



Applying Smart Contract in Indonesian E-Commerce

Vian Endramanto¹, Agri Adriel Bororing², Anak Agung Istri Krisna Gangga Dewi³, Gunawan Wang⁴, Sfenrianto⁵

¹PT PLN (Persero) Pusdiklat UPDL Jakarta, Indonesia, 11440.

Information System Management Department, BINUS Graduate Program-Master of Information System, Bina Nusantara University, Jakarta, Indonesia, 11480.

¹vian.endramanto@pln.co.id, ²agri.adriel@binus.ac.id, ³anak.agung@binus.ac.id, ⁴gwang@binus.edu, ⁵sfenrianto@binus.edu

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ABSTRACT

One of the potentials that can be done by smart contracts is the application of buying and selling business in e-commerce. In a study conducted by the British research institute Merchant Machine as reported in databoks.katadata.co.id states that, out of the 10 list of countries that have the fastest e-commerce growth, Indonesia leads the ranks of these countries with growth reaching 78% in the year 2018. As you know, blockchain not only develops cryptocurrency but also in financial services and smart contract payments. Legal arrangements that apply to smart contracts governed by contract and sale and purchase laws in Indonesia have not yet been found, and need to be explored in order to provide certainty regarding legal protection that can guarantee parties who use smart contracts to guarantee legal certainty and fairness in their application. The research that will be conducted in answering these questions uses a systematic review method, the researcher traces the legislation regarding consumer protection, as well as the principles of electronic contract law that can be applied. The results of the study concluded that with the regulations regarding electronic contracts, smart contracts are legal contracts that can be applied in Indonesia.

Key words: Smart contract, electronic contract, e-commerce

1.INTRODUCTION

In today's fast-paced world, we always get information quickly, from all over the world we can get any information with just one tap, but not all information is true and accurate. It often happens because maybe we got the information from a third person who is not clear about what we want. Imagine it happens if we want to buy something expensive like a property, house, vehicle, classic car or motorcycle and others, if that happens then we will waste a lot of money on things that we don't want and that can be

very annoying, therefore the world is starting to use *blockchain* and *smart contracts* to help make our important transactions.

One example of the potential implementation of smart contracts is in the business of buying and selling in e-commerce, considering that the blockchain technology is now developing rapidly not only in cryptocurrency, but also in financial services and payments with smart contracts.

In some country the concept about blockchain and smart contract is relative new and just started to implemented it. In this case we want to see if there are law that enforce the smart contract, is there any different between normal contract and smart contract, benefit for using the smart contract.

2.METHODOLOGY

In this journal we use systematic review, we gather the article and news on website and do analytical review about the smart contract and the things that relate to smart contract, e-commerce, transaction, conventional contract and about law for contract. Based on the information we make the conclusion about what the different about smart contract and conventional contract, the law that enforce this concept, and the big benefit using smart contract. The website we gather the journal is from google scholar and some article on internet.

3.DISCUSSION

The originator of the smart contract is a cryptography expert, computer scientist, and law scholar, Nick Szabo. Nick began this concept in 1994[1].

Smart contracts are basically almost the same as conventional contracts as a document which binds agreements or agreements between several parties. What distinguishes a smart contract from an ordinary contract is a smart contract as a code stored on the blockchain[2].

Blockchain is a digital transaction record based on its structure, where individual records called blocks are linked together in a list called chains. blockchain is used to record

transactions made with cryptocurrency like bitcoin and has many other applications

A *smart contract* is a computer protocol intended to digitally facilitate, verify, or enforce the negotiation or performance of a *contract*. *Smart contracts* allow the performance of credible transactions without third parties[1]. Smart contract system is claimed to increase trust thanks to the use of permanent code that cannot be changed. There are some downside from using this that is its permanent nature makes smart contracts tend to be stricter than real contracts, and the limitations of the programming language for engineers. Agreements existing in the form of software code implemented on the Blockchain platform, which ensures the autonomy and self-executive nature of Smart contract terms based on a predetermined set of factors [6]

According to the opinion of Mark Giancaspro smart contract "...is a computer program which verifies and executes its terms upon the occurrence of predetermined events. Once coded and entered into the blockchain, the contract cannot be changed and operates in accordance with its programmed instructions".

A contract is an agreement that can be enforced legally. And the new problem faced by smart contracts is what happens if an agreement can be enforced not by public law enforcement but by the provisions and mechanisms stipulated in the contract terms themselves. Generally the legal action that applies in breach of contract is that the injured party will go to a court of law and demand compensation such as money, restitution, and performance, but in the smart contract the injured party needs to go to court to repair a contract that has been implemented or is being in the process is done. That is because a strong smart contract has been implemented or is being carried out when the court hears the case so the drug must come after the fact to cancel or change the agreement in a certain way[10].

Smart contracts are agreements that are automated. The implementation is carried out by a computer running code that has translated legal prose into an executable program. The programs contained in the computer have control over the physical or digital objects needed to carry out the execution. Smart contracts don't depend on the state. For enforcement, but it is a way for contracting parties to ensure performance[10].

In legal purposes, smart contracts are divided into two, namely strong and weak smart contracts. A strong smart contract has expensive revocation and modification costs, while a weak smart contract does not. This means that if the court can easily be changed then the contract is said to be a weak smart contract, however if it is costly to make a large contract change, it is not it makes sense for the court to

do, then the contract is said to be a strong smart contract[10].

There are 5 types of forms of smart contracts that have different functions and applications including basic token contracts, crowd sale contracts, mintable contracts, refundable contracts, and terminable contracts[5]. Of the five types of forms, four of which are types of smart contracts that are commonly used in the sale and purchase of cryptocurrencies[5]. Whereas Terminable Contract is a form of smart contract that can be used for blockchain systems in buying and selling goods online and executing blockchain programs in financial services. The use of smart contracts in the online marketplace specifically as an electronic contract agreed by the parties, which then the electronic contract is recorded in the blockchain system[5][9]. The application of smart contracts aims to make online trading transactions easier, more efficient and safer, as well as one of the technologies that have the potential to support economic growth in Indonesia[5].

In the application of e-contract or smart contract is a contract or agreement that is made electronically by means of interaction between parties offered electronically. in practice e-contracts are more commonly found in legal relations between producers and consumers.[4]. According to the general explanation of ITE Law Article 1 number 17 mentions that electronic contracts are parties' agreements made through the Electronic System[9].

Legal Protection The Use of Smart Contracts in Buying and Selling Through E-Commerce,

Smart contract has fulfilled the electronic contract criteria as regulated in Act Number 11 of 2008 concerning Information and Electronic Transactions as well as in the Wetliek Burgerlijk regarding engagement, specifically the terms of contract validity so that the smart contract can be legally used in buying and selling activities in online e-commerce such as the marketplace the platform[5].

The smart contract can also be expanded its development not only limited to buying and selling transactions. In terms of legal protection of the parties in buying and selling online Against the seller in the smart contract mechanism in online trading transactions, the buyer can sue the seller if the buyer suffers a loss[5]. The seller may also request the smart contract developer in the event of an error originating from the smart contract provided by the smart contract developer[5]. The parties can also pay attention to Law Number 8 of 1999 concerning Consumer Protection, which not only regulates matters concerning the buyer's rights, obligations of business actors, and agreement clauses that should not be applied to agreements with consumers, but also buyer obligations and seller rights in buying and selling online[5].

In Indonesia there are laws regarding electronic transactions where smart contracts are included, namely in UU no 11 year 2018. Broadly speaking, the material of the Information and Electronic Transaction Act (UITE) is divided into two major parts, namely the regulation of information and electronic transactions and concerning acts that are prohibited. Regulations regarding information and electronic transactions refer to international instruments, such as the UNCITRAL Model Law on eCommerce and the UNCITRAL Model Law on eSignature. This section is intended to accommodate the needs of business people on the internet and the general public in order to obtain legal certainty in conducting electronic transactions. Some of the materials that are regulated include: 1. recognition of information / electronic documents as legal evidence (Article 5 & Article 6 of the ITE Law); 2. electronic signatures (Article 11 & Article 12 of the ITE Law); 3. electronic certification (certification authority, Article 13 & Article 14 of the ITE Law); and 4. implementation of the electronic system (Article 15 & Article 16 of the ITE Law)[5].

4.CONCLUSION

Businesses prefer to deal with people or organizations they trust based on their prior dealings or their reputation. Thus smart contracts are certainly very beneficial for business activities because smart contracts offer cost-effective and impartial solutions for the community. There are the benefit of using smart contract : 1. Direct business relationships, 2. Integrity & Trust, Speed & Security, 3. Efficient record keeping, 4. Paperless . Then it can be concluded that the smart contract can be legally used in buying and selling online marketplace platforms or e-commerce, because in terms of law Smart contracts have met the criteria for electronic contracts as stipulated in Act Number 11 of 2008 concerning Information and Electronic Transactions as well as in Wetlik Burgerlijk concerning involvement, specifically the provisions of contract validity so that smart contracts can be used legally in buying and selling activities in online marketplace platform or e-commerce.

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