

A Comparative Study on the Laws Related to Technology Protection in Japan and Korea - Focusing on Recent Revision and Trend of the Korean Patent Act, Unfair Competition Prevention Act and, etc.*

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Recently, the risk of technology leakage has increased due to the developments of globalization, IT and networking, and open innovation.

Japan has been taking the following measures: reducing the risk of technology leakage in association with double transfers, etc. by adding the principle of employer ownership to the employee invention system through amendment of the Patent Act; organizing infringement types for technology leakage by amendment of the Unfair Competition Prevention Act; and reinforcing sentencing against technology leakage outside Japan; and other measures.

South Korea has the Invention Promotion Act, Industrial Technology Protection Act, Defense Industry Technology Protection Act, Small Business Technology Protection Act, and other laws related to technology leakage, in addition to the Patent Act and the Trade Secret Protection Act. These laws supplement each other; however, there are other issues, such as duplication of the scope of application.

Unlike Japan, Korea has complicated employee invention succession procedures. Korea also has risks related to the leakage of core personnel and technology since there are gaps in granting non-exclusive licenses between large companies and small and medium companies depending on the existence of succession provisions, insufficient employee incentives, etc.

Korea introduced an enhanced damage system where triple the amount of damages may be received from the Patent Act, Unfair Competition Prevention Act, and Industrial Technology Protection Act, as a countermeasure against technology seizure and leakage.

In this article, the legal system of technology protection, the employee invention system, and the enhanced damage system will be compared and analyzed, mainly between Japan and Korea, from the perspective of technology protection.

* This is a summary of the report published under the 2019 Collaborative Research Project on Harmonization of Industrial Property Right Systems under a commission from the Japan Patent Office.

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I. Introduction

II. Technology Protection Law System

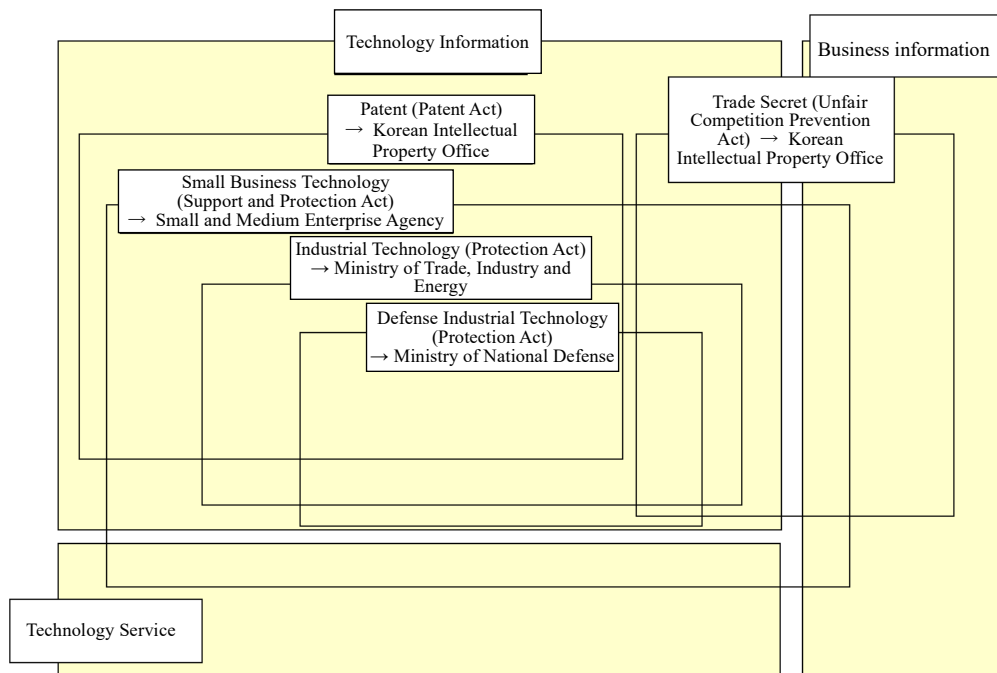
- 1. Current Status of Technology Leakage in Japan and Korea
- 2. Current Status of Technology Protection Laws in Japan and Korea

Unlike Japan, South Korea has taken measures against technology leakage through legislation of the Invention Promotion Act, Industrial Technology Protection Act, Defense Industry Technology Protection Act, Small Business Technology Protection Act, and other laws, in addition to the Patent Act and the Trade Secret Protection Act.

3. Issues

- (1) Necessity of Development of a Legal System in Association with Duplication between Laws

The types of actions under the Unfair Competition Prevention Act, Industrial Technology Protection Act, and Defense Industry Technology Protection Act are almost the same; however, only the punishment level differs between them. Therefore, it is necessary to compile action types and to organize them, such as by distinguishing sentencing alone, etc.



(2) Revitalization of Use of Prior User's Right under the Patent Act

In Korea, there are provisions for prior user's rights alone. Even in cases where these provisions are used and at explanatory meetings concerning measures for a company's trade secrets that are taken by public institutions, there are not many cases introducing the prior user's right and there are not many relevant court precedents. Therefore, recognition of the prior user's right system is insufficient. Consequently, Japanese theories and court precedents provide many suggestions, such as a proposal of relevant issues and a method to interpret them: (i) whether an invention under the same system is included in the prior user's right; (ii) whether business scope can be expanded; (iii) whether the implementation form can be changed, etc. Korea operates the Trade Secret Certification System and Technical Data Deposit System and it is considered that these systems should be linked with the prior user's right system.

(3) Judgment of Degree of "Secrecy Management" under the Amended Unfair Competition Prevention Act of 2019

It is necessary for Korea to refer to the interpretation methods of secrecy management under the Unfair Competition Prevention Act in the US and Japan by revising provisions related to the definition of secrecy management under the Korean Unfair Competition Prevention Act.

The United States takes the stance of making an optimal judgment in each case by comparing and weighing the benefits and costs of the requirement for secrecy management, and there are not many cases strictly requiring management of trade secrets.

According to the Japanese Trade Secrets Management Guidelines, the Case of Leakage of Customer Information of Benesse Holdings, etc., the possibility of objective recognition is an important element, and trade secret management measures are also important for judging the necessity of secrecy management; however, Japan's standpoint is that it is not appropriate to consider the possibility of objective recognition as an independent requirement.

Korea explains the criteria of appropriate effort and reasonable effort in the first judgment related to reasonable effort (judgment of the Uijeongbu District Court rendered on September 27, 2016 (2016 (No) 1670)); however, it still shows the limit where access restrictions and the possibility of objective recognition are considered to be concurrent elements. It is therefore necessary to understand the trade secret management measures as a means to ensure the possibility of recognition with a focus on the possibility of objective recognition, like Japanese Trade Secret Protection Guidelines and relevant court precedents. Based on these judgments, the secrecy in management can be interpreted flexibly to suit to companies' circumstances.

(4) Development of Provisions Related to Criminal Punishments

Unlike Japan, Korea has sentencing standards for trade secret and industrial technology infringements; however, since actual sentences diverge from the sentencing standards, they need to be organized.

Category	Statutory penalty	Reduction	Base	Aggravation
Leakage within the country	No more than 10 years	Up to 10 months	From 8 months to 2 years	From one year to 4 years
Leakage outside the country	No more than 15 years	From 10 months to one year and 6 months	From one year to 3 years and 6 months	From 2 years to 6 years

In addition, in consideration of the fact of the organizational technology leakage of companies and the fact that companies have production capabilities incomparable with individuals, it is essential to strengthen punishments for companies. In terms of the US Foreign and Economic Espionage Penalty Enhancement Act of 2012 and the Japanese Unfair Competition Prevention Act, provisions were introduced to impose increased punishments on corporations. However, the Korean Trade Secret Protection Act, etc. has no provisions to impose increased punishments on corporations as in Japan. It therefore is necessary to introduce these provisions.

III. Employee Invention System

1. Introduction

According to the statistics related to technology leakage, technology leakage by employees accounts for 80% or more. Technology leakage by employees has a relationship to some extent to the fact that the employee invention system has not been developed. In Korea, there is time lag between the effectuation by notification of succession of an employee invention and the completion of the invention, and there is a risk of a double transfer during the period of this time lag. In addition, there are issues of a gap in granting non-exclusive licenses depending on the existence of succession provisions between large companies and small and medium companies, etc. and therefore the employee invention system needs to be corrected.

2. Japan

Japan introduced the principle of employer ownership by the amendment of the Patent Act in 2015; it adopted the principle of private autonomy that values agreements between parties; and it is evaluated that the amended Japanese Patent Act reduced legal uncertainty. However, Japan still adopts the principle of inventor ownership if there are no provisions for employee invention in universities, small and medium companies, etc. There are issues related to double transfers related to employee inventions and ownership issues in joint research. If the right is acquired without paying compensation, there is the risk of potential lawsuits related to reasonable benefits.

According to a survey in 2017 by the Institute of Intellectual Property (IIP) (replies obtained from 843 out of 2,000 companies and from 1,958 out of 7,000 employees), 88.8% of employers are aware of amended matters related to the recognition of the new employee invention system and 75.4% of employers are aware of the Guidelines. Therefore, the employee invention system is considered to have been disseminated to employers to an extent. However, only 18.5% of employees replied that they knew of the new employee invention system and it seems to be necessary to disseminate the recognition of the employee invention system to employees.

In addition, concerning ownership of the right to the grant of a patent, in cases of companies, cases where the right fundamentally belongs to employers accounted for 46.2% and cases where the right fundamentally belongs to employees accounted for 49.9%; however, in cases of universities, cases where the right belongs to employees accounted for 83.2%, which was very high and the meaning of the grounds for continuation of the system where the right fundamentally belongs to employees was confirmed.

3. South Korea

(1) Amendment History of the Patent Act and Invention Promotion Act

(2) Issues

(i) Gap between large companies and small and medium companies

According to Article 10 of the Korean Invention Promotion Act, if there is no agreement related to reserved succession of the right to a patent although companies have made various types of contributions, such as providing salaries, research costs, devices, etc., even a non-exclusive license is not granted to large companies and medium companies. This measure is unlawful and relevant provisions must be amended.

(ii) Inclusion of Risk of Double Transfer

Before the amendment in 2006, if the invention is completed, it is possible to interpret that the right to a patent immediately belongs to the company pursuant to the provisions of succession (ownership subject to condition precedent). However, due to the amendment in 2006, the time of succession of an employee invention in Korea became the time when the employer notifies the employee of the intention of succession. There is then a time lag between the time when an employee invention is completed and the time of succession. Therefore, if the employee transfers the right to the grant of a patent to a third party after the employee completes the employee invention, it may cause a double transfer as well as civil and criminal issues, and the method of resolution becomes more complicated.

From the civil perspective, if a third party “proactively joins” in the double transfer, the employer may pursue the tort liability of the employee and the third party; however, the employer must prove the malpractice and complicity of the third party.

From the criminal perspective, if there are provisions for succession, it results in a professional breach of trust; however, in cases where there are no provisions for succession and an employee files a patent application for his/her employee invention under the name of the employee, not the employer, it corresponds to the employee executing his/her own right and it does not result in a professional breach of trust and application of the crime of trade secret leakage will be denied.

(iii) Issue of ownership of joint inventions

In cases where an employer (a company that participated in joint research) intends to succeed the right to receive a patent from an employee of the company, the consent of the employees of the other companies is required. If consent cannot be obtained, the employer cannot succeed the right and the employer only has a non-exclusive license.

(iv) Technology leakage by an employee leaving the company without telling of the completion of an employee invention

In cases of an employee invention, if the employee does not notify the fact of an invention, the employer cannot know that fact. If the employee resigns from the company without notifying the fact that he/she completed the invention and another company files a patent, there is a risk of technology leakage.

(3) Direction of Amendment

(i) Advantages of the principle of employer ownership from the perspective of the amended Japanese Patent Act

In cases of adopting the principle of employer ownership, it is possible to resolve the uncertain relationship of rights by arranging that the right to the grant of the patent, etc. is automatically succeeded to the company when the employee invention is completed in order to conform to the time of completion of the employee invention to the time of succession, and thereby the possibility of tort, such as double transfer using the unclear relationship of rights, can be prevented.

In cases of adopting the principle of employer ownership, when there are provisions of succession in advance, the employee has no right to the employee invention in question. Therefore, if the right is transferred to a third party, the transfer is invalid and it is possible to claim a transfer of the patent based on the misappropriated application.

In cases of adopting the principle of employer ownership, the right to the invention is succeeded by the employer at the same time as the invention. Therefore, in cases of a double transfer, this results in a leakage of the trade secrets of the employer. In addition, in cases of joint research, the share of the employee belongs to his/her employer and is shared by both employers. Therefore, complicated situations can be avoided, such as where the consent of the employees of another company must be obtained, etc.

(ii) Methods of the German Act on Employee Inventions (ArbnErfG) and the Amended Japanese Patent Act

According to the Amended German Act on Employee Inventions in 2009 (ArbnErfG), it is stipulated that if an employee disposes of the invention in question before the employer executes the right to claim transfer by the notification, the disposition is ineffective for the employer to the extent of infringement of the employer's right (Section 7 (2) of the ArbnErfG). The provisions of notification between employer and employee under the Korean Invention Promotion Act are similar to those of the German act before amendment in 2009. There is a bill to stipulate that disposition by the employee is ineffective until the employer notifies of succession, like in Germany. However, there are many problems with the fact that the period of notification of the intention is 4 months under the Korean Invention Promotion Act. Therefore, it is preferable to delete the period of notification of the intention.

Under the Amended Japanese Patent Act, additional succession procedures are not necessary

except provisions of succession and it is possible that issues of ownership of rights arising from double transfer, joint invention, etc., are naturally resolved.

4. Current Status of Employee Invention and Incentives

IV. Enhanced damage system

1. Outline

2. Current Status of Countries that Introduced the Enhanced Damage System

U.S.A.	The Patent Act in 1952 stipulates in Article 284 that the court has the discretion to increase the compensation for damages within the range of three times of the appropriate amount of lost profit or reasonable licensing fees.
China	The amended Trademark Law in April 2019 stipulated that if the degree of infringement of the trademark right is significant, compensation for damages can be increased up to five times the amount.
Taiwan	Under the Patent Act in 2013, if the patent infringement is intentional, the court may calculate compensation for damages more than the original amount in consideration of the infringement conditions at the request of the victim. However, the amount shall not exceed three times the amount of the damages.
Australia	In Article 122 (1A) of the Amended Patent Act in 2006, it is stipulated that additional damages may be added for intentional infringement.

3. Japan

Concerning Article 114 of the Copyright Act, it used to be considered to be one of the proposals to compensate three times the amount that could be received based on the estimated amount of damages in malicious cases with intention or gross negligence. The Report on the Review of the Judicial Relief System in January 2004 concluded that since the introduction of the punitive damage system is a big issue related not only to copyright infringement lawsuits, but also to the entire civil action system, the introduction was put off in consideration of the current status where the introduction is not discussed in other relevant laws and regulations, such as patent rights, trademark rights, etc.

Cons	<ul style="list-style-type: none"> - Today, where the Civil Code and the Penal Code are divided, the principle of fair appointment of loss, which is on the assumption that the objective of compensation for damages is to cover the damages, has been established. - Compensation for damages under Japanese law is compensation for lost profit, but is not for a restriction of actions. Therefore, punitive damage conflicts with the basic Japanese principle of compensation for damages based on tort (Case of Mansei Kogyo Kabushiki-Kaisha). - Introduction of punitive damages is compensation in excess of lost profit. Therefore, it does not conform to the industrial structure balance and hinders industrial development. - It is more necessary to build a conflict-settlement system that can appropriately evaluate the value of intellectual property rights, such as patent rights, etc., and that the industry can accept, rather than the introduction of a punitive damage system.
Pros	<ul style="list-style-type: none"> - In intellectual property right infringement cases, it is difficult to demonstrate the correct amount of damages that the right holder suffered and there are many cases where the right holder cannot be satisfied with the actual amount of damages. Approximately three times the amount of damages that is actually demonstrated is “fair.” - Korea and China introduced punitive damages, and compensation for damages in Japan is lower than in the United States, China, and Korea from the perspective of a foreign country. Therefore, advantages for foreign companies decrease.

4. Current Status of the Enhanced Damage System in Korea

(1) Current Status of Introduction

Fiscal year	Title of law (corresponding provisions)	Responsibilities	Intention, etc.	Action type
2011	Subcontracting Act (Article 35)	Original contractor	Intention / negligence	Unlawful decision of price Cancellation of outsourcing, unlawful return of goods Unlawful reduction of amount, retaliatory measures Use of technical materials without permission
2014	Act on the Protection of Fixed-term and Part-time Workers (Article 13)	Employer	Intention	Discriminatory treatment
2015	Use and Protection of Credit Information Act (Article 43)	Credit information company	Intention / gross negligence	Leakage, loss, theft, alteration, and damage of credit information

2015	Personal Information Protection Act (Article 39)	Persons handling personal information	Intention / gross negligence	Loss, theft, leakage, falsification, alteration, and damage of personal information
2016	Network Act (Article 32)	Information communication service providers	Intention / gross negligence	Same as above
2016	Fair Agency Transactions Act (Article 34)	Suppliers	Intention / negligence	Coerced purchase, coerced payoff
2017	Fair Transactions in Franchise Business Act (Article 37-2)	Franchise headquarters	Intention / negligence	Provision of false and exaggerated information Unlawful discontinuation of provisions of goods and services Retaliatory measures
2018	Product Liability Act (Article 3)	Manufacturers	Intention	Negligence despite knowing defects of products
2018	Fair Trade Act (Article 56)	Business operators Association of business operators	Intention / negligence	Prohibition of unlawful concerted actions Prohibition of retaliatory measures Restriction on unlawful competition
2018	Environment Protection Act (Article 19)	Business operators	Intention / gross negligence	Occurrence of environmental diseases due to adverse environmental factors
2019	Act on Livestock Farm Alliance Systems (Article 34-2)	Alliance system operators	Intention / negligence	In cases of causing damages to contract farms
2019	Act on Fair Transactions in Large Franchise and Retail Business (Article 35-2)	Large franchise and retail business	Intention / negligence	Prohibition of reduction of price of goods, prohibition of returning goods Use of employees of suppliers Retaliatory measures
2019	Act on the Promotion of Collaborative Cooperation between Large Enterprises and Small-Medium Enterprises (Article 40-2)	Outsourcing companies	Intention / negligence	Delivery charge of entrusted companies Detrimental treatment when filing an application for settlement
2019	Patent Act (Article 128)	Infringers	Intention	Infringement of patent rights and exclusive licenses
2019	Unfair Competition Prevention Act (Article 14-2)	Infringers	Intention	Infringement of trade secret
2019	Industrial Technology Protection Act (Article 22-2)	Infringers	Intention	Industrial technology infringement

(2) Background for Introduction of Enhanced Damage under the Patent Act, etc.

Korea introduced the enhanced damage system to the Patent Act, Unfair Competition Prevention Act, and Industrial Technology Protection Act in 2019. The median value of the

compensation for damages in patent infringement lawsuits is only one-ninth of that in the US. The percentage of cases where the amount of damages was calculated by the judge's discretion due to defective evidence reached 60%. In cases of infringement of trade secrets, since it was difficult to demonstrate whether the other party used the trade secrets or not due to characteristics of trade secrets, the lawsuits tended to be abandoned or lost. It caused problems in Korea, such as increased recognition that it is profitable to infringe intellectual property rights, and then the enhanced damage system was introduced.

(3) Major Details of the Amended Patent Act

The Patent Act finds infringement due to negligence in addition to intention and negligence is presumed. Therefore, there were not many concerns related to demonstration of intention in the case of compensation for damages. The judgment on the demonstration of intention becomes very important for enhanced damages and consideration of the following eight elements became essential.

Article 128 of the Patent Act (Compensation for damage) (8) Courts are authorized to determine damages of up to three times the amount of damages that are found pursuant to the provisions of paragraphs (2) through (7) regardless of the provisions of paragraph (1) in cases where the infringement of patent rights or exclusive licenses of others are found to be intentional acts.

(9) When judging the amount of damages pursuant to paragraph (8), the matters in the following items must be considered:

(i) whether the infringer has a dominant position;

(ii) the degree of intention or the degree that the infringer recognizes the concerns of the damages;

(iii) the significance of damages to the patent owner and exclusive licensee from the infringement;

(iv) the economic benefits to the infringer from the infringement;

(v) period and frequency of the infringement, etc.;

(vi) the amount of the fine for the infringement;

(vii) the infringer's financial status at the time of infringement; and

(viii) the degree of effort that the infringer made to relieve the damages.

5. Judgment Method of Enhanced Damages in the US

(1) Development of Major Court Precedents

In the case of *Seymour v. McCormick* in 1836, the US Supreme Court for the first time adopted the principle of law that the court may determine enhanced damages at its discretion based on intentional infringement.

In the case of *Underwater* in 1983, the court expressly stated that the infringer must undertake the proactive obligation that the infringer must obtain a lawyer's opinion in writing in order to avoid intentional infringement.

However, in the case of *Seagate* in 2007, the court abolished the standard of *Underwater* since the infringer is not obliged to obtain a lawyer's opinion and presented the two-part test as follows: the patent owner is required to present clear and convincing evidence of the objective recklessness of the infringer that (i) an infringer acted despite an objectively high likelihood that his/her actions constituted infringement of a valid patent; and (ii) the risk of infringement was either known or so obvious that it should have been known to the accused infringer.

In the case of *Halo* in 2016, the court abolished the two-part test based on the grounds that the two-part test is excessively strict and it may release the intentional and malicious infringer from the responsibility for enhanced damages. And the patent owner should demonstrate the subjective willfulness of the infringer with dominant evidence based on the criteria of intentional infringement.

(2) Judgment of Intention and Enhanced Damages

The US Federal Circuit listed nine elements that can be referred to as the criteria for intention based on circumstantial evidence in the judgment, *Read Corp. v. Portec, Inc.* 970 F.2d 816 (Fed. Cir. 1992). All the following elements need not be referred to and judgment as to whether it is an intentional infringement or not may be made partially by circumstantial evidence. In particular, after the judgment in *Halo*, *Read Factors* are still applied to the judgment on enhanced damages.

- (i) Whether the infringer was deliberately copying
- (ii) Whether the infringer had a good faith belief that the patent was invalid or not infringed
- (iii) The infringer's behavior during the litigation
- (iv) The infringer's size and financial condition
- (v) The closeness of the case
- (vi) The duration of defendant's misconduct
- (vii) Remedial action by the infringer
- (viii) Infringer's motivation for harm
- (ix) Whether the infringer attempted to conceal its misconduct

6. Issues of the Enhanced Damage System of the Korean Patent Act and Its Future Issues

Concerning issues related to whether gross negligence, etc. is included in addition to intention or how far intention is required, “gross negligence” was included in addition to intention in the draft of the amendment of the Patent Act; however, it was deleted when the amendment passed Congress in January 2018. It seems that a malicious level, which is a higher level than general intent, is required. In the future, in Korea, the number of claims for damages up to three times will increase more than general damages. It gives concerns about longer lawsuits and more social costs. Large companies may be able to prepare to an extent; however, in cases of small and medium companies, if they do not obtain a lawyer’s opinion in writing, the possibility to become an intentional infringer increases.

V. Conclusion