



Legal Protection of Consumer Personal Data on the Use of Fintech in E-commerce

Hetty Hassanah^{a*}, Wahyudi^b

^{a, b} Faculty of law, Universitas Komputer Indonesia, Bandung, Indonesia

*Corresponding Author: hetty.hassanah@email.unikom.ac.id

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ABSTRACT

The development of fintech in Indonesia marks a significant milestone in accelerating the national digital economy. As a solution to the limitations of conventional financial services, fintech supports more efficient business processes, particularly for small and medium enterprises. However, the integration of fintech in e-commerce depends heavily on consumer personal data, which is vulnerable to misuse without consent, potentially harming consumers as data owners. This study discusses the protection of consumer personal data in fintech-based e-commerce transactions in Indonesia. This study aims to identify and analyze the legal provisions for protecting consumer personal data within fintech-based e-commerce transactions in Indonesia. It specifically examines the application of Indonesia's newly enacted Personal Data Protection Law as a legal foundation for this context, linking fintech operations directly to consumer data privacy mandates. This research is descriptive and analytical, conducted using normative legal methods, and the data obtained is analyzed qualitatively and legally. The study confirms that several Indonesian regulations, particularly the Personal Data Protection Law, provide a robust legal framework for protection. However, these existing regulations require consistent enforcement and monitoring to ensure proper implementation.

INTRODUCTION

National economic growth is accompanied by efforts to equitably distribute development and its results, to create national stability and community welfare, inseparable from the influence of progress that occurs in society itself. One of the efforts that can be made to realize welfare, including the business sector, significantly includes utilizing information technology (hereinafter written IT), namely electronic transactions so that information technology is seen as having a fairly important function in people's lives, especially in fulfilling their various needs.¹ The birth of information technology has brought significant changes to human life around the world, including in Indonesia, not only in big cities but also in rural areas with the entry of internet facilities to various corners of the country. Along with the rapid development and application of information technology today, there are several advantages of IT, including:²

1. IT can facilitate the flow of information that can be obtained by the public.
2. IT makes it easier for people to communicate with each other by crossing the boundaries of

¹ Lawrence Lessig, *CODE Version 2.0, Basic Books* (New York, 2016).

² Ono W Purbo, *Mengenai Electronic Commerce* (Jakarta: PT Elex Media Komputindo, 2001).

space and time.

3. IT can help make human work easier.
4. IT can be a means to facilitate business transactions quickly with the internet (*Interconnected Networking*) without being hindered by space and time constraints because TK is a *borderless world*.
5. IT can make financial transactions easier.

Thus, the use of IT in human activities causes a *borderless world*. The presence of IT creates two situations, on the one hand it provides many benefits and convenience for human life, but on the other hand the advancement of IT can also cause problems in human life which ultimately becomes a legal matter. Problems that arise are not only in the use of IT as a means but also problems in the financial sector that fall into the category of non-performing financing (*NonPerforming Finance*)³ is a separate problem related to information technology.

The rapid development of information technology today has given birth to many conveniences for human life in carrying out their daily activities, the use of this information technology can accelerate and save manpower, money and other energy from humans because it is replaced by the existence of a system used using information technology.⁴ One of the proofs of the development of this information technology is the birth of an electronic transaction system using an internet facility known as *e-commerce*. Nowadays many technological infrastructures are developed or run to enable more effective and efficient business operations known as *platforms* used in *e-commerce*. Various platforms are designed and built to float software applications so that various applications can be created that can eventually be used to conduct business transactions electronically.

E-commerce *transactions* have a huge influence on global trade. The very rapid development of *Electronic Commerce (e-commerce)* is caused by several things, as follows:⁵

1. *Electronic Commerce* has the ability to reach more customers and at any time customers can access all information continuously;
2. *Electronic Commerce* can encourage creativity from the seller precisely and quickly and the distribution of information conveyed takes place periodically;
3. *Electronic Commerce* can create high-efficiency, cheap, and informative;
4. *Electronic Commerce* can improve customer satisfaction, with fast, easy, safe, and accurate service;

This trade transaction through the internet is very beneficial to many parties, so this trade transaction is in great demand, not only for producers but also for consumers. In general, *Electronic Commerce* (hereinafter referred to as *e-commerce*) has provided its own benefits for both consumers and manufacturers.⁶ For consumers, *Electronic Commerce* changes the way consumers obtain the

³ Nurjamil Siti Nurhayati, "Tanggungjawab Nazhir Koperasi Syariah Sebagai LKS PWU Dalam Pengelolaan Wakaf Uang Melalui Aplikasi Fintech," *Res Nullius Law Journal* 2, no. 2 (2020): 141–57, <https://doi.org/10.34010/rnlj.v2i2.3196>.

⁴ Ronny S utanto Hilda Muliana, Y. Budi Sarwo, Sabda Wahab, "Legal Protection for Consumers and Business Actors in Selling and Buying Drugs Online," *Jurnal Hukum Kesehatan* 7, no. 2 (2021): 361–75, <https://doi.org/10.24167/shk.v7i2.4154>.

⁵ Sofian Lusa, Onno W Purbo, and Tutik Lestari, *Peran E-Commerce Dalam Mendukung Ekonomi Digital Indonesia* (Penerbit Andi, 2024).

⁶ Asep Wahyudi, Mulyana et al., *Hukum Dagang* (PT. Penerbit Qriset Indonesia, 2025).

desired products, while for manufacturers, *Electronic Commerce* has simplified the marketing process of a product. Consumers who use e-commerce for transactions have an experience of ease of use and speed in transactions.⁷

Technological development in Indonesia is currently growing rapidly along with the discovery and development of science in the field of information and communication, resulting in the creation of tools that support the development of information technology, such as communication systems with one-way and two-way (interactive) communication tools.⁸ This development has become one of the gateways to the birth of technology in the financial sector known as Fintech. This has given rise to various financial business packages in digital form that aim to facilitate financial transactions for the public, making them more effective and efficient. The development of fintech in Indonesia is one of the main milestones in accelerating the national digital economy.

Another information technology that is created to accompany *e-commerce* transactions is a payment system that uses financial technology applications and is known as *financial technology (fintech)* whose use is increasingly widespread, in this case in addition to functioning as a means of payment, *fintech* can also be used for various financial activities. Fintech is the result of a combination of financial services and technology that finally changed the business model from conventional to moderate, which initially had to pay face-to-face and bring a certain amount of cash, now it is possible to make remote transactions by making payments that can be made in a matter of seconds.⁹ Fintech emerged as people's lifestyles change, which are currently dominated by information technology users, the demands of fast-paced life. With fintech, problems in buying and selling transactions and payments such as not having time to look for goods to the shopping place, to the bank/ATM to transfer funds, reluctance to visit a place because of unpleasant service can be minimized. In other words, Fintech helps buying and selling transactions and payment systems become more efficient and economical but still effective. There are five types of *fintech* that people often use. The five types of *fintech* are *crowdfunding, microfinancing, digital payment system, market comparison, and P2P lending service*.

The history of *fintech* in *e-commerce* shows how technology has changed the way consumers and merchants interact. From online credit cards to *mobile payments* and *blockchain*, *fintech* continues to innovate to meet the needs of an increasingly digital world. *Fintech* as a digitally accessible payment model began to be used in 1994, where *Amazon and eBay* consumers used digital payments. On a global level, digital wallet services such as *PayPal* and *Apple Pay* and online banking apps play a huge role in supporting *e-commerce*, enabling cross-border transactions at lower costs than traditional methods.¹⁰ Digital payment transactions globally are predicted to continue to

⁷ Ibrahim Radwan Alnsour, "Impact of Fintech over Consumer Experience Andloyalty Intentions: An Empirical Study OnJordanian Islamic Banks," *Cogent Business & Management* 9, no. 2141098 (2020): 1–17, <https://doi.org/10.1080/23311975.2022.2141098>.

⁸ Sariguna Johnson Kennedy, "Posma. Tantangan Terhadap Ancaman Disruptif Dari Financial Technology Dan Peran Pemerintah Dalam Menyikapinya.," in *Jurnal Forum Keuangan Dan Bisnis Indonesia (FKBI)*, 2017, 172.

⁹ Bi, "Mengenal FinancialTeknologi," *bi.go.id*, 2024, <https://www.bi.go.id/id/edukasi/Pages/mengenal-Financial-Teknologi.aspx>.

¹⁰ Tim Media Service, "Tren Fintech 2024 Jumlah Pengguna Paylater Naik," *Tirto.id*, 2024, <https://tirto.id/tren-fintech-2024-jumlah-pengguna-paylater-naik-g2Xx>.

increase, expected to reach trillions of dollars by 2024, with Southeast Asia (including Indonesia) being one of the fastest-growing markets.

The development of *fintech* in Indonesia is currently growing very rapidly by offering all its conveniences and advantages which are products of technological innovation in financial services that are in demand by various levels of society.¹¹ Around 96% of *fintech* users use digital wallets (*e-wallets*) for *e-commerce payments*. *PayLater*, a "buy now, pay later" service, is also popular, with users reaching 31% among *fintech* customers. These services are widely used for *online* shopping, money transfers, and bill payments. By 2024, the number of *e-commerce users* is expected to reach 189.6 million, an increase from 180.6 million in 2023, this increase strengthens the linkage between *fintech* and *e-commerce*, especially through digital payment methods.¹²

The growth of the digital economy in Indonesia is inseparable from various innovations and developments in the *fintech* industry, the rapid growth of *e-commerce*, the increasing digitalization process of MSMEs, and government encouragement in the form of policies and regulations that support the development of the digital economy. This provides a great opportunity for the development of the *fintech* industry in Indonesia, supported by the high number of internet users of 221 million people with smartphone penetration of 233 million users. The Indonesian *Fintech* Association (AFTECH) Annual Member Survey (AMS) 2024 shows that the majority of *fintech* users are Millennials and Generation Z reaching 68.7%. Based on reports from Google, Temasek, and Bain, Indonesia's internet Gross Merchandise Value (GMV) increased to USD 82 billion. From the government's side, it is also targeting that by 2025, the digital economy in Indonesia can reach USD 109 billion, supported by data from the East Ventures Digital Competitiveness Index 2023, Indonesia's digital economy can soar to USD 360 billion by 2030.¹³

Fintech provides opportunities in developing businesses, especially for small and medium enterprises with increasingly effective and efficient business processes in relation to time and costs. According to data from the Financial Services Authority (OJK), *Fintech* is divided into several sectors, including payments, lending, financial planning (Personal Finance), investment, financing (Crowdfunding), remittances and financial research. Based on data collected from the Indonesian *Fintech* Association and the Financial Services Authority (OJK), *Fintech* Payment players are still dominant with a portion (43%), followed by *Fintech* Lending (17.78%), and the rest is filled by Crowdfunding and others.¹⁴ *Fintech* presents solutions to more practical financial funding needs, supporting increased financial inclusion in Indonesia, especially for the small and medium business

¹¹ Oktavia Dewi Sari Mukti Anisa Rachmawati, Selfi Artika, "Consumers' Perspectives on *Fintech* Lending in Indonesia: Analysis of Herding Behavior and Physiological Needs," *UTY Research & Journal* 5, no. 1 (2023): 56–60, <https://doi.org/10.46923/ijbhes.v5i1.251>.

¹² Tempo, "Data Prediksi Angka Pengguna *E-Commerce* di Indonesia," Tempo.co, 2024, <https://www.tempo.co/data/data/prediksi-angka-pengguna-e-commerce-di-indonesia-2024-248394>.

¹³ M. Ismail Riyadi, "Dorong Literasi Dan Inklusi Keuangan Digital Serta Perkuat Ekosistem *Fintech*, OJK Bersama AFTECH, AFSI Dan AFPI Kembali Gelar The 6th Indonesia *Fintech* Summit & Expo (IFSE) Dan Bulan *Fintech* Nasional (BFN) 2024," Otoritas Jasa Keuangan, 2024, <https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/Dorong-Literasi-dan-Inklusi-Kuangan-Digital-Serta-Perkuat-Ekosistem-Fintech-BFN-IFSE-2024.aspx>.

¹⁴ Dede Abdurrohman, Haris Maiza Putra, and Hisam Ahyani, "Sumber Dan Norma Ekonomi Syariah Dalam Lembaga Keuangan Syariah (LKS) Perbankan Syariah Dan Koperasi Syariah," *Ecobankers: Journal of Economy and Banking* 3, no. 1 (2022): 22–29.

sector, because they can obtain business capital loans from the Digital Lending Platform (P2P lending) which provides faster and more flexible access to capital compared to the loan process through conventional financial institutions and/or banks. The increase in financial inclusion in Indonesia is evident in the increase in the financial literacy index, reaching 66.46 percent and the financial inclusion index, reaching 80.51 percent. The results of the 2025 SNLIK (National Infrastructure and Finance Survey) are an improvement compared to the 2024 SNLIK, which showed a financial literacy index of 65.43 percent and a financial inclusion index of 75.02 percent.¹⁵

The legal basis for the implementation of *fintech* in the payment system in Indonesia includes: Bank Indonesia Regulation No. 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing; Bank Indonesia Circular Letter No. 18/22/DKSP concerning the Implementation of Digital Financial Services and Bank Indonesia Regulation No. 18/17/PBI/2016 concerning Electronic Money. The role of *fintech* in *e-commerce* continues to grow, supported by technological innovations and consumer preferences for fast, secure, and accessible services. This combination accelerates digital transformation in the trade and finance sectors.¹⁶ The use of *fintech* in this *e-commerce payment system* should prioritize the protection of personal data which can be said to be digital files¹⁷ consumers through cybersecurity networks.

In practice, the use of *fintech* utilizes *big data* analytics and artificial intelligence (AI), which raises privacy concerns related to fairness, transparency, and data ownership. As such, it is imperative that measures such as data encryption, transparency in data collection, and employee training on data protection policies are implemented to increase customer trust and legal compliance.¹⁸ In the use of *fintech*, there can also be major risks such as phishing attacks, *malware*, and *ransomware* that often target customers' personal data in *fintech*. The proposed solutions include multi-factor authentication, encryption, role-based access control, and incident response plans to mitigate the impact of data breaches. These measures are important to protect user data from exposure on the dark web and maintain customer trust. Until now, the growth of *mobile payments* and *fintech*-based financial services requires a stronger security framework. *Open banking* allows third-party access to users' financial data, but it also increases privacy risks. Recommendations include the use of tokenization and secure systems for efficient transactions while maintaining data security¹⁹. Therefore, the use of *fintech* in *e-commerce* has a positive impact, namely providing convenience in transactions, especially payment methods and systems, but also has a negative impact, namely

¹⁵ M. Ismail Riyadi, "Indeks Literasi Dan Inklusi Keuangan Masyarakat Meningkat, OJK Dan BPS Umumkan Hasil Survei Nasional Literasi Dan Inklusi Keuangan (SNLIK) Tahun 2025," Otoritas Jasa Keuangan, 2025, <https://ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/OJK-dan-BPS-Umumkan-Hasil-Survei-Nasional-Literasi-Dan-Inklusi-Kuangan-SNLIK-Tahun-2025.aspx>.

¹⁶ Redi Rahadian Bagaskara, "Legal Protection of Consumer Personal Data In Online Loan Transactions," *Asian Journal of Social and Humanities* 2, no. 7 (2024): 1579–86, <https://doi.org/10.59888/ajosh.v2i7.295>.

¹⁷ I. Gusti Made Arya Suta Wirawan Dewa Gede Sudika Mangku, Ni Putu Rai Yuliartini, I. Nengah Suastika, "The Personal Data Protection of Internet Users in Indonesia," *Journal of Southwest Jiaotong University* 56, no. 1 (2021): 202–9, <https://doi.org/10.35741/issn.0258-2724.56.1.23>.

¹⁸ Hassan H. H. Aldboush dan Marah Ferdous, "Building Trust in Fintech: An Analysis of Ethical and Privacy Considerations in the Intersection of Big Data, AI, and Customer Trust," *International Journal of Financial Studies* 11, no. 3 (2023): 23, <https://doi.org/10.3390/ijfs11030090>.

¹⁹ Elias Ghanem, "The Convergence of Open Banking and Data Privacy in Fintech," *FinTech Magazine*, 2024, <https://fintechmagazine.com/magazine/fintech-magazine-july-2024>.

related to the security of consumers' personal data to cause violations of the law that are detrimental to consumers.

In some cases, users' personal data such as e-KTP, account number, and phone number have been illegally used by *online* lending fintech platforms. One of the modes that is often found is that stolen user data is traded online, including on social media or *the dark web*. This data is then used by irresponsible parties to apply for online loans without the knowledge of the data owner. In 2020, there was a massive data leak involving around 91 million Tokopedia users. This incident has become a public concern because personal data such as full names, emails, dates of birth, mobile phone numbers, and other information are allegedly traded on online forums such as Raidforums. The data that was initially sold for \$5,000 was then shared for free by users of the forum. The file is large (28.5 GB in text format after extraction) and is easily accessible to those with the right tools.²⁰ This incident shows weaknesses in the cybersecurity system as well as the urgency of personal data protection regulations in Indonesia. The protection of personal data by the government can increase public trust in protecting consumer data used for private and public purposes.²¹

Many parties criticized Tokopedia and urged the government to immediately pass stricter regulations, including sanctions for electronic system operators who fail to protect consumer data. In 2017, Equifax, a major credit bureau in the United States, experienced a data breach that affected 147 million users. The leaked data includes sensitive information such as Social Security numbers, dates of birth, and driver's license numbers. This incident shows a global risk similar to data leaks in the *fintech* or *e-commerce* sector.²² Another case related to *illegal fintech* involving consumer protection violations and misuse of personal data, this case refers to Article 8 of the OJK Regulation on *online-based fintech* and the Consumer Protection Law, registered in a legal case Number: 438/Pid.Sus/2020/PN JKT. UTR. at the North Jakarta Court. The above cases are a small part of the legal cases of misuse of consumer personal data in the use of fintech in *e-commerce transactions*. These leaks expose the potential for significant risks, including misuse of data for criminal acts such as fraud and identity theft. The misuse of consumer personal data has economic value for third parties who will use the data for benefits that have value for them.²³

The emergence of various legal violations related to the misuse of consumer personal data in the use of *fintech* in *e-commerce* transactions cannot be resolved arbitrarily and meet legal certainty, so that many consumers are harmed by these violations of the law. Currently, in Indonesia, there is Law Number 27 of 2022 concerning Personal Data Protection (hereinafter written as the PDP Law)

²⁰ Desy Setyowati, "91 Juta Data Pengguna Tokopedia Yang Bocor Masih Bisa Diunduh Gratis," *katadata.co.id*, 2024, <https://katadata.co.id/digital/e-commerce/5f01708894956/91-juta-data-pengguna-tokopedia-yang-bocor-masih-bisa-diunduh-gratis>.

²¹ Mary Grace Megumi Maran Yohanes Leonardus Ngompa, "Legal Development and Urgency of Personal Data Protection in Indonesia," *JILPR Journal Indonesia Law and Policy Review* 5, no. 3 (2024): 627–35, <https://doi.org/10.56371/jirpl.v5i3.284>.

²² Andi Nugroho, "Terkait Peretasan 2017 Equifax Sepakat Bayar Rp 98 Triliun," *cyberthreat.id*, 2019, <https://cyberthreat.id/read/1540/Terkait-Peretasan-2017-Equifax-Sepakat-Bayar-Rp-98-Triliun>.

²³ Surahmad Surahmad Andriyanto Adhi Nugroho, Atik Winanti, "Personal Data Protection in Indonesia: Legal Perspective," *International Journal of Multicultural and Multireligious Understanding* 7, no. 7 (2020): 176–82, <https://doi.org/10.18415/ijmmu.v7i7.1773>.

which specifically regulates personal data protection procedures, including the rights, obligations, and responsibilities of data subjects, data controllers, and other parties who manage personal data. This law aims to provide legal certainty in protecting the privacy rights of individuals to the use and management of personal data in the digital era. The existence of the PDP Law is a form of state protection for citizens' personal data that is guaranteed to be secure and also ensures the security order of the digital society.²⁴ In addition to the PDP Law, there are several laws and regulations related to the protection of consumer personal data in the use of *fintech* in *e-commerce*, including Law Number 11 of 2008 concerning Information and Electronic Transactions which was later amended by Law Number 19 of 2016 and Law Number 1 of 2024 (hereinafter referred to as the ITE Law), Law Number 8 of 1999 concerning Consumer Protection (hereinafter written by the PK Law) and other laws and regulations. Basically, the provisions governing data protection are often used as a defense tool to protect a person's privacy rights.²⁵

The PDP Law provides direct protection to consumers who often provide their personal data to *digital platforms* such as *fintech* and *e-commerce*.²⁶ With sanctions and transparency rules in place, consumers have the right to sue if their data is misused or not managed in accordance with consent. Sinta Dewi stated that the implementation of the PDP Law will lead to a high level of personal data protection in the digital economy.²⁷ In the technological aspect, Article 39 paragraphs (1) and (2) of the PDP Law require the Controller of personal data to implement a security system for personal data. The security system is none other than a Certificate of Reliability.²⁸ This is as stipulated in Article 76 of Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (hereinafter written PP PSTE). Meanwhile, the ITE Law provides a legal framework to ensure *that e-commerce transactions*, including digital payments, are carried out safely and reliably. This includes consumer protection, reliable system assurance, and sanctions for violations. Furthermore, in the PK Law, the protection of consumers' personal data has not been explicitly regulated. However, some articles contain provisions that can be related to the protection of personal data in the context of consumer transactions, such as in Article 2, Article 4, Article 7 and Article 8 of the PK Law.

The importance of personal data protection is illustrated by several opinions such as Samuel Warren and Louis Brandeis who wrote the legal conception of the right to privacy entitled "*The Right to Privacy*", as a concept of rights that need to be protected. Samuel Warren and Louis Brandeis have defined the right to privacy simply as "*the right to be left alone*", which is based on

²⁴ Ibra Fulenzi Amri Tundjung Herning Sitabuana, Ade Adhari, Dixon Sanjaya, "The Importance of Personal Data Protection Act for The Protection of Digital Society in Indonesia," *Asian Institute of Research: Law and Humanities Quarterly Reviews* 2, no. 3 (2023): 128–41, <https://doi.org/10.31014/aior.1996.02.03.77>.

²⁵ Orla Lynskey, "Complete and Effective Data Protection," *Current Legal Problem Oxford Academic* 76, no. 1 (2023): 297–344, <https://doi.org/10.1093/clp/cuad009>.

²⁶ Hetty Hassanah, Wahyudi Wahyudi, and Norazlina Abdul Aziz, "Standard Clause Problems in E-Commerce Based on Indonesian Civil Law," *Jurnal Wawasan Yuridika* 7, no. 2 (2023): 221–38, <https://doi.org/10.25072/jwy.v7i2.4226>.

²⁷ Firsta Rahadatul Aisy Sinta Dewi Rosadi, Andreas Novianidika, Robert Walters, "Indonesia's Personal Data Protection Bill, 2020: Does It Meet the Needs of the New Digital Economy?," *International Review of Law, Computers & Technology* 37, no. 1 (2023): 78–90, <https://doi.org/10.1080/13600869.2022.2114660>.

²⁸ Muhamad Amirulloh, "Kewajiban Sertifikat Keandalan Dalam UU PDP: Bukti Pelindungan Data Pribadi Dalam Sistem Elektronik," Muhamad Amirulloh's Blog (unpad.ac.id), 2023, <https://blogs.unpad.ac.id/muhamadamirulloh/>.

two elements:²⁹

1. Personal honor; and
2. Values such as individual dignity, autonomy, personal independence.

William L. Prosser outlined that there are at least four forms of interference with a person's personality that make the right to privacy need to be given legal protection, namely:³⁰

1. Disturbance to the act of a person being isolated or alone, or disturbance to his personal relationships.
2. Disclosure of publicly embarrassing personal facts.
3. Publicity that puts someone wrongly in front of the public.
4. Unauthorized domination of one's likeness for the benefit of others.

Meanwhile, Warren argues that privacy is not absolute, as it has the following limitations:

1. It does not rule out the possibility of publishing a person's personal information for the public interest;
2. There is no privacy protection when no losses are suffered;
3. There is no privacy if the person concerned has expressed consent that his or her personal information will be made public;
4. Consent and privacy deserve legal protection because the losses suffered are difficult to assess, because it concerns a person's mentality, the losses are felt much greater than physical losses because they interfere with personal life.

The existence of some of the above laws and regulations that can be applied in the use of consumer personal data in the use of *fintech* for *e-commerce* transactions in practice has not been able to anticipate the occurrence of violations of the law for the misuse of consumers' personal data, resulting in losses. The purpose of using *fintech* becomes unclear, which is initially to achieve effectiveness and efficiency in *e-commerce* transactions, but often leads to violations of the above laws. Based on the description above, there are several legal problems that arise, including: how to apply laws and regulations in Indonesia to violations of the law on the misuse of consumer personal data in the use of *fintech* in *e-commerce* transactions? How should the protection of consumer personal data in the use of *fintech* in *e-commerce transactions* be implemented?

METHODS

The approach method used is a normative juridical approach method, in this case testing and examining secondary data on theories that can be applied in the legal protection of consumer personal data for the use of *fintech* in *e-commerce*, at this stage legal history research is carried out on the regulation of legal protection of consumer personal data for the use of *fintech* in *e-commerce*. The specification of the research conducted is descriptive analytical, namely providing facts systematically accompanied by analysis of theories that can be applied related to the legal protection

²⁹ Louis Brandeis Samuel Warren, "The Right to Privacy," *Harvard Law Review* IV, no. 5 (1890): 138, https://groups.csail.mit.edu/mac/classes/6.805/articles/privacy/Privacy_brand_warr2.html.

³⁰ William L. Prosser, "Privacy: A Legal Analysis," *California Law Review* 48 (1960): 380.

of consumer personal data for the use of *fintech* in *e-commerce*, as well as analyzing secondary data on primary legal material on the legal protection of consumer personal data for the use of *fintech* in *e-commerce*, including the PDP Law and the ITE Law, secondary data on secondary legal materials, namely the opinions of experts (doctrine) on the legal protection of consumer personal data on the use of *fintech* in *e-commerce*, as well as secondary data on tertiary legal materials such as legal dictionaries, encyclopedias and so on related to cases related to the legal protection of consumer personal data on the use of *fintech* in *e-commerce*.

DISCUSSION

Application of Laws and Regulations in Indonesia Against Violations of the Law on the Misuse of Consumer Personal Data in the Use of *Fintech* in *E-Commerce Transactions*

Fintech has experienced rapid development in recent years, along with the rise of digitalization in various sectors, including *e-commerce*. *Fintech* in the context of *e-commerce* refers to the use of digital technology to make payments, loans, insurance, and investments that are integrated in online shopping platforms. Along with the increase in smartphone adoption and internet penetration, many *e-commerce players* now rely on *fintech* to facilitate transactions between consumers and providers of goods or services.³¹ One of the important aspects of *e-commerce* is a secure and efficient payment process. *Fintech* offers payment solutions that are not only fast and secure, but also more inclusive, allowing more people, including those who do not have access to traditional banking services, to participate in the *e-commerce ecosystem*. Digital wallet services such as GoPay, OVO, and DANA in Indonesia, as well as *PayPal* and *Apple Pay* abroad, make it easier for consumers to transact online without the need to use a credit card. According to a report from Statista, the global digital payment transaction volume in 2020 is expected to reach more than \$4.5 trillion, with most of it coming from *e-commerce*.³²

While it offers convenience, the use of *fintech* in *e-commerce* also demands extra attention to security and personal data protection issues. Consumer transaction data stored on fintech platforms is a potential target for hackers. Therefore, both fintech and e-commerce service providers must ensure that they meet high security standards, such as data encryption and two-factor authentication. In Indonesia, regulations on personal data protection are further strengthened by the PDP Law, which requires service providers to maintain the security of users personal data.³³ Furthermore, *fintech in e-commerce* is expected to continue to grow, along with the emergence of new technologies such as *blockchain*, artificial intelligence, and *the internet of things (IoT)*. The *fintech sector* offers many opportunities to improve the consumer experience, but challenges related to regulation, privacy, and market penetration still need to be addressed. For this reason, it is important for businesses and governments to create regulations that keep pace with technological innovation,

³¹ Admin Aptika, "Sistem E-Commerce Dan Perlindungan Konsumen," aptika.kominfo.go.id, 2017, <https://aptika.kominfo.go.id/2017/06/sistem-e-commerce-dan-perlindungan-konsumen/>.

³² Statistika, "<https://www.statista.com/outlook/fmo/digital-payments/indonesia>," statistica.com, 2024, <https://www.statista.com/outlook/fmo/digital-payments/indonesia>.

³³ Wahyudi Wahyudi, Hetty Hassanah, "Pengakuan Putusan Penyedia Layanan Penyelesaian Sengketa Nama Domain Asing," *Jurnal Bina Mulia Hukum* 6, no. 1 (2021): 34–46, <https://doi.org/10.23920/jbmh.v6i1.240>.

as contained in the newly passed PDP Law, to guarantee consumer rights in the digital world.

In the ITE Law, several articles indirectly regulate electronic transactions, including *e-commerce* with digital or electronic payments, including the definition of electronic transactions, namely legal acts carried out using computers, computer networks, and/or other electronic media, as mentioned in Article 1 paragraph 2 of the ITE Law. Article 9 of the ITE Law also states that the implementation of electronic transactions is legal and has legal force, including digital payments as part of electronic transactions. Furthermore, Article 10 of the ITE Law emphasizes that business actors who provide electronic transaction services are required to use an electronic system that is reliable, secure, and functions as appropriate in accordance with the provisions of laws and regulations. The ITE Law emphasizes the responsibility of electronic system operators to ensure the security and reliability of systems in electronic transactions, including payment systems. Thus, all *e-commerce* and *fintech* platform operators are required to follow the above rules. The ITE Law also regulates sanctions for unlawful actions in electronic transactions, such as violations of consumer data security. These articles provide a legal framework to ensure *e-commerce* transactions, including digital payments, are carried out securely and reliably. This includes consumer protection, ensuring a reliable system, and sanctioning violations.

The PDP Law has regulated the procedures for personal data protection, including the rights, obligations, and responsibilities of data subjects, data controllers, and other parties who manage personal data. The PDP Law aims to provide legal certainty in protecting individual privacy rights to the use and management of personal data in the digital era.³⁴ There are several provisions related to the rights of personal data subjects in the PDP Law, including: the right to know, access, and obtain copies of personal data, the right to correct inaccurate personal data, the right to withdraw consent to data management, the right to request the deletion of personal data as stipulated in Articles 6 to 14 of the PDP Law. In addition, consumer personal data controllers on e-commerce and fintech platforms are required to manage personal data legally, transparently, and in accordance with the agreed objectives, as stipulated in Articles 15 to 20 of the PDP Law, and are obliged to provide security guarantees and prevent data leakage, which are regulated in Article 35 and Article 36 of the PDP Law. In the event of a leak of consumer personal data, the data controller is obliged to report to the data subject and the relevant authorities within 72 hours, in accordance with the provisions of Article 46 of the PDP Law. Violations of the PDP Law are subject to administrative, criminal, and maximum fines of IDR 6 billion, in accordance with the provisions of Articles 67 to 70 of the PDP Law.

The misuse of consumer personal data in the use of *fintech* in *e-commerce* transactions is also related to consumer protection regulated in the PK Law which provides protection to consumers even though it has not been explicitly regulated in the PK Law, for example in Article 3 of the PK Law which mentions the purpose of consumer protection, including providing legal certainty and creating a protection system that guarantees consumer rights, which may include data privacy. In addition,

³⁴ Wahyudi Wahyudi and Andi Muhammad Safaat, "Business Dispute Resolution and Its Implications for Investor Protection in Corporate Law," *Dialog Legal: Jurnal Syariah, Jurisprudensi Dan Tata Negara* 1, no. 3 (2025): 143–55, <https://doi.org/10.64367/dialoglegal.v1i3.69>.

business actors are responsible for protecting personal data in the storage and use of consumer data.

In addition to the above laws and regulations, there is also Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions (hereinafter referred to as PP PSTE) which regulates the implementation of electronic systems and electronic transactions in Indonesia. This PP PSTE also has provisions relevant to the protection of consumers' personal data in the context of the use of *fintech* in e-commerce transactions, through provisions related to the implementation of electronic systems used on *e-commerce and fintech platforms*.

Implementation of Consumer Personal Data Protection in the Use of *Fintech* in E-Commerce Transactions

Personal data is data that should be protected, including consumer personal data in the use of fintech in e-commerce transactions. The protection of consumers' personal data can refer to several laws and regulations, namely the PDP Law, the ITE Law, the PK Law, PP PSTE and several Regulations of Bank Indonesia and the Financial Services Authority (OJK).³⁵ Based on Articles 6 to 14 of the PDP Law, consumers who use *fintech* services in *e-commerce* have the right to control their personal data, in which case consumers have the right to:

1. Provide consent (opt-in) before their personal data is used by fintech platforms.
2. Withdraw consent (opt-out) at any time if they do not want their data to be further used by the operator of the electronic system.
3. Access their personal data stored by e-commerce and fintech platforms, as well as request correction if the existing data is inaccurate.

The Financial Services Authority has an important role in supervising the activities of financial institutions that are conventional-based and that use information technology. Fintech-based financial service providers must be registered with the Financial Services Authority in an effort to protect consumers.³⁶ Fintech service providers should provide a means for consumers to easily access and update their personal data. For example, *fintech platforms* such as digital wallets and e-commerce marketplaces must provide users with access to check, update, or delete the personal data they have collected during transactions.

Under the PDP Law, Articles 15-20 establish core obligations for fintech and e-commerce platforms. They must process personal data lawfully and transparently for specified purposes, obtain explicit user consent, and provide clear privacy policies detailing data usage. Articles 35-36 further mandate that data controllers implement robust technical and organizational security measures. For e-commerce transactions, this necessitates strong encryption and safeguards like two-factor authentication to protect sensitive information from unauthorized access or breaches. Under the PDP Law, Article 46 mandates that electronic system operators, including fintech and e-commerce

³⁵ Lukman Hakim Wardah Yuspin, Alfian Dzikria Nurrachman, Ata Fauzie, "Legal Protection Against Lender in Fintech Peer-to-Peer Lending Sharia," *USM Law Review* 7, no. 2 (2024): 933–47, <https://doi.org/10.26623/julr.v7i2.9064>.

³⁶ Ika Atikah, "Consumer Protection and Fintech Companies in Indonesia: Innovations And Challenges Of The Financial Services Authority," *Jurnal Hukum & Pembangunan* 9, no. 1 (2020): 132–53, <https://doi.org/10.25216/jhp.9.1.2020.132-153>.

platforms, must report any personal data breach to affected consumers and authorities within 72 hours of discovery. They are also required to inform users of protective measures they can take. Furthermore, Articles 67 to 69 establish significant administrative and criminal sanctions for violations, including fines of up to IDR 6 billion and potential license revocation. These strict penalties serve as a strong incentive for platforms to ensure compliance and maintain data security.

Government Regulation No. 71 of 2019 (PP PSTE) plays a crucial role in protecting consumer personal data in fintech and e-commerce. It defines electronic systems to include hardware, software, and user data. Key provisions, such as Articles 4 and 13, obligate electronic system operators including fintech and e-commerce platforms to manage and secure consumer data, including through encryption, in compliance with applicable laws and to prevent misuse or leaks.

In addition, electronic system operators are obliged to maintain and ensure that the data collected in electronic transactions is not misused as stipulated in Article 15 of the PP PSTE. This Article is relevant in the context of fintech because the personal data collected during transactions must be stored securely and must not be disseminated without the permission of the consumer. It also involves explicit consent from consumers to the use of their personal data. Article 16 of the PP PSTE states that the operator of the electronic system must delete personal data that is no longer needed for legitimate purposes. In the context of fintech, when a consumer's personal data is no longer needed for a particular transaction or service, the operator must delete it from their system to prevent future misuse. This includes the consumer's right to request deletion of their data after the transaction is completed. Responsibility for data misuse is regulated in Article 28 of the PP PSTE. This article regulates the responsibility of electronic system operators in the event of misuse or leakage of personal data. In the event of a data leak, the organizer is required to immediately notify consumers and authorities, and take action to mitigate the impact of the leak. In this case, *fintech companies* that manage e-commerce transactions are also responsible for protecting their consumers' personal data.

Meanwhile, sanctions for electronic system operators who violate provisions related to security and data protection. Violations of the provisions of personal data protection may be subject to administrative and criminal sanctions, which can be in the form of fines or revocation of operational licenses, according to the severity of the violation as stipulated in Article 40 of the PP PSTE. Thus, PP PSTE can provide a legal framework that supports the protection of consumers' personal data in electronic transactions, including *e-commerce* transactions that use *fintech*. These regulations ensure that personal data collected during transactions is kept secure, used with transparency, and processed in accordance with applicable regulations. It is important for *fintech and e-commerce* operators to comply with these provisions to maintain consumer trust and avoid potential violations of the law. Other technical provisions that can be applied in the use of fintech are:

1. OJK Regulation (POJK) No. 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services: Regulates P2P lending platforms where people can borrow or provide loans directly through online platforms. This regulation aims to ensure transparency,

good governance, and consumer protection.³⁷

2. Bank Indonesia Regulation (PBI) No. 19/12/PBI/2017 concerning the Implementation of Financial Technology: Regulates fintech companies in the digital payment sector, electronic wallets (e-wallets), and other payment technologies. These regulations ensure that electronic financial transactions are carried out safely and efficiently.

POJK No. 13/POJK.02/2018 on Digital Financial Innovation in the Financial Services Sector: This regulation introduces the concept of *a regulatory sandbox*, which allows new financial innovations to be piloted in a limited environment before obtaining a full operating license or permit.

Thus, it can be described regulations regarding the use of Fintech and its relationship to personal data in Indonesia include:

1. Financial Services Authority Regulation (POJK) Number 77/POJK.01/2016 concerning Information Technology-Based Money Lending Services (LPMUBTI). The Financial Services Authority (OJK) created this regulation to regulate various matters that must be adhered to by providers of user-to-user lending businesses, commonly referred to as fintech peer-to-peer lending (P2P lending).
2. Bank Indonesia Regulation (PBI) Number 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing (PTP). The issuance of PBI Number 18/40/PBI/2016 aims to meet public needs, including in the field of payment system services, in terms of instruments, providers, mechanisms, and infrastructure for processing payment transactions.
3. Bank Indonesia Regulation (PBI) No. 19/12/PBI/2017 concerning the Implementation of Financial Technology. The issuance of PBI No. 19/12/PBI/2017 aims to support monetary stability, financial system stability, and an efficient, smooth, secure, and reliable payment system to support sustainable and inclusive national economic growth by implementing the principles of consumer protection, risk management, and prudence.
4. Board of Governors Regulation (PADG) No. 19/14/PADG/2017 concerning the Financial Technology Regulatory Sandbox and
5. PADG No. 19/15/PADG/2017 concerning Procedures for Registration, Submission of Information, and Monitoring of Financial Technology Providers.

In several countries, various innovative technology-based financial services business models have developed rapidly. The emergence and development of fintech has given rise to new investment platforms with steadily increasing value. The United States has become the country with the largest fintech investment value in the world.³⁸

Regulation of fintech in the United States has been under the jurisdiction of the Securities Exchange Commission (SEC) since the early days of fintech's emergence and development in the form

³⁷ Hari Sutra Disemadi Lu Sudirman, "Legal Protection for Borrowers and Business Dispute Resolution in Fintech Lending Service," *Jurnal Jurisprudence* 11, no. 2 (2021): 187–204, <https://doi.org/10.10.23917/jurisprudence.v11i2.158>.

³⁸ A Milne and P Parboteeah, "The Business Models and Economics of Peer-to-Peer Lending. European Credit Research Institute" (Engl, 2016).

of P2PL. The SEC regulates disclosure and registration requirements for P2PL fintech providers. This has led many fintech companies to cease operations. To address this issue, a government study was conducted, which ultimately resulted in two regulatory options for fintech. The first is regulation by the capital market authority, intended to protect lenders, and regulation by the financial services authority, which includes the CFPB. The second option is consolidated regulation by the CFPB. In other words, efforts to establish appropriate regulations for fintech in the United States are currently in a wait-and-see mode.³⁹

CLOSING

Fintech in e-commerce refers to the use of digital technology for integrated payments, loans, insurance, and investments on online shopping platforms, but its implementation demands heightened attention to security and the protection of consumers' personal data, which is vulnerable to hacking. In Indonesia, the protection of such personal data in fintech-enabled e-commerce transactions is governed by a framework of laws and regulations, including the PDP Law, ITE Law, Consumer Protection Law, PP PSTE, and various rules from Bank Indonesia and the Financial Services Authority (OJK). To ensure effectiveness, the government must supervise e-commerce and fintech platform operators to ensure compliance with all stipulated requirements and take decisive action against violators, thereby safeguarding continuous legal protection for consumers' personal data.

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³⁹ Moran Ofir and Ido Sadeh, "A Revolution in Progress: Regulating P2P Lending Platforms," *NYUJL & Bus.* 16, no. 3 (2019): 683.

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