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Consumer protection against impulsive buying in Indonesian digital wallet services

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Abstract
The growing use of digital wallet services has made electronic payments faster and more convenient, but features such as one-click payments, personalised promotions, cashback offers, and urgency-based notifications may also influence consumers' purchasing decisions. This article examines the adequacy of Indonesia's legal framework for protecting digital wallet users against potentially manipulative interface practices associated with impulsive buying and identifies legal measures to strengthen consumer protection. It employs normative legal research using statutory and conceptual approaches, drawing on legislation and relevant legal scholarship. The analysis focuses on consumer protection, electronic transactions, personal data protection, and financial-sector regulation. The findings indicate that Indonesia has an established legal framework governing consumer rights, electronic transactions, data processing, and financial consumer protection. However, the framework does not yet provide a sufficiently integrated and operational standard for assessing potentially manipulative interface designs in digital wallet services. The resulting regulatory gap concerns the identification of prohibited design practices, the allocation of responsibility according to the provider's actual functions and control, and the accessibility of remedies for affected consumers. This article proposes an integrated framework combining preventive design safeguards, proportionate transaction controls, clearer accountability standards, and accessible complaint and dispute-resolution mechanisms. It argues that regulatory intervention should distinguish ordinary unplanned purchases from transactions involving misleading design or unauthorised payment, while balancing consumer autonomy, payment efficiency, and technological innovation.

Keywords: Consumer protection, impulsive buying, digital wallet, payment, cashback, flash sale, Indonesia

Introduction

Advancements in information and communication technology have brought about significant changes in various aspects of life, including payment systems. Digital transformation is driving a shift away from cash usage toward cashless transactions, which are considered more practical, fast, and efficient. [1] One rapidly growing innovation is the digital wallet service. A digital wallet is an application that can be installed on a smartphone, enabling users to make cashless payments.

The emergence of digital wallets has become a key component of Indonesia's digital economic growth, driven by the rising use of the internet and smartphones. Furthermore, the booming trend of online shopping and the presence of numerous e-commerce platforms in Indonesia create opportunities for digital wallet companies to expand and compete with one another.

Indonesia is one of the countries experiencing the fastest growth in the digitaleconomy within Southeast Asia. Under Bank Indonesia Regulation Number 23/6/PBI/2021, a digital wallet is defined as a store of electronic money value held on a server or within an application. In the domestic market, these instruments operate via two mechanisms: server-based (such as OVO, Dana, and GoPay) and chip-based (such as Flazz and TapCash).

Bank Indonesia has recorded a year-on-year increase in the transaction value of electronic money, reflecting the widening adoption of digital payments among the public. Data from Bank Indonesia shows that in the first half of 2022, the value of e-wallet transactions in Indonesia reached IDR 56.1 trillion. This phenomenon indicates massive e-wallet adoption, particularly among the younger generation. [2]

Digital wallets are gradually replacing physical wallets, allowing all payment-related matters to be handled right from the palm of your hand via smartphone. In this digital era, e-wallets have become an essential part of modern lifestyles, offering the convenience of making transactions anytime and anywhere. E-wallet users now outnumber credit card users. According to data from RedSeer, digital wallets account for 29 percent of e-commerce transactions in Indonesia. The user base is dominated by millennials, with an average transaction value of Rp140,663 per week and weekly top-ups also reaching Rp140,663.

Rankia INDONESIA Broker Stocks Trading

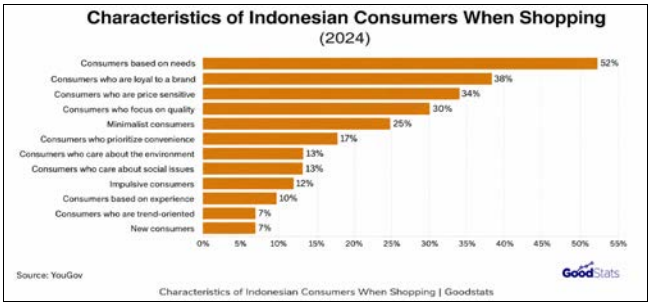
Rank	Application Name	Number of Downloads
1	DANA	100 million ++
2	OVO	50 million ++
3	Gopay	10 million ++
4	LinkAja	10 million ++
5	ShopeePay	10 million ++
6	Octo Mobile	5 million ++
7	i.saku	1 million ++

Source: rankia.id. Best E-wallet Apps in Indonesia

Fig 1: Ranking of digital wallet download numbers in Indonesia in 2025

Based on Figure 1.2 above, DANA ranks first in 2025. The DANA app stands out as a leading digital wallet platform that has successfully attracted millions of users through extensive integration services. DANA's success in dominating the market is attributed to its ability to provide a sense of security and tangible benefits to its users.

Consumptive behavior is characterized by a tendency to purchase goods excessively and without planning, often to satisfy symbolic needs such as social prestige.



Source: Data G. Characteristics of Indonesian Consumers When Shopping-GoodStats Data GoodStats Data. 2024.

Fig 1: Characteristics of Indonesian Consumers in 2024

Based on Figure 1.1, which presents data from GoodStats, 52% of consumers in Indonesia actually shop rationally meaning they purchase items solely based on their essential needs. However, other data reveal an issue: 12% of Indonesian consumers engage in impulse buying or are highly susceptible to the urge to shop. Data indicates that 7% of the consumer group is characterized by a tendency to impulsively try new trends or products without giving it much thought.

This 7% figure represents a segment of consumers prone to impulsive buying who are highly responsive to new product releases. The tendency to make instant purchases for fleeting emotional gratification is exacerbated by the fast-paced ecosystem of digital payment technologies. Easy access to e-wallets like DANA facilitates these impulsive urges, causing the pause for cognitive reflection to be bypassed in favor of acting entirely on emotional impulse. [3]

These trends demonstrate that digital wallets have become an integral part of the daily economic activities of Indonesians spanning e-commerce transactions, transportation fares, food purchases, and bill payments, as well as transactions within the micro, small, and medium sized enterprise (MSME) sector.

Impulse buying is a consumer behavior pattern characterized by the spontaneous purchase of products without prior consideration. Consumers who lack an initial plan are more prone to making such spontaneous purchases. [4] Impulse buying is an unplanned purchasing activity marked by rapid decision-making and a desire to possess the item. [5] This behavior is influenced by both internal and external aspects; internal factors stem from the consumer's individual characteristics such as gender, mood, hedonistic tendencies, and age while external factors encompass product characteristics and the marketing strategies employed. [6]

Features found in digital wallets such as one click payments, interest free installments for small transactions, and interface designs that obscure additional costs are deliberately engineered to encourage consumers to transact without careful consideration. Furthermore, aggressive promotional notifications can trigger a psychological urge to make spontaneous purchases. Consequently, consumers often only realize the financial cost after the transaction is complete, leaving no window of time to reverse the decision. [7]

The phenomenon of impulsive buying driven by "dark patterns" presents a fundamental legal challenge to Indonesia's consumer protection legal regime. Normatively, the primary legal framework for consumer protection in Indonesia remains anchored in Law Number 8 of 1999 concerning Consumer Protection (the Consumer Protection Law).

Enacted in the pre-digital era, the Law’s regulatory doctrines and structures were designed to address conventional transaction patterns characterized by physical interactions and linear processes. Under Article 4(c) of the Consumer Protection Law, consumers are fundamentally entitled to accurate, clear, and honest information regarding the condition and guarantees of goods and/or services.

Furthermore, Article 7(a) of the same Law imposes an obligation on business actors to act in good faith in their business operations. However, the wording of these provisions remains broad and focuses on discrepancies in physical information or conventional forms of fraud; consequently, the framework struggles to address the subtle nature of algorithmic manipulation and the visual architecture of digital interfaces.

In addition to the Consumer Protection Law, the digital payment services sector falls explicitly under the supervision of Bank Indonesia and the Financial Services Authority (OJK). Bank Indonesia has issued Bank Indonesia Regulation Number 23/6/PBI/2021 concerning Payment Service Providers, while the OJK has issued Financial Services Authority Regulation Number 22/POJK.07/2023 concerning Consumer and Public Protection in the Financial Services Sector.

Although both sectoral regulations incorporate fundamental principles such as transparency, information disclosure, and good faith, they do not yet address the technical aspects of standardizing interface design ethics, nor do they explicitly prohibit forms of dark patterns. Existing sectoral regulations still operate on the assumption that digital consumers are perfectly rational legal subjects who invariably read and understand all terms and conditions and exercise full control over their financial decisions.

Nevertheless, these various regulations remain fundamentally focused on aspects such as transaction legality, system security, personal data protection, information transparency, and dispute resolution. Existing regulations do not specifically address digital interface designs that can influence consumer psychological behavior during transactions.

In other words, there are no provisions explicitly prohibiting the use of dark patterns, mandating a cooling off period before the completion of certain transactions, setting maximum limits for instant transactions requiring no additional authentication, or requiring platform providers to offer opt out mechanisms for aggressive digital promotions.

This situation reveals a legal gap within the Indonesian legal system. This gap is evident in the absence of specific regulations governing consumer protection against impulsive buying triggered by features found in digital wallet services. Although Indonesia possesses various regulations such as Law No. 8 of 1999 on Consumer

Protection, Law No. 1 of 2024 (the Second Amendment to the Electronic Information and Transactions Law), Law No. 27 of 2022 on Personal Data Protection, and various Bank Indonesia and Financial Services Authority (OJK) provisions regarding digital payment systems none explicitly address the use of interface designs known as dark patterns or frictionless payment mechanisms, which can influence consumer decision-making during transactions.

Consequently, there are no legal norms establishing clear standards regarding the permissible use of these features or the liability of service providers in cases where app designs are proven to induce impulsive buying that results in consumer loss. This issue is particularly significant given the fundamental differences between digital and conventional transactions.

In conventional transactions, consumers have the opportunity to deliberate on purchasing decisions through direct interaction with sellers or by physically examining the goods. In contrast, digital transactions unfold within mere seconds, significantly limiting the consumer's opportunity for evaluation. While app designs that eliminate transaction friction enhance efficiency, they simultaneously increase the risk of impulsive purchasing, potentially to the detriment of consumers.

The urgency of reforming and reconstructing consumer protection laws becomes even more apparent when viewed alongside developments in international law. Across the globe, strict regulations addressing digital manipulation are being enacted. For instance, the European Union has passed the Digital Services Act (DSA), which explicitly prohibits online platform providers from employing dark patterns interface manipulation techniques that undermine consumer freedom, autonomy, and choice.

Similarly, the U.S. Federal Trade Commission (FTC) has taken aggressive enforcement action against technology companies that utilize deceptive design and frictionless payment mechanisms to trigger transactions without valid, informed consent. This global comparison demonstrates that interface manipulation is no longer merely a matter of business ethics or software design; it is now recognized as a serious violation of consumer protection laws.

Research regarding legal protections against impulsive purchasing practices in digital wallet services remains limited in Indonesia. Most prior studies have focused on the impact of digital promotions on consumption behavior from marketing or consumer psychology perspectives. There is a scarcity of legal research specifically examining the interplay between dark patterns, frictionless payments, consumer protection, and the need for specific regulations.

Previous studies on digital consumer protection have examined the problem from several complementary perspectives. Hayati (2024) analyses the challenges posed by dark patterns to Indonesia’s consumer protection law and argues that existing legal provisions offer only partial protection because general rules are difficult to apply consistently to different forms of manipulative interface design. This research establishes an important doctrinal foundation for understanding the limitations of Indonesia’s existing consumer protection framework. However, the application of these general legal principles to the specific functions and payment processes of digital wallet services requires further examination.

Research on impulsive buying has primarily focused on consumer behaviour and the factors that influence purchasing decisions. Djamhari *et al*. (2024), for example, investigate the relationships between sales promotions, fear of missing out (FOMO), and digital payment methods through empirical studies involving surveys and experimental methods. Their findings contribute to an understanding of how promotional strategies and payment methods relate to impulsive purchasing tendencies. [8] Similarly, Aryadipura, Margaliu, and Tanjung (2025) examine the factors associated with impulsive buying in online live-shopping environments, including e-wallet usage and hedonic motives. [9] Although these studies provide relevant behavioural evidence, their principal focus is not the normative assessment of legal duties, the allocation of responsibility among payment-service actors, or the adequacy of consumer remedies under Indonesian law.

More directly related to the legal dimension, Annisa and Hutabarat (2026) examine consumer protection against dark patterns in Indonesian marketplace applications through a comparative study with the Netherlands. [10] Their research identifies limitations in the existing Indonesian framework and discusses regulatory and supervisory approaches that could strengthen protection against manipulative interface practices. This study demonstrates that the legal implications of dark patterns in Indonesian digital commerce have already received scholarly attention. Accordingly, the present article does not claim novelty merely by identifying dark patterns as a consumer-protection problem or by arguing that Indonesia needs more specific regulation.

The distinction developed in this article concerns the particular legal context of digital wallet services and their role in facilitating payment transactions. Digital wallets may function as payment instruments, while promotional interfaces, product presentations, and purchasing decisions may also involve merchants, marketplace operators, and other service providers. These functions do not necessarily belong to the same legal actor. Consequently, determining responsibility requires more than establishing that an impulsive purchase occurred; it requires examining the relevant conduct, applicable legal duties, the actor’s role and control, and the relationship between the conduct and the alleged consumer harm.

Against this background, the research gap addressed by this article is the need for a more integrated normative analysis connecting potentially manipulative interface practices in digital wallet transactions with the application of Indonesian consumer-protection, electronic-transaction, personal-data-protection, and relevant sectoral regulations. In particular, the article distinguishes ordinary unplanned purchases from transactions involving potentially misleading design and from unauthorised payments. This distinction is important because these situations may raise different legal questions concerning consumer autonomy, compliance with information duties, provider responsibility, proof, and remedies.

The novelty of this article therefore lies in its proposed integrated analytical framework for consumer protection in Indonesian digital wallet services. The framework links three dimensions: [1] preventive safeguards addressing interface transparency and potentially manipulative design; [2] the allocation of legal responsibility according to the relevant provider’s functions, conduct, and degree of control; and [3] accessible complaint, evidentiary, dispute-resolution, and remedial mechanisms. Rather than assuming

that every impulsive purchase constitutes unlawful conduct, the framework seeks to identify when existing legal duties may apply, where their application remains insufficiently clear, and which regulatory measures may be justified to address the identified limitations. The contribution is thus a service-specific legal analysis and a structured proposal for strengthening consumer protection, rather than a claim that dark patterns or impulsive buying have not previously been studied.

This study employs a normative legal research method specifically, library based research to identify legal rules, principles, and doctrines, addressing instances where gaps exist in legal norms or principles and utilizing a theoretical framework to resolve the issues under examination.

The research utilizes both a statute approach and a conceptual approach. The statute approach is used to examine the interrelationships among Law Number 8 of 1999 concerning Consumer Protection; Law Number 1 of 2024 concerning Electronic Information and Transactions; Government Regulation Number 80 of 2019 concerning Trade Through Electronic Systems; Bank Indonesia Regulation Number 20/6/PBI/2018 concerning Electronic Money; and Financial Services Authority Regulation Number 6/POJK.07/2022 concerning Consumer and Public Protection in the Financial Services Sector.

The conceptual approach is used to analyze concepts such as manipulative application interface designs (which nudge users toward specific decisions), rechtsvacuum, and the preventive and remedial aspects of consumer protection as developed in legal doctrine and contemporary scholarly literature.

The legal materials employed consist of primary sources (legislation), secondary sources (scholarly journals, research findings, and legal textbooks), and tertiary sources (legal dictionaries and relevant electronic resources); all were gathered through a literature review method involving the examination of written sources such as books, journals, and regulations.

The analysis of legal materials in this study utilizes descriptive, evaluative, and argumentative techniques. This analysis aims to evaluate the effectiveness of existing legal regulations, identify legal gaps regarding the use of dark patterns and frictionless payment mechanisms, and formulate more effective legal protections for digital wallet service consumers encompassing both preventive and repressive measures.

This study aims to evaluate of Indonesia's current regulatory framework in protecting consumers from financial losses resulting from impulsive buying in digital wallet transactions, and to formulate a concept of legal protection encompassing both preventive and remedial measures against digital wallet features that may trigger impulsive purchasing behavior. These objectives are intended to address the previously identified legal gap and provide an argumentative basis for formulating policies that are more responsive to developments in financial technology. [11]

Theoretically, this research is expected to contribute to the body of knowledge regarding consumer protection law in the digital finance sector, particularly concerning the regulation of manipulative interface designs. Practically, the findings are expected to serve as a reference for the Financial Services Authority (OJK), Bank Indonesia, and policymakers in formulating improved policies to protect digital wallet consumers. Furthermore, this research aims to enhance public understanding of consumer rights when utilizing electronic payment services.

Based on the aforementioned background, this study focuses on examining the prevailing legal framework in Indonesia regarding consumer protection against potential losses arising from impulsive buying in digital wallet transactions, as well as the forms of legal protection available to consumers concerning digital wallet features that may trigger impulsive buying behavior, in light of Indonesian consumer protection laws. These issues are analyzed to assess the effectiveness of existing regulations and to formulate forms of legal protection that are more adaptive to the evolution of digital payment services.

Discussion

Legal Regulation on Consumer Protection against Impulsive Buying Practices in Digital Wallet Services in Indonesia

Advancements in information and communication technology have driven the transformation of payment systems from conventional methods to digital payments that are faster, more convenient, and more efficient. One such innovation is the digital wallet service, which has now become a primary payment instrument for various economic activities among the Indonesian population. [12]

This shift is characterized by the digitalization of the financial sector, known as financial technology (fintech). [13] Fintech refers to the application of technological innovations within the financial services sector, resulting in business models, applications, processes, or products that significantly impact the provision of financial services. Fintech represents a fusion of financial services and technology that modernizes business models.

The advent of fintech has made payments much easier. Previously, payments had to be made in person using cash; however, fintech enables cashless and remote transactions. Services such as GoPay, OVO, DANA, ShopeePay, and LinkAja have not only facilitated e-commerce transactions but are also used for payments covering transportation, food, utility bills, and public services.

According to Bank Indonesia, the year-on-year increase in the transaction value of electronic money indicates that digital wallets have become a crucial element in accelerating the nation's digital economic transformation. This trend demonstrates that the public is increasingly relying on digital payment systems as a convenient and efficient alternative for making payments. [14]

Despite the convenience they offer, digital wallet services also present new challenges regarding consumer protection. Service providers utilize various digital features such as cashback, flash sales, one click payments, push notifications, and loyalty point systems to increase the frequency of user transactions. From a marketing perspective, these strategies represent innovations aimed at enhancing the user experience.

However, if implemented excessively without regard for consumer protection, these features can influence users' psychology, potentially driving impulsive buying purchases made spontaneously without prior planning. Therefore, the evolution of digital payment technology must be balanced with regulations capable of providing legal protection against risks arising from shifts in consumer behavior within digital transactions.

Consumer protection regarding the use of digital wallet services has essentially been established on a legal foundation through Law Number 8 of 1999 concerning Consumer Protection (UUPK). This Law regulates the rights and obligations of both consumers and business actors to ensure legal certainty in the trade of goods and services. Under Article 4 of the UUPK, consumers have the right to comfort, security, and safety, as well as to accurate, clear, and honest information regarding the goods and/or services they use.

Conversely, Article 7 of the UUPK requires business actors to act in good faith, provide accurate information to consumers, and assume responsibility for any losses arising from the use of the traded goods or services. These provisions are generally applicable to digital wallet service providers as business actors in the electronic payment services sector.

However, upon closer analysis, the Consumer Protection Law (UUPK) does not yet specifically address consumer protection against impulsive buying practices triggered by digital application designs. The law's provisions remain focused on product safety, information transparency, and business operator liability, whereas the use of dark patterns, frictionless payment systems, and promotional algorithms that influence consumer behavior is not explicitly regulated.

Consequently, digital wallet providers retain significant leeway to implement digital marketing strategies that encourage impulsive transactions, provided they do not violate the general provisions of the UUPK. This situation demonstrates that, while the UUPK establishes a foundation for consumer protection, its regulatory framework is not yet fully capable of accommodating the increasingly complex evolution of digital payment technologies.

In addition to the Consumer Protection Law (UUPK), legal protection for transactions conducted via digital wallet services is also governed by Law Number 1 of 2024 concerning the Second Amendment to Law Number 11 of 2008 concerning Electronic Information and Transactions (the ITE Law). The ITE Law establishes the legal basis for electronic transactions by mandating that electronic system providers maintain systems that are reliable, secure, and responsible.

In the context of digital wallets, these provisions aim to provide legal certainty for users, ensuring that electronic transactions are conducted securely and transparently while possessing valid legal standing. [15] Consequently, digital wallet service providers are obligated to guarantee system security and safeguard user interests throughout the transaction process.

However, the regulations within the ITE Law still focus more on electronic system security and transaction validity than on the protection of consumer behavior. The ITE Law does not yet specifically address the use of manipulative user interface designs such as dark patterns, one click payments, or frictionless payments that can drive consumers to make impulsive purchases.

As long as transactions are conducted based on user consent, such practices are not currently considered legal violations, even though they have the potential to diminish a consumer's freedom to make rational decisions. Therefore, the ITE Law requires refinement to better accommodate digital technological advancements; it needs to address not only transaction security but also the protection of consumers against digital business practices that can influence consumption behavior.

The use of digital wallet services involves the processing of users' personal data consequently, Law Number 27 of 2022 concerning Personal Data Protection (PDP Law) serves as a basis for legal protection. The PDP Law mandates that data processing be conducted lawfully, transparently, and with the data owner's consent to safeguard consumer privacy rights.

However, the PDP Law does not yet specifically address the use of personal data to shape consumption behavior through algorithms or personalized promotions. As a result, legal protection remains focused on privacy aspects and has not yet extended to the risks of impulsive buying driven by the utilization of digital data.

Bank Indonesia through PBI Number 23/6/PBI/2021 concerning Payment Service Providers and the OJK through POJK Number 22 of 2023 concerning Consumer and Public Protection in the Financial Services Sector have established regulations regarding transaction security principles, information transparency, and consumer complaint mechanisms. [16]

However, these regulations do not yet address standards for the use of digital features such as one click payments, push notifications, or dark patterns, which have the potential to encourage impulsive buying. Therefore, more specific regulations are required to ensure consumer protection in the era of digital payments. Consumer protection in digital wallet services must be grounded in the principles of benefit, fairness, balance, security, and legal certainty, as stipulated in the Consumer Protection Law.

These principles aim to foster a fair relationship between business actors and consumers. Nevertheless, a legal vacuum persists due to the absence of regulations specifically addressing the use of dark patterns and frictionless payments. Consequently, existing regulations are unable to provide optimal protection against practices that trigger impulsive buying.

To protect digital wallet users from the ease of transactions that can trigger impulsive buying, the following analysis evaluates the adequacy of existing regulations by applying the principles of balance and good faith which serve as the philosophical foundation of consumer protection law.

The Consumer Protection Law was drafted during the era of conventional transactions and did not anticipate the characteristics of digital transactions, which are instantaneous, non face to face, and heavily reliant on current interface design. The characteristics of conventional transactions upon which the Consumer Protection Law was based differ fundamentally from those of digital transactions, which occur without face to face interaction and depend heavily on interface design.

Current Indonesian regulations remain inadequate in protecting consumers from triggers of impulsive buying existing rules merely address general principles such as information transparency and business good faith without tackling the behavioral manipulation techniques embedded in digital product designs themselves, such as one click payments, interest free installments, and aggressive promotional notifications.

This legal gap constitutes a major issue, resulting in protection measures that are primarily reactive addressing harm after it has occurred rather than proactive in preventing such harm from the outset. Another weakness undermining the effectiveness of existing regulations is the absence of clear legal definitions for terms such as dark

patterns and frictionless payments within Indonesian legislation.

This lack of normative definitions leaves supervisory authorities and judicial bodies without a definitive benchmark to assess whether a specific application interface design violates consumer rights or remains within the bounds of legitimate business practices consequently, law enforcement relies heavily on case by case interpretations that fail to provide clear legal certainty.

Comparisons with regulations in other countries further underscore the weakness of the rules currently in force in Indonesia. The European Union has developed a legal framework that explicitly defines and prohibits dark patterns through the Digital Services Act, while the United States through the Federal Trade Commission actively enforces the law against digital platforms found to employ dark patterns in subscription or payment processes, despite lacking a uniform federal data protection law.

These comparisons demonstrate that Indonesia's legal regulations are insufficiently robust, whether regarding the substance of the rules or the technical authority of supervisory bodies to take action against practices that trigger impulsive buying. The absence of administrative sanctions specifically targeting dark pattern practices may also weaken the enforcement power of existing regulations.

The sanctions available under the Consumer Protection Law are generally broad such as compensation, business license revocation, or criminal fines yet applying them to application interface designs requires proving a causal link between a specific design and consumer harm. Establishing such causality is technically difficult without clear technical standards defining the boundaries of what constitutes a manipulative design. Consequently, while the imposition of sanctions is normatively possible, their practical application remains severely limited.

Based on an analysis of the Consumer Protection Law (UUPK), the ITE Law, the Personal Data Protection Law (UU PDP), PBI, and POJK, it can be concluded that Indonesia already possesses a legal framework for protecting consumers in digital transactions. However, there are currently no regulations specifically addressing dark patterns and frictionless payment practices that trigger impulsive buying. Therefore, regulatory enhancements are necessary to ensure that consumer protection keeps pace with the evolution of digital wallet services.

Legal Protection for Consumers Regarding Digital Wallet Services That Trigger Impulsive Buying Behavior

Digital wallet services has introduced various innovations that facilitate fast and efficient financial transactions. Features such as one click payments, cashback, flash sales, push notifications, auto top ups, and personalized product recommendations are designed to enhance the user experience while driving transaction frequency.

From a business perspective, these features serve as digital marketing strategies aimed at boosting a service provider's competitiveness. However, without being balanced by consumer protection principles, these features can influence users' psychology, potentially leading to impulsive buying a behavior characterized by spontaneous purchases made without careful consideration.

Digital wallet services function not merely as a means of payment but also as marketing tools capable of influencing consumer decision making processes. The ease of transactions facilitated by instant payment systems combined with persuasive user interface designs can reduce the likelihood of consumers considering their actual needs and financial capabilities before making a purchase.

This situation creates a potential for economic loss, particularly when consumers engage in repetitive transactions driven by promotional offers or manipulative app designs (known as dark patterns). [17] While the rapid adoption of e-wallets as a cashless payment method in Indonesia has streamlined digital financial transactions, it has simultaneously introduced serious risks such as personal data breaches and unauthorized transactions that can lead to the loss of user funds.

Numerous large scale data breaches and a rising volume of consumer complaints indicate that security systems and legal protections for e-wallet users remain suboptimal. [18] Consequently, this situation raises legal issues regarding the liability of e-wallet providers in safeguarding consumer data and funds.

Therefore, legal protection for consumers must not only focus on transaction security but also encompass the regulation of digital service features that could potentially influence consumers' freedom of decision making. [19] The term "legal protection" comprises two concepts: protection and law. "Protection" refers to the means of safeguarding, while "law" refers to binding and mandatory regulations. [20] Thus, legal protection constitutes the totality of efforts undertaken by the government or government authorities to safeguard the rights of the public through regulations.

Legal protection for consumers using digital wallets requires a dual approach: preventive and repressive legal protection. Preventive protection aims to avert losses by mandating digital service designs that are more transparent and consumer-oriented.

Meanwhile, repressive protection aims to provide legal certainty when consumers have suffered losses, utilizing mechanisms such as complaint handling, dispute resolution, and the provision of compensation. [21] Both forms of protection are essential to achieving a balance between digital payment technology innovation and the fulfillment of consumer rights in the digital economy era. [22]

Under the classical legal paradigm, agreements rest on the assumption that individuals possess full personal autonomy and the rational capacity to make the best choices for themselves (rational choice theory). However, as data driven algorithms constantly record users' shopping habits and emotional responses, that individual autonomy is gradually eroded, ultimately undermining the consumer's critical judgment. [23]

Consequently, it is no longer sufficient for the law to merely regulate the formal requirements of agreements; it must also address the realm of algorithmic ethics. [24] Regulations governing the digital financial sector must prohibit the use of emotional profiling data specifically designed to exploit moments of consumer vulnerability in order to boost platform transaction volumes.

To address the legal vacuum and rectify existing structural imbalances, the research findings formulate a scheme for the "Reconstruction of Integrated Legal Protection." This formulation combines the dimension of preventive protection (prior to the occurrence of harm) and the dimension of repressive protection (legal handling following the event).

The structure of this legal reconstruction is mapped out as follow:

Protection Dimension	Normative Reconstruction Object	Specific Policy Instruments	Primary Legal Objective
Preventive (Ex-Ante)	Interface Architecture Governance (UI/UX Design)	▪ Ethical UI/UX Standards ▪ Cooling-Off Period ▪ Authentication Limits ▪ Standard Opt-Out	Prevent Cognitive Manipulation & Restore Autonomy of Will
Repressive (Ex-Post)	Liability & Dispute Resolution Schemes	▪ Strict Liability ▪ Reversal Burden of Proof	Overcome Evidentiary Asymmetry & Guarantee Restitution of Losses

The framework for reconstructing legal protections for digital wallet users is built upon two complementary pillars: the preventive dimension (ex-ante protection) and the repressive dimension (ex-post protection). [25] Regarding preventive protection, legal intervention focuses on technical standardization prior to the occurrence of loss; this is achieved through regulations mandating the application of Protection by Design and Protection by Default principles at every stage of digital wallet application development. [26]

This approach is reinforced by the classification of dark patterns as strictly prohibited practices (perseillegal) within the sectoral regulations of the Financial Services Authority (OJK) and Bank Indonesia. Furthermore, platform operators are required to implement various transaction balancing features, such as cooling off periods (involving an automatic confirmation delay for specific transaction amounts), transaction thresholds that trigger mandatory two factor or biometric authentication, easily accessible one click opt out mechanisms for advertisements and promotions, and system enforced self imposed spending limits designed to preserve consumer critical judgment. [27]

Meanwhile, regarding the dimension of repressive protection, the legal reconstruction focuses on addressing issues and restoring consumer rights after an incident occurs. This dimension entails a paradigm shift in legal liability from a fault based model to strict liability. [28] To overcome obstacles such as information asymmetry and limited consumer access to application internal code (the black box algorithm), this scheme incorporates the doctrine of the reversal of the burden of proof in electronic transaction dispute resolution, under this approach, the burden of proving the absence of system manipulation rests entirely with the business operator.

The reconstruction concludes with the standardization of a compensation mechanism (restitution scheme) designed to be rapid, accessible, and integrated through the use of Online Dispute Resolution (ODR) platforms thereby ensuring legal

a. Sneaking: Concealing additional costs or surreptitiously altering subscription option checkboxes.

b. Urgency: Displaying false warnings regarding limited stock or expiring discount deadlines.

c. Obstruction: Making the process of cancelling a subscription or closing an account significantly more difficult than the sign-up process.

In addition to these prohibitions, the law should as recommended provide proactive protection by mandating that digital wallet providers implement a "Cooling-Off Period" feature. Under this mechanism, when a user initiates an impulsive transaction exceeding a specific monetary threshold or triggered by an instant promotional notification, the system automatically imposes a waiting period (e.g., 15 to 30 minutes) before funds are permanently transferred to the merchant.

During this waiting period, consumers are granted the absolute right to cancel the transaction without incurring any certainty and substantive justice for consumers. This reconstructive formulation marks a fundamental shift from conventional regulatory approaches toward "Behavioral Regulation." Behavioral regulation is an approach to legal norm-making that actively integrates findings from behavioral economics to anticipate and neutralize cognitive biases exploited by business actors.

Grounded in Mochtar Kusumaatmadja's Theory of Law for Development (2002) and Roscoe Pound's doctrine of "law as a tool of social engineering" (1954), the law must not remain passive or merely trail behind technological advancements. Instead, the law must function actively as an instrument of social reform, guiding the evolution of financial technology architecture to ensure it remains aligned with the principles of economic justice, the protection of human rights, and respect for consumer dignity. [29]

From a preventive standpoint, adopting the norms of "Protection by Design" and "Protection by Default" as outlined in the European Data Protection Board's Guidelines on Dark Patterns serves as a crucial legal instrument. Through revised OJK (Financial Services Authority) and PBI (Bank Indonesia Regulation) regulations, regulators must establish ethical standards for application interface design (ethical UI/UX design). [30]

These regulations must explicitly prohibit key forms of dark patterns, such as:

Fines or penalties. This feature serves to restore critical judgment, reduce emotional impulsivity, and ensure that any consent given constitutes a fully informed and rational agreement.

A primary driver of the surge in impulsive buying is the drastic reduction of transaction barriers specifically (frictionless payment). Eliminating the physical act of handing over money minimizes the psychological impact known as the pain of paying. Consequently, a preventive legal restructuring must reintroduce proportional friction to safeguard consumers' finances.

The OJK and Bank Indonesia need to establish a maximum transaction value limit for transactions that can be processed without high-assurance confirmation. For any transaction exceeding a specific nominal amount, or one detected as deviating from the user's habitual patterns (anomalous transaction pattern), the system must trigger two factor authentication using a combination of a PIN and biometrics (fingerprint or facial scan).

Furthermore, new regulations must mandate the availability of a Self Exclusion Limit feature. This feature grants consumers the legal right to set their own maximum daily,

weekly, or monthly spending limits within their digital wallet applications. Once the user defined limit is reached, the system's algorithm automatically blocks all additional transaction capabilities and rejects instant credit (paylater) requests until the specified period expires.

This right to self imposed limits represents a tangible step toward restoring consumer autonomy, enabling individuals to control their personal finances amidst the onslaught of platform commercialization strategies. In terms of the repressive dimension, the greatest obstacle consumers face when suffering financial loss due to interface manipulation is the heavy burden of proof.

If a dispute is resolved through conventional mechanisms based on Article 1365 of the Indonesian Civil Code, the consumer is required to prove the existence of fault, an unlawful act, actual loss, and a causal link attributable to the platform provider. Meeting these evidentiary requirements is virtually impossible for the average consumer, given that evidence regarding algorithmic design and application source code remains entirely within the internal control of the business operator often functioning as a "black box" algorithm.

To uphold substantive justice, it is essential to emphasize that the legal framework governing enforcement must adopt a strict liability scheme combined with the doctrine of the reversal of the burden of proof. Under this scheme, when a consumer files a lawsuit or complaint regarding a transaction proven to have been triggered by a misleading interface design, the consumer need only demonstrate the fact of the transaction and the financial loss incurred.

Furthermore, the full burden of proof shifts to the digital wallet platform provider. The business operator in question is required to demonstrate before the panel of judges or the Consumer Dispute Resolution Agency (BPSK) that:

a. Its application interface architecture complies with all technical standards for ethical UI/UX design;
b. The system does not employ dark patterns or misleading visual manipulations; and
c. The transaction confirmation provided by the consumer genuinely stems from a free choice, devoid of algorithmic manipulation.

Should the platform provider fail to refute these claims, the platform shall be deemed as a matter of law to have committed an unlawful act (corporate tort) and be required to provide full restitution to the consumer, encompassing a transaction refund as well as the restoration of the consumer's good name if the transaction involved a pay later credit facility.

The next step in this legal reconstruction is the need to harmonize oversight among state institutions. Current oversight of digital wallets is fragmented across Bank Indonesia (payment systems), the OJK (financial services and pay later schemes), the Ministry of Communication and Digital Affairs (electronic systems), and the Ministry of Trade (consumer protection). This disjointed regulatory framework creates legal loopholes that business operators frequently exploit to evade their consumer protection obligations.

Therefore, it is necessary to establish a Special Task Force on Fintech Digital Interfaces and Consumer Protection, operating under the joint coordination of the OJK, BI, and the BPKN (National Consumer Protection Agency). This task force is granted the authority to conduct periodic algorithmic audits and pre-market UI reviews evaluating application designs prior to public launch as well as to impose strict administrative sanctions, ranging from substantial financial penalties and the suspension of application features to the revocation of operating licenses for platform providers proven to be employing dark patterns on a massive scale.

Furthermore, to ensure the efficient, low-cost, and speedy resolution of disputes, the government must revitalize a nationally integrated Online Dispute Resolution (ODR) system. Through this ODR platform, consumers harmed by impulsive buying transactions triggered by app-based traps can file claims digitally, upload evidence (such as screenshots or screen recordings), and undergo processes ranging from mediation to arbitration online, without having to resort to conventional court proceedings that are time consuming and costly.

Allowing the rampant practice of impulsive buying via digital wallets to go unchecked threatens to erode national household financial resilience. Rapidly accelerating digital financial inclusion unaccompanied by commensurate financial literacy and robust consumer protection regulations risks transforming the potential for transactional efficiency into a trap of excessive consumerism.

There is a moral and constitutional imperative to ensure that the expansion of financial inclusion does not come at the expense of individual economic stability. Consequently, updating digital consumer protection regulations is not merely a matter of harmonizing existing legal norms; it is a strategic move to safeguard social justice and the future sustainability of Indonesia’s digital economic ecosystem.

Conclusion

Indonesia has an established legal framework relevant to consumer protection in digital wallet transactions, including legislation concerning consumer rights, electronic information and transactions, personal data protection, and sectoral regulation of payment and financial services. These instruments provide a legal basis for addressing certain forms of misleading information, failures to comply with applicable obligations, and consumer complaints. However, the analysis indicates a regulatory gap in the development of sufficiently integrated and operational standards for assessing interface practices that may materially impair informed consumer choice.

The legal problem should not be characterised as a complete absence of protection. Rather, it concerns the extent to which existing general and sectoral rules can consistently address design practices such as concealed costs, misleading urgency, asymmetrical choice architecture, and frictionless payment processes. The legal consequences of these practices must be assessed according to the applicable duty, the conduct established, the role of the relevant provider, and the harm alleged. Ordinary impulsive purchases should be distinguished from transactions involving misleading design or unauthorised payments because these situations do not necessarily give rise to identical legal consequences.

This article proposes an integrated framework consisting of preventive interface safeguards, responsibility proportionate to the provider’s actual role and control, and accessible complaint and dispute-resolution mechanisms. Potential reforms may include clearer standards for prohibited design practices, proportionate transaction controls, improved access to relevant evidence, and more effective remedies.

However, measures such as mandatory cooling-off periods, strict liability, and reversal of the burden of proof require further legal justification, defined conditions of application, and assessment of their proportionality and practical effects. The principal contribution of this study is to connect the design of digital payment interfaces with existing consumer-protection duties, provider accountability, and remedial mechanisms. Future regulatory development should clarify the boundary between legitimate commercial design and legally problematic manipulation while preserving efficient payment services and meaningful consumer choice. This approach provides a more precise basis for strengthening consumer protection in Indonesia's evolving digital payment ecosystem.

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