Research Article

Privacy Policy on Smart Contracts in E-Commerce Transactions

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ABSTRACT

The technology of smart contract is a new technology applied in online trading. This technology has the possibility of errors and its arrangement that results in losses to buyers. This study was aimed to examine the legal certainty for the users smart contract in e-commerce transactions in Indonesia. The method used was the normative juridical method. The results of the study indicate that the privacy policy on smart contracts in e-commerce transactions based on national and international laws still has a legal vacuum in which the aspect of national law is guided by the ITE Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 and the Regulation of the Minister of Communication and Information Number 20 of 2016 concerning Personal Data Protection in Electronic Systems. Then, in the aspect of international law referring to the UNCITRAL Model Law on Electronic Commerce (MLEC), it also establishes the rules for the formation and validity of contracts made electronically and for attribution.

Keywords: Legal Protection; International E-commerce; Smart Contract.

A. INTRODUCTION

Technology policies on legal protection for consumers in inter-state e-commerce transactions do not have geographic boundaries (Dini, Ety, & Rosmita, 2019), so consumers in inter-state e-commerce transactions require a form of legal protection for consumers and dispute resolution to fight for their rights (Dewi, & Purwanto, 2019).

The development of information and communication technology is currently leading to convergence that facilitates human activities as creators, developers and users of the technology. One of them can be seen from the very rapid development of internet media (Santos et al., 2017). Internet as a medium of information and communication electronics have been widely used for various activities, including browsing (browsing, surfing), searching for data and news, sending messages to each other via e-mail, and trading. Trading activities using internet media are known as electronic commerce, or stand for E-Commerce (Hanim, 2014).

Electronic commerce, or e-commerce, is the buying and selling of goods and services on the Internet (Khan, 2016). Trust, in a broad sense, is the confidence a person has in his or her favorable expectations of what other people will do, based, in many cases, on previous inter-actions. Although another party's (person or persons) previous behavior cannot guaranty that the party will behave as one expects, previous interactions in which that party behaved as expected increase in trust, is the belief that the other will behave as one anticipates (Gefen, 2000) .

This contract generally uses the clickwrap agreement system (Wardani, & Afriansyah, 2020). clickwrap agreement system is a contract for the purchase of goods or the use of goods or services offered by online merchants (Santoso, 2015). The application of smart contracts in online buying and selling aims to change online buying and selling transactions to be more efficient, faster, and safer. However, This contract is modified. The modified clickwrap agreement is new, and the presentation type is slightly different for the clickwrap contract. In other hand, the term clickwrap agreement is displayed directly on a computer screen on the same web page where the "I Agree" button is located. In contrast, the term modified clickwrap contract is not immediately visible but must be accessed via hyperlink or by reference to how or where to find it (Johansson, 2014).

This contract can be said to be a standard clause in e-commerce transactions both nationally and internationally because the contents of the contract are determined unilaterally by the seller / merchant (Nasution et al, 2017). In this case, consumers only have two choices, to accept or cancel orders (Rohendi, 2015).

There is a legal vacuum in Indonesia in providing legal protection for consumers of international e-commerce transactions, so that in its implementation (Firdaus, 2020), E-Commerce often experiences problems, especially related to contracts, consumer protection, taxes, jurisdiction and digital signatures.

E-commerce firms are significantly more tax avoidant than traditional firms. However, as the latter have increasingly sought to avoid paying taxes over the period studied, the gap between the two firm types has been reduced (Argiles-Bosch et al, 2020)

E-commerce is regulated in Articles 65 and 66 of the Trade Law on Trade Through Electronic Systems. Meanwhile, further provisions will be regulated in a Government Regulation which is still being pushed for completion (Pariadi, 2018). In addition, the Government has established Government Regulation of the Republic of Indonesia Number 80 of 2019 concerning Trade Through Electronic Systems, which also regulates electronic contracts in e-commerce to protect the interests of consumers in Indonesia.

The privacy policy on smart contracts in e-commerce transactions related to legal protection for consumers across countries is considered unable to deal with legal issues that often occur in e-commerce (Firdaus, 2020). Then, the basic requirements of smart legal contracts are discussed, i.e. the contracts of serving legal purposes (Hu et al, 2021)

The theory of the momentum of contract occurrence is, first, the theory of Declaration (Uitings theorie) which is an agreement that occurs when the parties accept the offer stating that they accept the statement. Second, the Delivery theory (Verzendtheorie) states that when the acceptance of response is delivered at the time of an agreement is made, the people have relatively certain guarantee on when the contract occurs. For the transaction of ordinary business, it is relatively easier. Third, the theory of knowledge (Vernemingstheorie) is at the time of the contract and then shifted to the answers of acceptance recognized by those who offer. The

fourth, the theory of Acceptance (Ontvangstheorie) is in response to a lack of theoretical knowledge (Lamber, 2018).

Based on this contract theory, it is an effective coordination mechanism, supply chain contracts have been widely applied in technology research (Liu et al, 2021).

The privacy policy on smart contracts in e-commerce transactions requires legal protection for consumers. Amadi Miru states that the theory of legal protection for consumers is all efforts to ensure legal certainty to provide protection to consumers and to regulate the efforts to ensure the realization of legal protection against consumer interests (Salamiah, 2014).

On an international scale, e-commerce has been regulated in the UNCITRAL Model Law on Electronic Commerce (MLEC) which aims to enable the commercial use of modern communication and information storage tools. Based on three fundamental principles of technological neutrality, non-discrimination, and functional equality in electronic media for paper-based concepts such as "writing", "signature" and "original" UNCITRAL Model Law on Electronic Commerce (MLEC) also sets the rules for the formation of and the validity of contracts made electronically and for attribution. However, the international law, related to smart contracts in e-commerce transactions, has not been regulated deeply but guided by the most characteristic connection theory as regulated in Article 8 of the Hague Convention and Article 4 paragraphs (1) and (2).) of the Rome Convention.

Based on this, the issues discussed in this article are regarding the privacy policy on smart contracts in e-commerce transactions. A Smart contract is an embedded procedure that is stored with followed up data (Setia, & Susanto, 2019). The smart contract alone is still relatively new in its application in e-commerce transactions, so there is a possibility that human-caused errors (human error) in the preparation of smart contracts can adversely affect parties, especially buyers. In addition, it is necessary to clarify the legal relationship of the parties when experiencing loss so that each party can determine the dispute resolution mechanism when the parties experience loss in its implementation (Gultom & Arief, 2005).

Behind the advantages and conveniences offered by e-commerce transactions, both the seller and buyer must be careful because they are not accompanied by the birth of laws that regulate these matters, especially in consumer protection such as the problems regarding fraud, or the goods that are not. in accordance with what are offered. "As a result, many parties suffered losses due to the legal vacuum in smart contracts both nationally and internationally (Karimi, & Akbari, 2017).

The statistics on the Databoks regarding users and penetration rates of e-commerce in Indonesia in 2017-2021 recorded that the number of e- commerce users in Indonesia in 2017 reached 139 million users, which then increased 10.8% to 154.1 million users in 2018. In 2019, it is projected to reach 168.3 million users and 212.2 million by 2023 (Jayani, 2019). With the increase in the e-comemrce user's, it is necessary to have the legal certainty for the users of smart contract on e-commerce transactions.

Based on the explanation above, the smart contract in e-commerce aims to provide legal certainty for the implementation of the buying and selling business to be more flexible and efficient, but it has the potential to cause legal problems related to the privacy policy of implementing smart contracts in crossborder e-commerce. In this case, the researcher wants to examine how the legal certainty of the privacy policy of smart contract in e-commerce transactions in Indonesia and the form of legal protection for consumers against the use of smart contracts in crossborder e-commerce transactions based on the perspective of national and international laws.

The privacy policy of smart contract in e-commerce transactions emerges because there is no legal certainty in Indonesia. The parties making the contract comply with and respect the agreement stipulated in the Civil Code for both parties or it is called the Principle of Pacta Sunt Servanda.

Given the research that focused on privacy policies on smart contracts in e-commerce transactions in Indonesia so that in this writing there are basically differences with previous research such as: Dzulfikar Muhammad which focused on the Characteristics of Buying and Selling Agreements with Smart Contracts in E-Commerce (Muhammad, 2019); Dwi Hidayatul Firdaus who focused on the applications of smart contract in e-commerce in the perspective of sharia agreement law (Firdaus, 2020); Achmad Bahauddin who focused on blockchain and smart contract applications to support MSME supply chain finance based on sharia crowdfunding (Bahauddin, 2019); Abdul Gaffar Khan who focused

on electronic commerce regarding the benefits and challenges of an emerging economy (Khan, 2016); Philippa Ryan who focused on smart contract relationships in the legal implications of electronic transactions carried out on blockchain (Ryan, 2017).

Thus, from previous research, there is an element of novelty in this study regarding legal certainty of privacy policies on smart contracts in e-commerce transactions in Indonesia as well as legal protection for the consumers using smart contracts in e-commerce transactions based on national and international legal perspectives.

B. RESEARCH METHOD

This article was based on doctrinal studies using Statue Approach as well as the comparison approach. This material-legal materials analyzed include primary and secondary legal materials.

The nature of the research results constitute the concept using the approaches included in the normative juridical research method of philosophical approaches. In philosophical approach, it also used the statute approach as well as the comparison approach to determine the Reconstruction of the legal protection of Transactions on the E-Commerce International Privacy Policy on Smart Contracts.

The data analysis technique used in this study was a data analysis technique with deductive logic which is an analysis that originates from the submission of a major premise which is then submitted to a minor premise which then draws a conclusion (syllogism) (Marzuki, 2014).

C. RESULTS AND DISCUSSION

1. The concept of E-Commerce

E-commerce is also known as " electronic commerce or internet commerce (Sharma, & Sadagopan, 2021).E-commerce is a multidisciplinary field that includes engineering fields such as networks and telecommunications, security, storage and data retrieval from multimedia; business fields such as marketing (marketing), purchasing and sales (procurement and purchasing), billing and payment (billing and payment), and distribution network management (supply chain management); and legal aspects such as information privacy, intellectual property rights, taxation, the making of treaties and other legal settlement.

Electronic commerce transactions are trade transactions between sellers and buyers to provide goods, services or take over rights. This contract is carried out with electronic media (digital medium) where the parties are not physically present and the medium is on a public network with an open system, namely the internet or the World Wide Web. These transactions occur regardless of regional boundaries and national requirements (Badrulzaman, 2001).

The principle adopted by business actors in carrying out their economic activities is the economic principle, namely obtaining the maximum possible profit with the minimum possible capital. That is, with this general thinking, it is very possible that consumers will be harmed, either directly or indirectly.

The trading mechanism in the system is e-commerce explained through the value chain flow chart in e-commerce, (Maulana, Susilo, & Riyadi, 2015):

Chart 1. The Trade Flow Mechanism of the E-Commerce System
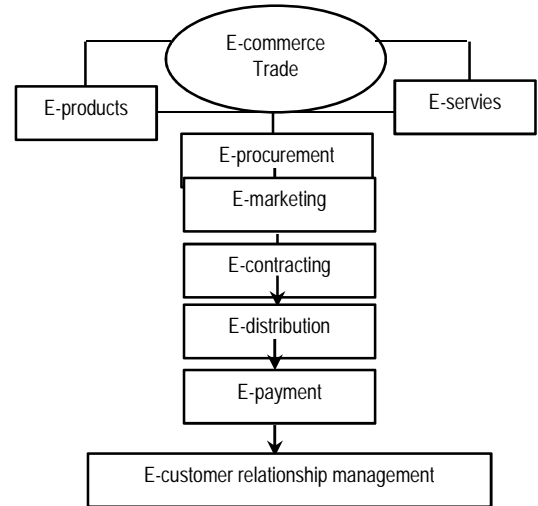
Based on this chart, it can be explained that: a.e-products and e-services, an organization of electronic products and services using forms suitable for the business field; b. e-procurement, is a procurement process; c. e-marketing, a marketing research department that is suitable for the electronic market; d. e-contracting, is a standard procedure for legal contract work acceptance; e. e-distribution, is the distribution of digital products and services; f. e-payment, discusses the various electronic currencies used and for payment; g. e-customer relationship management, relating to customer aspects in electronic business.

E-commerce is an important marketing component of the export strategy (Tolstoy et al., 2020). The position of e-commerce in Indonesian law lies in the field of Civil Law as part of Agreement Law, so Article 1320 of the Civil Code also applies regarding the validity of an agreement, namely : "In order to have a valid agreement, four conditions need

to be fulfilled: (1) their agreement which binds itself; (KUHPerd. 28, 1312, etc.), (2) the ability to make an engagement; (KUHPerd. 1329 etc.), (3) a certain subject; (KUHPerd. 1332 etc.), and (4) a cause that is not prohibited (KUHPerd. 1335 etc.).

In Indonesia, e-commerce regulation is found in Law Number 11 of 2008 concerning Electronic Information and Transactions (hereinafter referred to as the ITE Law) (Anggraeni, & Rizal, 2019). Two important aspects of e-commerce regulation in the Law are as follows (Rohendi, 2015): a. Recognition of electronic transactions and electronic documents in the framework of engagement law and proof of law so that the legal certainty of electronic transactions can be guaranteed; b. The classification of the actions which are classified as violations of the law related to the misuse of information technology is accompanied by criminal sanctions.

The recognition of electronic transactions and electronic documents makes e-commerce activities a legal basis and provides protection for consumers who transact e-commerce. Consumer protection according to Law Number 8 of 1999 concerning Consumer Protection (hereinafter referred to as UUPK) Article 1 point 1 is: "all efforts to ensure legal certainty to provide protection for consumers".

2. The Concept of Privacy

Every e-commerce transaction has conditions that must be obeyed, including payment terms and delivery methods. These rules need to be carried out by the concept of privacy in order to provide legal protection for both parties.

Data is an important asset and obtaining it is even easier. When a buyer creates an account on a website, the buyer will be asked to enter personal data and the personal data will enter the system managed by e-commerce business organizer or e-commerce seller.

This is where personal data must be protected, starting from the acquisition, use, processing, distribution, and destruction of personal data. These rules can be accommodated in the privacy policyor privacy policy (Indriyani, Sari, & WP, 2017).When a buyer transacts through a website or electronic media managed by an e-commerce provider, the buyer has entered into an agreement with the e-commerce organizer or seller in the privacy policy.

The privacy policy required by sellers and service providers in e-commerce transactions provides a complete description stating the responsibility and implementation of these provisions in order to protect the privacy rights of an individual who has disclosed his privacy data in e-commerce activities. Privacy policy in any ecommerce transaction activities can be accessed easily because these provisions become extremely important inactivities ecommerce as a code of conduct to be respected by the parties (Indriyani, Sari, and WP, 2017).

3. The Concept of Smart Contract

A smart contract can be considered a trusted third party between non-trusting participants. Smart contracts consist of a contract storage, a balance, and program code. Mark Giancaspro explains a smart contract as "... 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 " (Giancaspro, 2017).

Smart contracts algorithms and special protocols are designed to Facilitate, verify and implement negotiations, as well as to execute the contract, allowingfor making irreversible transactions without the participation of third parties (Ivanova, & Khirankov, 2020) .Viewed from the function and its application, smart contract grouped into 5 (five) types, namely the basic token contract, crowd sale contract, mintable contract, refundable contract, and terminable contract. Of the five types of smart contracts, the first four forms are types of smart contracts that are commonly used in buying and selling crypto currencies. Meanwhile, a termed contract is a form of smart contract that can be used for the blockchain system in buying and selling goods online and executing blockchain programs in financial services.

A smart contract is an electronic transaction protocol intended to digitally facilitate, verify, or enforce the negotiation and execution of the terms of an underlying legal contract designed to fulfill common contractual conditions comprising payments, legal obligations, and enforcement without third parties (Prause, & Boevsky, 2019) The

purpose of smart contracts in the marketplace online buying and sellingis to change online transactions to be safer, more efficient. Therefore, human resources and blockchain are needed that have a level of security that has been tested and trusted to protect the parties (sellers and buyers. Because smart contracts are still new to online trading, there is a possibility that human-caused

errors (human error) in the preparation of smart contracts can adversely affect parties, especially buyers. In addition, it is necessary to clarify the legal relationship of the parties. if you experience a loss so that each party can determine the dispute resolution mechanism if the parties experience losses in its implementation.

With the rapid development of smart contract to date, the use of smart contract in Indonesia has not been found (Ranto, 2019), nAmun, there are some laws that have an arrangement about blockchain in financial technology or fintech. Article 23 of the Financial Services Authority Regulation Number 77 / POJK.01 / 2016 concerning Information Technology-Based Lending and Borrowing Services or Fintech regulates that fintech operators can exchange data with fintech service support providers which can be in the form of information technology, including big data analytic, aggregator, robo advisor, or blockchain.

Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions has regulations regarding "electronic contracts" in Article 1 number 17, namely: "agreements of the parties made through an 'electronic system'." "Electronic system" is then defined in Article 1 point 5 as "a series of electronic devices and procedures that serve to prepare, collect, process, analyze, store, display, announce, transmit, and / or disseminate electronic information." With the definition of an electronic contract outlined by the ITE Law, it can be concluded that smart contracts in Indonesian legislation are included as electronic contracts

because a smart contract is a contract formed through an electronic system. Smart contract technology is increasingly being used in the business and trade sectors. all over the world.

4. Privacy Policy on Smart Contracts in E-Commerce Transactions

Legal protection is the protection of dignity, as well as recognition of human rights owned by legal subjects based on legal provisions from arbitrariness or as a collection of rules or rules that will protect something from other things (Benuf, Mahampang, & Priyono, 2019). With regard to consumers, it means that the law provides protection for the rights of customers from something that result in the fulfillment of these rights (Muhammad, 2019).

Protection of the privacy and personal data of the public, constitutionally the State protects the privacy and data of the population based on Article 28G paragraph (1) of the 1945 Constitution which reads "Everyone has the right to protection of personal, family, honor, dignity and property under its control as well as the right to a sense of security and protection of fear to do or not do something that is a human right."

Based on the above, this implies that the State has an obligation as the personal protector of every citizen. Personal data of the population that must be protected includes information about physical and / or mental disabilities, fingerprints, iris, signature, and other data elements which constitute a disgrace someone.

Article 48 paragraph (1) Government Regulation Number 40 Year 2019 which reads Indonesian ministries / institutions and legal entities

that obtain Population Personal Data or Population Data are prohibited from:

a. using Resident Personal Data or Data Population beyond their authority or;
b. make Personal Data or Data Population Population as public information material before it gets the agreement of Ministers.

Then, the protection of its own privacy policy in e-commerce transactions in Indonesia is guided by Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions (UU ITE). The use of any information through electronic media relating to a person's personal data must be carried out with the consent of the person concerned. In the use of information technology, protection of personal data is a part of personal rights (privacy rights).

Derivative regulations from the ITE Law and its amendments that specifically regulate the protection of personal data are contained in the Regulation of the Minister of Communication and Information Technology (Permenkominfo) Number 20 of 2016 concerning Personal Data Protection in Electronic Systems which states that the protection of personal data in electronic systems includes the protection of acquisition, collecting, processing, analyzing, storing, displaying, announcing, sending, disseminating and destroying personal data.

From the description above, personal data is a confidential matter, where not just anyone can access, share or even leak other people's personal data to the public just like that. In this case, various regulations have regulated it and have guaranteed security.

The technology of Smart contract is

increasingly being used in e-commerce transactions around the world. However, not all e-commerce transactions can be applied to the technology of smart contract because the smart contract is a decentralized system for electronic agreements placed on the internet.

A smart contract is an automatable and enforceable agreement. Automatable by computer, although some parts may require human input and control (Tchakounte et al, 2020). Smart contracts are computer protocols which have the primary objective to supervise, implement, or validate performances or negotiations of contracts (Estevam et al, 2021)

The application of smart contracts in online buying and selling aims to change online buying and selling transactions to be more efficient, faster, and safer. However, considering that the technology of smart contract is still relatively new to be applied in online buying and selling, there is a possibility that an error may occur in the preparation of the smart contract which can result in losses to buyers. On the other hand, the privacy policy on smart contracts in e-commerce transactions has not been specifically regulated in the national and international legal systems.

The privacy policy on Smart Contracts in E-Commerce Transactions is very necessary to avoid misuse of personal data. Smart contracts are basically in the form of code that is stored in the blockchain system and can only be accessed by people on the network.

The protection of personal data is a form of privacy right which is an individual right so that it must be guaranteed by the state. The concept of personal data protection implies that individuals have the right to decide whether to share their personal data or not. The rights to privacy, in personal data protection, are very important and even a key element for freedom and individual dignity.

The legal protection of the privacy policies to the parties in the smart contract needs to be explored in order to realize justice and legal certainty in contracts. In this case, the protection of its own privacy policy in e-commerce transactions in Indonesia is still guided by Law Number 19 of 2016 concerning the Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions (ITE Law). One of the lead sectors of the Indonesian Government that handles e-commerce is the Ministry of Communication and Information (Kemenkominfo).

The protection of data privacy through a mechanism of privacy policy on smart contracts in e-commerce transactions continues to improve because there are two legal regulations that specifically regulate privacy rights; the Draft of the Ministerial Regulation on Protection of Personal Data which is a mandate of Government Regulation Number 82 of 2012 and the Draft of the Law on the Protection of Personal Data. The two legal regulations are encouraged by the government to answer the needs of society related to the protection of consumer privacy far from being a spontaneous process of pure market forces and consumer fever (Kan, 2021).

The purpose of this legal regulation is to encourage standard clauses that are often served to potential customers in e-commerce applications to be

fair and open for both parties to agree on.

In order to protect the right to privacy so as not to be violated by e-commerce providers against smart contracts that have been made by parties, it is possible for legal remedies to be accessed by online consumers, which can be seen from two processes; the adjudicative process (litigation and arbitration) and the consensus process (mediation and negotiation), UNCTAD in the E-Commerce and Development Report 2003 provides an overview of the elements in the adjudicative and consensus resolution.

Regarding the law available to the victims of violation of the right to privacy in accordance with Indonesian laws based on Law Number 18 of 2008 concerning ITE and Government Regulation Number 28 of 2012 concerning PSTE, it can file a civil claim for damages, meaning that the legal mechanism for the demands of compensation from online users to the provider of e-commerce is a new mechanism to ask for civil redress. Even though this privacy data breach is broad in nature and not limited to just the civil element, it is necessary to have more specific legal regulations and to expand the legal efforts made for consumers whose privacy rights are violated.

The policies of Smart contract in e-commerce transactions are a complete description which states the responsibility and implementation of these provisions in order to protect the privacy rights of an individual who has disclosed his privacy data in e-commerce activities. The privacy policy in every transaction of e-commerce activities can be accessed easily because these provisions are very important in e-commerce activities. Then, this requires legal protection so that it has legal force to be studied in relation to the policies of smart contract privacy in e-commerce transactions

Protection of privacy policies for international e-commerce transactions against smart contracts requires applicable legal instruments, either in the form of new laws or regulations or legal rules tailored to the needs of this media (Sitompul, 2001). Without protection and legal certainty for consumers, Indonesia will only become a dumping ground for inferior goods and services. What is more worrying is that the people's aspirations will be more difficult to achieve (Sudaryatmo, 1999). Legal protection by the state for consumers with weak bargaining power is very urgent. In trade transactions on the internet where the relationship between business actors and consumers is getting closer and more open, state interference, cooperation between countries and international cooperation are urgently needed, namely to regulate the pattern of relations between business actors, consumers and a system of legal protection for consumers.

D. CONCLUSION

The privacy policy on smart contracts in e-commerce transactions based on national law and international law is still not clearly regulated. In terms of this privacy policy, there is still a legal vacuum in the aspect of national law (referring to Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Electronic Information and Transactions (UU ITE) and the Regulation of the Minister of Communication and Information

(Permenkominfo) Number 20 of 2016 concerning Personal Data Protection in Electronic Systems) and in the aspect of international law (referring to the UNCITRAL Model Law on Electronic Commerce (MLEC)). It also establishes the rules for the formation and validity of contracts created electronically and for attribution. However, according to the international law related to smart contracts in e-commerce transactions, it has not been regulated deeply, but it is guided by the most characteristic connection theory as regulated in Article 8 of the Hague Convention and Article 4 paragraphs (1) and (2) of Rome Convention. In this case, the legal protection that can be taken against violations of privacy policies on smart contracts in e-commerce transactions can file a civil loss suit. Then, the international legal protection can be seen from two processes; the adjudicative process (litigation and arbitration) and the consensus process (mediation and negotiations). UNCTAD in the E-Commerce and Development Report 2003 provides an overview of the elements in the adjudicative and consensus resolution.

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