Use of Smart Contract on Blockchain Technology for Buying and Sale Transactions of Immovable Goods

Efrida Ayni Fikri
Faculty of Law, Universitas Indonesia
efrida.ayni@mail.ui.ac.id

Abstract

Technological sophistication changes the pattern of activity between communities and has an impact on various fields, including the notary field. Prior to the creation of today's technology, buying and selling activities were carried out in the traditional way: the seller met with the buyer, the seller and the buyer agreed to transact at a certain price, made a deed of sale and purchase before a notary, the notary recognized the appearer, affixed a stamp and signature on the deed, and minutes of purchase, which is sewn at the end of the deed. In smart contracts, things like that are no longer applied, because the idea of creating a smart contract is to eliminate the presence of a third party, so that the parties can be directly connected and the process of making a sale and purchase agreement can be done virtually without the intervention of a notary. All the ease of transactions provided by smart contracts do not necessarily eliminate them from shortcomings. The strength of proof on smart contracts is still questionable, because physically smart contracts can only be accessed by the holder.

I. Introduction

Blockchain is expected to become a technology whose position is equal to primary needs besides clothing, food, housing and the internet for modern society. Blockchain technology was first introduced by Satoshi Nakamoto in his journal entitled "Bitcoin: A Peer-to-Peer Electronic Cash System." In the journal, Satoshi Nakamoto describes a new way of exchanging data and information from one person to another in an effective, efficient, secure and most importantly traceable manner. Furthermore, Nakamoto explained that the method of sending data on blockchain technology has special characteristics that distinguish it from the traditional methods that we know so far, which makes blockchain technology unique and different from other data transfer systems. In simple terms, blockchain is described as a record. In contrast to the recording system in general which is created by individuals for specific purposes, the recording system on the blockchain is distributed and maintained collectively by entities called nodes or peers. Every information from transactions in blockchain technology is stored very securely, transparently, historically and cannot be changed. The uniqueness of the blockchain system makes it the most advanced technology at this time, which can be trusted to make it easier for humans to carry out their activities, one of which is in the legal field. Blockchain can be used as a medium for transferring digital currency, storing authentic deeds, and most recently, buying and selling houses and land.

The existence of blockchain technology cannot be separated from smart contracts. Basically, the concept of a smart contract is the same as a regular agreement. Both of them create consequences. The parties in the smart contract first set certain terms and conditions that must be met so that the smart contract can automatically execute, then affix a digital

sign. The thing that makes smart contracts unique and different is that the implementation of the contents of the agreement is fully supervised using software and is not binding like an agreement in general. Another difference is that the rights and obligations of the parties in a smart contract are not written like a notarial agreement in general, but are stored in the form of programming language codes. Language is one of the most important things in the life of every human being (Purba, N. et al. (2020). The code in the smart contract is then distributed evenly by users or so-called nodes, which are joined to the blockchain network automatically and independently, not relying on third parties. Stand-alone smart contracts, making them difficult to cancel. The reason is that there is no monitoring system from and by the blockchain, so there is no opportunity for the parties to cancel the smart contract even if the parties mutually agree. The smart contract has been formed, then the contents agreed in it are automatically executed. The only method so that the parties are free from being tied to the smart contract is to end it by modifying the programming language by including certain computational logics.

Although it has the same characteristics as an agreement, apparently this smart contract cannot be explicitly referred to as an agreement. Agreement is born by agreement, while smart contracts exist because both parties have fulfilled a requirement in a programming language wrapped in an "if/then" ("what/if") formula. The idea behind smart contracts is to eliminate the existence of third parties, so that the parties can be directly connected virtually and legal actions can be carried out directly without any interference from authorized officials.

*Smart contracts*has been introduced and practiced as an alternative to buying and selling immovable objects by companies from the United States with their product called Propy. propyproviding blockchain-based buying and selling services without involving a notary whose activities include: bringing together prospective sellers and prospective buyers, signaling to smart contracts that the legal conditions for buying and selling have been met, and used as evidence that there has been a sale and purchase of immovable objects with a blockchain-address that only buyers can access. Proof of buying and selling that is already stored in the blockchain is strong evidence, which can be seen and validated by the public so that it will not be lost and cannot be changed.

*Smart contracts*often confused with electronic agreements or e-contracts. At first glance, they both look the same, but in fact there are striking differences between the two. E-contract is an agreement made by the parties through an electronic system, while a smart contract is not an agreement. A further explanation is given by Gönenç Gürkaynak (et. all) in a journal entitled Intellectual Property Law and Practice in the Blockchain Realm that "smart contracts are pieces of software into which contractual clauses can be embedded." The parties first make certain requirements in the form of a programming language, then once fulfilled, the smart contract will be executed automatically.

Law No11 of 2008 concerning Information and Electronic Transactions opens wide opportunities to make the best use of technology. However, it turns out that the regulation is not sufficient to regulate specific matters relating to the use of smart contracts for buying and selling immovable objects. Again, the ease of transacting on blockchain technology by utilizing smart contracts even raises concerns. The absence of specific regulations governing blockchain law and technology raises various questions regarding legality, authority of relevant officials and technology. In terms of legality, for example, questions that often arise are about whether or not the product resulting from the transaction is legal and the position of the smart contract against the authentic deed made by the relevant official.

A notary is the only public official who has the authority to make an authentic deed regarding all types of actions, agreements, stipulations and other authorities as referred to in the Notary Position Act or based on other regulations. In buying and selling immovable objects, a notary can also act as a Land Deed Maker Official or PPAT whose duties and authorities are to make authentic deeds of certain legal actions related to land rights or property rights to flat units. In carrying out his duties, the PPAT notary is obliged to adhere to the principle of the table lionis officium fideliter excercebo, which means that the notary must carry out his duties traditionally. The table lionis officium fideliter excercebo principle requires the PPAT notary to come, see and hear every deed, read out the contents of the deed, and sign the deed together with the witnesses and appearers. The question now is, is the PPAT notary function still relevant and in line with the existence of blockchain technology and the use of smart contracts? Maybe yes, maybe no.

Basically every sale transactionbuying immovable objects, such as land and buildings or other objects attached to them, requires the role of the Land Deed Making Officer as an extension of the state's arm to take care of all legal actions related to land rights by making an authentic deed as proof of ownership. However, the fact is that technological developments that demand practicality in the form of convenience, effectiveness and efficiency in trade practices related to time and place can minimize or even eliminate the participation of third parties, in this case the state. The issue between the best use of blockchain technology and the necessity of involvement from third parties then collide with each other, so they cannot go hand in hand. Solutions need to be made to bridge the interests of individuals, law and technology, through special regulations governing blockchain technology to be able to implement effective and efficient trading practices by utilizing technology.

II. Research Method

The research conducted by the researcher is a doctrinal research or juridical-normative research. The research was conducted by examining secondary data (in the form of primary legal materials, secondary legal materials and tertiary legal materials). The research conducted by the researcher is descriptive analytical, which aims to provide a factual and accurate description of the problems related to the legality of smart contracts in buying and selling transactions discussed in this study. The researcher will provide an explanation based on the legislation and legal theories, as well as the habits that have been applicable in the buying and selling activities of immovable objects.

III. Results and Discussion

3.1 The legitimacy of Smart Contracts in the Sale and Purchase of Immovable Objects on Blockchain Technology based on the Laws

The activity of buying and selling immovable objects is carried out by one party binding itself to deliver a certain object and the other party paying a certain price as agreed. Unfortunately, the transaction activity is not that simple. The requirements for registering rights are adjusted to the applicable jurisdiction in a country, not to mention the costs that must be incurred to take care of the administration limiting the space for the sale and purchase transaction to occur. The existence of the internet provides convenience and comfort in the activities of buying and selling immovable objects, without being limited by time and space, so that transactions can be done anytime and anywhere.

Electronic commerce (electronic commerce/e-commerce) arises because of the demands of modern society to make transactions quickly, easily and accessible to anyone. Innovations that continue to be carried out by technology then form new legal habits in conducting trade relations on a larger transaction scale. Electronic agreements (e-contracts) are an alternative for parties to enter into agreements to give birth to new legal rights and obligations, so that their nature is gradually equated with conventional agreements written on paper. With all the advantages that exist, electronic commerce that is open and accessible to anyone turns out to raise its own concerns regarding security issues, so, again technology innovates further by creating the latest and most advanced technology at least today. Blockchain technology was created as an alternative solution to minimize problems related to the security and impracticality of the buying and selling process of immovable objects, as well as the high administrative costs that must be incurred for the registration of these rights. Blockchain can also be used as a centralized data and information storage medium, is immutable in the sense that there is no expiration time, can be accessed and utilized by everyone, and does not require the involvement of authorized officials. as well as the high administrative costs that must be incurred for the registration of these rights. Blockchain can also be used as a centralized data and information storage medium, is immutable in the sense that there is no expiration time, can be accessed and utilized by everyone, and does not require the involvement of authorized officials. as well as the high administrative costs that must be incurred for the registration of these rights. Blockchain can also be used as a centralized data and information storage medium, is immutable in the sense that there is no expiration time, can be accessed and utilized by everyone, and does not require the involvement of authorized officials.

Currently, there is no special regulation that regulates the use of smart contracts on blockchain technology for the purpose of buying and selling immovable objects, nor does the government prohibit such transactions. Because the basis of the existence of a sale and purchase agreement is an agreement, while the agreement does not have to be realized in written form or verbal words. The Civil Code defines an agreement in Article 1313, which means the act of binding oneself. Furthermore, Article 1338 of the Criminal Code complements that all agreements made legally shall apply as law for the parties who make them. From these two articles, it can be seen that there is no obligation to put an agreement in the form of a written agreement. As long as the parties fulfill the four elements of a valid agreement, namely: agreement, skill, object of agreement, lawful cause, then the parties are bound to each other. The question now is, does the smart contract fulfill the conditions for a valid agreement? More specifically, are smart contracts an agreement?

Smart contracts have characteristics that are almost similar to agreements as regulated in Article 1320 of the Criminal Code, however, they cannot necessarily be referred to as agreements, buying and selling activities carried out by the parties through the blockchain platform by utilizing the smart contract are legal but not binding on them like law. So, can the smart contract be used as evidence that there has been a transfer of rights? Not necessarily. National land law requires land registration for the right holder to guarantee legal certainty as regulated in Article 19 paragraph (2) of Law Number 5 of 1960 concerning Agrarian Principles, while to register these rights it is necessary to have evidence that a sale and purchase transactions have taken place. and before a notary in his function as Land Deed Maker Officer.

The debate regarding the concept of a smart contract which is the same as a conventional agreement then forms another question, namely "could it be possible for a smart contract to have the same legal force as an agreement in the future?" The answer is, very likely. The nature of the smart contract which is automatically executed if all the

requirements in the programming language have met the "if/then" (what/if) formulation will of course eliminate the binding force on it, for that reason, a smart contract can only be called a binding agreement when it is entered into. the elements of the legal requirements of the agreement as regulated in the legislation, one of which is an agreement.

At first glance, the creation of a smart contract is the same as the formation of an agreement. The difference is that smart contracts are not intended to be used as binding agreements in general. A smart contract can only be qualified as a binding agreement as a law when it fulfills the requirements for the validity of the agreement in general as regulated in the legislation. Then how to enter the elements of the legal terms of a conventional agreement into a smart contract? First, the smart contract must contain certain terms and conditions that have been mutually agreed upon by the parties and then put it into the programming language. Second, a smart contract can be called a sale and purchase agreement if there is an 'offer' and an 'acceptance:' the birth of a smart contract qualifies as an offer, while sending assets in digital form is identified as acceptance. A smart contract can be called an agreement when an obligation is attached to it. Although usually the 'obligation clause' in smart contracts is executed automatically, in other words, there is no obligation that binds and compels the debtor in a letterlijk manner, it does not mean that there are no legal obligations that must be fulfilled. Say a smart contract does not function as it should, then the obligations contained in it cannot be fully executed, then the aggrieved party can apply a mechanism called 'claiming for a due performance'.

3.2 Mechanism of Registration of Rights in the Sale and Purchase of Immovable Objects Utilizing Smart Contracts on Blockchain Technology in the Future

Government Regulation Number 18 of 2021 concerningManagement Rights, Land Rights, Flat Units, and Land Registration are reforms in the notarial field and a good start to start utilizing technology for legal purposes in the same space. This is because the regulation provides an option for electronic registration of rights. The results of the implementation and implementation of electronic land registration are in the form of data, electronic information, and/or electronic documents. The electronic data and information along with the printed results then become legal evidence, and is an extension of the evidence as regulated in the procedural law applicable in Indonesia.

In Indonesia, Land Deed Officials are public officials who have the authority to make authentic deeds related to certain legal actions related to land rights or property rights to flat units. The deed of sale and purchase made and signed in the presence of the Land Deed Making Official is intended as evidence that there has been a legal act of transferring rights to a land accompanied by payment of a certain price, as well as evidence that the recipient of the right has become the new right holder. In the sale and purchase of immovable objects, there are two conditions that must be met, namely material requirements and formal requirements as follows:

a. Material terms
   1. The seller has the right, authority and has the power to sell the land in question;
   2. The buyer is a legal subject who has the right and has the authority to buy;
   3. The rights to the land are attached so that the land can be traded, legally based on legislation, and the plot of land used as the object of the sale and purchase is not in dispute.

b. Formal terms
    The sale and purchase is carried out in accordance with statutory procedures, namely the making of a sale and purchase deed by a notary in his capacity as a Land Deed Maker Officer.

Although land registration can be done electronically, it turns out that its implementation must still be carried out by an authorized official who in this case is represented by the Land Deed Making Official. The promulgation of Law Number 5 of 1960 concerning Agrarian Principles, and Government Regulation Number 24 of 1997 concerning Land Registration as an implementing regulation, and most recently, Government Regulation Number 18 of 2021 concerning Management Rights, Land Rights, Property Rights to Units Flats and Land Registration confirms the provision that the transfer of land rights through buying and selling only occurs if the process is carried out in the presence of the Land Deed Making Official. Other provisions that must be met in the implementation of the sale and purchase made by and before the Land Deed Making Officer are: the making of the deed must be attended by the parties conducting the sale and purchase transaction or can be represented by a valid power of attorney and witnessed by two witnesses. What about smart contracts?

Smart contracts cannot be used as a Sale and Purchase Deed as the deed made by and before the Land Deed Maker Official, so that it is not binding and does not have legal force attached to it. However, this reason cannot rule out the possibility that in the future the position of the smart contract will be aligned with the position of the deed made by the authorized official. How to? That is by including the elements contained in the agreement in general, translating the legal language into programming language. The problem now is about the role of the Land Deed Making Officer himself, which if you review the concept of a smart contract, it is not needed. This then becomes a question, is the role of the Land Deed Making Officer still relevant for future land registration needs?

Utilization *smart contracts* Blockchain technology for the purpose of buying and selling immovable objects such as land certainly has a big impact on land registration service activities in the Republic of Indonesia, because this technology eliminates the function and involvement of authorized officials. In fact, technology should not eliminate the role of the Land Deed Making Official, and conversely, the law should not prevent technological renewal. Technology and law should go hand in hand, for that, the government issued a regulation that more specifically regulates the use of technology for the purposes of land registration through the Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia Number 7 of 2016 concerning "Form and Contents of Certificates of Land Rights. Land,

Concluding roughly, the mechanism for land registration in the sale and purchase transaction of immovable objects by utilizing the smart contract can be carried out in a hybrid manner. What is a hybrid method? De Fillipi (et.all., 2018) explains that:

"If smart contracts are used to model legal agreements, parties can create hybrid arrangements that blend natural-language contracts with smart contracts written in code. By combining the two, the advantages of both legal agreements and code-based rules become simultaneously available, without a party inevitably having to choose one over the other."

From this explanation, it can be seen that the hybrid method is carried out by combining, or more precisely, entering the elements of a sale and purchase agreement into a smart contract, and changing the legal language in the agreement into a programming

language. Of course, this transaction has consequences, which when described are as follows:

a) The use of digital currency (cryptocurrency) in buying and selling transactions;
b) Proof of transactions arising from buying and selling will be circulated in the blockchain;
c) Decentralized sales system via tokens;
d) The registration of these property rights is also carried out through the blockchain.

The integrated data system and the existence of a verification mechanism in every transaction that occurs on blockchain technology are transparent, so that every activity in it can be monitored 'directly' by the public. The advantages of blockchain technology can also be used for prevention or as an alternative method to resolve disputes that may arise in the sale and purchase transaction of immovable objects, especially for the purpose of proof in court.

IV. Conclusion

The absence of specific regulations regarding the use of smart contracts on blockchain technology for the purpose of buying and selling immovable objects does not mean that such transactions are prohibited.

The basis of the existence of a sale and purchase agreement is an agreement, while the agreement does not have to be realized in written form or verbal words. The Civil Code defines an agreement in Article 1313, which means the act of binding oneself. Furthermore, Article 1338 of the Criminal Code complements that all agreements made legally shall apply as law for the parties who make them. From the two articles, it is known that there is no obligation to put an agreement in the form of a written agreement. As long as the parties fulfill the four elements of a valid agreement, namely: agreement, skill, object of agreement, lawful cause, then the parties are bound to each other by the consequences.

*Smart contracts*cannot be used as a Sale and Purchase Deed as the deed made by and before the Land Deed Maker Official, so that it is not binding and does not have legal force attached to it. However, this reason cannot rule out the possibility that in the future the position and all consequences arising from the smart contract will be aligned with the position of the deed made by the authorized official. Later, the land registration mechanism in the sale and purchase of immovable objects can be carried out in a hybrid way, namely by entering the elements contained in the agreement in general and converting it into the programming language of the smart contract.

References

Ali, Z. (2016). Legal Research Methods. Jakarta: Sinar Graphic.

Baharudin. (2014). "The Authority of the Land Deed Making Official (PPAT) in the Sale-Purchase Process" Land." Progressive Justice Journal. Volume 5. Number 1.

De Filippi, P., Wright, A. (2018). Blockchain and the Law: The Rule of Code. United Kingdom: Harvard University Press.

Filatrova, Natalia. (2020). Smart Contract from the Contract Law Perspective: Oulining New *Regulatory Strategies.*International Journal of Law and Information Technology. Pages 217 – 242. http://doi:10.1093/ijlit/eaaa015.

Government Regulation Number 24 of 2016 concerning Amendments to Government Regulation Number 37 of 1998 concerning Position Regulations for Land Deed

Maker Officials, State Gazette Number 120/2016, Supplement to the State Gazette Number 5893.

Government Regulation of the Republic of Indonesia Number 18 of 2021 concerning Management Rights, Rights on Land, Flat Units, and Land Registration. State Gazette of the Republic Indonesia Number 28/2021, Supplement to the State Gazette of the Republic of Indonesia Number 6630.

Gurkaynak, Gonenc, Yılmaz, İlay, Yeşilaltay, Burak and Bengi, Berk. (2018). Intellectual *Property Law and Practice in the Blockchain Realm.*Computer Law & Security Review. Volume 34. Issue 4. Pages 847-862. ISSN 0267-3649. http://doi.org/10.1016/j.clsr.2018.05.027

Harsono, B. (2008). Indonesian Agrarian Law (History of Formation of Basic Laws *Agrarian Content*and implementation). Jakarta: Bridge.

Kalyuzhnova, Nadezhda. (2018). Transformation of the Real Estate Market on the Basis of Use of *the Blockchain Technologies: Opportunities and Problems*. MATEC Web of Conferences. 212. 06004. 10.1051/matecconf/201821206004.

Law of the Republic of Indonesia Number 2 of 2014 concerning Amendments to the Law Number 30 of 2004 concerning the Position of Notary, State Gazette of the Republic of Indonesia Number 3 of 2014, Supplement to the State Gazette of the Republic of Indonesia Number 5491.

Makarim, Edmon. (2011). "The Future of Notary Law Modernization: A Legal Study of Possibility of Cybernotary in Indonesia." Journal of Law and Development. Volumes 41. Issue3.http://dx.doi.org/10.21143/jhp.vol41.no3.287

Millard, Christopher. (2018). Blockchain and Law: Incompatible Codes? Computer Law & Security Review. Volume 34. Issue 4. Pages 843 – 846 https://doi.org/10.1016/j.clsr.2018.06.006

Murni, R., Wairocana, IGN, and Utama, IMA, (et al.). (2014). "Dissemination of Minutes PT GMS Towards an Authentic Deed from a Cybernotary Perspective," University Udayana.

Nola, Luthvi Febryka. (2011). "Opportunities for the Implementation of Cyber Notary in Legislation invitation in Indonesia." Journal of the State of Law: Volume 2. Number 1.

Purba, N. et al. (2020). Language Acquisition of Children Age 4-5 Years Old in TK Dhinukum Zholtan Deli Serdang. *Linglit Journal: Scientific Journal of Linguistics and Literature*. P.19-24

Samudera, Satrio Arung and Saidin (et al.). (2021). "Cybernotary Concepts in a Basic Perspective Tablelinis Officium Fideliter Exercebo according to the Legislation in Indonesia." Normative Journal. Faculty of Law. Al-Azhar University. Volume 1. Number 2.

Siki, Renhat Malianus, Agung, I Gusti Nyoman and Darmadha, I Nyoman. (2014). "Appropriateness Witness In the Making of the Deed of Sale and Purchase of Land Ownership by the Authorizing Officer Deed Land." Kertha Semaya Journal. Volume 02. Number 02.: http://ojs.unud.ac.id/index.php/kerthasemaya/article/view/10560

Wright, Aaron and De Filippi, Primavera. Decentralized Blockchain Technology and the Rise of *Lex Cryptography*a (March 10, 2015). available at SSRN:https://ssrn.com/abstract=2580664orhttp://dx.doi.org/10.2139/ssrn.2580664. Civil Procedure Code, Article 1233.