

URGENCY OF LEGAL PERSONAL DATA PROTECTION IN E-COMMERCE TRANSACTIONS INVOLVING ARTIFICIAL INTELLIGENCE

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Abstract: The protection of personal data has become increasingly critical in the digital era, particularly in e-commerce transactions involving the use of Artificial Intelligence (AI). A significant legal gap persists because, although Indonesia has enacted Law No. 27 of 2022 on Personal Data Protection, there are still no implementing regulations specifically addressing the use of AI in personal data collection and processing. Consequently, legal protection for consumers remains inadequate and vulnerable to misuse by digital businesses and cybercriminals. This study aims to analyze the effectiveness of legal protection for consumers' personal data in Indonesia and to assess the urgency of regulating AI use in e-commerce activities. The research employs a normative legal method, utilizing legislative and conceptual approaches. The findings reveal that AI can enhance the detection and prevention of personal data breaches more effectively. However, without implementing regulations and an independent supervisory authority, AI may also pose significant privacy risks. Moreover, the lack of clear legal standards governing the accountability of electronic system operators for data security further weakens personal data protection. This study recommends formulating detailed implementing regulations governing AI use in personal data management and establishing an independent supervisory body with the authority to monitor, evaluate, and enforce compliance with personal data protection laws.

Perlindungan data pribadi menjadi semakin krusial di era digital, terutama dalam transaksi e-commerce yang melibatkan penggunaan Kecerdasan Buatan (*Artificial Intelligence*, AI). Terdapat kesenjangan hukum yang signifikan karena, meskipun Indonesia telah memberlakukan Undang-Undang No. 27 Tahun 2022 tentang Perlindungan Data Pribadi, belum terdapat peraturan pelaksana yang secara spesifik mengatur penggunaan AI dalam pengumpulan dan pemrosesan data pribadi. Akibatnya, perlindungan hukum bagi konsumen masih belum optimal dan rentan terhadap penyalahgunaan oleh pelaku bisnis

digital maupun kejahatan siber. Penelitian ini bertujuan untuk menganalisis efektivitas perlindungan hukum terhadap data pribadi konsumen di Indonesia serta menilai urgensi pengaturan penggunaan AI dalam aktivitas *e-commerce*. Metode penelitian yang digunakan adalah yuridis normatif dengan pendekatan perundang-undangan dan konseptual. Hasil penelitian menunjukkan bahwa AI dapat meningkatkan efektivitas deteksi dan pencegahan kebocoran data pribadi. Namun, tanpa adanya peraturan pelaksana dan lembaga pengawas independen, AI juga berpotensi menimbulkan risiko serius terhadap privasi. Selain itu, ketiadaan standar hukum yang jelas terkait tanggung jawab penyelenggara sistem elektronik atas keamanan data semakin melemahkan perlindungan data pribadi. Penelitian ini merekomendasikan penyusunan peraturan pelaksana yang komprehensif mengenai penggunaan AI dalam pengelolaan data pribadi serta pembentukan lembaga pengawas independen yang berwenang untuk memantau, mengevaluasi, dan menegakkan kepatuhan terhadap peraturan perlindungan data pribadi.

Keywords: *Personal Data; E-commerce; Legal Protection; Artificial Intelligence.*

INTRODUCTION

The use of artificial intelligence in the digitalisation era, especially in the online business world, provides convenience for humans. This increase is also growing with the introduction of artificial intelligence. With the presence of internet-based services due to technological advances including e-commerce, e-government and various other services in cyberspace. The presence of these services also has an impact on the law. A very basic impact is the protection of personal data of consumer users and the use of artificial intelligence that can analyse and collect personal data of the community. Therefore, the government is required to be able to provide protection to the community caused by the artificial intelligence used. The government must regulate legislation in the use of artificial intelligence and the existence of a supervisory body specifically handling the traffic of personal data processed by artificial intelligence.

The development of digital technology that is sneaking into the business world encourages many online trading platforms to emerge, known as e-commerce (Resti, 2022). E-commerce was created to fulfil the high consumer demand for online transaction platforms that can facilitate the buying and selling process, both for sellers and buyers (Romindo, 2019).

Information technology plays an important role in various sectors by facilitating the organisation of trade through e-commerce efficiently and quickly. This helps humans in carrying out various tasks in the field of trade more easily. Advancements in information technology systems have made human life easier in various fields (Aditya, 2023). In the past, trade was carried out in a traditional way but now trade can be carried out both traditionally

and electronically. According to Kenneth C. Laudon Laudon, Jane P., is a renowned author and expert in the field of information technology. E-commerce refers to electronic buying and selling activities between consumers or companies through computer networks and is carried out online (Deni, 2020). The rapid development of e-commerce platforms in Indonesia shows how important the role and presence of these platforms in people's lives as social media and a means to disseminate content online as well as to conduct business transactions (Tasya, 2020). However, there are three main problems with e-commerce platforms, namely trust, privacy, and security (Rizkiawan, 2020).

The digitalisation of the e-commerce industry has led to a significant transformation in contemporary business. It has become a major driver in the growth of the digital economy (Roida, 2021). Technological advancements and the availability of the internet have also had a major impact on the business world, especially on the e-commerce industry which is significantly affected by these changes. Improving creative and efficient e-commerce applications is vital in facing competition and challenges in an increasingly competitive global market (Rosidin, 2024). E-commerce applications are not only useful for increasing sales, but also for expanding market share. In this digital age, businesses can use e-commerce platforms efficiently to achieve long-term success.

For the convenience of e-commerce platform users, more and more artificial intelligence technologies are being developed. Sterne describes that artificial intelligence is one of the main focuses in the study of computer science (Abdur, 2022). Artificial intelligence is the application of advanced methods and technologies to develop the ability of machines and computers to simulate, improve, and extend their intelligence automatically. In addition, the sophistication of artificial intelligence technology also allows machines and devices to have human-like thinking capabilities, such as self-learning, adaptation, and automatic programming (Bambang, 2022). In order to improve the efficiency of digital marketing strategies, artificial intelligence is used by integrating it into Android systems, iOS, website platforms, and even mobile applications. Now, almost every Android and iOS mobile app is utilising artificial intelligence to help improve accessibility and efficiency (Sewaka, 2022).

The ability to analyse data, understand patterns, and pay attention to the surrounding environment to make decisions has driven the rapid development of the presence of artificial intelligence in various industrial sectors. The use of artificial intelligence in improving production efficiency is becoming a popular global trend. Projections show that the use of Artificial Intelligence in companies can increase their production by at least 40% by 2023. In some countries, the use of artificial intelligence has reached almost 56%, especially in the industrial sector (Kirana, 2020).

In marketing strategies, artificial intelligence enables content customisation and more accurate product recommendations, improving consumer experience and increasing sales. The benefit gained by security systems from artificial intelligence is its ability to identify cyber threats and fraudulent transactions more precisely and quickly (Oxy, 2023). The use of

artificial intelligence has led to automation and individualisation in consumer relationships, improving customer experience and operational efficiency.

The influence of internet use has not been quantified by the current legal system. Meanwhile, the use of the internet is already having an impact on contemporary business. Recent developments in communication and information technology have resulted in highly innovative and creative business transaction models or systems. The sophistication of contemporary technology and the ease of using global information networks are very evident. It is characterised by the presence of the internet, also known as cybernet, or cyberspace, which is a technology that enables the rapid change of data across cyberspace. While Artificial Intelligence technology offers promising opportunities, its use also poses threats and potentials that must be carefully understood by society. The advent of artificial intelligence has impacted the world of work, where automation has replaced human jobs in some situations. There are also concerns related to data privacy and security, as artificial intelligence can collect, analyse and interpret an unprecedented amount of individual data. Data protection and privacy policies are essential to prevent unwanted misuse or invasion of privacy (Siti, 2023). Every citizen has the right to legal protection provided by the state, including legal protection for consumers.

RESEARCH METHOD

This study applies normative legal research methods. Normative legal research is a type of desk research that involves analysing secondary data or library documents (Sunggono, 2005). A deductive approach, which is the process of thinking to draw conclusions from general principles that have been proven true, is used to apply those conclusions to specific situations (Sedarmayanti, 2011). This study looks at how the use of Artificial Intelligence can protect consumers' personal data and how Indonesian laws protect consumers in e-commerce transactions. The main legal sources consist of research results, scientific papers, draft laws, and other literature sources. Additional legal sources are materials that relate and explain issues related to the main legal sources. Normative analysis is used to analyse the data that has been collected. This method is used to evaluate and discuss the results of the information that has been collected. This method will produce conclusions relating to the problem using the syllogism method.

RESULT AND DISCUSSION

Regulating AI Use for Consumer Data Protection

The increasing use of internet applications, such as fintech, e-commerce, and other digital platforms, has led to an increase in the amount of personal data that can be accessed. This is due to the need for users' personal data in the use of such applications. If not managed carefully, such personal data can easily be misused by digital criminals. As such, service

providers have a responsibility to protect the personal information of their customers. When data leakage occurs and is sold illegally on the dark web, it not only harms users but also threatens the reputation of the platform, which can ultimately harm businesses. The absence of comprehensive laws on personal data protection makes the risk of privacy protection even more obvious (Martindo, 2021).

There are a number of options that can be optimised to provide optimal personal data security protection; one of them is the use of artificial intelligence. More sophisticated and productive artificial intelligence, as well as the ability to counter malicious programmes, is expected to prevent system errors and reduce human errors that lead to personal data leaks. Today, artificial intelligence is even considered to exceed the ability of human intelligence to identify problems. Intelligent computer programmes have better learning capabilities than humans due to their computational sophistication and their ability to process large volumes of data (Disemadi, 2021).

One branch of computer science that is very useful for meeting human needs in the future is the science of artificial intelligence, also known as Artificial Intelligence (Paulus, 2019). First of all, artificial intelligence uses human-created initial inputs, algorithms, and computer software to analyse problems. Artificial Intelligence can then identify, predict, and even prevent personal data breaches by learning from various situations and simulations recorded in large amounts of data (Kirana, 2020).

Illegal retrieval of personal information stored on a computer is considered part of the crime of theft. Article 363 paragraphs (1) to (5) of the Criminal Code are used to deal with the crime of data theft using the skimming method. Skimming refers to the act of stealing information from the magnetic tape of an ATM or debit card by unlawful means, with the aim of controlling the victim's account. Skimming is an illegal act that involves unauthorised access to another person's computer or information system. The aim is to steal personal data illegally, for example by attaching a skimmer to the ATM card slot in an ATM machine to steal card information (Dian, 2018). Currently, skimming methods for personal data theft are not only limited to ATM machines, but also target electronic systems such as E-Commerce. E-Commerce contains a lot of personal information, including financial data in the payment system. JS Sniffer falls under the category of Web/Online Skimming, which is a form of cybercrime where malware is inserted into a website to steal banking or financial transaction data entered by users of the website. The malware is created with the aim of stealing consumer payment information from online store platforms or E-Commerce (Yudi, 2020).

For this reason, the use of Artificial Intelligence can be used in overcoming personal data theft. The benefits of using artificial intelligence in life include: assisting people in solving problems that are difficult to overcome conventionally, managing information overload by summarising and interpreting it, and assisting in searching large data. Technology allows people to work more efficiently, increasing overall productivity. Considering the potential, capabilities, and benefits derived from the use of artificial intelligence, thus, as an additional effort to keep personal data secure, electronic system managers need to utilise the capabilities

of artificial intelligence. Artificial intelligence is used as an additional measure to protect data (customer's personal preference).

There are many benefits to society from the use of artificial intelligence, especially when artificial intelligence is used to solve problems quickly. In everyday life, artificial intelligence helps humans solve problems that are difficult to handle traditionally, manage information overload by summarising and analysing it, and assist humans in searching large amounts of data. This makes it easier for humans to complete their tasks, resulting in increased productivity and work efficiency. For example, DANA also offers facial verification services, which can be used by all users, to increase security and prevent irresponsible people from misusing their personal information (Disemadi, 2021). Besides DANA, many other businesses use artificial intelligence to protect their customers' data. The company is known as Grab, which offers online transport (Pribadi, 2020). Grab applies Artificial Intelligence technology to verify the identity of their driver-partners by asking them to take a selfie in person before they can start taking orders online. Additionally, the artificial intelligence technology is reinforced by a monitoring system that alerts users if a driver-partner tries to capture a customer's personal information, such as the passenger's name, contained in the data (Lely, 2020).

Existing legal rules often do not evolve as fast as the ever-changing society in this era of rapid progress, which can lead to a lack of legal regulation. This situation also affects the protection of personal data. Therefore, commitment and concrete actions from all parties are required. This protection can be achieved by having an institution established by the government to manage personal data. Since the existing regulations on this matter are still divided by various laws, this institution is expected to provide legal certainty for the public and be able to adjust to the rapid advancement of technology. In addition, information service providers on the internet can use artificial intelligence capabilities to manage user data. In this way, information service providers on the internet can increase the sense of security and safety of customer data.

After a long wait, Indonesia has finally enacted Law No. 27 of 2022 on Personal Data Protection (PDP Law). Article 65(1) of the PDP Law states that individuals shall not unlawfully obtain or collect personal information that does not belong to them with the intention of personal gain or harm to the individual concerned. This implies that individuals may not lawfully collect personal information without consent that may harm the person concerned. Such actions are prohibited by law, and anyone who violates them will be subject to a maximum 5-year imprisonment and/or a fine of up to IDR 5.000.000.000.00 (five billion rupiah). Law No. 1 of 2024 on the Second Amendment to Law No. 11 of 2008 on Electronic Information and Transactions, in addition to Indonesia's Personal Data Protection law (PDP Law), stipulates penalties for those who illegally use personal data for specific purposes. The Personal Data Protection Law sets out the legal requirements that controllers, data processors and other parties involved in data processing must comply with, in order to ensure that such activities are in accordance with applicable legal provisions (Junaidi, 2024). The Personal Data

Protection Law mandates that further government regulations must be implemented to fully implement the personal data protection envisaged by the Personal Data Protection Law. This is particularly relevant to the protection of personal data today.

The Indonesian government is endeavouring to protect people's personal information through data protection policies. Various information is presented in great detail and thoroughly. One way to achieve this goal is to establish an institution that has the authority to oversee the use of people's personal information. This strategy is similar to what has been done in other countries that have special laws to protect personal data. For example, in the UK, the institution responsible for this regulation is The Data Protection Commissioner, which is governed by the Data Protection Act 1998, while in Hong Kong, the institution responsible for this regulation is the Privacy Commissioner for Personal Data (PCPD), which is governed by the Personal Data Privacy Ordinance 1995 (Kantor Berita ANTARA, 2021). According to the author, to direct activities and progress in cyberspace, especially in advancing and directing the progress of e-commerce in Indonesia, it is very important to have clear rules about the validity and legal force of digital documents as valid evidence. People who use digital signatures or are involved in them must safeguard their signatures from being misused by unauthorised persons. In general, electronic certification organisations act as a third party that guarantees the identity of parties digitally. It is easy to obtain different identities in an information technology environment, such as the internet. Therefore, countries or communities should establish trustworthy certification bodies to ensure that businesses can operate electronically safely.

The government should immediately establish an agency responsible for personal data management to ensure that businesses that manage personal data comply with personal data protection regulations and protect their personal data (Paulus Wisnu Yudoprakoso, 2019).

Consumer Protection in E-Commerce Indonesia

In terms of consumer protection, Law No. 8/1999 on Consumer Protection still applies in Indonesia. Although e-commerce consumers are still considered less assertive in complying with the regulations, the rights and compliance of businesses and consumers are well and strongly protected. Articles 6 and 7 of the Consumer Protection Law stipulate the rights and obligations that businesses have, and Articles 4 and 5 stipulate the rights and obligations that consumers have. Therefore, although the focus is on consumer protection, the law also emphasises how important it is for businesses to protect and maintain the dignity of consumers. In addition, the article regulates the position of consumers or business actors in the business or trade process. Consumer protection in e-commerce transactions is directly related to the prohibited behaviours and responsibilities of businesses under the relevant laws. Articles 8-17 of the Consumer Protection Law regulate prohibited acts for businesses.

In an e-commerce business, the business actor, i.e. the seller, must take responsibility if the customer finds that the goods or services they purchased are not in accordance with the agreement. Articles 19-28 of the Consumer Protection Law regulate the responsibility of

businesses. When business actors commit acts that harm consumers, this responsibility arises. This harm can be in the form of damage or destruction of the goods or services sold by the company. This responsibility does not only apply to businesses that make goods or services; it also applies to businesses that do advertising and businesses that purchase goods or services from other countries.

Sanctions may be imposed if products and services sold through e-commerce violate the law. In addition, deceptive and misleading advertisements indicating that the products and services offered are in good condition, when they are not, are illegal (Putri, 2022). Trust between sellers and buyers is still the basis of online transactions in Indonesia. Sellers and buyers do not prioritise the security of online transaction infrastructure, such as verification of seller and buyer identities, security of payments through payment gateways, and reliability of e-commerce websites. This is especially true for small to medium-scale transactions with limited transaction value.

Examples are transactions conducted through social networks, online communities, online stores, or blogs. The existence of strict laws to protect consumers and increased public awareness about products are expected to reduce or even eliminate dishonest trade practices to protect consumers, especially e-commerce consumers. Law Number 1 of 2024 regarding Information and Electronic Transactions (ITE) is one of the Indonesian government laws that should be updated. It regulates electronic transactions, but some points are unclear, such as the liability of e-commerce platform service providers. This law is strengthened and adjusted by Law No. 8/1999 on Consumer Protection, which focuses on the legal protection of consumers. Therefore, the regulations should be adjusted to current technological advances and e-commerce transactions to provide effective protection for consumers.

Every country should have legal regulations that apply throughout its territory to protect consumers in e-commerce transactions. Consumers need the government to encourage them to take action from those who provide goods and services. This is because customers do not have the ability to protect themselves on the internet (Goldring, 2008). Legal regulations must be able to keep up with the evolution and balance the interests of all parties. Effective security methods and procedures are needed, especially when using communication systems over public networks such as the Internet, as digital transactions are highly susceptible to intrusion or tampering by unauthorised parties. This is why it is important to have a strong security system in place when conducting digital transactions to ensure that the information they transmit is correct.

The Indonesian government through the Ministry of Trade has designed a regulatory framework for electronic commerce. The Ministry of Trade stated several reasons why it is important to develop e-commerce regulations in Indonesia. The following will explain some of these reasons (Margaretha, 2018):

- 1) A law regulating e-commerce is needed because of the need for legal certainty guaranteed through systematic law making by specialised bodies;

- 2) The sociological aspect is to provide protection and certainty for subjects conducting electronic transactions;
- 3) The need for a safe and efficient electronic commerce ecosystem for all parties, so as to increase the consumption of domestic products through electronic transactions. This philosophical reason is important to encourage the growth of electronic commerce with guaranteed security;
- 4) With special regulations governing e-commerce, it is expected that the public can more easily adapt to all kinds of activities related to e-commerce.

Based on the above-mentioned considerations, measures are needed to improve trade through electronic platforms in Indonesia, especially in providing accurate and complete data and information to protect consumers in electronic transactions. This includes (a) Seller Identification; (b) Product Specifications; (c) Payment Methods; and (d) Delivery Procedures.

One of the main problems of consumers is their ignorance of their rights, which is caused by poor education. In addition to the provisions listed in the Consumer Protection Law, the criminal law listed in the Criminal Code can also be used to protect consumers to a certain degree. Actually, insurance is an additional legal method that can protect customers from e-commerce transactions. From the above, it is clear that laws governing this issue are very important to protect consumers, especially those who conduct transactions through electronic technology (e-commerce). Current regulations, especially consumer protection laws, do not fulfil this need.

According to the author, when making purchases over the internet, buyers should be careful, meticulous and wary of what sellers are offering. Sellers often sell counterfeit goods at low prices to attract customers. Before ordering an item, customers should ensure that the seller has provided a phone number and full address to communicate with them if they are interested in the item. Usually, buyers will contact the seller by phone to confirm whether the item really exists, after which they will ask for the details of the product they want to buy, and if they agree, then the buyer immediately orders the item.

Every business conflict that arises must be resolved immediately. The development of trade activities will increase the number of conflicts that need to be resolved due to the increasing number of trade transactions carried out. Currently, in the business world, dispute resolution through litigation is not very effective and is not favoured by business actors because it takes a lot of time. So it is necessary to find a system that is appropriate, efficient, and effective. The system needs to have the ability to resolve disputes in an easy, fast, and affordable way (Endang, 2020). Internationally, e-commerce disputes can be resolved (especially small value ones) through Online Dispute Resolution (ODR). It is an effective, efficient, and economical way to provide solutions for consumers to resolve their disputes (Abdul, 2005). Online Dispute Resolution (ODR) is an option for resolving business conflicts outside of court that utilises the internet as a tool to handle disputes between various parties.

E-commerce in Indonesia is considered a real act even though its operations are conducted virtually. Legally, categorising things only based on conventional measures and

qualifications is no longer relevant in cyber space. This will create difficulties and cause many things to escape the law. Although e-commerce activities are virtual, their impact is very real and the perpetrators must be considered to have performed legal acts in real life, even though the evidence is electronic (Bakri et al., 2021).

According to the author, one thing that is very important in e-commerce transactions is the issue of security, because it is very vital. To maintain internet security, there are three ways: technological, socio-cultural-ethical, and legal. The importance of using a technological approach to deal with security breaches cannot be overlooked, as without the application of technology, networks can easily be compromised or accessed illegally and without authorisation. Therefore, the legal approach and socio-cultural ethics are essential as the next approach. The legal approach is to provide positive laws to ensure certainty and as a basis for enforcing the law in the event of a breach.

Since the Consumer Protection Law does not regulate the different features of the trading system through electronic technology, the rights of consumers as users of electronic technology in the trading process, especially when conducting e-commerce transactions, should be protected through cyber regulations covering e-commerce. Thus, it requires seriousness and concrete actions from various parties. This protection can be realised through government regulations that implement the Personal Data Protection Law. Hopefully, the regulation can provide legal certainty for the public. In addition, it is necessary to regulate the use of artificial intelligence by information system providers in cyberspace so that they can utilise the capabilities of artificial intelligence in managing user data. With this step, it is expected to increase the sense of security and guarantee the security of consumers' personal data. The government needs to establish a specialised institution responsible for monitoring personal data traffic as well as the use of artificial intelligence by information service providers on the internet.

CONCLUSION

Based on the analysis and discussion, the following conclusions can be drawn. With strict and complete laws, we can ensure security and legal protection comparable to other countries. Artificial intelligence technology is one way to improve personal data protection. The advancement and efficiency of artificial intelligence together with strong antimalware protection is expected to reduce system errors and reduce the possibility of personal data leakage caused by human error. Government legislation is needed to implement the Personal Data Protection Law, and independent agencies should exist to supervise the use of personal data on online platforms; and consumer legal protection in online transactions still does not provide sufficient protection for consumers. This happens for several reasons, such as: a) The benefits that should have been felt thoroughly are still not clearly realised; b) In the aspect of safety and security, especially for consumers, there is still a high risk related to the misuse of

personal data after conducting electronic transactions; c) In this last part, the issue of legal certainty for consumers in e-commerce is a very important issue. [W]

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