

## Consumer Legal Protection in Electronic Transactions: Between Rights

Sopince Wam<sup>1</sup>, Filep Wamafma<sup>2</sup>, Jonhi Sassan<sup>3</sup>

STIH Manokwari, Indonesia<sup>1,2,3</sup>

Correspondent: [sopincewam@gmail.com](mailto:sopincewam@gmail.com)<sup>1</sup>

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**ABSTRACT:** This research explores the legal protection of consumers in electronic transactions in the digital era with a focus on the balance between consumer rights and obligations and the role of artificial intelligence (AI) technology. The main issue discussed is the legal protection of consumers in electronic transactions in the digital era. The research uses a qualitative approach with literature studies from relevant sources such as books, journals, and legal documents. The research found that AI can enhance consumer protection through applications such as chatbots and smart logistics, although there are challenges related to privacy and transparency. The implications of these findings suggest the need for proper regulation in the application of AI to protect consumers.

**Keywords:** Electronic Consumer Protection, Balance of Rights and Obligations, AI Technology in Ecommerce



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## INTRODUCTION

The digital age has brought significant changes in many aspects of life, including the way we shop. Electronic transactions, such as E-commerce and online banking, have become increasingly popular and offer various conveniences for consumers. However, behind this convenience, there are also risks that we need to be aware of. The significant increase in the value of electronic transactions indicates a shift in people's shopping patterns towards online platforms. The Ministry of Trade estimates the value of digital trade or E-commerce transactions to reach Rp533 trillion by 2023 compared to Rp476 trillion in the previous year (RI, 2024).

This research focuses on the legal protection of consumers in electronic transactions between rights and obligations in the digital era. More specifically, the balance between consumer rights and obligations in electronic transactions and the role of AI technology in improving consumer legal protection in electronic transactions. In this introduction, we also discuss consumer protection laws and relate them to your research.

This research aims to fill the gap of previous studies on consumer legal protection in electronic transactions. Although there have been several previous studies that examine the legal protection of consumers in electronic transactions, none of them specifically examine the legal protection of

consumers in electronic transactions between rights and obligations in the digital era. For example, Yanci Libria Fista, Aris Machmud, and Suartina, who conducted research in the *Binamulia Hukum Journal* (2023) with an article entitled "Consumer Legal Protection in E-commerce Transactions Viewed from the Perspective of the Consumer Protection Law", have not specifically explored consumer legal protection in electronic transactions between rights and obligations in the digital era. Yuyut Payuti's research in the *Journal of Legal Interpretation* (2024) entitled "Dynamics of Consumer Legal Protection in the Digital Era: Legal Analysis of E-commerce Practices and Consumer Data Protection in Indonesia". Research conducted by Wilma Silalahi in *Journal Serina IV* (2022) entitled "The Urgency of Digital Technology-Based Consumer Protection" identifies the use of information technology that has crossed national boundaries, enabling global interaction and business without face-to-face in the era of digital technology. Fatin Hamamah and Dimas Pratama Soekarno *Journal of Law* (2021), with the research title "Consumer Protection for Purchasers in Transactions on the E-commerce Platform". Ease of access to the Internet has increased the number of E-commerce consumers, thanks to reasons such as practicality, ease of payment systems, time efficiency, and a variety of competitive prices from online businesses.

Many previous studies have examined the legal protection of consumers in electronic transactions, as well as various other related issues. However, there are crucial aspects that have not been explored in depth by previous researchers, namely the balance between consumer rights and obligations in electronic transactions and the role of AI technology in improving consumer legal protection in electronic transactions.

## **METHOD**

This research uses a qualitative approach with a case study method. The object of research includes relevant literature, such as consumer protection laws, court decisions related to consumer disputes, and scientific articles on AI and consumer protection. Data was collected through searching relevant literature using Google Scholar and legal databases such as HeinOnline or LexisNexis. The keywords used included "consumer protection", "electronic transactions", "AI in E-commerce", and "consumer rights and obligations". The literature selection process was conducted by selecting literature based on abstracts and keywords, and checking for significant contributions to the research topic.

The inclusion criteria of the literature included the time span of publication within the last 10 years, the type of publication that included scientific journals, books, and recognized research reports, and the relevance of the topic that addresses consumer protection in electronic transactions and the use of AI. Exclusion criteria included literature that was not available in full text and that was not relevant to the focus of the study despite having appropriate keywords.

The data analysis technique used was content analysis, with the steps of coding, categorization, and data interpretation. Coding was done by marking important parts of the text relating to consumer rights and obligations and the use of AI. Categorization grouped the codes into categories such as "consumer rights", "consumer obligations", "role of AI", and "challenges in the application of AI". Data interpretation was conducted to draw conclusions regarding consumer

protection in electronic transactions and the contribution of AI in strengthening consumer legal protection.

Year	Author(s)	Research Topic	Field of Study
2021	Fahad S. & Kistyanto A.	The Effect of Job Stress and Cyberloafing on Organizational Commitment on Soe Bank Employees	Organizational Studies
2023	Yanci Libria Fista, Aris Machmud, Suartina	Consumer Legal Protection in E-commerce Transactions Viewed from the Perspective of Consumer Protection Law	Consumer Protection
2024	Yuyut Payuti	Dynamics of Consumer Legal Protection in the Digital Era: Legal Analysis of E-commerce Practices and Consumer Data Protection in Indonesia	Consumer Protection
2022	Wilma Silalahi	The Urgency of Digital Technology-Based Consumer Protection	Consumer Protection
2021	Disemadi	AI Technology in Improving Consumer Legal Protection in Electronic Transactions	Technology and Law
2024	Hidayati & Saraswati	Confidentiality of Personal Data in Electronic Transactions	Data Protection
2023	Rusdi	Inclusion of Standard Clauses in Consumer Contracts	Contract Law
2023	Siti Masrichah	Implementation of AI in Digital Marketing and Security Systems	Technology
2023	Dikrurahman	Examples of AI Technology in E-commerce Business	E-commerce

## RESULT AND DISCUSSION

### A. Balance between Consumer Rights and Obligations in Electronic Transactions

Legal protection for consumers is an important pillar in building a fair and balanced relationship between consumers and businesses. Consumer rights are the main foundation in ensuring they get the best quality products and services and avoid various forms of violations. The first and most basic right for consumers is to avoid losses, both personal and property. This includes the right to correct and complete information about products and services, the right to product safety and health, and the right to obtain products that comply with established standards (Azizah et al., 2024).

Consumers have the right to obtain goods and/or services at a fair price and in accordance with their intrinsic value. This is important to prevent monopolistic practices, price fraud, and consumer

exploitation. Fair pricing reflects the balance between consumers' right to obtain products and services at affordable prices and businesses' obligation to earn a reasonable profit. When there is a dispute between a consumer and a business actor, the consumer is entitled to a proper and fair settlement. This can be done through various mechanisms, such as deliberation, mediation, or legal channels. A proper and transparent settlement will build consumer trust and satisfaction, and encourage the creation of a conducive market (Muhtadi & Sahrul, 2023).

In electronic transactions, consumers have several obligations that must be fulfilled to ensure transactions run smoothly and fairly. First, consumers are required to provide correct and complete information when conducting transactions. This includes personal data such as name, address, and a valid payment method. Accurate information is important for processing transactions, shipping goods, and for verification and security purposes. Dishonesty in providing information can lead to problems such as wrong delivery or fraud, which ultimately harms all parties involved. Therefore, consumers must understand and comply with the terms and conditions set by the seller or E-commerce platform. These terms and conditions usually include return policies, warranties, payment methods, and more. By reading and understanding these provisions, consumers can avoid confusion and disputes that will arise due to ignorance or misunderstanding (Rimandasari, 2022).

Consumers have an obligation to maintain the confidentiality of personal data and sensitive information related to electronic transactions. This includes not sharing credit card information or passwords with unauthorized parties. Data security is critical to prevent fraud and identity theft. Consumers should also be alert to signs of fraud and take steps to protect their information, such as using a secure internet connection and updating security software regularly. Consumers should ensure that they have sufficient funds to make a purchase before completing a transaction (Hidayati & Saraswati, 2024).

Making purchases without sufficient funds not only violates the transaction agreement but may also result in fines or other sanctions. Managing finances wisely and ensuring the ability to pay are part of the consumer's responsibility in maintaining smooth and trustworthy electronic transactions. Consumers are obliged to file complaints or grievances constructively and through the correct channels if there are problems with the products or services received. Filing a complaint in an appropriate manner helps the seller or service provider respond to the problem efficiently and find an adequate solution. This not only helps to resolve disputes quickly but also contributes to improving service quality in the future (Kalsum et al., 2023).

Consumers should actively participate in maintaining a healthy and fair E-commerce ecosystem. This includes providing honest reviews of the products or services they purchase, as well as reporting fraudulent or unethical practices to relevant authorities. These actions help create a more transparent and trusted transaction environment, which benefits all parties in the long run. By fulfilling these obligations, consumers not only protect themselves but also support the sustainability and growth of fair and secure E-commerce.

Instead of the obligation to protect consumers, businesses have the responsibility to protect consumers. This is due to the existence of a contractual relationship between business actors and consumers, which legally obliges business actors to be responsible for defaults. The principle of "the privity of contract" confirms that the existence of a contractual relationship gives birth to responsibility. Civil Code paragraph (1) Article 18 regulates the requirement for the inclusion of

standard clauses to ensure that consumers have an equal position with business actors, in accordance with the principle of freedom of contract(Rusdi, 2023).

In the electronic transaction business, business actors often choose the standard agreement model, the substance of which is fully determined by them. This results in limited negotiation space for consumers, making it difficult for them to fight for their rights. Standard clauses that do not give consumers the right to cancel the agreement if the business actor defaults have the potential to harm consumers. This is exacerbated by the condition that the agreement is made unilaterally by business actors who have a stronger bargaining position and the lack of consumer involvement in determining the contents of the agreement(Pangindoman, 2021).

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In Indonesia, consumer protection is regulated by Law No.8 of 1999 on Consumer Protection. This law provides consumer rights, including the right to advocacy, protection, dispute resolution, compensation, redress, and other rights. Meanwhile, in Japan, there is no uniform consumer law code. The most fundamental law for consumer protection is the Basic Law on Consumer Policy (shohisha-kihon-hou), which sets out the basic principles of consumer policy and corporate responsibility.

Japan has specific rules on consumer protection that are regulated in a number of separate laws, such as the Specified Commercial Transactions Act, the Installment Sales Act, the Consumer Contracts Act, and the Product Liability Act. Meanwhile, in Indonesia, consumer protection in the context of E-commerce is governed by the Consumer Protection Law which provides consumer rights related to online transactions. In terms of dispute resolution, Indonesia often uses Online Dispute Resolution (ODR) as an option to resolve disputes in E-commerce transactions. However, in Japan, the use of ODR as a dispute resolution medium is still not widely used, and online sellers often implement their own refund policies(Simanjuntak, 2023).

In electronic buying and selling transactions, companies can be held liable through contractual liability for losses suffered by consumers and product liability if the products offered by the company are defective and harm consumers. However, consumers who purchase goods through electronic transactions may face several obstacles, such as the difference or distance between the business and the consumer, the legal differences that occur if the transaction occurs in another country, the weakness of laws and the lack of consumer knowledge about consumer protection, and other obstacles if standard clauses are included in the contract(Priowirjanto, 2022).

Liability arises from the legal relationship between the business and the customer. Rights and obligations arise in E-commerce transactions when the parties reach an agreement. In an electronic buying and selling transaction, an offer occurs when a business displays a product advertisement in an online store in the marketplace, and acceptance occurs when a consumer presses the click

button. Thus, an agreement between the two parties is reached, and the electronic buying and selling contract can be carried out through chat and email. The business must perform its duties in accordance with the contract. Once an agreement is reached, the payment process begins. This process involves two intermediary banks from each party, namely the buyer's bank and the customer's issuing bank. Once the payment process is complete, the company must carry out its obligations according to the contract(Ramli et al., 2022).

According to Article 1320 of the Civil Code, the validity of a contract must meet two subjective requirements, namely the parties responsible for making the agreement, and objective requirements, namely the object of the agreement must be clear and have a legitimate purpose. If the subjective conditions are not met, the contract can be canceled. Conversely, if the objective conditions are not met, the contract is considered legally void (Kurniawan et al., 2024).

B. The Role of AI Technology in Improving Consumer Legal Protection in Electronic Transactions in today's digital era, electronic transactions have become an integral part of everyday life. While offering convenience and efficiency, electronic transactions also carry various risks, especially in relation to consumer legal protection. To address these challenges, various technologies can be used to enhance consumer legal protection in electronic transactions(Disemadi, 2021). AI has spread to various industries, such as consumer transactions and services. Here, virtual assistants, facial recognition tools, and even auto-pilot features on electric cars are currently being used to provide better services and goods to customers(Dalimunthe, 2021).

AI's ability to analyze data, understand patterns, and learn about its surroundings to make decisions has driven its rapid development in various industries. The use of AI to improve production effectiveness is becoming increasingly popular around the world. It is estimated that companies implementing AI will see an increase in production of at least 40% by 2023. In some countries, AI implementation has reached nearly 56%, especially in the industrial sector.

In this advanced digital era, AI has become a transformative force, opening the gates to innovative and effective solutions to the challenges faced by humans. The implementation of AI in various aspects of life presents opportunities to sustain and advance the wheel of life. AI technology has the ability to simulate human intelligence in completing tasks and jobs, even potentially replacing human roles in certain fields. In marketing, AI enables more precise content personalization and product recommendations, improving customer experience and driving sales conversions. Security systems also benefit from AI, through more accurate and faster detection of cyber threats and fraudulent transactions. The application of AI has brought automation and personalization to customer interactions, improving consumer experience and operational efficiency. This paves the way for a more customer-centric experience, minimizing friction and driving business growth(Masrichah, 2023).

Some examples of AI technology in E-commerce business are as follows:

1. Chatbots, Since chatbots are available on websites or E-commerce apps anytime and anywhere, they currently offer reliable customer service. Chatbots automatically answer customer questions, respond to simple voice commands, or provide product recommendations.



2. Smart logistics, AI machine learning algorithms are used to help warehouse operations or assist the process of delivering products to E-commerce consumers;
3. tool recommendations, AI is able to perform statistical programming, predict, and analyze consumer behavior from large data sets;
4. AI Copywriting, Using more advanced AI language models, AI writing tools can create digital ads, social media content, and other E-commerce content in seconds(Dikrurahman, 2023).

In the E-commerce era, the dynamic interplay between consumer protection and digital transactions opens up a range of challenges and opportunities. The complexities faced by consumers in Indonesia's evolving digital marketplace highlight the importance of consumer protection as the foundation of a thriving E-commerce ecosystem. Although consumer protection laws are in place, there are still glaring gaps in enforcement, awareness and practical application. Consumers face a variety of issues, such as data privacy breaches, deceptive advertising, counterfeit products, and difficulties in dispute resolution. These challenges not only erode consumer confidence, but also hinder the full potential of digital commerce.

Utilizing Artificial Intelligence (AI) to address threats and capitalize on opportunities presents a variety of technical, ethical, and security challenges that must be addressed. Over the past few years, many studies have identified a number of important aspects that need to be considered in the responsible use of AI. Here are some of the key challenges that should be considered.

1. Technical Challenges: AI faces many technical challenges, such as high-quality data collection and processing, algorithm reliability and accuracy, and sufficient computing capacity. To maximize the potential of AI, the development of reliable and accurate algorithms is essential to obtain precise and reliable results. To handle complex and large tasks, AI requires adequate computing resources, including sufficient processing speed and storage capacity.
2. Ethical Challenges: There are also ethical issues related to the use of AI. Fairness and bias are key issues. AI algorithms may show bias in the training data or make unfair decisions. Therefore, it is crucial to ensure that the development and application of AI algorithms conform to the principles of fairness, equality, and non-discrimination. In addition, privacy and protection of personal data are also ethical considerations. It is important to maintain individual privacy and adequate data security when collecting and analyzing sensitive data such as medical or financial data.
3. Security Challenges: There are security concerns related to the use of AI that must be addressed. Strong measures are needed to protect AI systems from security threats, such as data protection, securing computing infrastructure, and careful security testing, as AI systems are vulnerable to attack and manipulation, either through cyberattacks or data manipulation (Mulisi, 2018)

Addressing these issues requires a holistic approach involving relevant experts, researchers, regulators, and practitioners. To optimize the benefits and risks of AI, a strict ethical framework and safety standards are required, as well as ongoing research. For effective law enforcement, government agencies, E-commerce platforms, and consumer advocacy groups must work together. To protect resilient consumers, it was identified that information transparency, enhanced security, and simplified dispute resolution procedures are important components. Consumer education is crucial for strong protection. Consumers can become empowered participants in the

digital marketplace by raising awareness about their rights, available redress options, and the risks associated with online transactions. Increasing customer trust requires further research into technological solutions such as blockchain for authentication and secure transactions (Rahman et al., 2023).

One example of the use of artificial intelligence technology in the customer service industry is BRIBRAIN, Bank BRI's centralized artificial intelligence system. BRI-BRAIN is a machine learning algorithm that collects all BNI customer data and combines it to make predictions about individual customer behavior and risk levels. Furthermore, this data can be used to provide more personalized offers to customers, such as cross-selling and up-selling (Rohmah et al., 2020).

Consumers should understand the benefits and risks associated with the use of AI in all implementations of the AI technologies outlined above. The advantages of AI include the ability to analyze and summarize large numbers of product reviews, find discrimination in commercial practices, discover identity fraud, compare prices across multiple platforms, and find unlawful clauses in consumer contracts. Drawbacks include traceability of AI implementation, introduction of biased programs into decision-making, data leakage and violation of personal privacy, low transparency, and unclear legal responsibilities (Febriani & Yulianingsih, 2019).

AI falls under the category of electronic agents, which are defined as electronic system devices designed to automatically perform actions on certain electronic information operated by people. The definition of electronic agent includes the characteristic of "automated performance", which is in line with the nature of AI that enables various automation processes within electronic systems (Setyawati et al., 2017).

Since AI is only considered as a support system or tool, not as a subject, Law 11/2008 stipulates that the electronic agent provider, not AI, is liable for any legal consequences of electronic transactions or activities conducted with the help of AI as an electronic agent. The liability borne by the electronic agent provider also includes losses caused by operational failures of the AI caused by third parties. Therefore, this arrangement allows consumers to claim damages from electronic agents if they suffer losses caused by the wrongful use of AI. (Dikrurahman, 2023).

In this case, the provision of specific information related to information transparency in conducting AI-related business allows consumers to be aware of any mishandling or errors in the services provided. Furthermore, the obligation to provide certain features gives consumers greater control and freedom in conducting business activities or transactions (Silalahi, 2022).

The consumer protection aspects, especially the obligations of electronic agent providers that apply AI, generally apply to providers that utilize other forms of electronic agents (e.g., electronic data capture, radio frequency identification, and barcode recognition). However, although there are provisions related to AI within the scope of electronic agents, a more comprehensive legal framework regarding the overall application of AI is still needed considering that the current provisions only cover the transactional aspects of AI utilization (Wiryawan, 2021).

AI clearly has great potential to help human work and is set to make life more convenient. However, it should always be kept in mind that AI technology is meant to assist existing business processes without overriding important parts of the business, including consumer protection. Therefore, it is important to understand the extent to which AI can be used to ensure that it is not



harmful to its users. Further innovation and development related to AI is also still needed so that advanced technology is able to solve various problems that exist in various fields and sectors including in the field of consumer protection. In addition, to achieve this goal, synergy between various actors is needed, including the government, business actors, the community, and academics (Fista et al., 2023).

Along with various developments and plans for AI development in Indonesia, certain actions should be taken by relevant stakeholders to ensure that Indonesia is on the right path of progress. Our recommendations are as follows:

### **1. Government**

It is clear that the government plays a heavy role in ensuring the development of AI, especially for business-related sectors. Based on its own National AI Strategy, the government has projected the types of regulations needed to accommodate AI provisions, namely:

- a. Specific regulations governing AI technology and the application of AI technology in various business sectors;
- b. Legal liability for any unintended risks associated with the use of AI; and
- c. A voluntary code of conduct that will govern the conduct of business and society (Siahaan & Balwanti, 2020).

Assuming that the use of AI in Indonesia will expand not only for technological purposes but also in different sectors, the application of AI in Indonesia should be regulated in accordance with the existing laws and regulations in the field of technology as well as regulated in specific sectoral regulations in accordance with the characteristics of the relevant sectors. By ensuring compliance with existing regulations and adjusting to the characteristics of the relevant sectors, any new AI regulations introduced should not only be able to address existing concerns related to the application of AI but should also be able to facilitate further development and innovation related to AI (Megawati et al., 2023).

Reflecting on other countries' regulations, such as the Artificial Intelligence Regulation proposed by the European Commission, it is important to ensure that any AI regulation should include transparency-related obligations that address the risk of biased, unfair, or even unsafe decisions generated by AI. Therefore, it is crucial to specifically regulate transparency issues to build public trust not only in AI systems but also in their regulators (Irianto & Wuryandari, 2023).

### **2. Business Actors and/or the Community**

Due to the rapid development of AI, businesses as actual technology practitioners need to focus their efforts on AI research and development in their respective business sectors. This includes efforts to understand and record the behavior of AI operating in their business to help project the risks of AI use. In addition, through the data collected by businesses, relevant ministries and state agencies can further contribute to ensuring that any legal instruments introduced in the future do not hinder AI development or minimize its potential (Haris & Tantimin, 2022).

However, it is also important for businesses to develop their AI systems in a transparent and unbiased manner to enable the most optimized development cycle and provide greater protection for consumers when using related AI technologies (Abdullah & Ramadhan, 2022).

With regard to consumer protection issues, it is important to note that under the 1999 Consumer Protection Law No. 8, businesses are required to provide guarantees or compensation for damages or losses that may occur to consumers due to the use of their services. As such, it is important for businesses to provide transparent and clear information regarding the dispute resolution/indemnification mechanism if the AI-generated system is different from the conventional system (Haryono et al., 2023).

Finally, the general public, especially academics and researchers, also play a major role in ensuring the smooth implementation of AI in Indonesia in the future by raising awareness or conducting studies and research on AI that will accelerate the process of formulating an AI legal framework (Fauzi & Ansari, 2020).

## CONCLUSION

This research has successfully demonstrated how AI can be utilized to enhance consumer protection in electronic transactions, and identified the challenges and opportunities associated with the use of this technology. To that end, the government should consider stricter regulations regarding data privacy and transparency in the use of AI, while businesses should implement ethical and responsible business practices. Consumers are also advised to be more active in protecting themselves by understanding their rights and obligations in electronic transactions. Given the urgency of this issue, immediate action is urgently needed to address the challenges. Going forward, consumer protection improvements can continue to be optimized by leveraging new technologies and monitoring relevant legal developments.

## REFERENCE

- Abdullah, A., & Ramadhan, A. (2022). Kepastian hukum terhadap hak konsumen di era digital pada transaksi jual beli online. *Al-Mudharabah: Jurnal Ekonomi Dan Keuangan Syariah*, 3(1), 1–14.
- Azizah, R., Anggraeni, R., & Mustika, Y. S. B. (2024). Peran Perlindungan Konsumen dalam Era Digitalisasi Perbankan Bagi Konsumen. *OPTIMAL Jurnal Ekonomi Dan Manajemen*, 4(2), 221–233.
- Dalimunthe, S. N. I. S. (2021). Penyalahgunaan Keadaan Dalam Perjanjian Pengikatan Jual Beli Apartemen Sebagai Pembatas Pemenuhan Azas Keseimbangan. *Jurnal Yuridis*, 8(2), 298–311.
- Dikrurahman, D. (2023). Perlindungan Hukum Bagi Konsumen dalam Jual Beli Online yang Menggunakan Situs Web Iklan di Facebook Ditinjau dari Undang-undang Perlindungan Konsumen. *Jurnal Cahaya Mandalika ISSN 2721-4796 (Online)*, 4(2), 930–938.

- Disemadi, H. S. (2021). Urgensi regulasi khusus dan pemanfaatan artificial intelligence dalam mewujudkan perlindungan data pribadi di Indonesia. *Jurnal Wawasan Yuridika*, 5(2), 177–199.
- Fauzi, A. R., & Ansari, A. (2020). *Analisis Yuridis Perjanjian Jual Beli Melalui Media Elektronik Berdasarkan Kub Perdata Dan Undang-Undang Nomor 11 Tahun 2008 Tentang Informasi Dan Transaksi Elektronik* (Vol. 18, Issue 1, pp. 114–141).
- Febriani, R. F., & Yulianingsih, W. (2019). Implementasi Asas Keseimbangan Dalam Transaksi Jual Beli Di Giyomi Id Online Shop. *Simposium Hukum Indonesia*, 1(1), 378–384.
- Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan Hukum Konsumen Dalam Transaksi E-commerce Ditinjau dari Perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.
- Haris, M. T. A. R., & Tantimin, T. (2022). Analisis Pertanggungjawaban Hukum Pidana Terhadap Pemanfaatan Artificial Intelligence Di Indonesia. *Jurnal Komunikasi Hukum (JKH)*, 8(1), 307–316.
- Haryono, H., Soeprijanto, T., & Nisa, L. K. (2023). Perlindungan Hukum Terhadap Konsumen dalam Transaksi E-commerce dalam Hal Wanprestasi. *Jurnal Inovasi Pembelajaran Di Sekolah*, 4(1), 208–213.
- Hidayati, M. N., & Saraswati, M. (2024). Menggagas Penyelesaian Sengketa Online (Online Dispute Resolution) pada Kegiatan Transaksi Elektronik di Indonesia. *Sang Pencerah: Jurnal Ilmiah Universitas Muhammadiyah Buton*, 10(1), 225–244.
- Irianto, B. S., & Wuryandari, R. R. U. S. W. (2023). Keseimbangan Hukum dan Ekonomi Sebagai Pendulum Dalam Transaksi Jual Beli Online di Indonesia (Studi Undang-Undang Nomor 8 Tahun 1999. *Jurnal Legal Reasoning*, 6(1), 69–88.
- Kalsum, E. U., Sipahutar, E. S., & Purba, I. G. (2023). Perlindungan hukum konsumen dalam layanan purna jual Produk Sharp Indonesia. *Jurnal Normatif*, 3(1), 271–275.
- Kurniawan, R. A., Dungga, W. A., & Towadi, M. (2024). Penerapan Undang-Undang Perlindungan Konsumen Mengatur Tentang Transaksi Bisnis Dengan Menggunakan Artificial Inteligence. *Jurnal Hukum Dan Sosial Politik*, 2(2), 338–353.
- Masrichah, S. (2023). Ancaman Dan Peluang Artificial Intelligence (AI. *Khatulistiwa: Jurnal Pendidikan Dan Sosial Humaniora*, 3(3), 83–101. <https://doi.org/10.55606/khatulistiwa.v3i3.1860>
- Megawati, L., Wiharma, C., & Hasanudin, A. (2023). Peran Teknologi Blockchain Dalam Meningkatkan Keamanan Dan Kepastian Hukum Dalam Transaksi Kontrak Di Indonesia. *Jurnal Hukum Mimbar Justitia*, 9(2), 410. <https://doi.org/10.35194/jhnmj.v9i2.3856>
- Muhtadi, M. A., & Sahrul, S. (2023). Hukum Perlindungan Konsumen dan Etika Bisnis di Era Teknologi Kecerdasan Buatan: Perlindungan Pengguna dan Tanggung Jawab Perusahaan. *Jurnal Hukum Dan HAM Wara Sains*, 2(09), 922–930.
- Mulisi, S. (2018). Argumentasi Hukum Kedudukan Kecerdasan Buatan Di Indoneisa. In *Untag Sby*.

- Pangindoman, A. A. (2021). Penyelesaian Hukum Tindak Pidana Financial Technology Sebagai Upaya Perlindungan Hukum Bagi Konsumen Pengguna Pinjaman Dana Online. *Lex Lata*, 3(2).
- Priowirjanto, E. S. (2022). Urgensi Pengaturan Mengenai Artificial Intelligence Pada Sektor Bisnis Daring Dalam Masa Pandemi Covid-19 Di Indonesia. *Jurnal Bina Mulia Hukum*, 6(2), 254–272.
- Rahman, I., Sahrul, M., E., R., Nurapriyanti, T., & Yuliana. (2023). Hukum Perlindungan Konsumen di Era E-commerce : Menavigasi Tantangan Perlindungan Konsumen dalam Lingkungan Perdagangan Digital. *Jurnal Hukum Dan HAM Wara Sains*, 2(08), 704–712. <https://doi.org/10.58812/jhhws.v2i08.605>
- Ramli, T., Sukarsa, D., Zamil, Y. S., Muttaqin, Z., Putri, S. A., Cahyadini, A., Ramadayanti, E., Millaudy, R. A., Hidayat, M. J., & Aurellia, B. (2022). Pemanfaatan teknologi bagi siswa dalam menyokong peningkatan ekonomi digital dan upaya menghadapi era society 5.0. *ACTA DIURNAL Jurnal Ilmu Hukum Kenotariatan*, 6(1), 81–98.
- RI, M. P. (2024). *Kemendag Ramal Transaksi E-commerce di RI Tembus Rp533 Triliun*. Kementerian Perdagangan Republik Indonesia.
- Rimandasari, R. A. E. (2022). *Perlindungan Hukum Terhadap Konsumen Dalam Transaksi Pada Platform Malltogo*. id. Universitas Kristen Indonesia.
- Rohmah, C., Setiyani, D., & Nugrahaningih, W. (2020). Perlindungan Hukum Konsumen Dalam E-commerce. *Seminar Nasional Hukum, Bisnis, Sains Dan Teknologi*, 1(8), 54–59.
- Rusdi, A. M. (2023). Perlindungan Konsumen Dalam Transaksi Elektronik. *Constitutum Jurnal Ilmiah Hukum*, 2(1), 43–56.
- Setyawati, D. A., Ali, D., & Rasyid, M. N. (2017). Perlindungan Bagi Hak Konsumen dan Tanggung Jawab Pelaku Usaha Dalam Perjanjian Transaksi Elektronik. *Syiah Kuala Law Journal*, 1(3), 46–64. <https://doi.org/10.24815/sklj.v1i3.9638>
- Siahaan, A., & Balwanti, B. (2020). Aspek Perlindungan Konsumen Dalam Aksi Kejahatan Pada Transaksi Elektronik. *Law Pro Justitia*, 5(2), 86–101.
- Silalahi, W. (2022). Urgensi Perlindungan Konsumen Berbasis Teknologi Digital (the Urgence of Consumer Protection Based on Digital Technology. *Prosiding Seri Seminar Nasional*, 2(1), 589–598.
- Simanjuntak, M. E. S. (2023). Perbandingan Perlindungan Hukum Konsumen Dan Penyelesaian Sengketa Cross Border E-commerce Negara Indonesia Dengan Jepang. *Jurnal Ilmu Sosial Dan Pendidikan (JISIP)*, 7(3), 2033–2040. <https://doi.org/10.58258/jisip.v7i1.5144>
- Wiryan, I. W. G. (2021). Urgensi Perlindungan Kurir Dalam Transaksi E-commerce Dengan Sistem COD (Cash On Delivery). *Jurnal Analisis Hukum*, 4(2), 187–202.