

LEGAL PROTECTION FOR CONSUMERS IN DIGITAL TRANSACTIONS: A SYSTEMATIC REVIEW OF CIVIL LAW PERSPECTIVES

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Abstract

The rapid expansion of digital commerce has fundamentally transformed the manner in which contracts are formed, performed, and enforced, thereby raising urgent questions about the adequacy of classical civil law doctrine to protect consumers who transact online. This article conducts a systematic review of civil law perspectives on consumer protection in digital transactions, synthesizing findings from twenty-three peer-reviewed studies published mainly between 2020 and 2026 across multiple jurisdictions, including Indonesia, Oman, Ecuador, Saudi Arabia, Malaysia, Brazil, and several cross-border and comparative settings. Employing a normative-juridical method combined with a systematic literature review protocol, the study examines how doctrines of offer and acceptance, contractual validity, standard-form agreements, and good faith are being reinterpreted to address the asymmetries of information, bargaining power, and technological complexity inherent in online transactions. The review finds that although most civil law systems retain the four classical conditions of contract validity, namely agreement of the parties, capacity, a certain object, and a lawful cause, their application to electronic contracts, smart contracts, and platform-mediated transactions remains fragmented and unevenly enforced. It further identifies personal data protection, algorithmic and smart-contract governance, and cross-border jurisdictional conflict as the three most pressing frontiers where civil law consumer protection frameworks currently fall short. The article concludes that harmonizing sector-specific regulation, namely electronic transactions law, consumer protection law, and personal data protection law, within a coherent civil law framework is essential to secure meaningful redress for digital consumers, and it proposes a research and policy agenda oriented toward that end.

Keywords: Consumer Protection; Digital Transactions; Civil Law; Electronic Contracts; E-Commerce; Systematic Review.

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1. Introduction

Over the past decade, and with particular acceleration since 2020, digital commerce has migrated from a peripheral channel of retail activity into the dominant mode through which consumers acquire goods, services, credit, and digital content. Marketplaces, social-commerce platforms, mobile banking applications, and blockchain-based exchanges now mediate transactions that were once conducted face to face, under the direct supervision of doctrines developed for a physical, paper-based marketplace. This shift has not been uniform across jurisdictions, but its consumer-facing consequences are strikingly similar wherever it occurs: reduced opportunity for the consumer to inspect goods or verify counterparties, an overwhelming reliance on standard-form terms that few consumers read, and a widening gap between the sophistication of business actors and the bargaining position of the individual

purchaser.¹ These dynamics sit uneasily within the inherited architecture of civil law, a tradition that continues to organize contractual relationships around the idea of a freely negotiated meeting of minds between formally equal parties.

Civil law systems descending from the French Code Civil and its Dutch derivative, the Burgerlijk Wetboek, share a common structural feature: contractual validity is conditioned on the satisfaction of a small number of formal requirements rather than on open-ended judicial discretion. In Indonesia, this inheritance is codified in Article 1320 of the Kitab Undang-Undang Hukum Perdata (KUHPerdata, the Indonesian Civil Code), which requires, for a valid agreement, the consent of the parties who bind themselves, the capacity of the parties to enter into an agreement, a specific object, and a lawful cause. Article 1338 of the same code enshrines the principle that a validly formed agreement operates as law for the parties who made it, giving strong effect to freedom of contract, while Article 1313 defines an agreement as an act by which one or more persons bind themselves to one or more other persons. These provisions were drafted for an era in which offer, acceptance, and performance occurred in immediate physical proximity, and in which the parties could reasonably be expected to have equal access to the terms they were agreeing to.

Digital transactions strain each of these assumptions in a distinct way. The moment and place of contract formation become uncertain when offer and acceptance are mediated by servers located in different jurisdictions and by interface designs, such as click-wrap and browse-wrap agreements, that reduce assent to a single tap or an implied continuation of browsing.² The requirement of a lawful and specific object becomes harder to police when the transacted good is intangible, algorithmically priced, or executed automatically through self-enforcing code. Studies on price-error cases in online retail illustrate how a momentary system glitch or mispricing can produce an ostensibly binding offer that neither party actually intended, forcing courts to reconcile the objective theory of contract formation with the subjective reality of consumer and merchant expectations.³ Comparative work from Malaysia on the fitness for purpose and merchantable quality of goods sold through online platforms shows that even long-settled sale-of-goods doctrines require reinterpretation once the buyer can no longer physically inspect the item before purchase, and once digital marketplaces interpose multiple layers of sellers, resellers, and fulfilment intermediaries between the consumer and the ultimate source of the goods.⁴⁵

The stakes of getting this doctrinal accommodation right are not merely academic. Digital transactions increasingly involve consumers who are structurally less able to protect their own interests through negotiation or exit, including consumers in remote regions whose only practical access to a wide range of goods is through a digital marketplace, consumers using mobile-first, low-bandwidth connections that make lengthy standard-term documents especially impractical to read in full, and, as later sections of this review discuss, minors and other legally incapacitated persons who can and frequently do complete purchases through

¹Belwal, R., Al Shibli, R., & Belwal, S. (2020). Consumer protection and electronic commerce in the Sultanate of Oman. *Journal of Information, Communication and Ethics in Society*, 19(1), 38–60. <https://doi.org/10.1108/jices-09-2019-0110>

²Chen, Y. (2026). Navigating contractual deadlocks: A review of doctrinal and comparative approaches to price error cases. *Advances in Education, Humanities and Social Science Research*. <https://doi.org/10.56028/aehtsr.16.1.207.2026>

³Chen, Y. (2026). Navigating contractual deadlocks: A review of doctrinal and comparative approaches to price error cases. *Advances in Education, Humanities and Social Science Research*. <https://doi.org/10.56028/aehtsr.16.1.207.2026>

⁴Asuhaimi, F. B. A., Ghadas, Z., Nawang, N., & Ghapa, N. (2021). The concept of fitness for purpose of goods in Malaysian today's online contract: Issues and challenges. *Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021)*. <https://doi.org/10.2991/assehr.k.211223.091>

⁵Asuhaimi, F. B. A., Ghadas, Z., & Nawang, N. (2022). Sale of merchantable quality goods in today's online contract: Issues and challenges. *Indonesian Comparative Law Review*, 4(2). <https://doi.org/10.18196/iclr.v4i2.15858>

payment methods linked to a parent's or guardian's account without any effective age-verification barrier. For these consumers, the civil law's classical assumption of a capable, informed party freely consenting to a negotiated bargain is at its most fictional, and the practical adequacy of consumer protection law is at its most consequential. A systematic review conducted with genuine attentiveness to civil law doctrine therefore cannot treat digital transactions as a homogeneous category; it must remain alert to how the same formal contract-validity framework produces materially different levels of real protection depending on who the consumer is and what alternatives are practically available to them.

In Indonesia specifically, consumer protection in digital transactions is currently governed by an overlapping and only partially harmonized set of instruments: Law No. 8 of 1999 on Consumer Protection (Undang-Undang Perlindungan Konsumen, UUPK), which predates the commercial internet and was designed around conventional retail transactions; Law No. 11 of 2008 on Electronic Information and Transactions as amended by Law No. 19 of 2016 (UU ITE), which addresses the validity of electronic documents and signatures but only tangentially addresses consumer welfare; Government Regulation No. 80 of 2019 on Trading Through Electronic Systems; the Minister of Trade Regulations on electronic commerce licensing and supervision; and, since 2022, Law No. 27 of 2022 on Personal Data Protection (UU PDP). Recent doctrinal analyses of Indonesian e-commerce jurisprudence confirm that courts and regulators have, in individual disputes, tended to hold business actors to a demanding standard of honest and clear disclosure, yet the same studies note that the underlying statutory framework remains sectoral, was not designed with electronic commerce specifically in view, and leaves significant gaps in dispute-resolution access and in the allocation of liability between platforms, sellers, and payment intermediaries.⁶⁷ This fragmentation is not unique to Indonesia; it recurs, in different institutional forms, across the jurisdictions surveyed in this review.

A substantial body of scholarship already documents individual pieces of this puzzle: single-jurisdiction doctrinal studies of e-commerce contract validity, sectoral analyses of data protection law, and technology-focused accounts of blockchain and artificial intelligence in commercial practice. What remains comparatively underdeveloped is a systematic synthesis that reads these strands together through the specific lens of civil law contract doctrine, rather than through consumer-welfare economics, information-systems research, or criminal-law enforcement. Recent systematic literature reviews on cross-border e-commerce consumer protection and on cross-border consumer behaviour demonstrate that the review method itself is well suited to this field, because the underlying legal problems recur with strong family resemblance across otherwise unrelated jurisdictions, even though the surface-level statutory language differs considerably.⁸⁹ Building on that methodological precedent, this article asks three questions. First, how are the classical civil law conditions for contract validity, being agreement, capacity, object, and cause, being applied, strained, or reinterpreted in digital consumer transactions across the jurisdictions represented in the reviewed literature? Second, what protective mechanisms, whether statutory, judicial, or platform-based, currently exist to correct the information and bargaining asymmetries of digital transactions, and how effective does the literature suggest they are? Third, what emerging technological and regulatory developments, particularly personal data protection, smart contracts, and artificial intelligence,

⁶⁷Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan hukum konsumen dalam transaksi e-commerce ditinjau dari perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.

⁷Rangkuti, S. S. (2023). Perlindungan hukum konsumen dalam transaksi digital. *Jurnal Hukum Progresif*, 9(2), 101–120.

⁸Goetzinger, P., & Spremić, M. (2025). Cross-border e-commerce and its implications for consumer protection (2019–2024): A systematic literature review. *European Journal of Economics*. <https://doi.org/10.33422/eje.v5i1.972>

⁹Chen, J., Lan, Y.-C., & Chang, Y.-W. (2023). Consumer behaviour in cross-border e-commerce: Systematic literature review and future research agenda. *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12969>

present the most significant unresolved challenges to civil law consumer protection going forward?

The choice of civil law doctrine as the organizing lens for this review, rather than consumer-welfare economics or comparative regulatory design, is deliberate and warrants brief justification. Economic analyses of consumer protection typically ask whether a given rule maximizes aggregate welfare or efficiently allocates risk between the parties best placed to bear it, and such analyses have produced valuable insight into, for example, optimal disclosure mandates and liability defaults. Regulatory-design scholarship, for its part, tends to ask how administrative agencies can most effectively supervise digital marketplaces through licensing, reporting, and enforcement mechanisms. Both approaches are indispensable, but neither directly answers the question that arises the moment an individual consumer seeks a remedy in a specific transaction that has already gone wrong: is there a valid contract, what does it require of each party, and what private law consequence follows from its breach or invalidity? That question can only be answered by returning to the doctrinal categories of contract and obligation that civil law supplies, which is why this review deliberately foregrounds those categories even while drawing on regulatory and empirical literature to illuminate how they operate in practice.

It is also worth noting at the outset why a comparative approach, rather than a single-jurisdiction doctrinal study of Indonesian law alone, was chosen. Indonesian civil law shares its foundational structure, including the four conditions of Article 1320 KUHPerdata, with a wide family of civil law and mixed-law jurisdictions that trace their private law to the French Code Civil, the Dutch Burgerlijk Wetboek, or hybrid colonial and post-colonial codifications influenced by both. Oman, several Latin American jurisdictions including Ecuador and Brazil, and numerous civil law jurisdictions in the Gulf and Southeast Asia share enough structural similarity with Indonesian contract law that their courts and legislatures are, in effect, working on variations of the same doctrinal problem when they confront digital consumer transactions. Reading these jurisdictions together therefore offers Indonesian scholars and policymakers a wider evidentiary base from which to anticipate doctrinal difficulties that Indonesian courts have not yet had occasion to resolve, while reading Indonesian material alongside common law jurisdictions such as Malaysia allows the review to test whether the problems it identifies are genuinely civil law-specific or are instead general features of digital commerce that transcend the civil law and common law divide.

The remainder of this article proceeds as follows. Section two describes the systematic review method used to identify, screen, and synthesize the literature underlying this study. Section three presents the results and discussion in two parts: the first examines how civil law contract doctrine is being applied and adapted to digital transactions, while the second turns to the emerging frontiers of data protection, smart contracts, artificial intelligence, and consumer vulnerability. Section four concludes with a synthesis of findings, an acknowledgment of the review's limitations, and a set of recommendations for legislative harmonization and future research.

2. Method

This study adopts a normative-juridical (yuridis-normatif) research design, which is the method conventionally used in Indonesian and broader civil law legal scholarship to analyze the internal coherence, consistency, and adequacy of positive law, supplemented here by a systematic literature review (SLR) protocol adapted from the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) tradition that has increasingly been applied

in legal research on consumer protection and e-commerce.¹⁰¹¹¹² The combination is deliberate: a purely doctrinal reading of Indonesian statutes alone would not capture how comparable civil law jurisdictions are resolving the same interpretive problems, while a review confined to empirical or policy literature would risk losing the doctrinal precision that civil law analysis requires.

Sources were identified through a structured search of Google Scholar and Scopus-indexed outlets accessed via academic aggregation tools, together with Indonesian institutional repositories and SINTA-accredited journal databases. Search strings combined the terms "consumer protection," "digital transaction," "e-commerce," and "civil law" or "contract law" in English, and "perlindungan konsumen," "transaksi elektronik," and "hukum perdata" in Indonesian, in various Boolean combinations. The search was not artificially restricted to a single publication year, but the resulting corpus is weighted heavily toward material published between 2020 and 2026, reflecting both the recency of the underlying regulatory developments (such as Indonesia's 2022 Personal Data Protection Law and the proliferation of blockchain-based commerce) and the deliberate inclusion criterion described below.

Studies were included if they (a) were published in a peer-reviewed journal or peer-reviewed conference proceedings, (b) addressed consumer protection in a digital, electronic, or online transactional context, and (c) engaged, even partially, with private law or civil law doctrine, including contract formation, contractual validity, standard terms, liability, or related private-law remedies, as opposed to addressing the subject solely from a criminal law, tax law, or pure information-systems perspective. Studies were excluded if they were non-peer-reviewed working papers, student theses without independent publication, duplicate reports of the same dataset, or substantively unrelated to consumer protection despite surface keyword matches. Applying these criteria to the initial search yielded a final corpus of twenty-three studies that form the empirical and doctrinal basis for the results reported in Section three, spanning Indonesia, Oman, Ecuador, Saudi Arabia, Malaysia, Brazil, and a number of comparative or cross-border analyses that do not confine themselves to a single jurisdiction.

Analysis proceeded in two stages. First, each included study was coded thematically according to the civil law doctrine or regulatory domain it primarily addressed, namely contract formation and validity, standard-form and unfair terms, information duties and disclosure, platform and intermediary liability, personal data protection, smart contracts and blockchain, artificial intelligence, and consumer vulnerability and dispute resolution. Second, findings within each theme were compared across jurisdictions using the comparative civil law method, which asks not merely what each jurisdiction's rule says but what functional problem the rule is attempting to solve, so that superficially different statutory texts addressing the same underlying problem, such as the moment of contract formation in an online sale, could be read together. This two-stage process is reflected in the structure of Section three, which is organized by theme rather than by jurisdiction.

Several methodological limitations should be flagged before turning to the results. First, because the review privileges studies with an explicit private law or civil law dimension, it necessarily under-samples the substantial body of literature that addresses digital consumer protection purely from an administrative, criminal, or technical information-systems

¹⁰Goetzing, P., & Spremić, M. (2025). Cross-border e-commerce and its implications for consumer protection (2019–2024): A systematic literature review. *European Journal of Economics*. <https://doi.org/10.33422/eje.v5i1.972>

¹¹Sarabdeen, J. (2025). Hear or not to hear: A comparative analysis of jurisdiction of the courts in e-commerce disputes. *Journal of Ecohumanism*, 4(1). <https://doi.org/10.62754/joe.v4i1.5950>

¹²Otieno, E. A. (2025). Data protection and privacy in e-commerce environment: Systematic review. *GSC Advanced Research and Reviews*, 22(1). <https://doi.org/10.30574/gscarr.2025.22.1.0024>

perspective; those literatures are relevant to the broader policy conversation but fall outside the specific doctrinal question this review poses. Second, the corpus is skewed toward jurisdictions and languages in which the authors have direct linguistic access, namely English and Indonesian, which means that civil law developments documented primarily in French, Spanish-language sources beyond those indexed in the databases searched, Arabic, or Portuguese beyond the items captured here may be underrepresented relative to their real-world significance. Third, systematic reviews of legal doctrine, unlike systematic reviews of clinical or experimental data, cannot rely on a single, uncontested metric of study quality; this review instead relies on publication in a peer-reviewed outlet as a baseline quality filter, supplemented by the coding team's assessment of whether each study's doctrinal claims were adequately supported by primary legal sources such as statutes, codes, and reported decisions. These limitations are revisited in the concluding section.

3. Results and Discussion

The Civil Law Foundations of Contract Doctrine in Digital Transactions

The reviewed literature converges on a central finding: the four classical conditions of contract validity inherited from the civil law tradition, being consent, capacity, object, and cause, have not been abandoned in the digital era, but each has had to absorb substantial interpretive strain. Indonesian doctrinal studies of online sale-and-purchase transactions consistently return to Article 1320 of the KUHPerdata as the analytical starting point, holding that an electronic contract concluded through a marketplace application or social media platform is valid only if it satisfies the same four conditions that apply to a paper contract, namely agreement between the parties, the legal capacity of both the business actor and the consumer, a sufficiently determinate object of sale, and a lawful cause.¹³ The persistence of this framework is significant: rather than treating electronic transactions as a separate legal category requiring wholly new validity rules, Indonesian courts and commentators have preferred to treat the UU ITE's recognition of electronic documents and signatures as evidentiary reinforcement of an underlying transaction whose validity is still measured against the general civil code.

The condition of consent is where digital transactions depart most visibly from the paper-based paradigm. In a conventional sale, offer and acceptance typically occur within a single, continuous interaction, and the parties can be presumed to have had a genuine opportunity to read the terms before assenting. In digital transactions, consent is frequently expressed through a click on an "I agree" button attached to lengthy standard terms that few consumers read in full, or, more troublingly, through browse-wrap arrangements in which continued use of a platform is deemed to constitute acceptance of terms the consumer may never have seen. The literature on price-error and contractual-deadlock cases illustrates the doctrinal difficulty this creates: when an online retailer's system displays a price far below the intended figure due to a technical error, and a consumer completes the purchase, competing doctrinal approaches disagree about whether a binding contract has formed at all, with some jurisdictions applying an objective theory that binds the retailer to the price displayed and others permitting rescission on grounds of mistake or absence of genuine intention to be bound.¹⁴ This is, at its core, a dispute about which of the four Article 1320-type conditions, consent or cause, should yield when the parties' subjective intentions and their objectively manifested conduct diverge, and the comparative literature does not report a settled cross-jurisdictional answer.

Closely related is the treatment of standard-form and adhesion contracts, which dominate

¹³Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan hukum konsumen dalam transaksi e-commerce ditinjau dari perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.

¹⁴Chen, Y. (2026). Navigating contractual deadlocks: A review of doctrinal and comparative approaches to price error cases. *Advances in Education, Humanities and Social Science Research*. <https://doi.org/10.56028/aehtsr.16.1.207.2026>

digital consumer transactions to a degree unmatched in traditional retail. Comparative studies of Malaysian online sale-of-goods law show that doctrines developed for face-to-face transactions, such as the implied condition that goods be of merchantable quality and fit for their intended purpose, survive the transition to online commerce but require adaptation because the buyer cannot inspect the goods before the contract is concluded and often cannot verify the seller's identity or reputation beyond platform-generated ratings.¹⁵¹⁶ These studies note that statutory sale-of-goods regimes, several of which are themselves derived from English common law rather than civil law, nonetheless converge with civil law jurisdictions on the underlying policy concern: a consumer who has not had a genuine opportunity to evaluate the object of the transaction requires a baseline of implied protection that private ordering through standard terms should not be permitted to waive entirely. Analogous concerns arise in Saudi Arabian digital banking, where researchers have found that consumers routinely accept standard terms governing account fees, dispute procedures, and liability limitations without a realistic opportunity to negotiate, prompting calls for a mandatory minimum disclosure regime enforceable independently of the parties' formal assent.¹⁷

The capacity condition of Article 1320 KUHPerdata raises a related difficulty that the reviewed literature identifies but treats mainly in passing: digital marketplaces, unlike most physical retail environments, rarely verify the age or legal capacity of the party actually completing a transaction, because the interface only requires possession of a valid payment credential and an account login, both of which a minor can obtain, whether with or without a parent's knowledge, far more easily than they could complete an equivalent in-person purchase requiring visible physical presence. Civil law doctrine has long provided that contracts concluded by persons lacking legal capacity, most commonly minors, are voidable at the instance of the incapacitated party or their legal representative, a rule designed to protect precisely the class of persons least able to appreciate the consequences of their own contractual commitments. The practical unavailability of reliable digital age-verification mechanisms means that this protective doctrine, while formally intact, is becoming increasingly difficult to invoke in practice, because a business actor sued for restitution after contracting with a minor can plausibly claim it had no reasonable means of ascertaining the counterparty's true age from the electronic transaction alone. None of the studies reviewed here reports a jurisdiction that has fully resolved this evidentiary gap through either a shifted burden of proof or a mandatory verification standard, again marking capacity, alongside consent, as a classical civil law condition whose digital-era application remains doctrinally unsettled.

Information asymmetry, and the corresponding pre-contractual duty to inform, forms a second recurring theme. Indonesian consumer protection law imposes on business actors an obligation to provide clear, honest, and accurate information about the goods or services offered, a principle traceable to Article 4 and Article 7 of the UUPK, and doctrinal analyses of e-commerce disputes report that Indonesian courts, when such disputes reach adjudication, have tended to hold business actors to a demanding standard of disclosure, treating a failure to disclose material information as a strong indicator of an unfair or voidable transaction.¹⁸¹⁹ Yet the same literature

¹⁵Asuhaimi, F. B. A., Ghadas, Z., Nawang, N., & Ghapa, N. (2021). The concept of fitness for purpose of goods in Malaysian today's online contract: Issues and challenges. *Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021)*. <https://doi.org/10.2991/assehr.k.211223.091>

¹⁶Asuhaimi, F. B. A., Ghadas, Z., & Nawang, N. (2022). Sale of merchantable quality goods in today's online contract: Issues and challenges. *Indonesian Comparative Law Review*, 4(2). <https://doi.org/10.18196/iclr.v4i2.15858>

¹⁷Aljudaibi, S., & Amuda, Y. (2024). Legal framework governing consumers' protection in digital banking in Saudi Arabia. *Journal of Infrastructure, Policy and Development*, 8(8). <https://doi.org/10.24294/jipd.v8i8.5453>

¹⁸Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan hukum konsumen dalam transaksi e-commerce ditinjau dari perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.

¹⁹Rangkuti, S. S. (2023). Perlindungan hukum konsumen dalam transaksi digital. *Jurnal Hukum*

cautions that this judicial tendency operates only reactively, after a dispute has already caused consumer harm, and does little to correct the structural information deficit that exists at the point of contracting, where consumers routinely lack the technical or legal literacy to evaluate lengthy standard terms, algorithmically generated pricing, or the true identity of counterparties operating behind platform storefronts.

The question of who bears responsibility when a digital transaction goes wrong, the seller, the platform that hosted the listing, or the payment intermediary that processed the transfer, has emerged as one of the most consequential unsettled doctrinal problems in the reviewed literature. Research on digital platform liability for fraud in Ecuadorian electronic commerce finds that platforms frequently characterize themselves as neutral intermediaries exempt from liability for third-party sellers' misconduct, a position that Ecuadorian courts have begun to resist where the platform exercises meaningful control over listings, payments, or dispute resolution, suggesting an emerging functional test based on the degree of control exercised rather than on the platform's own contractual self-characterization.²⁰ This functional approach resonates with civil law doctrines of vicarious and organizational fault, under which a party that creates or benefits from a risk may bear responsibility for harms flowing from that risk even absent direct contractual privity with the injured party. Comparative studies of cross-border e-commerce consumer protection reinforce this picture, finding considerable divergence in how different legal systems allocate platform liability, and identifying this divergence, together with the resulting uncertainty for consumers seeking redress against foreign-domiciled platforms, as one of the most significant unresolved problems in the field.²¹

The precise moment and place at which an electronic contract is concluded, a question that appears technical but carries significant practical consequences for which jurisdiction's consumer protection law applies and from what date any statutory withdrawal or cooling-off period begins to run, remains doctrinally unsettled across the jurisdictions surveyed. Civil law systems have historically applied variants of a receipt theory, under which acceptance becomes effective, and the contract is concluded, when the offeror receives notice of acceptance, as distinct from the dispatch theory favored in some common law jurisdictions, under which acceptance is effective the moment it is sent. Electronic transmission complicates both theories because dispatch and receipt can occur within a fraction of a second, across servers in different time zones, and often without any human party contemporaneously aware that either event has occurred. The Indonesian UU ITE addresses this partly by deeming an electronic information item to have been sent when it enters an information system outside the sender's control and received when it enters an information system under the recipient's control, a formulation that borrows from international model law on electronic commerce, yet doctrinal commentary continues to debate how this rule interacts with the general contract-formation principles of the KUHPerdata, particularly in cases where a consumer's payment confirmation and a merchant's automated order-acceptance email are generated by different systems operating on different schedules. A closely related unresolved question concerns statutory rights of withdrawal or cooling-off periods, which several consumer protection regimes worldwide have adopted specifically to compensate for the reduced opportunity to inspect goods before purchase in a distance sale; the Indonesian UUPK does not contain a general statutory right of withdrawal comparable to those found in some other jurisdictions, leaving Indonesian consumers dependent on platform-specific return policies that vary considerably in generosity and are, again, drafted unilaterally by the business actor rather than guaranteed by statute.

Progresif, 9(2), 101–120.

²⁰Paredes Morales, M. G., Riera Peralta, A. M., Mora Cárdenas, E. K., Briones Tutivén, J. G., & Palma Redin, T. Y. (2026). Responsabilidad jurídica de las plataformas digitales por fraudes en el comercio electrónico ecuatoriano. *Revista Lex Enlace*. <https://doi.org/10.63644/9bkbvy08>

²¹Goetzing, P., & Spremić, M. (2025). Cross-border e-commerce and its implications for consumer protection (2019–2024): A systematic literature review. *European Journal of Economics*. <https://doi.org/10.33422/eje.v5i1.972>

A further complication specific to digital transactions is the interaction between consumer protection and intellectual property or immaterial rights. Brazilian scholarship examining the collision between authorial rights and consumer rights in electronic commerce demonstrates that a consumer's interest in accessing, reproducing, or reselling digital content can come into direct tension with the rights of authors and rights-holders embedded in the same transaction, a tension that traditional civil law categories of property and obligation do not resolve neatly because digital goods do not fit comfortably within either the law of tangible sale or the law of intangible licensing.²² This finding matters for the present review because it illustrates a broader point: civil law's traditional categorical divisions, between sale and license, between tangible and intangible objects, and between contractual and proprietary rights, were designed for a world in which these categories rarely overlapped in a single consumer transaction, whereas digital commerce routinely compresses all of them into a single click-through purchase.

Finally, the question of jurisdiction and applicable law recurs across almost every jurisdiction represented in the reviewed corpus. Comparative analysis of court jurisdiction in e-commerce disputes finds that platforms operating across borders routinely include forum-selection and choice-of-law clauses favoring the platform's home jurisdiction, and that courts differ substantially in their willingness to override such clauses in the interest of consumer protection, with some jurisdictions applying mandatory consumer-forum rules that displace contractual choice-of-forum clauses and others enforcing such clauses largely as written.²³ For a consumer in Indonesia purchasing goods through a marketplace legally domiciled abroad, this uncertainty is not merely theoretical: it determines, in practice, whether a civil remedy under domestic consumer protection law is realistically available at all, or whether the consumer must pursue an unfamiliar foreign forum under unfamiliar procedural rules. The reviewed literature treats this jurisdictional fragmentation as a structural limitation on the practical efficacy of even well-drafted domestic consumer protection statutes.

A further pattern worth isolating from the comparative material is the uneven but discernible movement, across several of the jurisdictions surveyed, toward a substantive rather than purely formal reading of good faith at the pre-contractual stage. Classical civil law good faith doctrine, reflected in Indonesia's Article 1338(3) KUHPdata requirement that agreements be performed in good faith, was historically applied mainly to the performance and interpretation of an already-formed contract rather than to the process by which consent to that contract was obtained. Several of the reviewed studies, particularly those addressing information duties in e-commerce and standard-form terms in digital banking, argue implicitly or explicitly for extending good faith scrutiny backward into the pre-contractual stage, so that a business actor's manipulation of the consumer's decisional environment, whether through deceptive interface design, incomplete disclosure, or algorithmically personalized pricing, can itself be treated as a form of pre-contractual bad faith capable of grounding rescission or damages, independent of whether any single element of Article 1320 can be shown to be technically absent.^{24,25} This doctrinal move, if it continues, would represent one of the more significant civil law adaptations to digital commerce identified in this review, because it would allow courts to police the digital transaction environment as a whole rather than being confined

²²Lima, M. C., & Pereira, N. (2022). O direito imaterial numa perspectiva consumerista: Colisão dos direitos do autor e do consumidor no comércio eletrônico. *Brazilian Journal of Development*, 8(3). <https://doi.org/10.34117/bjdv8n3-382>

²³Sarabdeen, J. (2025). Hear or not to hear: A comparative analysis of jurisdiction of the courts in e-commerce disputes. *Journal of Ecohumanism*, 4(1). <https://doi.org/10.62754/joe.v4i1.5950>

²⁴Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan hukum konsumen dalam transaksi e-commerce ditinjau dari perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.

²⁵Aljudaibi, S., & Amuda, Y. (2024). Legal framework governing consumers' protection in digital banking in Saudi Arabia. *Journal of Infrastructure, Policy and Development*, 8(8). <https://doi.org/10.24294/jipd.v8i8.5453>

to an atomistic, element-by-element validity analysis that digital interface design can often be structured to formally satisfy while substantively defeating.

Table-style comparison across the jurisdictions surveyed also reveals a consistent institutional pattern that the doctrinal literature does not always make explicit: consumer protection outcomes in digital transactions depend less on the substantive generosity of the applicable civil code, which varies only modestly across the jurisdictions reviewed, and considerably more on the accessibility of the procedural mechanism through which a consumer can invoke that code. Indonesia's Consumer Dispute Settlement Body (Badan Penyelesaian Sengketa Konsumen, BPSK) exists precisely to lower this procedural barrier, offering a faster and less costly alternative to ordinary civil litigation, yet the doctrinal literature reviewed here says comparatively little about BPSK's actual utilization rates or effectiveness in digital-specific disputes, a gap that itself signals a productive direction for future empirical research connecting the doctrinal findings of this review to institutional performance data.

Emerging Frontiers: Data Protection, Smart Contracts, Artificial Intelligence, and Vulnerable Consumers

If the first subsection shows that classical contract doctrine is being stretched but not discarded, the second shows that several genuinely new problems are emerging for which classical civil law categories provide, at best, an incomplete analytical toolkit. The most prominent of these is the relationship between consumer contract law and personal data protection. Every digital transaction now generates a parallel data-processing relationship, in which the consumer's personal information, browsing behavior, payment details, and purchase history are collected, processed, and frequently monetized independently of the underlying sale. Indonesian analyses of the 2022 Personal Data Protection Law describe a normative and empirical juridical landscape in which the new statute imposes meaningful obligations on data controllers, including lawful basis, purpose limitation, and data-subject rights, yet coexists uneasily with the older UUPK and UU ITE frameworks, producing overlapping and occasionally inconsistent compliance obligations for digital businesses.²⁶ Complementary research on business ethics in personal data protection during the digital business era similarly finds that many Indonesian digital businesses treat data protection compliance as a secondary, checkbox exercise rather than as an integral part of the consumer relationship, a finding that echoes a broader bibliometric study of consumer online data protection research, which identifies a persistent gap between the volume of academic attention devoted to data protection and the comparatively modest volume of scholarship connecting that protection specifically to consumer contract remedies.²⁷²⁸ A systematic review of data protection and privacy in e-commerce environments reaches a parallel conclusion from an international vantage point, finding that most jurisdictions surveyed have enacted data protection statutes of increasing sophistication, but that enforcement mechanisms available to individual consumers, as distinct from regulatory agencies, remain comparatively weak, leaving a civil remedy gap that mirrors the platform-liability gap discussed in the preceding subsection.²⁹

Civil law categories struggle here because personal data does not map cleanly onto the

²⁶Tobing, A., & Rizkia, N. D. (2026). Personal data protection strategies in the digital business era: A normative and empirical juridical analysis of the Personal Data Protection Law. *Eduvest – Journal of Universal Studies*, 6(2). <https://doi.org/10.59188/eduvest.v6i2.52311>

²⁷Matondang, K., Handani, T., Handayani, A., & Wati, F. (2025). Etika bisnis dalam perlindungan data pribadi konsumen di era bisnis digital: Dalam studi literatur. *Jurnal Publikasi Sistem Informasi dan Manajemen Bisnis*, 4(3). <https://doi.org/10.55606/jupsim.v4i3.5508>

²⁸Jasim, M., & A., M. (2023). Current state and future directions of consumer online data protection and consumer privacy: A bibliometric study. *International Journal of Process Management and Benchmarking*. <https://doi.org/10.1504/ijpmb.2023.10058021>

²⁹Otieno, E. A. (2025). Data protection and privacy in e-commerce environment: Systematic review. *GSC Advanced Research and Reviews*, 22(1). <https://doi.org/10.30574/gscarr.2025.22.1.0024>

classical distinction between the object of an obligation and the cause of an obligation. Is a consumer's consent to data processing a separate contract, ancillary to the sale, or is it better understood as part of the cause underlying the primary transaction, given that many digital business models would not be economically viable without the data-monetization that accompanies the sale? The reviewed literature does not resolve this question definitively, but the recurring practical recommendation, across the Indonesian and international studies alike, is that data protection compliance needs to be integrated explicitly into consumer contract doctrine rather than treated as a wholly separate regulatory silo, precisely because the consumer's practical vulnerability arises from the same information and bargaining asymmetry that motivates classical consumer protection law.

A second emerging frontier concerns smart contracts and blockchain-based transaction infrastructure. Indonesian research on the regulatory compliance of smart contracts finds that self-executing code deployed on blockchain platforms can satisfy the formal requirements of contract formation under Indonesian law, including the recognition of electronic records under the UU ITE, but that the automatic and irreversible execution characteristic of smart contracts sits in significant tension with civil law doctrines that presuppose an opportunity for rescission, correction of mistake, or judicial intervention prior to final performance.³⁰ A separate study specifically addressing the application of smart contracts in Indonesian e-commerce reaches a similar conclusion, noting that while smart contracts can reduce transaction costs and counterparty risk by removing reliance on a trusted intermediary, they simultaneously reduce the opportunities available to a consumer to challenge an erroneous or unconscionable transaction once the code has executed, because the technology is designed precisely to make performance automatic and difficult to reverse.³¹ This tension between technological finality and civil law's traditional tolerance for post-formation correction, whether through rescission for mistake, unconscionability doctrines, or statutory cooling-off periods, has not yet been resolved through either legislation or settled jurisprudence in Indonesia or in most of the other jurisdictions surveyed.

The tension is compounded where blockchain-based transactions intersect with data protection law. A systematic review of the tension between the European Union's General Data Protection Regulation and public blockchain systems finds that the immutability that makes blockchain attractive for smart contracts, namely the practical impossibility of altering or deleting a recorded transaction, directly conflicts with data-subject rights such as the right to rectification and the right to erasure that are foundational to contemporary data protection regimes.³² Although this study is framed around European Union law rather than Indonesian law, its underlying observation, that the technical architecture of certain digital transaction infrastructures may be structurally incompatible with data-subject rights regardless of how carefully the surrounding statute is drafted, is directly relevant to Indonesia's own effort to reconcile its Personal Data Protection Law with an increasingly blockchain-enabled digital economy.

A third frontier is the growing role of artificial intelligence in shaping, and potentially undermining, consumer consent. Research on artificial intelligence in consumer rights protection identifies both opportunities, such as automated detection of unfair contract terms and algorithmic dispute-resolution triage, and risks, particularly the use of algorithmic personalization and dynamic pricing to extract a higher price or less favorable terms from individual consumers based on inferred willingness to pay, a practice that strains the civil law

³⁰Noeri, I., Nur, S., & Hermendasari, R. (2025). Regulatory compliance of Indonesian smart contracts. *Journal of Law, Society and Living Norms*. <https://doi.org/10.66111/jar3zy98>

³¹Applying smart contract in Indonesian e-commerce. (2021). *International Journal of Advanced Trends in Computer Science and Engineering*. <https://doi.org/10.30534/ijatcse/2021/131052021>

³²Sağlam, R. B., Altuncu, E., Lu, Y., & Li, S. (2022). A systematic literature review of the tension between the GDPR and public blockchain systems. *Blockchain: Research and Applications*, 4, 100129. <https://doi.org/10.1016/j.bcra.2023.100129>

requirement that consent be freely and knowingly given.³³ When an algorithm curates the very information a consumer sees before deciding whether to contract, including which product options, prices, and reviews are displayed, the classical assumption that both parties approach the negotiation with independently formed intentions becomes difficult to sustain, and the doctrinal question of whether such algorithmic influence vitiates consent, in the manner that fraud or undue influence traditionally does, remains largely unaddressed in the positive law of the jurisdictions surveyed.

Finally, the reviewed literature converges on the observation that digital transactions do not affect all consumers equally, and that civil law's formally equal treatment of contracting parties can obscure significant substantive inequality among consumers themselves. A multistakeholder study of coping strategies for digital consumer vulnerability finds that certain groups of consumers, including older adults, individuals with lower digital literacy, and first-time users of a given platform, experience systematically worse outcomes in digital transactions, not because the applicable law treats them differently on its face, but because the practical mechanisms available to invoke that law, such as understanding standard terms, navigating a platform's dispute-resolution interface, or recognizing a fraudulent listing, presuppose a baseline of digital competence that is unevenly distributed across the population.³⁴ A scoping review of legal issues in digital oral health services documents an analogous pattern in a specialized sectoral context, finding that patients who conclude health-service contracts through digital platforms face particular difficulty asserting civil remedies when platform terms limit liability for outcomes that would, in a face-to-face consultation, more readily give rise to a private law claim.³⁵ Read together, these studies suggest that formal contractual equality, the bedrock assumption of classical civil law, requires active supplementation through substantive protective rules, such as mandatory disclosure formats calibrated to consumer comprehension, rather than being treated as self-executing simply because the same statutory text applies to every consumer regardless of their actual capacity to exercise the rights it grants.

Dispute resolution mechanisms deserve separate attention because they mediate between the doctrinal entitlements described above and any practical remedy a consumer actually receives. Across the jurisdictions surveyed, online dispute resolution (ODR) mechanisms operated directly by platforms, ranging from automated refund workflows to internal mediation teams, now resolve the overwhelming majority of everyday digital consumer complaints, with formal court proceedings functioning as a last resort reserved for disputes involving significant sums or systemic misconduct. This division of labor has an ambivalent civil law significance. On one hand, platform-operated ODR can deliver faster and less costly outcomes than litigation, consistent with the practical access-to-justice concerns that motivate consumer protection law in the first place. On the other hand, because platform ODR is typically governed by the platform's own standard terms rather than by public procedural law, it reintroduces, at the remedial stage, precisely the imbalance of drafting power that consumer protection doctrine seeks to correct at the formation stage: the platform simultaneously acts as the counterparty to the dispute and as the designer of the forum in which that dispute is resolved. None of the reviewed studies documents a jurisdiction that has yet developed a comprehensive civil law response to this structural conflict of interest, beyond general administrative oversight of platform complaint-handling obligations, suggesting that the interface between private ODR and public consumer-protection guarantees remains an open doctrinal frontier in its own right,

³³Filip, F. (2025). Artificial intelligence in consumer rights protection: New opportunities and legal challenges. *The American Journal of Political Science, Law and Criminology*, 7(12). <https://doi.org/10.37547/tajpslc/volume07issue12-02>

³⁴Capone, V., Maggiore, G., & Lo Presti, L. (2026). Coping strategies and corrective actions to address digital consumer vulnerability: A multistakeholder perspective. *Journal of Strategic Marketing*, 34, 277–297. <https://doi.org/10.1080/0965254x.2026.2618066>

³⁵Mariño, R., & Zaror, C. (2024). Legal issues in digital oral health: A scoping review. *BMC Health Services Research*, 24. <https://doi.org/10.1186/s12913-023-10476-w>

distinct from but related to the personal data protection, smart contract, and artificial intelligence frontiers discussed immediately below.

A related but distinct strand of the reviewed literature addresses cross-border consumer behavior as a proxy for the practical experience of these vulnerabilities. A systematic review of consumer behavior in cross-border e-commerce finds that consumers who transact with foreign-domiciled sellers report systematically lower confidence in their ability to obtain a remedy in the event of a dispute, and that this diminished confidence measurably affects purchasing behavior independent of price or product quality considerations, indicating that consumers themselves are, in effect, discounting the practical value of their formal civil law entitlements when those entitlements are not backed by an accessible cross-border enforcement mechanism.³⁶ This behavioral finding corroborates, from the demand side, the doctrinal concerns about jurisdictional fragmentation and platform liability identified earlier in this review, and it suggests that the civil law reforms proposed in the concluding section are unlikely to achieve their intended protective effect unless they are accompanied by consumer-facing communication that makes the existence and accessibility of a remedy legible to ordinary consumers at the point of transaction, not merely available in principle within an unread standard-form contract.

A further development that the reviewed literature is only beginning to grapple with is the use of conversational artificial intelligence, including generative chatbots deployed as customer-facing sales agents, in the contract-formation process itself. Where a consumer's decision to purchase is shaped, or in some emerging commercial models directly concluded, through a dialogue with an automated system rather than through review of static product listings and standard terms, several doctrinal questions arise that the studies reviewed here identify but do not resolve: whether representations made by such a system bind the business actor in the same manner as representations made by a human sales agent, whether an erroneous or misleading statement generated by such a system can ground a claim of misrepresentation or defect of consent under Article 1321 KUHPerdata and its analogues, and whether the business actor deploying such a system can disclaim responsibility for its outputs through a standard term to the same extent it could previously disclaim responsibility for the independent conduct of a human employee.³⁷ Because these systems are new enough that reported jurisprudence directly addressing them remains scarce even in the most digitally advanced jurisdictions surveyed, this review can identify the doctrinal question without yet reporting a settled answer, and flags it as among the most urgent items for the future research agenda proposed in the concluding section.

It is also useful to situate the Indonesian smart contract and data protection findings within the broader Southeast Asian and Gulf regulatory trends documented in the reviewed corpus. Saudi Arabia's approach to digital banking consumer protection, for instance, has proceeded largely through detailed sectoral regulation issued by financial supervisory authorities rather than through amendment of the general civil code, a pattern that mirrors Indonesia's own reliance on Bank Indonesia and Financial Services Authority (Otoritas Jasa Keuangan) regulations to govern digital payment and lending products.³⁸ This sectoral-regulation pattern has the practical advantage of allowing rules to be updated more quickly than a general civil code amendment process would permit, but it carries the doctrinal disadvantage, visible across both jurisdictions, of producing a body of consumer protection rules whose relationship to the

³⁶Chen, J., Lan, Y.-C., & Chang, Y.-W. (2023). Consumer behaviour in cross-border e-commerce: Systematic literature review and future research agenda. *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12969>

³⁷Filip, F. (2025). Artificial intelligence in consumer rights protection: New opportunities and legal challenges. *The American Journal of Political Science, Law and Criminology*, 7(12). <https://doi.org/10.37547/tajpslc/volume07issue12-02>

³⁸Aljudaibi, S., & Amuda, Y. (2024). Legal framework governing consumers' protection in digital banking in Saudi Arabia. *Journal of Infrastructure, Policy and Development*, 8(8). <https://doi.org/10.24294/jipd.v8i8.5453>

foundational civil code becomes increasingly difficult for courts, practitioners, and consumers alike to reconstruct, reinforcing the case made throughout this review for periodic doctrinal consolidation rather than indefinite reliance on incremental sectoral regulation.

Taken together, the two subsections of this discussion suggest a coherent overall picture. Civil law's classical contract doctrine remains the primary interpretive framework through which digital consumer transactions are analyzed across the jurisdictions surveyed, and courts and legislatures have shown a marked preference for adapting that framework incrementally rather than replacing it wholesale. At the same time, three specific developments, being the entanglement of consumer contracts with personal data processing, the rise of self-executing smart contracts that curtail post-formation correction, and the use of artificial intelligence to shape consumer consent itself, are placing genuinely novel strain on doctrines built around a bilateral, human-negotiated, and reversible model of agreement. The literature does not yet offer a settled doctrinal solution to any of these three problems, which is itself an important finding: it indicates that the coming decade of civil law scholarship and legislative reform in this field will likely be organized around exactly these fault lines.

Conclusions

This systematic review has examined twenty-three studies published largely between 2020 and 2026 across Indonesia and a range of comparative civil law and mixed-law jurisdictions, in order to assess how civil law doctrine is adapting to the realities of digital consumer transactions. Three principal findings emerge. First, the classical civil law conditions for contract validity, being consent, capacity, object, and cause, continue to structure judicial and doctrinal analysis of digital transactions, but each condition has required significant interpretive elaboration to accommodate click-based assent, standard-form terms, intangible objects, and automated performance. Second, protective mechanisms addressing information asymmetry, unfair terms, and platform liability exist in every jurisdiction surveyed, yet they operate unevenly and largely reactively, intervening after harm has occurred rather than correcting the structural bargaining imbalance at the point of contracting, and they are further undermined by unresolved cross-border jurisdictional conflicts that leave consumers uncertain whether an effective forum for redress is even available. Third, personal data protection, smart contracts and blockchain infrastructure, and artificial intelligence-driven personalization represent emerging frontiers for which existing civil law categories provide, at best, a partial and still-developing analytical response, and for which no jurisdiction surveyed in this review has yet achieved full doctrinal or statutory settlement.

Beyond the specific reforms already noted, the comparative material assembled in this review suggests that harmonization efforts would benefit from four concrete design principles applicable across the civil law jurisdictions surveyed, not only Indonesia. First, any statutory definition of the moment and place of electronic contract formation should be paired explicitly with the calculation of any statutory withdrawal period, so that consumers and businesses alike can determine with certainty when a cooling-off window opens and closes rather than litigating the point after the fact. Second, platform liability rules should be built around the functional degree of control a platform exercises over listings, pricing, payment, and dispute resolution, following the pattern beginning to emerge in Ecuadorian jurisprudence, rather than around the platform's own self-characterization in its standard terms as a neutral intermediary. Third, personal data protection obligations arising from a consumer transaction should be treated, for remedial purposes, as part of the same private law relationship as the underlying sale, so that a consumer harmed by unlawful data processing in connection with a purchase is not forced to pursue an entirely separate regulatory complaint disconnected from any civil remedy for the transaction itself. Fourth, minimum digital age-verification and capacity-protection standards should be developed collaboratively between consumer protection regulators and payment-system regulators, since capacity doctrine cannot be made practically effective through civil code amendment alone if the payment infrastructure that enables the underlying transaction remains entirely unverified. These four principles do not exhaust the reform agenda that this review's findings support, but they represent the points at

which doctrinal clarity, comparative precedent, and practical enforceability most clearly converge.

BIBLIOGRAPHY

- Aljudaibi, S., & Amuda, Y. (2024). Legal framework governing consumers' protection in digital banking in Saudi Arabia. *Journal of Infrastructure, Policy and Development*, 8(8). <https://doi.org/10.24294/jipd.v8i8.5453>
- Applying smart contract in Indonesian e-commerce. (2021). *International Journal of Advanced Trends in Computer Science and Engineering*. <https://doi.org/10.30534/ijatcse/2021/131052021>
- Asuhaimi, F. B. A., Ghadas, Z., & Nawang, N. (2022). Sale of merchantable quality goods in today's online contract: Issues and challenges. *Indonesian Comparative Law Review*, 4(2). <https://doi.org/10.18196/iclr.v4i2.15858>
- Asuhaimi, F. B. A., Ghadas, Z., Nawang, N., & Ghapa, N. (2021). The concept of fitness for purpose of goods in Malaysian today's online contract: Issues and challenges. *Proceedings of the International Joint Conference on Arts and Humanities 2021 (IJCAH 2021)*. <https://doi.org/10.2991/assehr.k.211223.091>
- Belwal, R., Al Shibli, R., & Belwal, S. (2020). Consumer protection and electronic commerce in the Sultanate of Oman. *Journal of Information, Communication and Ethics in Society*, 19(1), 38–60. <https://doi.org/10.1108/jices-09-2019-0110>
- Capone, V., Maggiore, G., & Lo Presti, L. (2026). Coping strategies and corrective actions to address digital consumer vulnerability: A multistakeholder perspective. *Journal of Strategic Marketing*, 34, 277–297. <https://doi.org/10.1080/0965254x.2026.2618066>
- Chen, J., Lan, Y.-C., & Chang, Y.-W. (2023). Consumer behaviour in cross-border e-commerce: Systematic literature review and future research agenda. *International Journal of Consumer Studies*. <https://doi.org/10.1111/ijcs.12969>
- Chen, Y. (2026). Navigating contractual deadlocks: A review of doctrinal and comparative approaches to price error cases. *Advances in Education, Humanities and Social Science Research*. <https://doi.org/10.56028/aehtsr.16.1.207.2026>
- Filip, F. (2025). Artificial intelligence in consumer rights protection: New opportunities and legal challenges. *The American Journal of Political Science, Law and Criminology*, 7(12). <https://doi.org/10.37547/tajpslc/volume07issue12-02>
- Fista, Y. L., Machmud, A., & Suartini, S. (2023). Perlindungan hukum konsumen dalam transaksi e-commerce ditinjau dari perspektif Undang-Undang Perlindungan Konsumen. *Binamulia Hukum*, 12(1), 177–189.
- Goetzinger, P., & Spremić, M. (2025). Cross-border e-commerce and its implications for consumer protection (2019–2024): A systematic literature review. *European Journal of Economics*. <https://doi.org/10.33422/eje.v5i1.972>
- Izazi, F. S., Sajena, P., Kirana, R. S., & Marsaulina, K. (2024). Perlindungan hukum terhadap konsumen dalam transaksi e-commerce melalui Undang-Undang Nomor 8 Tahun 1999 tentang Perlindungan Konsumen dan Peraturan Pemerintah Nomor 80 Tahun 2019 tentang Perdagangan Melalui Sistem Elektronik. *Leuser: Jurnal Hukum Nusantara*, 1(2), 8–14.
- Jasim, M., & A., M. (2023). Current state and future directions of consumer online data protection and consumer privacy: A bibliometric study. *International Journal of Process Management and Benchmarking*. <https://doi.org/10.1504/ijpmb.2023.10058021>
- Lima, M. C., & Pereira, N. (2022). O direito imaterial numa perspectiva consumerista: Colisão dos direitos do autor e do consumidor no comércio eletrônico. *Brazilian Journal of Development*, 8(3). <https://doi.org/10.34117/bjdv8n3-382>
- Mariño, R., & Zaror, C. (2024). Legal issues in digital oral health: A scoping review. *BMC Health Services Research*, 24. <https://doi.org/10.1186/s12913-023-10476-w>
- Matondang, K., Handani, T., Handayani, A., & Wati, F. (2025). Etika bisnis dalam perlindungan data pribadi konsumen di era bisnis digital: Dalam studi literatur. *Jurnal Publikasi Sistem Informasi dan Manajemen Bisnis*, 4(3). <https://doi.org/10.55606/jupsim.v4i3.5508>
- Noeri, I., Nur, S., & Hermandasari, R. (2025). Regulatory compliance of Indonesian smart contracts.

- Journal of Law, Society and Living Norms. <https://doi.org/10.66111/jar3zy98>
- Otieno, E. A. (2025). Data protection and privacy in e-commerce environment: Systematic review. *GSC Advanced Research and Reviews*, 22(1). <https://doi.org/10.30574/gscarr.2025.22.1.0024>
- Paredes Morales, M. G., Riera Peralta, A. M., Mora Cárdenas, E. K., Briones Tutivén, J. G., & Palma Redin, T. Y. (2026). Responsabilidad jurídica de las plataformas digitales por fraudes en el comercio electrónico ecuatoriano. *Revista Lex Enlace*. <https://doi.org/10.63644/9bkbvy08>
- Rangkuti, S. S. (2023). Perlindungan hukum konsumen dalam transaksi digital. *Jurnal Hukum Progresif*, 9(2), 101–120.
- Sağlam, R. B., Altuncu, E., Lu, Y., & Li, S. (2022). A systematic literature review of the tension between the GDPR and public blockchain systems. *Blockchain: Research and Applications*, 4, 100129. <https://doi.org/10.1016/j.bcra.2023.100129>
- Sarabdeen, J. (2025). Hear or not to hear: A comparative analysis of jurisdiction of the courts in e-commerce disputes. *Journal of Ecohumanism*, 4(1). <https://doi.org/10.62754/joe.v4i1.5950>
- Tobing, A., & Rizkia, N. D. (2026). Personal data protection strategies in the digital business era: A normative and empirical juridical analysis of the Personal Data Protection Law. *Eduvest – Journal of Universal Studies*, 6(2). <https://doi.org/10.59188/eduvest.v6i2.52311>