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Challenges and Solutions in Calculating Losses from Infringement of Trade Secrets in the Era of Artificial Intelligence

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Abstract. The disruptive development of artificial intelligence technology has profoundly altered the forms and structures of trade secrets and the methods of infringement, posing significant challenges to the core element of determining and sentencing for the crime of infringing on trade secrets, namely "calculation of losses." Traditional calculation models based on research and development costs and achievable benefits struggle to encompass new forms of damage, such as the loss of algorithmic iteration advantages, the disruption of data asset exclusivity, and the leakage of model weight parameter information. This paper, grounded in the normative framework of the Criminal Law Amendment and the 2025 Interpretative Provisions of the Supreme People's Court and the Supreme People's Procuratorate on the Application of Law in Handling Criminal Cases Involving Intellectual Property Rights , provides an in-depth analysis of the core contradictions and systemic roots of calculation of losses in the AI era. By comparing the legislative dynamics and judicial practices of jurisdictions such as the United States, the European Union, Japan, South Korea, and Singapore, and drawing on illustrative cases examined by China's judicial authorities between 2024 and 2026, it proposes the establishment of a diversified value assessment system tailored to AI scenarios, the clarification of statutory standards for new types of losses such as algorithmic iteration losses, the refinement of quantitative norms for "serious circumstances" of loss , and the exploration of collaborative mechanisms for calculation of losses in the context of cross-border data flows.

Keywords: Artificial intelligence, violation of trade secrets, calculation of losses, contribution rate of technology, algorithm trade secrets

1. Introduction

Artificial intelligence (AI) technologies are reshaping the global economic landscape in unprecedented depth and breadth. According to the World Intellectual Property Organization's (WIPO) "Global Innovation Index Report 2024," AI-related technologies have become the fastest-growing segment in the field of intellectual property. Meanwhile, a noteworthy judicial phenomenon has emerged in the realm of trade secret infringement: empirical research indicates that when defendants use AI systems rather than traditional methods to acquire trade secrets, fact finders are

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more likely to find infringement established, impose higher damages, and characterize the behavior as improper [1]. This "AI Penalty" reveals the judicial system's acute response to technological changes and underscores the urgent need to establish rules tailored to the era of AI-driven losses.

As the last line of defense for criminal law protection, the conviction and sentencing for the crime of infringing on trade secrets depend on the determination of "significant loss" or "serious circumstances." In the context of artificial intelligence, the calculation of losses has evolved from traditional "arithmetic problems" to complex "functional problems": the loss of algorithmic iteration advantages, the disruption of data asset exclusivity, and the leakage of model weight parameters – these new forms of damage are difficult to accommodate within traditional computational frameworks.

China has undergone a significant institutional update for the criminal protection of trade secrets by 2025. On April 24, 2025, the Supreme People's Court and the Supreme People's Procuratorate jointly issued the "Interpretation on Several Issues Concerning the Application of Law in Handling Criminal Cases Involving Intellectual Property Rights Infringement" (Interpretation [2025] No. 5, hereinafter referred to as the "2025 INTERPRETATION") [2]. This interpretation, effective as of April 26, 2025, provides systematic improvements to the protection of trade secrets, making groundbreaking provisions regarding the characterization of actions, the criteria for criminalization, the assessment of damages, and cross-border protection. This article uses the 2025 INTERPRETATION as the normative foundation and, in conjunction with typical cases reviewed by China's judicial authorities between 2024 and 2026, systematically explores the refined path for calculating damages in cases of trade secret infringement during the AI era [3].

2. The central contradiction in calculating damages for trade secret infringement in the age of AI

2.1. The impact of new forms of damage on traditional concepts of loss

2.1.1. The advantages of algorithmic iteration have been lost

Trade secrets in the field of artificial intelligence are highly abstract and dynamic, and the forms of harm they cause extend far beyond the realm of traditional tangible assets.

After a core algorithm is stolen, the rights holder not only loses existing code but also loses the strategic window of opportunity to maintain technological leadership through continuous iteration. The essence of the loss of algorithm iteration advantages is the loss of "time value" – in the rapidly evolving field of AI, the value difference between being ahead and being behind can often be on a scale of magnitude. Traditional calculation of losses models, which are based on static research and development costs or existing revenue, are inadequate to capture this dynamic time value.

2.1.2. Decline in the core value of data assets

High-quality training datasets possess a characteristic of "value depreciation upon use"; once they are illegally reproduced, their scarcity and exclusivity are permanently compromised.

In China's judicial practice, the valuation of data assets is becoming increasingly refined. The Supreme People's Court has clarified the criteria for determining the secrecy of technical information in the "Summary of Key Judgments of the Intellectual Property Court (2024)", emphasizing that the secrecy of an overall technical solution cannot be denied based on specific

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information that is publicly disclosed through different evidence. This rule is of great significance for evaluating the overall value of data collections.

2.1.3. Leakage of model weight parameters

The weight parameters of large language models are the core assets that have enabled substantial training costs to be amortized. Once these parameters are leaked, competitors can directly significantly shorten their own development cycles.

The Supreme People's Court noted in its ruling (2023) Supreme People's Court Intellectual Property Civil Final No. 1503 that artificial intelligence visual recognition technology relies not only on code but also heavily on data training and model optimization [4]. A large model that has not undergone corresponding data training cannot possess specific recognition capabilities. Reflecting the depletion of such core assets in calculation of losses has become a new challenge facing judicial practice.

2.2. The challenges of traditional calculation

2.2.1. The research and development cost method is inadequate for accounting for trial-and-error costs and the value of time

According to Article 18 of the 2025 Explanation, the calculation of damages for the crime of trade secret infringement varies depending on the nature of the act: for trade secrets obtained through improper means but not yet disclosed or used, the loss is determined based on a reasonable licensing fee; for those disclosed or used, the loss shall be calculated based on the right holder's lost profits; and where the trade secret is lost or disclosed to the public, its commercial value shall be taken into account, including factors such as R&D costs, implementation benefits and other relevant elements. However, the research and development cost method is difficult to fully account for the trial-and-error costs, computational power consumption, and time value inherent in the training of AI models.

In the case of Guo's infringement of trade secrets, the court determined the amount of damages by evaluating the "virtual licensing fee." The evaluation agency employed the cost method, basing its calculations on the development costs of the victim organization's self-developed modules, and only accounting for expenses directly related to research and development. Ultimately, it determined that the reasonable licensing fee for the two types of technical information involved in the case was 2,310,000 yuan. This ruling provides practical reference for the application of the cost method in the assessment of losses related to AI chip technology secrets.

2.2.2. The law governing infringement-related gains faces challenges related to the disentangling of technical contributions

The profit apportionment method faces challenges arising from the difficulty in distinguishing the technical contribution of each component.

In cases involving infringement of AI-related technologies, determining the contribution rate of AI modules to the overall profit has become a complex issue in loss calculation. Article 18 of the "2025 EXPLANATION" stipulates that when determining the amount of losses, consideration should be given to factors such as the actual contribution of trade secrets to products and the market, thereby providing a normative basis for the application of technical contribution rates. Some scholars have pointed out that in calculating "serious losses", it is necessary to consider factors such

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as the segmentation of confidential information, the technical contribution rate, and the modular separation [5].

2.2.3. The licensing fee method lacks reference due to technological exclusivity

The exclusivity of many AI core trade secrets and the lack of open market licensing transactions make it difficult to apply the method of licensing fees.

Article 18 of the "Interpretation of 2025" provides additional guidance on this matter: For trade secrets obtained by improper means but not yet disclosed or used, the amount of loss shall be determined based on a reasonable licensing fee. Relevant factors may include actual transaction cases of similar trade secrets in the industry and assessments by professional valuation institutions. It is worth noting that this interpretation explicitly states that even if the actual harm has not yet occurred due to illegal acquisition, it is still possible to criminalize and penalize such actions by assuming a "reasonable licensing fee." This reflects a stance of stringent enforcement.

2.3. The challenges of coordinating the calculation of losses resulting from cross-border AI infringement

2.3.1. Immediacy and concealment of cross-border infringement

The cross-border flow of AI technologies is characterized by instantaneity and concealment, with cloud collaboration and cross-border data access having become the norm.

Article 20 of the "Interpretation of 2025" provides special regulations for crimes related to cross-border trade secrets. It categorizes the acts of foreign entities in stealing, prying, procuring, and illegally providing trade secrets as serious offenses, consistent with Article 219(1) of the Criminal Law of the People's Republic of China.

2.3.2. Complexity of jurisdiction and damage conversion

The difficulties in calculating cross-border damages primarily lie in the areas of jurisdictional determination, evidence verification, and loss conversion.

Article 20 of the 2025 Explanation stipulates that for the theft of trade secrets outside China, the 300,000-yuan threshold specified in Article 18 shall be directly applied, without the need for additional proof of the foreign entity's specific intent. This simplifies the proof requirements in judicial practice. Relevant US court cases also indicate that compensation may be awarded for acts committed outside the US if at least one of the facilitating acts of infringement occurred within the US [6]. This rule is of significance for the calculation of cross-border infringement damages.

3. An in-depth analysis of the root causes of the difficulties in calculating damages for trade secret infringement in the era of artificial intelligence

3.1. At the level of value characteristics: high attenuation coexists with high derivativeness

AI trade secrets possess the dual characteristics of high attenuation and high derivativeness.

Their technological iteration proceeds rapidly, and their value depreciation cycle is significantly shorter than that of traditional technical secrets. Furthermore, the infringed technology may be repurposed by the infringer to develop entirely new application scenarios. There is debate both in theory and practice as to whether this derived value should be considered part of the rights holder's

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losses. Scholars have pointed out that valuing AI-driven platforms and generative AI models requires dynamic, iterative methods to track technological evolution and the uncertainty of legal frameworks [7].

3.2. At the level of the legal system: the tendency to materialize the concept of "loss" in criminal law

The definition of "loss" under the current criminal law system still carries a strong connotation of tangible property.

Although Article 219 of the Criminal Law and relevant judicial interpretations have introduced concepts such as licensing fees and R&D costs, these concepts are often applied flexibly in judicial practice in light of the specific circumstances. The Explanation of 2025 has systematically refined the rules for calculating loss amounts and clarified the criteria for determination in different situations. Notably, Article 18 of the Explanation uses the term "may" rather than "shall," which leaves room for discretion for judicial authorities, reflecting a balance between rigid rules and individual discretion. This legislative arrangement implies that when confronted with more complex judicial scenarios, law enforcement authorities may refer to the judicial spirit embodied in existing judicial interpretations and adopt alternative determination methods. This underscores the complexity and diversity of crimes involving the infringement of trade secrets [8].

3.3. At the level of judicial practice: structural deficiencies in expert evaluations

3.3.1. The technical requirements are high, and there is a scarcity of versatile professionals

The forensic examination of AI trade secrets faces challenges related to high technical barriers and a severe shortage of interdisciplinary talent.

In judicial practice, it is often difficult to accurately demonstrate the losses incurred by the rights holder. Empirical studies have shown that in intellectual property civil litigation, only 0.08% of plaintiffs have submitted evidence of losses arising from infringement, and 98% of plaintiffs have directly sought the application of statutory compensation. This data highlights the structural challenges faced by professional experts in calculating losses [5].

3.3.2. Value assessment is challenging due to a lack of dynamic models

Existing asset valuation standards lack dynamic valuation models tailored to large-scale AI models and core algorithm architectures.

Article 18 of the 2025 Explanation stipulates that the commercial value of a trade secret may be assessed by considering a combination of factors, including R&D costs, implementation benefits, potential benefits, and the duration of its competitive advantage. This provides a more scientific and flexible method for determining losses when precise verification is difficult. In judicial practice, the adoption of the virtual licensing fee approach has effectively addressed issues arising from the absence of actual licensing fees or uncertainties regarding the authenticity of such fees.

3.3.3. Evidence is difficult to secure, and electronic evidence is easily tampered with

AI-related infringement is often identified through code comparison and data flow analysis.

In relevant judicial practice, courts conduct a thorough review of the defendant's reverse engineering defense, pointing out that a valid reverse engineering must satisfy requirements such as

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the lawful origin of the product, the actor's lack of knowledge, and actual implementation [9].

4. The calculation system and shortcomings of damages for infringing on trade secrets in China

4.1. The legislative shift from "result-based crimes" to "circumstance-based crimes"

The Twelfth Amendment to the Criminal Law has revised the criminalization threshold from "causing heavy losses" to "serious circumstances".

This revision has substantially lowered the criminalization threshold and has also made loss calculation a core factor in determining serious circumstances. Article 18 and Article 19 of the "Interpretation of 2025" clearly define the specific criteria for "serious circumstances" in the context of violating trade secrets: the amount of losses or illegal gains shall be more than 300,000 yuan; where the offense is committed again within two years, the threshold shall be lowered to more than 100,000 yuan. The inclusion of illegal gains in the conviction criteria has changed the previous practice of relying solely on the right holder's losses for such determination.

4.2. The current path for calculating losses under judicial interpretations

The 2025 Explanation has introduced systematic improvements to the methods for calculating the amount of loss [2].

First, for actors who have obtained trade secrets by theft, bribery, fraud, coercion, electronic intrusion or other improper means (the acquisition type), the loss shall be determined based on a reasonable licensing fee for the use of the trade secret, without requiring that the infringer actually utilized it.

Second, for obtaining and then disclosing, using, or allowing others to use the information, the amount of loss can be determined based on the rights holder's loss of profits resulting from the infringement. When the amount of loss is lower than the reasonable licensing fee for the use of the trade secret, it shall be determined based on the reasonable licensing fee.

Third, for actors who breach their confidentiality obligations by disclosing, using or allowing others to use the trade secrets in their possession (breach type), the amount of damages shall be determined based on the right holder's lost profits arising from the infringement.

Fourth, where a trade secret is lost or disclosed to the public due to infringement, the amount of loss shall be determined based on its commercial value, taking into account factors such as R&D costs, the benefits of its implementation, potential competitive advantages, available advantages, and the duration of maintaining a competitive advantage.

Fifth, with regard to the determination of the amount of illicit gains, the value of assets or other pecuniary benefits obtained through the disclosure or authorization of others to use trade secrets can be directly considered as illicit gains. Profits derived from the use of trade secrets can also be deemed illicit gains, which are determined based on the sales volume of infringing products multiplied by a reasonable profit per infringing product.

Sixth, with regard to the determination of mitigation costs, the costs incurred by the rights holder to mitigate losses to business operations and business plans or to restore the security of computer information systems and other systems should be included in the amount of losses.

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4.3. Systemic flaws exposed by the AI era

4.3.1. There is a tension between the flexibility of the calculation sequence and the normative gaps in the rules

Article 18 of the "Interpretation of 2025" uses the term "may" rather than "shall" when defining the methods for determining the amount of losses, thereby leaving room for judicial discretion.

However, regulatory gaps still exist in scenarios where the infringer has not made any profits, the right holder's losses are difficult to prove, and there is no reference for licensing fees. Some scholars have pointed out that where the trade secret right holder and the infringer differ in terms of geographical location and market dominance, the method for calculating the amount of heavy loss shall be based on the licensing fee.

4.3.2. The data value coverage is incomplete, and the value-added aspects such as data cleaning and annotation are overlooked

There is an ongoing debate as to whether technical information includes unstructured core training data. In relevant cases, the Supreme People's Court has confirmed that industrial software and its corresponding core data may be regarded as a single protectable trade secret.

However, national-level regulations still need to be refined.

4.3.3. The criteria for determining guilt and imposing sentences need to be further refined

Evaluating seriousness solely based on monetary amounts may not fully capture the irreversible harm that AI-related infringement inflicts on the market competition order, data security and the innovation ecosystem, such as the loss of technological leadership.

The "Interpretation of 2025" has included "directly leading to the bankruptcy or collapse of the rights holder" as a sentencing aggravating circumstance, reflecting the importance placed on non-monetary factors.

4.3.4. The mechanism for calculating cross-border losses needs improvement

Although Article 20 of the 2025 Explanation regulates cross-border infringement, further clarification is still needed on issues such as jurisdictional determination where the infringement occurs outside China but the harm results within China, and where within the country, and where multiple jurisdictions are affected simultaneously.

Analysts have pointed out that the United States International Trade Commission (ITC) does not apply limitations on the statute of limitations, and its factual findings are binding on subsequent court proceedings in other jurisdictions [6]. This mechanism warrants attention.

5. A comparative analysis of Chinese and foreign rules for calculating losses related to trade secrets

5.1. The United States: strategic value assessment and allocation of burden of proof

The U.S. Defend Trade Secrets Act (DTSA) provides that damages for trade secret misappropriation may include actual losses, unjust enrichment and reasonable licensing fees, and that punitive damages may be awarded where the infringer acts with malicious intent [6].

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In 2026, U.S. appellate courts are expected to issue further guidance on trade secret damages. The United States International Trade Commission (ITC) has become an important jurisdiction for trade secret cases in recent years. Its advantages include the strong timeliness of injunctive relief, the inapplicability of the statute of limitations, and the binding effect of the ITC's factual findings on subsequent court proceedings in other jurisdictions.

In calculating damages, U.S. courts may adopt either the lost profits method or the unjust enrichment method, and will apply the calculation method that yields the highest compensation for the plaintiff. The unjust enrichment method focuses on the benefits obtained by the defendant as a result of the misappropriation – whether it be increased sales, enhanced market position, cost savings on research and development, or other advantages.

5.2. The European Union: pioneering exploration of data asset protection

The EU's Data Act will come into effect on January 11, 2024, with core provisions applying starting on September 12, 2025. It imposes data access design obligations on new products launched on or after September 12, 2026.

The act requires that the design and manufacture of IoT products and related services should enable users to access their generated data securely, conveniently, and free of charge. It also specifies the factors for evaluating data value, including data collection costs, processing value-added, scarcity, exclusivity, timeliness and value decay curves. Violations may result in fines of up to EUR 20 million or 4% of the infringer's global turnover [10].

5.3. Japan and South Korea: legislative exploration of technological contribution ratios

The revised Trade Secret Management Guidelines issued by the Japan Patent Office provide a framework for evaluating algorithms, training data and model parameters, and for the first time include algorithm iteration advantages in the value evaluation index system [9].

In March 2023, the Republic of Korea enacted the Amendment to the Anti-Unfair Competition and Trade Secret Protection Act. In August 2024, an implementing decree was revised to include new provisions: where it is difficult to distinguish the contribution of the infringing technology, the court may order the infringer to provide relevant financial data and appoint experts to assess the technical contribution. This shift in the burden of proof partially places it on the infringer, helping to address the difficulties faced by right holders in providing evidence.

5.4. Singapore and ASEAN: regional exploration of cross-border collaboration mechanisms

The "Intellectual Property (Amendment) Act" of Singapore includes new "Guidelines for Calculating Cross-Border Infringement Damages": When an infringement occurs outside Singapore but the resulting harm occurs within Singapore, the losses are calculated according to Singaporean law; the amount of the loss is converted into Singaporean currency using the exchange rate at the time of the infringement; in cases where harm occurs in multiple jurisdictions simultaneously, jurisdiction is determined based on the "location of the primary harm result."

Negotiations on the ASEAN Digital Economy Framework Agreement (DEFA) have made significant progress, with ASEAN member states reaching a substantive conclusion in October 2025. The negotiation completion rate has exceeded 70%, with the goal of concluding the negotiations by the first quarter of 2026 and formally signing the agreement in November 2026. The agreement aims to establish regional rules for digital trade, covering areas such as data flow,

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cybersecurity, electronic payments, paperless trade, and artificial intelligence and blockchain, and proposes the mutual recognition of judicial assessment conclusions among member states based on unified evaluation standards, thus laying the foundation for a cross-border loss calculation mechanism.

5.5. The latest exploration of China's judicial practice: the application of the rules governing the transfer of burden of proof

In January 2026, the Intellectual Property Tribunal of the Supreme People's Court issued Judgment No. (2023) Supreme People's Court Intellectual Property Civil Final No. 1503 (A Company v. B Company et al. – Case Concerning Infringement of Technological Secrets), which is the first case in China involving the infringement of AI algorithm technology secrets in the field of visual recognition [4].

The court ruled that in cases of infringement of AI technological secrets, the burden of proof on the rights holder can be moderately reduced, and they need only provide "initial evidence reasonably indicating that the trade secret has been infringed" to shift the burden of proof. Additionally, the court for the first time used the principles of training artificial intelligence models as the basis for determining technical facts, emphasizing that a large model that has not been trained with corresponding data cannot possess specific recognition capabilities.

In its ruling, the court systematically elaborated on the conditions under which the burden of proof shifts: the rights holder had provided initial evidence, including direct references to the rights holder's products on the infringer's official website, the high degree of similarity between the alleged infringing product and the rights holder's product in terms of functional performance and test results, the infringer's research and development cycle clearly deviating from normal research and development practices, and the fact that multiple defendants had access to the disputed technology while serving at their former employers. On this basis, the court further examined the infringer's defense that its technology originated from open-source code. Ultimately, it determined that the infringer had failed to provide a reasonable explanation for the lawful origin of the technology and the process of independent research and development, constituting joint infringement.

The key takeaway from this case is that the court, for the first time, used the principles of training an artificial intelligence model as an important basis for determining technical facts. It emphasized that artificial intelligence visual recognition technology relies not only on code but also heavily on data training and model optimization. Without sufficient data "feeding" and training processes, it is impossible to achieve a transformation from zero to a commercially viable product within a very short period of time. This judicial approach provides a clear and actionable framework for the adjudication of cases involving AI technology secrets.

6. The path to improvement of rules for calculating damages in cases of infringement of trade secrets in the age of AI

6.1. Establish clear legal criteria for identifying specific types of harm unique to AI

It is suggested that algorithm iteration advantage loss, data asset exclusivity loss, and model weight parameter leakage loss be incorporated into the legal definition of losses through judicial interpretation or guiding case examples [2].

The calculation method for algorithm iteration advantage loss can be based on the industry's average daily R&D investment multiplied by the lead time loss and then multiplied by the

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technology scarcity coefficient. The calculation method for data asset exclusivity loss can be based on the sum of collection costs and processing value-added multiplied by a decay rate adjustment and then multiplied by the scarcity coefficient. The calculation method for model weight parameter leakage loss can be based on the replacement cost multiplied by the technology scarcity coefficient [3].

6.2. Develop a system for evaluating the value of trade secrets in the context of artificial intelligence

A layered, multifaceted composite evaluation system should be established to assess the valuation of AI-driven platforms, taking into account both tangible and intangible factors, including underlying datasets, training algorithms, model architectures, and commercialization pathways.

The cost layer is applicable to technical secrets during the research and development phase or when they have not yet been commercialized. It employs the replacement cost method, taking into account opportunity costs and trial-and-error costs. Article 18 of the "2025 EXPLANATION" clearly states that the commercial value of trade secrets can be comprehensively evaluated based on factors such as research and development costs, providing a normative basis for the application of the cost method. In judicial practice, the calculation of virtual licensing fees can be based on objective evidence such as original documents and financial records to assess and determine the standard of the licensing fee.

The market layer is applicable to technologies that have been commercialized or have comparable transactions. It employs the revenue-sharing method or the market method, and draws upon techniques for dividing the contribution of technology to extract the contribution of AI modules to profits. Article 18 of the "Explanation for 2025" explicitly considers the actual contribution of trade secrets in products and markets, providing a normative basis for the application of technology contribution rates. When calculating "significant losses," factors such as segmentation, technology contribution rates, and module separation need to be taken into account.

The strategic level applies to core foundational technologies or technology secrets with potential for disruption. Dynamic evaluation methods such as physical option pricing models can be explored. For cases involving significant losses, it is recommended to employ at least two methods for cross-validation.

6.3. Refine the criteria for quantifying losses categorized as "serious"

The judicial interpretation clarifies that, even if the direct economic loss does not meet the criteria of being substantial, if the nature of the act is severe, it can still be deemed to be "particularly serious": causing the rights holder to lose its leading position in core technology; leading to the massive leakage of trade secrets containing extensive personal information; the infringer using the stolen trade secrets to enter key areas of national development; cross-border infringement severely undermining China's industrial international competitiveness.

The "2025 INTERPRETATION" has included "directly leading to the bankruptcy or collapse of the rights holder" as a sentencing aggravating circumstance, reflecting the importance placed on non-monetary circumstances. Additionally, consideration can be given to establishing a dynamic adjustment mechanism for calculation of losses benchmarks, with reference standards to be issued by the Supreme People's Court and the State Intellectual Property Administration at appropriate times.

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6.4. Establish a collaborative mechanism for calculating losses resulting from cross-border AI infringement

Domestically, it clarifies the conditions under which the principles of personal jurisdiction and effect apply, and stipulates that if an infringement occurs outside China but the location of the infringement results or the primary damage occurs within China's territory, Chinese law shall be applied to calculate the losses, and the amount of compensation and damages shall be converted into RMB using the exchange rate at the time of the infringement. Article 20 of the 2025 EXPLANATION has included acts of stealing commercial secrets abroad within the category of "serious circumstances," reflecting the level of regulation.

Externally, This paper will actively promote the mutual recognition mechanism for cross-border calculation of losses standards, incorporate provisions for calculating losses related to trade secrets into negotiations such as the RCEP, the China-Japan-ROK FTA, and other agreements. Drawing lessons from the ASEAN DEFA experience and exploring the use of the "principle of the primary damage location" to determine jurisdiction are recommended, standardize the conversion reference points, and investigate the mutual recognition of forensic expert conclusions based on unified assessment standards. By learning from the experience of the US ITC, A specialized mechanism can be established for addressing cross-border intellectual property infringement, enhancing the timeliness of injunction relief.

At the technical level, explore the applications of blockchain in cross-border infringement evidence collection and calculation of losses, enabling the solidification and archiving of electronic evidence and cross-border recognition.

7. Conclusion

In the era of artificial intelligence, the forms of trade secrets and the methods of realizing their value have undergone profound changes.

Based on the normative framework of China's Criminal Law and the 2025 INTERPRETATION [2], combined with typical cases from 2024 to 2026 – the case of Guo X infringing on trade secrets (virtual licensing fee of 2,310,000 yuan) [3], and the first case by the Supreme People's Court involving the infringement of trade secret rights related to an AI algorithm in the field of visual recognition (No. (2023) Supreme People's Court Intellectual Property Civil Final No. 1503) – the rules for calculating losses should be improved in the following areas:

First, establish clear criteria for identifying specific types of damages unique to AI, such as the advantages of algorithm iteration, the exclusivity of data assets, and the leakage of model weight parameters. Second, build a layered and multidimensional value assessment system that comprehensively considers factors like research and development costs, implementation benefits, duration of maintaining competitive advantages, and technical contribution rates. Third, refine the quantitative norms for "serious" damages, incorporating non-monetary damages such as "loss of technological leadership", while also reasonably defining the scope of recognition for mitigation costs. Fourth, establish a collaborative mechanism for calculating cross-border AI infringement damages and actively participate in the development of regional regulations. Fifth, judiciously apply the rules on shifting the burden of proof, drawing on the "prima facie evidence reasonably suggests + infringer's rebuttal" adjudication rule established by high court cases to alleviate the burden of proof for rights holders in cases involving AI technology secrets [4].

It is only in this way that robust legal safeguards can be provided for corporate innovation, thereby facilitating the development of new forms of productive capacity.

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