digital era.

This study suggests that the Vietnamese government adopt smart contracts, commercial mediation, the 2019 Singapore Convention, and the Glen Weyl Quadratic Voting system to improve e-commerce dispute resolution. For smart contracts, Vietnam can leverage blockchain technology, where parties can upload their criteria for selling and buying things, all in one place. Trout is a recommended smart contract for verifying and rescanning files to resolve online buying and selling problems. The Vietnamese government should mandate ADR in law schools to promote online business mediation. As a result of the 2019 Singapore convention, the government will no longer be required to deal with issues involving parties outside its jurisdiction. Using this Convention, Vietnam should speed up the creation and regulation of the Civil Procedures Code and the Law on Civil Judgement. Glen Weyl’s quadratic voting can also help in successful decision-making in disagreements and should be implemented into the country’s dispute resolution systems. Also, private blockchain platforms like Kleros and RheaNet can use blockchain to resolve disputes, which will help the country’s e-commerce dispute resolution. Finally, RheaNet and Quadratic voting can create a decentralized blockchain in Vietnam e-commerce and thus flourish in the e-commerce industry.

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