

Asrar Digital Transactions: An International Legal Review of Global E-Commerce

Artia Nabila Mayangsari
Duta Bangsa University

Abstract

E-commerce has fundamentally transformed global transactional practices, enabling seamless cross-border exchanges. However, within the framework of international trade, legal complexities arise when transactions involve jurisdictions with diverse legal systems. This study critically examines the international legal dimensions of global e-commerce, focusing on issues of jurisdiction, consumer protection, data security, and dispute resolution. Employing a normative juridical method and literature-based analysis, the research highlights the urgent need for regulatory harmonization and cross-national cooperation to build a fair, coherent, and globally applicable legal framework. The findings underscore the importance of strengthening international agreements and establishing effective mechanisms for digital dispute resolution. It is concluded that international law must adapt continuously to the evolving landscape of digital commerce and technological innovation.

Keywords: International Law, Digital Transaction, E-Commerce, Consumer Protection, Jurisdiction

APA Citation:

Nabila, A. (2025). Asrar Digital Transactions: An International Legal Review of Global E-Commerce. *International Journal of Law and Policy*, 3 (5), 1-10.
<https://doi.org/10.59022/ijlp.324>

I. Introduction

The rapid advancement of information and communication technology (ICT) has brought significant transformation across various aspects of human life, particularly in economic activities. One of the most visible impacts of this digital revolution is the emergence and rapid growth of electronic commerce (e-commerce), which has become an essential component of modern global economic dynamics. With its ability to overcome geographical and temporal boundaries, e-commerce offers vast opportunities for businesses to access international markets and enables consumers to obtain goods and services from around the world with just a single touch on their digital devices (Roszko-Wójtowicz et al., 2024).

Amidst the wave of economic globalization and accelerating digitalization, e-commerce transactions are no longer limited to local or domestic levels. Instead, they have evolved into cross-border practices involving multiple legal jurisdictions. In practice, international e-commerce transactions may occur between businesses in one country and consumers in another, supported by a globally distributed infrastructure of servers, payment providers, and logistics systems. This complexity introduces various legal challenges, particularly concerning jurisdiction, consumer protection, data ownership, intellectual property rights, and mechanisms for cross-border dispute resolution (AllahRakha, 2024a).

Legal issues in global e-commerce transactions are further complicated by the absence of a binding and uniform international legal framework. Countries continue to rely on their respective national legal systems in regulating digital transactions, which often do not align with one another. This regulatory mismatch has the potential to create legal uncertainty, contractual risks, and enforcement obstacles, particularly when disputes arise between parties from different jurisdictions (Dowie, 1982).

Nevertheless, various international organizations have sought to provide legal guidance that member states may voluntarily adopt. One significant initiative has come from the United Nations Commission on International Trade Law (UNCITRAL), which launched the Model Law on Electronic Commerce in 1996, followed by the Model Law on Electronic Signatures in 2001. These model laws aim to offer a normative framework that supports cross-border digital transactions and ensures the legal validity and enforceability of electronic documents across different legal systems. However, due to their non-binding nature, implementation largely depends on each country's political commitment and legislative readiness (Simamora et al., 2025).

The urgency for international legal studies on global e-commerce continues to grow in line with the surging volume of cross-border digital transactions, which amounts to hundreds of billions of dollars annually. According to a UNCTAD report (2023), the

value of global digital trade has surpassed USD 5 trillion, with a steady annual growth rate of over 15%. This phenomenon indicates that e-commerce has become one of the main pillars of the global economy. Ironically, however, this rapid growth has not been matched by a sufficient international legal framework to ensure legal certainty and fairness for all involved parties.

One of the primary challenges in international law related to e-commerce is the issue of jurisdiction. When a contract breach or dispute arises between parties from different countries, critical questions emerge: which country's law should apply? Which court has the authority to resolve the dispute? In traditional legal systems, jurisdiction is usually determined by the physical presence or domicile of one of the parties. In the digital world, however, physical boundaries become blurred. This has triggered extensive debates among legal scholars and practitioners about the need for more adaptive principles of digital jurisdiction that reflect the characteristics of e-commerce transactions (AllahRakha, 2024b).

In addition to jurisdictional concerns, consumer protection in digital transactions is another critical issue. Many developed countries have comprehensive regulations on online consumer protection, such as the European Union's General Data Protection Regulation (GDPR) and Consumer Rights Directive. However, not all countries offer the same level of legal protection. This disparity increases the risk to consumers, especially when they engage in transactions with businesses based in countries that do not uphold adequate protection standards. Globally, there is still no specific and binding international convention that comprehensively regulates digital consumer protection (Wulandari S et al., 2025).

Data privacy is also a major concern. Personal data collected through e-commerce transactions is often processed and stored in multiple countries, raising legal questions regarding ownership and control of data, as well as obligations for security and confidentiality. Differences in data protection standards such as between the GDPR in the EU and the more liberal approach in the United States further complicate efforts to harmonize global legal frameworks (Karimabadi & Leal-Arcas, 2023).

In this context, a study on the "Asrar" (Arabic for "secrets" or "hidden complexities") of digital transactions becomes increasingly relevant. The term reflects the intricate legal web surrounding cross-border e-commerce. This research aims to unpack the legal challenges faced by businesses and consumers in international digital trade and identify legal gaps and voids in the current international legal system. Using a normative and comparative legal approach, this study will examine existing international legal instruments, analyze legal practices across jurisdictions, and formulate policy recommendations to promote the harmonization of global regulations.

Furthermore, it is crucial to consider the perspectives of developing countries in this dynamic landscape. Many of them are still in the early stages of building their digital legal infrastructure and face significant challenges in terms of resources, technical capacity, and access to technology. Therefore, the existence of an inclusive international legal framework that is responsive to the needs of developing countries is essential. Without adequate legal protection and clarity, these countries risk exploitation in the global digital trade system.

This study also seeks to contribute to the academic discourse on the future of international law in the digital era. Do we need a new legally binding international treaty? Or is it sufficient to develop general principles agreed upon multilaterally? Can regional approaches like those implemented by the European Union serve as models for other regions? These questions form an integral part of the discussion in this article.

This research is rooted in the real and urgent need to understand and develop an international legal framework suitable for the digital age. Global e-commerce is an undeniable reality, and international law must adapt by providing fair, harmonized, and universally applicable regulations. Through this study, we hope to open space for dialogue and constructive solutions in the pursuit of a global legal order that can keep pace with digital transformation.

II. Methodology

This study employs a normative juridical method, which is a legal research approach based on the analysis of existing legal norms at both national and international levels. This method is chosen because the focus of the research lies in a systematic examination of statutory regulations, international legal instruments, and global conventions that govern cross-border e-commerce transactions. Through this approach, the study aims to explore how international law responds to the rapid development of digital transactions and to identify the challenges that arise from regulatory disharmony among countries.

Primary legal materials, which include international agreements and model laws on Electronic Commerce (1996), the UNCITRAL Model Law on Electronic Signatures (2001), and the European Union's General Data Protection Regulation (GDPR). In addition, references are made to relevant provisions of the World Trade Organization (WTO) Agreements related to e-commerce. Secondary legal materials, which encompass legal literature such as textbooks, scholarly journal articles, academic research reports, and publications from international institutions such as UNCTAD and the OECD, which address legal issues in digital trade.

Tertiary legal materials, which consist of legal dictionaries, legal encyclopedias, indexes, and abstracts that support understanding and facilitate the search for other

relevant sources. In its analysis, the study applies a qualitative descriptive analytical method, by examining the substance of international legal norms and interpreting their meaning and regulatory scope through systematic and conceptual approaches. The analysis focuses on the implementation of legal instruments across various jurisdictions and evaluates their effectiveness in ensuring legal certainty, fairness, and the protection of rights for both consumers and business actors in the digital domain.

This research also adopts a comparative law approach, by comparing international e-commerce policies and regulations from selected countries, such as the European Union, the United States, and several Southeast Asian nations. The purpose of this comparison is to identify differences in normative and institutional approaches to the regulation of cross-border digital transactions and to assess the extent to which principles of legal harmonization and convergence have been applied.

To ensure the validity and accuracy of the data, a source triangulation technique is employed, which involves verifying findings through multiple credible and authoritative legal sources. The results of this legal interpretation will be used to formulate conclusions and relevant recommendations, with the goal of contributing to the development of a more cohesive and adaptive international legal framework for global e-commerce.

III. Results

A. Adoption of International Legal Instruments

Although UNCITRAL has released the Model Law on Electronic Commerce (1996) and the Model Law on Electronic Signatures (2001), their adoption varies significantly among countries. Developed nations, such as EU member states and the United States, have generally integrated most UNCITRAL principles into their domestic regulations. In contrast, many developing countries continue to face challenges in implementing these instruments due to limited legal resources, underdeveloped digital infrastructure, and political constraints.

B. Disharmony in Privacy and Consumer Protection Regulations

Research indicates that legal disharmony concerning data privacy and consumer protection is one of the major barriers to cross-border digital trade. For example, the European Union's General Data Protection Regulation (GDPR) imposes high standards for personal data protection, whereas similar protections are inadequately implemented in several Asian and African countries. This disparity creates legal uncertainty for global businesses and increases the risk of violations of consumer rights.

C. Limited Cross-Border Law Enforcement Mechanisms

Enforcing legal resolutions in e-commerce disputes involving actors from different

countries remains challenging. Court-based dispute resolution mechanisms are often ineffective due to jurisdictional limitations and differences in national legal systems. Although alternatives such as Online Dispute Resolution (ODR) have emerged, these mechanisms lack a strong international legal basis and remain largely voluntary in nature.

D. Diverging Standards for the Legality of Electronic Transactions

Comparative analysis shows that countries apply differing standards regarding the legal recognition of electronic contracts. Some jurisdictions accept electronic documents as valid legal evidence, while others still require physical signatures or in-person presence for certain transactions. These differences create legal barriers to cross-jurisdictional transactions and hinder the global growth of e-commerce.

E. Suboptimal Role of International Organizations

Organizations such as UNCITRAL, the World Trade Organization (WTO), and UNCTAD have initiated efforts to promote harmonization in e-commerce law. However, the limited mandates and non-binding nature of their recommendations mean that their influence on national regulations remains relatively modest. Moreover, there is still no legally binding international convention on e-commerce that is universally applicable.

F. Global Legal Harmonization

The findings underscore the urgent need for a unified and binding international legal framework. Regulatory harmonization would enhance legal certainty, strengthen consumer protection, and facilitate fair and inclusive digital trade. Without a collective effort among nations, the existing legal gaps will continue to be a major obstacle to the advancement of global e-commerce.

IV. Discussion

The global development of e-commerce has reshaped commercial transactions, transcending traditional national boundaries. This borderless nature of digital trade presents complex legal challenges, testing both national and international legal frameworks, which have historically been rooted in territoriality. This section delves into key legal issues arising from international e-commerce transactions and evaluates the responses of international law to these emerging challenges.

A. Regulatory Disharmony Among Countries

A primary challenge in international e-commerce transactions is the lack of uniformity in regulations across different jurisdictions. While UNCITRAL has provided crucial guidelines with the Model Law on Electronic Commerce (1996) and Model Law on Electronic Signatures (2001), their adoption remains voluntary and inconsistent among countries. Some nations have fully integrated these principles into their domestic

regulations, while others have yet to implement them, leading to legal uncertainty in areas such as digital contracts, data protection, and cross-jurisdictional dispute resolution. For example, European Union (EU) member states apply strict data protection standards through the General Data Protection Regulation (GDPR), which contrasts with the lack of comprehensive digital data protection frameworks in several developing nations. This disparity exposes consumers to potential risks of data misuse and exploitation, especially in jurisdictions where legal safeguards are weak (Morić et al., 2024).

B. Jurisdictional and Enforcement Challenges

The cross-border nature of e-commerce transactions exacerbates issues related to jurisdiction in legal disputes. Traditional principles such as *lex loci contractus* (the law of the place where the contract is made) or *lex loci solutionis* (the law of the place where obligations are performed) face difficulties in a virtual environment where transactions are not confined to a specific geographic location, and data storage servers may be located in different countries. This complicates the ability of both consumers and businesses to identify where to file legal claims and how to effectively enforce laws across borders (Chaisse, 2024). National courts often lack jurisdiction over foreign entities, particularly in cases involving cross-border transactions. This limits access to legal recourse, especially for consumers who may not have the means to navigate international legal systems. Although international arbitration and Online Dispute Resolution (ODR) mechanisms are emerging as alternatives, their voluntary nature and limited legal binding force hinder their effectiveness.

C. Consumer Protection and Transaction Security

Consumer protection remains a central issue in international digital transactions. Many countries have yet to fully adapt their consumer protection laws to the unique nature of e-commerce, such as electronic contract terms, digital product delivery, and virtual return policies. In interactions with foreign businesses, consumers often find themselves at a significant disadvantage, particularly if their home countries lack robust legal protections (Guo, 2024). Moreover, digital transaction security is heavily influenced by the technological infrastructure and cybersecurity regulations of each country. Cyber threats such as hacking, identity theft, and digital fraud present ongoing challenges for cross-border e-commerce. Unfortunately, there is still no comprehensive and binding international legal framework to address these issues across jurisdictions.

D. Challenges in International Legal Harmonization

Efforts to harmonize e-commerce law through organizations such as UNCITRAL, the WTO, and ASEAN face significant obstacles. These include differences in legal systems, technological development, and national sovereignty concerns over digital data governance. While developed countries often adopt high legal and technological

standards, developing countries struggle to formulate adequate policies to regulate digital trade effectively. Legal harmonization cannot be imposed top-down (Sanchez Lasaballett, 2019). Instead, an inclusive, multilateral approach is necessary, where countries voluntarily build consensus on key international e-commerce principles, including technology neutrality, data protection, and digital accountability.

E. The Role of International Organizations and Future Regulation

International organizations such as UNCITRAL, WTO, OECD, and UNCTAD play a pivotal role in shaping global e-commerce regulations. However, the success of their initiatives is contingent upon the commitment of member states. For meaningful progress, there is a need for binding international legal instruments, such as conventions or multilateral treaties, to address gaps in regulation (Ekardt et al., 2023). Additionally, enhancing the regulatory capacity of developing countries to align with international standards is essential. This can be achieved through technical cooperation, legal assistance, and technology transfer. Moving forward, e-commerce law is expected to evolve into a hybrid regulatory model, combining formal legal approaches, soft law, and industry-led co-regulation.

Conclusion

This research identifies the international legal challenges faced in global e-commerce transactions and emphasizes the importance of addressing these issues appropriately. First, the study highlights the need for regulatory harmonization at the global level. Cross-border e-commerce transactions are often hindered by the differences in regulations applied by each country. Therefore, to achieve better legal certainty, it is crucial to have uniform regulations that are internationally accepted, as exemplified by digital trade agreements such as the Digital Economy Partnership Agreement (DEPA).

Second, regarding dispute resolution, the study reveals that international dispute resolution mechanisms in e-commerce still face significant challenges. The lack of clarity on jurisdiction and differences in legal systems between countries are major obstacles. Therefore, the development of globally accepted Online Dispute Resolution mechanisms is essential to ensure that all parties can resolve disputes fairly and efficiently. Furthermore, this research also highlights that the protection of personal data is becoming an increasingly important issue in global e-commerce. Countries with stringent data protection regulations, such as the GDPR, often face challenges when dealing with countries that have more lenient regulations. This disparity could lead to potential misuse of personal data, thus, there needs to be a clearer international agreement on data protection to safeguard consumer rights globally.

Moreover, the study emphasizes the dominant role of developed countries in shaping global e-commerce regulations, but it also stresses the need for developing

countries to have a stronger voice. This is to ensure that the regulations created do not only benefit large countries but also take into account the interests of developing nations in global digital trade. Finally, the research underscores the importance of adapting regulations to technological advancements. E-commerce is a rapidly evolving sector, and existing regulations must be more flexible and responsive to technological changes. By adopting a principle-based approach, regulations can remain relevant and support innovation without stifling the growth of the digital industry.



Bibliography

- AllahRakha, N. (2024a). Rethinking Digital Borders to Address Jurisdiction and Governance in the Global Digital Economy. *International Journal of Law and Policy*, 2(1), 1–12. <https://doi.org/10.59022/ijlp.124>
- AllahRakha, N. (2024b). UNESCO’s AI Ethics Principles: Challenges and Opportunities. *International Journal of Law and Policy*, 2(9), 24–36. <https://doi.org/10.59022/ijlp.225>
- Chaisse, J. (2024). Arbitration in cross-border data protection disputes. *Journal of International Dispute Settlement*, 15(4), 534–551. <https://doi.org/10.1093/jnlids/idae018>
- Dowie, J. (1982). The risks of contract law. *International Review of Law and Economics*, 2(2), 193–204. [https://doi.org/10.1016/0144-8188\(82\)90005-9](https://doi.org/10.1016/0144-8188(82)90005-9)
- Ekardt, F., Günther, P., Hagemann, K., Garske, B., Heyl, K., & Weyland, R. (2023). Legally binding and ambitious biodiversity protection under the CBD, the global biodiversity framework, and human rights law. *Environmental Sciences Europe*, 35(1), 80. <https://doi.org/10.1186/s12302-023-00786-5>
- Guo, J. (2024). How geopolitical risk affect firms’ internationalization performance: Evidence from China. *Heliyon*, 10(9), e30152. <https://doi.org/10.1016/j.heliyon.2024.e30152>
- Karimabadi, M. S. A., & Leal-Arcas, R. (2023). Energy decentralization and energy transition in Austria. In *Electricity Decentralization in the European Union* (pp. 407–423). Elsevier. <https://doi.org/10.1016/B978-0-443-15920-6.00005-0>
- Morić, Z., Dakic, V., Djekic, D., & Regvart, D. (2024). Protection of Personal Data in the Context of E-Commerce. *Journal of Cybersecurity and Privacy*, 4(3), 731–761. <https://doi.org/10.3390/jcp4030034>
- Roszko-Wójtowicz, E., Deep Sharma, G., Dańska-Borsiak, B., & Grzelak, M. M. (2024). Innovation-Driven E-Commerce Growth in the EU: An Empirical Study of the Propensity for Online Purchases and Sustainable Consumption. *Sustainability*, 16(4), 1563. <https://doi.org/10.3390/su16041563>
- Sanchez Lasaballett, E. (2019). Conceptualizing harmonization: the case for contract law. *Uniform Law Review*, 24(1), 73–120. <https://doi.org/10.1093/ulr/unz007>
- Simamora, P. N. S., Ginting, G., Rantung, C. M. M., Kaunang, P. D., & Dewi, P. M. (2025). Legal Implications of Electronic Contracts in Civil Law: A Case Study in the Digital Era. *Jurnal Smart Hukum (JSH)*, 3(3), 224–232. <https://doi.org/10.55299/jsh.v3i3.1272>
- Wulandari S, L., Swandari, S., Mahardika, S. G., & Prayudha, T. A. (2025). Legal Protection for Consumers in E-Commerce Transactions: Challenges and Solutions in the Digital Era. *Journal of Mujaddid Nusantara*, 2(1), 23–38. <https://doi.org/10.62568/jomn.v2i1.289>