



Research on International Consumer Protection Mechanisms in Cross-Border E-commerce Transaction Security

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Abstract. As the Internet continues to grow rapidly, there has been a marked increase in the use of cross-border e-commerce by global consumers. This expansion has led to various activities that compromise transaction security and violate the legitimate rights of consumers, adversely impacting the overall health of global network transaction security. This study presents a comparative analysis of consumer protection mechanisms in the European Union, the United States, and China, identifying significant gaps and inconsistencies in existing approaches. The results highlight the critical need for a robust international legal framework to harmonize consumer protection laws worldwide. Moreover, this paper emphasizes the necessity of improving consumer education and enhancing the protection of consumer rights and interests. By developing comprehensive international coordination mechanisms and increasing consumer awareness, the security of cross-border e-commerce transactions can be significantly bolstered, thereby supporting the sustainable growth of the global digital marketplace.

Keywords: Cross-border E-commerce, Consumer Protection, Transaction Security.

1 Introduction

With the rapid expansion of the Internet and increasing global economic integration, cross-border e-commerce has experienced a significant upsurge and now forms a crucial component of international trade. Serving as a pivotal technical foundation for promoting economic integration and globalizing trade, cross-border e-commerce has effectively dismantled international trade barriers, ushering in an era of borderless commerce and significant shifts in global economic trade dynamics. For businesses, this model of open, multi-dimensional, and conventional multilateral economic and trade cooperation offered by cross-border e-commerce substantially widens access to international markets, facilitating the strategic allocation of resources and fostering beneficial partnerships across borders. For consumers, international e-business has simplified the process of accessing information and purchasing goods at competitive prices from

abroad. Cross-border e-commerce acts as a catalyst for industrial restructuring and offers new avenues for businesses to establish international brands. Moving forward, e-commerce stands as a pivotal trend in the evolution of cross-border trade, possessing extensive potential for industrial growth.

However, the diversity in national legal systems, linguistic cultures, and the complexity of payment and logistics present a variety of potential risks and challenges for international consumers engaged in cross-border e-commerce. These include risks to transaction security and the protection of consumer rights, which have become increasingly prominent. The continuous growth of cross-border e-commerce, along with the diversification of transaction methods, the strengthening of regulatory frameworks, and the growing complexity and uncertainty of the operational environment, present considerable challenges to the management of cross-border e-commerce operations and compliance risks. Establishing and improving international consumer protection mechanisms is crucial for safeguarding consumer rights and interests and promoting a safer and more orderly market environment for cross-border e-commerce transactions.

This paper outlines the structure of its inquiry into international consumer protection mechanisms in cross-border e-commerce, with a focus on enhancing transaction security. It begins with an introduction that sets the context of increasing global digital commerce and the associated challenges. This is followed by a detailed comparative analysis of consumer protection frameworks in the European Union, the United States, and China, identifying disparities and best practices. The methodology section describes the analytical techniques used, paving the way for findings that suggest crucial gaps in current consumer protection efforts. A discussion interprets these findings in light of existing international laws and cultural variations, offering strategic recommendations for global standardization. The paper concludes with a synthesis of the research and suggestions for future investigations, aiming to fortify consumer rights and facilitate safer cross-border e-commerce interactions.

2 Current Analysis of Transaction Security in Cross-Border E-commerce

2.1 Overview of Cross-Border E-commerce Development

Development Trends.

The swift advancement and widespread adoption of information technology and the Internet have revolutionized the way information is shared across the globe, making it possible to overcome traditional barriers such as distance and time in business transactions [1]. E-commerce platforms now function as virtual marketplaces, allowing buyers and sellers from various parts of the world to engage and transact without physical limitations [2]. These platforms remove geographical barriers, granting small and medium-sized enterprises (SMEs) the ability to reach international markets and evolve into transnational corporations with opportunities for global trade. However, this accessibility has also intensified competition among cross-border e-commerce platforms, broadening market access and diversifying the array of products and services available

to consumers. The expansive reach of cross-border e-commerce disrupts conventional trade patterns and supports the cross-border exchange of goods, services, and ideas, furthering the integration of the global economy and culture.

Characteristics of Transactions.

Cross-border e-commerce transactions are very different from traditional consumer shopping and selling. Firstly, the subjects of these transactions belong to different sovereign nations and territories, involving cross-boundary transport and customs clearance, allowing sellers and consumers to engage in international markets regardless of distance and national borders. Secondly, these transactions involve the online flow of information and funds, negating the need for face-to-face exchanges and significantly reducing time and transportation costs, thereby enhancing transaction efficiency. Thirdly, the transactions are governed by pre-agreed contracts and the laws of the countries involved, establishing a contractual relationship between buyers and sellers for the cross-border exchange of goods or services. Lastly, cross-border e-commerce transactions rely heavily on data information technology, particularly the Internet.

Accordingly, the transaction characteristics of cross-border e-commerce offer convenience and efficiency to both consumers and businesses. Reduced management costs per transaction and the streamlined, transparent trading processes afforded by e-commerce shorten the business cycle and facilitate relations between business partners across countries [2].

2.2 Analysis of Transaction Security Risks

Payment Security Risks.

Cross-border e-commerce payment settlements are fraught with several risks, including credit, network, legal, and management risks. The unique nature of these payment methods often complicates the verification of transaction authenticity and presents challenges in auditing documents and tracking logistics. In cross-border transactions, there is a possibility that payments are made but the goods are either not delivered or the shipments are lost. Moreover, third-party payment platforms often struggle to accurately determine the status of transactions as their oversight capabilities are limited to virtual operations. Consequently, both buyers and sellers face inherent credit risks, including the potential for one party to default on the transaction. Technical risks resulting from credit risks, including network transmission failures, computer-on-line system failures resulting in delays in liquidation time. In addition, there are many difficulties in introducing third-party involvement. Cross-border e-commerce payments are made through Internet channels, and therefore a range of cybersecurity issues arise during transaction transfers. For example, a hacker attack damaged the data system, causing large amounts of internal data to be leaked or manipulated. Due to the virtualization of payment forms, the audit of relevant transaction documents may be difficult. The risks of gateway security inspection payment orders are mainly technical and security risks, including gateway fire protection, insufficient identification, breaches, paralysis and modifications that cause the payment order not to pass properly, and the risk

that the financial local network is attacked to not process the order properly. Furthermore, disparities in economic systems, legal frameworks, and cultural norms across different jurisdictions contribute to varying perspectives on thinking, behavior, business ethics, credibility, and value orientation among parties involved in cross-border payments, resulting from differences in economic systems, legal systems and cultural paradigms in different contexts, ultimately lead to differences, disputes and uncertainties in the cost, time and conduct of payments.

Risks of Product Quality and Description Mismatch.

The non-compliance of the quality of the goods with the description means that the merchant did not match the description of the product when the consumer received the product at the time of the transaction, or the seller did not provide the necessary information on the product details page, such as the status of the commodity, ingredients or materials, versions, etc. Since cross-border e-commerce is an online transaction based on the Internet, consumers can only choose to buy goods by looking at the images given by the merchant. There is a great deal of confidence in the way that consumers buy goods only on images without seeing the physical. Many merchants will attract consumers to buy goods by modifying and deliberately exaggerating the use of goods, which leads to consumers believing that the merchant ordered the goods after the description of the platform but find that the quality of the product do not match it.

Consumers complain that the quality of the goods is not in accordance with the description, mainly in the following ways: First, the product does not match the color and size of the actual sale of goods; second, the wrong product; third, the goods lack the basic attachment or parts. When the goods sold occur in any of the above cases, in general, if the overall performance of the account is good, when there is a complaint of goods that do not conform to the description, the merchant will receive a warning email or drop the merchandise that is not in conformity with the quality of the commodity. If the situation is serious, businessmen are at risk of being sealed.

Fraud Risks.

In card-free transactions, consumers only need to enter the card number, validity, three CVV and other information to complete the payment without the need for a password after purchasing goods. This type of payment increases the success rate of order transactions, the disadvantage of which is the higher risk of malicious rejection and fraudulent transaction. Anonymous purchases by Internet users and insufficient protection of user information through cross-data flows have caused frequent incidents of cyber fraud and fraud, making consumers vulnerable to the leakage of personal information and economic losses when buying goods on cross-border e-commerce platforms. Furthermore, the internet's vast repository of information is a double-edged sword. On one hand, it provides users with access to a wealth of knowledge; on the other, it is a breeding ground for misinformation and fake news. Such deceptive practices can sow confusion and distrust among consumers, undermining the integrity and security of the global cyberspace. Moreover, as consumers spend more time online,

they are increasingly exposed to ads, which can be difficult to distinguish from legitimate content. Ad fraud occurs when advertisers are billed for ads that users do not see. Consumer protection laws and regulations need to adapt to address the issue of ad fraud [3].

3 Comparative Study of International Consumer Protection Mechanisms

3.1 European Union Consumer Protection Mechanisms

Legal Framework.

The European Union safeguards consumers in cross-border e-commerce through a robust framework that combines legal protections, product safety measures, and consumer education. At its core, the Consumer Rights Directive outlines essential consumer rights, integrated into national laws to ensure transparency, remedy, and compensation. To prevent harm from unsafe products, the EU enforces stringent safety standards and recall mechanisms. Complementing these efforts, the European Consumer Centre Network (ECC-Net) and various educational programs empower consumers with knowledge and resources, enhancing their shopping awareness and fostering a culture of informed purchasing [4]. This holistic approach aims to secure a trustworthy and safe e-commerce environment across the EU.

Despite these measures, challenges remain, particularly in the realm of cross-border disputes. The costs, linguistic barriers, and logistical challenges associated with litigation in foreign courts often deter consumers from seeking legal redress, leading to significant consumer losses annually. Annually, approximately 20% of EU residents face issues during purchasing, yet only 2% resort to legal actions to settle disputes. This results in consumer financial losses amounting to about 0.4% of the EU's GDP. Moreover, difficulties related to cross-border transactions are estimated to cost consumers between 500 million and 1 billion euros each year. To provide substantial protection to EU consumers and promote the development of the EU economy, the EU has begun to carry out a drastic reform of the consumer dispute resolution mechanism, from the traditional reliance on court litigation to remedy consumers, to the settlement of consumer disputes mainly through ADR (ODR).

Case Analysis.

In the case of restricting the consumer from rescinding the contract without cause, according to the provisions of EU law, the consumer who has signed a contract with the merchant via the Internet or telephone has in principle 14 days to terminate the contract without cause. However, the right of cancellation for cultural or sporting events is excluded to protect the event organizer from the risks arising from the termination of the contract. The Court of Justice of the European Union (CJEU) held that the 14-day restriction on the consumer's unjustified termination of the contract also applies to the online purchase of concert tickets from a ticketing agent since the concert organizer bears the financial risk of the consumer's unjustified refund.

The EU Consumer Rights Directive establishes the right of withdrawal for consumers. According to Article 9 of the Directive, consumers can withdraw from a telecommunication or non-store contract within 14 days from its conclusion without providing a reason or incurring any cost, except where exclusions apply as outlined in Article 16 of the Directive. The Directive sets out the rights and obligations of the operator in the event of a rescission of the contract. The Directive stipulates that after a contract is revoked, the operator must refund the full amount paid by the consumer, and the refund must not exceed 14 days. Concerning the method of refund, the Directive stipulates that the operator must make a refund using the same payment method used by the consumer in the initial transaction, unless otherwise expressly agreed by the consumer, provided that the consumer has not been charged any fees as a result of the refund. Regarding the rights and responsibilities of consumers when a contract is canceled, in cases where there is no physical store involved and the goods have already been delivered to the consumer's home at the time the contract was established, if the nature of the goods prevents them from being returned by standard mail, the seller is responsible for retrieving the goods and covering all associated costs [5].

3.2 United States Consumer Protection Mechanisms

Legal Framework.

In the context of enhancing transaction security and protecting consumers in cross-border e-commerce, the United States employs a robust legal framework underpinned by various consumer protection agencies and comprehensive laws. Central to this framework is the Federal Trade Commission (FTC), equipped with a consumer protection bureau. The FTC, alongside the Consumer Product Safety Commission (CPSC)—an independent regulatory body—and influential non-governmental organizations like the American Consumer Interest Commission, play pivotal roles in safeguarding consumer interests [6]. These agencies enforce regulations, handle complaints, and provide crucial consumer information, thereby upholding consumer rights across diverse market interactions.

In the United States, the cornerstone of consumer protection in the realm of e-commerce and beyond is established through key federal laws. The Federal Trade Commission Act (FTC Act) is instrumental in combating unfair or deceptive practices, ensuring the marketplace operates on principles of fairness. Complementing this, the Consumer Product Safety Act (CPSA) safeguards consumers by regulating the safety of consumer products throughout their manufacturing, distribution, and sale. The Electronic Fund Transfer Act (EFTA) plays a critical role in e-commerce by defining the rights and responsibilities surrounding electronic payments. Additionally, the Consumer Financial Protection Act (CFPA) introduces the Consumer Financial Protection Bureau (CFPB), a body dedicated to the oversight of financial products and services, thus adding an essential layer of security for consumers engaging in digital transactions. Together, these laws form a robust framework aimed at protecting consumers and fostering a trustworthy e-commerce environment.

Case Analysis.

For cross-border e-commerce infringement cases, most cases will not be affected as long as there is evidence of sales in various states of the United States through the Internet. However, disputes between Amazon e-commerce and Amazon platforms are generally under the jurisdiction of the relevant institutions of the American Arbitration Association (AAA) and AAA following the agreement. This arbitration process is designed to offer a streamlined, less formal resolution pathway compared to traditional court proceedings.

Despite the arbitration avenue, there have been instances where merchants attempted to take legal action against Amazon, citing contractual discrepancies. These legal battles aimed to leverage perceived loopholes for favorable settlements. However, a significant number of these court challenges were ultimately dismissed, showcasing the robustness of Amazon's contractual agreements and the efficacy of the arbitration process. As a result, these attempts often lead to substantial legal expenses for the plaintiffs, with little to no restitution. For consumers and merchants engaged in such transactions, it highlights the critical need for awareness about the arbitration process and the potential limitations of seeking redress through traditional legal channels.

3.3 Chinese Consumer Protection Mechanisms

Legal Framework.

Since its accession to the WTO, China has significantly advanced consumer protection, evidenced by the establishment of dedicated organizations and the promotion of consumer rights awareness, notably through the annual "3.15" consumer rights day activities. The cornerstone of this legal framework is the Law of the People's Republic of China on the Protection of Consumer Rights and Interests, effective from January 1, 1994. This law delineates nine fundamental consumer rights, ranging from the right to safety and information to the right to fair trade and compensation [7]. This legal foundation is supported by a suite of laws and regulations, such as the Product Quality Law and the Anti-Unfair Competition Law, which collectively ensure consumers are well-informed, free to make choices, secure in their use of products, and treated equitably in transactions.

Specifically, in the realm of cross-border e-commerce, Chinese law emphasizes four principal consumer rights: First, the right to know. Consumers have the right to know detailed information about the goods, including but not limited to the product description, ingredients, size, how to use, etc. Businesses should ensure that comprehensive and accurate product information is provided and that no facts are concealed that may influence consumer decision-making. Second, the right to choose. Consumers have the right to freely choose goods or services without any undue interference or restrictions. Enterprises should respect consumers' right to choose and refrain from false advertising or misleading consumers. Third, the right to safe use. Consumers have the right to ensure safety when using goods. Enterprises should ensure that their products comply with relevant safety standards and do not contain ingredients that are harmful to human health. Fourth, the right to fair trade. Consumers should be treated fairly in the transac-

tion process, including prices, payment methods, return and exchange policies, etc. Enterprises should follow the principles of fairness, justice, and reasonableness, and not engage in unfair business practices.

Case Analysis.

Company A operates a swimming pool. Company A used the employee's ID card information to purchase dozens of bottles of shampoo and hair care products from overseas through the cross-border e-commerce platform and provided the aforementioned products for children to take a bath after swimming for free. The State Administration for Market Regulation (SAMR) found that these products did not have Chinese labels, and after checking the website of the State Medical Products Administration, none of them were recorded. The AMR imposed an administrative penalty of confiscation of the aforesaid products and a fine on Company A.

As shown in this case, the SAMR believes that the cosmetics have not been filed and there is no Chinese label, which violates the relevant regulations and imposes penalties. The SAMR believes that cross-border e-commerce goods should be purchased in the name of consumers and only for their personal use, and that the situation of Company A placing cross-border e-commerce retail imported goods in the swimming pool operated by it for consumers' use is essentially for commercial purposes, which violates the prohibition of secondary sales, and can no longer apply the measures of document No. 486 on exemption from registration and without Chinese labels.

Additionally, the SAMR clarified, through its official website, that imported goods like infant milk powder sold via cross-border e-commerce platforms are restricted to personal use and cannot be resold. This directive aligns with Articles 124 and 125 of the Food Safety Law of the People's Republic of China, which govern the secondary sale of special foods, enforcing strict penalties for non-compliance. This enforcement action underscores the rigorous regulatory landscape governing cross-border e-commerce in China. Goods entering the market must adhere to local registration, labeling, and quality standards to ensure consumer safety and fair trade. While goods that fulfill these regulatory requirements generally face no issues, the SAMR and customs authorities remain vigilant, ready to investigate and address any discrepancies in trade declarations or regulatory compliance.

4 Legal Issues and Recommendations for Transaction Security

4.1 Analysis of Legal Issues

The Difficulty of International Legal Coordination.

Cross-border e-commerce has significant characteristics such as trade flattening, globalization of supply chains, and precision of big data. However, the positioning of cross-border e-commerce has not received sufficient awareness and attention, leading to insufficient policy. E-commerce inherently transcends geographical boundaries, involving multiple jurisdictions with their own set of regulations governing consumer protection, data privacy, and transaction security. This divergence creates a complex

legal landscape where businesses and consumers navigate a patchwork of regulations, often leading to confusion, compliance challenges, and increased vulnerability to fraud and disputes.

The primary issue lies in the stark differences in legal standards across countries. For instance, consumer protection laws vary greatly in terms of the rights to return goods, refund policies, and warranty obligations. Similarly, data protection laws, such as the EU's General Data Protection Regulation (GDPR) and the United States' sector-specific approach, offer different levels of consumer data privacy and security protections. This lack of uniformity poses significant challenges for e-commerce platforms operating internationally, requiring them to adapt their policies and practices to comply with the legal requirements of each jurisdiction they operate in.

Another aspect of the legal coordination challenge is determining the jurisdiction under which a transaction dispute falls. The cross-border nature of e-commerce often raises questions about which country's courts have the authority to hear a case, based on where the transaction occurred, where the consumer resides, or where the business is registered. This jurisdictional ambiguity can deter consumers from pursuing legal action due to the potential complexities and costs involved in litigating in a foreign jurisdiction.

Enforcing legal judgments across borders presents another set of challenges. Even if a consumer successfully obtains a judgment in their favor, the enforceability of that judgment in the merchant's country can be uncertain. Differences in enforcement mechanisms and the willingness of countries to recognize and act upon foreign judgments can impede the practical application of legal protections for consumers in cross-border transactions.

Regions like ASEAN, the Eastern African Community (EAC), and the Gulf Cooperation Council (GCC) exemplify these challenges on a regional scale, facing issues from infrastructure and cybercrime to the development and harmonization of network laws [8]. These examples highlight the global nature of the challenge and underscore the necessity for international cooperation, the harmonization of e-commerce regulations, and the establishment of efficient and fair dispute resolution mechanisms to protect consumers and ensure the seamless operation.

The Lack of Consumer Rights Protection

In cross-border e-commerce, consumers frequently encounter numerous challenges that compromise their shopping experience and undermine their rights. These issues range from insufficient information and supplier malpractices to irregular supply chains, unacknowledged complaints, inaccurate weight measures, inadequate after-sales service, the prevalence of counterfeit goods, delivery discrepancies, and complexities during various stages of the buying process. Adding to these challenges are the limitations of domestic consumer protection laws [9], such as the provision for seven-day no-questions-asked returns, which are often inapplicable or difficult to enforce in a cross-border context. This leads to significant hurdles in dispute resolution and transaction handling across international boundaries.

The protection of consumer rights in cross-border transactions should ideally mirror the level of service and safeguards available to consumers within their own countries

or regions. However, the reliance on judicial remedies for protecting consumer interests is fraught with challenges, especially given the high frequency of rights infringements, the vast scope of affected parties, the relatively small monetary value involved in individual cases, and the inherent vulnerabilities faced by consumers. The process of addressing cross-border consumer disputes is further complicated by lengthy and costly legal proceedings, which can deter consumers from pursuing their rights.

As cross-border e-commerce grows with the increasing reliance on the internet and more widespread use of mobile devices, many nations still do not have specific regulations to protect online consumers. While e-commerce offers numerous benefits such as a wider selection of products and enhanced shopping convenience, it also introduces various challenges including fraud, spam, and concerns over privacy, data security, and information security. Consumers encounter digital risks and costs related to hidden fees, delivery reliability, data usage, unclear terms and conditions, market structure, and service quality. Issues in consumer protection typically fall into categories concerning payment security and the delivery and quality of goods purchased online.

The landscape of cross-border e-commerce presents significant challenges due to varying legal standards across countries and insufficient mechanisms for resolving international disputes. Legislation should consider the vulnerabilities of consumers in the digital realm. Additionally, online consumption spans multiple legal disciplines including civil, criminal, and intellectual property law, alongside extensive regulatory oversight. When disputes arise, consumers benefit more from straightforward and effective solutions rather than traditional legal proceedings. Therefore, international laws need to enhance dispute resolution processes to better protect and uphold the rights and interests of global consumers.

4.2 Recommendations

Establishing International Coordination Mechanisms.

To fortify the legal protections within cross-border e-commerce, a concerted effort at both international and regional levels is crucial. Drawing from successful practices across various regions, it becomes clear that a strong political commitment is necessary to develop and enforce comprehensive legal frameworks. Establishing effective collaborations between regulatory bodies worldwide is essential for harmonizing laws related to e-commerce. An intergovernmental coordination committee could serve as a platform for these efforts, facilitating dialogue between public and private sectors to address the challenges of e-commerce and network law comprehensively. Capacity building initiatives, complemented by meetings focused on e-commerce and network law, are vital for raising political awareness about these issues. Such efforts aim to link cross-border e-commerce development with broader goals of sustainable development. Additionally, improving data collection on transboundary e-trade through formal statistical surveys can offer valuable insights into the sector's challenges and opportunities.

Legal frameworks should facilitate rather than hinder trade, promoting the principle of interoperability and good practices. Furthermore, there's a need for legal models or tools tailored to specific areas such as legal remedies, obligations of service providers, and taxation on online transactions. Research on the impact of cyber law on consumers

and practitioners, as well as the role of non-state actors in managing critical infrastructure, is also imperative. International organizations like UNCTAD can assist in developing national e-commerce strategies and addressing trade facilitation issues through programs like the Customs Data Automation System. These organizations play a pivotal role in building capacity, especially in developing countries, for the sustainable development of network law, providing long-term advisory services in drafting, adopting, and enacting network laws.

In 2010, the United Nations Commission on International Trade Law (UNCITRAL) established a special Working Group to create legal standards for resolving online disputes in cross-border transactions. This initiative aims to develop conduct rules akin to the United Nations Model Law on Electronic Commerce, demonstrating a significant step towards providing legal support for the security of cross-border e-commerce transactions. This collaborative, international approach is key to creating an enabling environment that supports the growth of e-commerce, ensuring that legal frameworks serve as aids rather than obstacles to cross-border trade [10].

Strengthening Consumer Education and Rights Protection.

Enhancing the protection of consumer rights in international e-commerce demands a comprehensive strategy that addresses both the legal frameworks and the capabilities of consumer protection agencies. Recommendations for improvement include boosting cooperation across agencies, providing training for institutions in both developed and developing nations, forming agreements among consumer protection organizations, establishing a national database of experts, and improving the exchange of information. Tools like the Global Privacy Enforcement Network, the International Competition Network, and the International Consumer Protection and Enforcement Network, along with educational initiatives and online complaint systems, can equip consumers with effective defensive measures.

The industry should also be prompted to adopt self-regulation, supported by stringent enforcement. Enhancements could include bolstering consumer protections through payment intermediaries such as credit card companies. Collaboration between governments and corporations is essential to ensure uniform protection across all payment methods. Increasing transparency around data breaches is crucial. Considering the current minimal risk for committing economic fraud, it is necessary to escalate penalties for such violations. Moreover, to better the environment for consumers who are adapting to changes, several factors need attention: securing payment methods, enhancing transparency in reporting fraud and identity theft, providing channels for accessible and efficient online dispute resolution, and ensuring consumer education and infrastructure impartiality.

Building consumer confidence online requires legal and technical solutions along with strengthened coordination among consumer protection organizations. A pivotal initial step is the enactment of consumer protection laws. Internationally, the United Nations is revising its consumer protection guidelines, with Member States discussing e-commerce based on the 1999 OECD Guidelines for the Protection of Consumers in Electronic Commerce, currently under revision. These updates will reflect the surge in mobile device connectivity (170 million devices with internet access), enhancing access

for all consumers, including children, to mobile and online payment tools, digital content, and participatory e-commerce opportunities. These guidelines advocate for transparency, fair marketing practices, and the clear disclosure of information, ensuring consumer protection is on par with traditional business practices.

Consumer protection issues are generally considered to be subject to domestic law and are not commonly regulated in international treaties. Consumer protection laws should be adopted oriented to prohibit fraud and deception that harm or potentially harm consumers engaged in online business activities. At the same time, domestic consumer protection bodies or relevant authorities cooperate on cross-border digital trade activities to enhance consumer welfare and public interest.

5 Conclusion

Cross-border e-commerce transactions have emerged as a fundamental component of international trade. While the cross-border e-commerce trade is flourishing, we cannot afford to overlook the imperative need to safeguard international consumers in these transactions, ensuring their transaction security, including payment authentication and authorization, quality assurance of purchased goods, and imposing penalties against cross-border e-commerce fraud.

In the comparative analysis of international consumer protection mechanisms, it is evident that the European Union, the United States, and China each have their unique regional laws and regulations governing consumer protection. However, there are also common characteristics aimed at safeguarding global consumers in cross-border e-commerce transactions. Despite gradual improvements to existing international and regional laws and regulations, there remains a lack of internationally unified treaty norms for cross-border e-commerce consumer protection, which would serve to protect the security-related rights and interests of international consumers. Consequently, challenges persist in terms of international legal coordination and the absence of legal provisions for safeguarding the rights and interests of international consumers in cross-border e-commerce transactions.

As the global cross-border e-commerce market thrives, the enhancement of consumer transaction security will progressively improve. The ongoing growth of cross-border e-commerce relies heavily on ensuring the security of international consumer transactions. By implementing an international coordination mechanism, we can bolster the legal framework to support the thriving of cross-border trade and enhance the protection of consumer transactions. Additionally, this mechanism will reinforce consumer rights and education, and provide more robust infrastructure and legal protections for consumers. By safeguarding transaction security, the cross-border e-commerce sector will continue to advance towards sustainable development and further contribute to global economic integration.

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