
| RESEARCH ARTICLE

Analysis of the Criminalization of the Production and Sale of Online Game Plug-ins and the Regulation of Users

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| ABSTRACT

With the advent of the Internet information age, the game industry is booming, and online game plug-ins have come into being as cheats. From the definition and classification of online game cheats, it is found that the crimes involved mainly include the crimes of destroying computer information systems, copyright infringement, illegal business operations, and illegal computer intrusion under the Criminal Code of China, as well as the Personal Information Protection Law and the Unfair Prevention Law touched by the Japanese Criminal Law. This paper analyzes the possibility of criminalization and punishment of online game plug-in producers and sellers from three aspects: the main body of the online game market, policy orientation, and legal improvement. Comparing the criminalization and punishment of Chinese and Korean network plug-in users, it is possible to refer to the legal measures in South Korea.

| KEYWORDS

Cybercrime, cheating, criminalization, and punishment

| ARTICLE INFORMATION

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1. Introduction

With the improvement of game literacy in society as a whole, the growth of gamers, the continuous help of emerging technologies, and the continuous deepening of cultural dissemination, the future of the online game industry will be full of hope. In recent years, plug-in behaviors have been repeatedly banned, and the black industry chain has continued. The reason is that the bigger and stronger of any industry is inseparable: demand. Most of the players who use plug-ins are based on the following reasons: have a strong desire to win and lose, self-esteem because of the desire to win, so unscrupulous means to use plug-in behavior to satisfy the pleasure; to satisfy their sick desire to control or vent their feelings, many players play stand-alone games to be happy in their hearts, and doing whatever they want in the game has little impact on others in reality; To reduce the difficulty of game operation, some games are difficult to play, and players can get a better experience through plug-in behavior, and individual anchor players can increase their popularity and gain traffic through plug-in behavior. In order to serve the demand of the online game plug-in market, the criminal gang has a clear division of labor, forming a black industry chain composed of the role of the plug-in author, the operator and the user of the "card issuing platform", and the technical means such as "network disk", "plug-in program" and "encryption verification program". After a large number of investigations and studies, it is analyzed and compared that there are three reasons for the survival of the proliferation of plug-in production and sales: first, the industrialization of plug-in development continues to lower the threshold of development; second, the mature domestic plug-in distribution system makes plug-in sales more convenient, and third, the lack of regulation of plug-in advertising behaviors and other behaviors, which promotes the docking of plug-in consumption and industry (The Paper, 2020). Comprehensively considering the demand and supply side of plug-in behavior, reducing and eliminating plug-in behavior needs to be regulated by both the producer, seller and user. However, most lawmakers and legal scholars have focused on the field of producers and sellers but have not curbed the demand for plug-

in users at the root. This article will focus on crimes, conviction analysis, and solutions from the perspective of criminalization and the punishment of plug-in producers and users.

2. A Brief Summary of the Crimes Involved in the Cheating Process

In this article, game plug-ins are defined as game modifiers that are programmed with specific functions using third-party software. It is mainly by tampering with the original normal settings and rules, greatly enhancing the skills of the game character, making the game character beyond the conventional ability, which is a cheating program, which is essentially to destroy the computer system. From the definition, game plug-ins can be divided into cheat software that modifies the game data itself and simulation software that automatically operates keyboard and mouse control. The former is divided into two situations; one is the online game plug-in; if the production of plug-in software to modify the operation data of the online game interferes with the server information system of the online game, it may violate the crime of destroying the computer information system under the Criminal Law. The other is a stand-alone game plug-in; if you make a stand-alone plug-in software, modify the core program files of the stand-alone game and reverse engineer, then you may violate the crime of copyright infringement under the Criminal Law. Generally speaking, computer data is generally recognized as a type of copyright. The latter, commonly known as a plug-in, is to operate one's own computer, which is generally not considered to violate laws and regulations but may violate the rules of the game and cause a civil breach of contract. If you use plug-in software to carry out paid "boosting" behavior, and the studio that implements the "boosting" behavior has not been legally registered and obtained a business license, it may violate the crime of illegal business operation under the Criminal Law in China's judicial practice.

It is worth noting that although the person who makes and sells the online game plug-in provides others with tools that can carry out the act of "deleting, modifying, or adding data and applications stored, processed, or transmitted in the computer information system", the specific sabotage is not carried out by the person who makes or sells the plug-in, and the manufacturer and seller only play the role of providing criminal tools, and the specific sabotage should be attributed to the user who uses the game plug-in. Only plug-ins and plug-ins are sold because this kind of software is generally closely related to copyright infringing software, so more scholars believe that the perpetrator will commit the crime of selling infringing copies under criminal law. In Japan, where personal privacy and game fairness are highly valued, cheating may lead to personal privacy and data leakage, violating the Personal Information Protection Act. In addition, cheating may also be regarded as an act of obtaining a competitive advantage through unfair means, which violates the Unfair Competition Prevention Act.

From the perspective of the degree and nature of the impact of cheating on the game, cheating can be divided into two types: benign cheating and malignant cheating.

- 1) Benign cheats. Benign cheats usually refer to cheats that have no more impact on the game than the game restricts players. Including but not limited to leveling plug-ins (just automating leveling operations), simulated mouse click-based plug-ins, and some game-assisted plug-ins (such as marking the refresh time of resources in the game, visualizing mana by bars, etc.), these plug-ins often do not cause economic losses to players or online game operators, and can save players' time, so they often do not involve illegal acts, which will not be repeated in this article.
- 2) Vicious cheating. Vicious cheats often refer to cheats that have an impact on the game that exceeds their limits, such as script hangings in League of Legends, perspective hangings in Counter-Strike 2, locks, etc., which not only have varying degrees of impact on the player community, resulting in economic losses suffered by game companies due to the loss of the number of game users but also seriously infringe on the copyright of game creators.

3. The Current Domestic Laws Regulate the Production and Sale of Plug-ins

By definition, a malicious plug-in is an unofficial program used to affect the balance of the game and destroy the rules of the game, and its technical means are mainly the following methods: modify the source code of a game program installed on the user's personal computer hard disk, modify the source code of the game program running in the memory of the user's personal computer, and forge the game client data and send it to the server. Both of the above-mentioned means require intrusion into and control of personal computer systems to achieve their goals, so they may constitute the crime of illegal intrusion into computer systems under paragraph 3 of Article 285 of the Criminal Law of the People's Republic of China (hereinafter referred to as the "Criminal Law") and the crime of destroying computer systems under Article 286.

As a further discussion, cheating, as a program, can be characterized as an "illegal publication". According to the notice of the General Administration of Press and Publication, the Ministry of Information Industry, the State Administration for Industry and Commerce, the National Copyright Administration, and the Office of the National Working Group for "Eliminating Pornography" and "Cracking Down on Illegal Publications" on Carrying out Special Governance of "Private Servers" and "Plug-ins" (hereinafter referred to as the "Notice") of the People's Republic of China, "private servers" and "plug-ins" refer to the unauthorized use of permission or authorization to undermine the technical protection measures of Internet game works that are legally published and

copyrighted by others, modify the data of the works, and set up servers without permission. Producing game recharge cards (point cards), operating or connecting Internet game works that are legally published and copyrighted by others so as to seek benefits and infringe on the interests of others (Yu, 2021). Illegal acts of "private servers" and "plug-ins" are illegal Internet publishing activities. From the above-mentioned "Notice", it can be seen that China is very clear in the characterization of cheating: plug-ins are illegal publications. At the same time, Article 11 of the Supreme People's Court's "Interpretation on Several Issues Concerning the Specific Application of Law in the Trial of Criminal Cases of Illegal Publications" stipulates: "Where the publication, printing, reproduction, or distribution of illegal publications other than those provided for in Articles 1 to 10 of this Interpretation that seriously endanger social order and disrupt market order in violation of state regulations, and the circumstances are serious, it shall be convicted and punished as the crime of illegal business operation in accordance with the provisions of Article 225 (3) of the Criminal Law." From this, it can be concluded that the act of making and selling plug-ins can also be convicted and punished for the crime of illegal business operation. Taking the Criminal Verdict No. 0 0225 of Qingpu District, Huai'an City, Jiangsu Province (2014) as an example, the defendant Chen Moujia used the VB language and "key elves" to develop and write a dungeon and warrior script plug-in and named it "Mia" and sold it for profit. The plug-in software was not approved by the competent department in the publishing procedure, which interfered with the normal operation of the DNF game program, undermined the rules of online games, infringed on the legitimate interests of copyright owners, and seriously affected the production and operation order of Shenzhen Tencent Computer System Co., Ltd. (Xiao, 2019), which was prohibited by the "Regulations on the Administration of Publications" and the "Interim Provisions on the Administration of Publication of the Internet of Things", and belonged to the "Interpretation of the Supreme People's Court on Several Issues Concerning the Specific Application of Law in the Trial of Criminal Cases of Illegal Publications" For illegal publications that seriously endanger social order and disrupt market order as stipulated in Article 11, the court ultimately finds that their conduct constitutes the crime of illegal business operation (People's Court Daily, 2012).

According to Article 217 of the Criminal Law, there are three conditions for the crime of copyright infringement to be constituted: (1) the purpose is to make a profit; Regarding the first two conditions, there is no problem in determining the cheating behavior. Plug-ins are aimed at online games, and online games belong to the category of computer software, so the objective acts that constitute the crime of copyright infringement can only be the first type, that is, "copying and distributing its written works, music, movies, television, video works, computer software and other works without the permission of the copyright owner". One of the most important is the understanding of reproduction distribution. Article 2, paragraph 1 of the Interpretation (II) of the Supreme People's Court and the Supreme People's Procuratorate on Several Issues Concerning the Specific Application of Law in Handling Criminal Cases of Infringement of Intellectual Property Rights (promulgated on April 5, 2007, hereinafter referred to as the "Intellectual Property Interpretation (II)") provides a principled interpretation of reproduction and distribution as "including the act of reproduction, distribution, or both reproduction and distribution". The perpetrator's placement of the created plug-in program on the network for others to download and use is a typical act of dissemination and promotion through information networks, which conforms to the meaning of distribution in China's relevant judicial interpretations, and there should be no doubt that it is found to be a distribution act in the crime of copyright infringement. However, whether the act of making a plug-in program can be recognized as an act of reproduction in the crime of copyright infringement requires further analysis (Yu, 2015). The author believes that the production of plug-ins is inseparable from the cracking of the game client and the acquisition of its database information, which leads to the production of plug-ins inseparable from the copying of the data code of the original game software. Plug-in software, whether it is copying the source data, source code, target data, or related documents of the original game software, is the copying behavior of computer software. Therefore, the act of making and selling plug-ins is an act of reproduction and distribution in the crime of copyright infringement. Where the perpetrator's conduct of manufacturing and selling plug-ins is for profit, and the amount of unlawful gains is relatively large, or there are other serious circumstances, it shall be punished as the crime of copyright infringement.

In addition, there are some plug-ins that cause the theft or increase of in-game items out of thin air by modifying game data and trading these items in some ways to seek benefits. Although such plug-ins are not directly sold to buyers, they are essentially a kind of sale of plug-ins, and the damage to the economic interests of game companies is more direct than the former because such plug-ins can often obtain some equipment in the game at a very low cost and sell them to players at a lower price than game companies, which often leads to an imbalance in the competition in the game market therefore, the author believes that this kind of behavior not only violates the crime of illegal business operation under Article 225 of the Criminal Law of the People's Republic of China but also violates the Anti-Unfair Competition Law of the People's Republic of China.

4. Analysis of the Possibility of Criminalization and Punishment of Plug-in Producers and Sellers and Plug-in Users

China's online game market has good potential, adding new impetus to China's digital economy. However, even in clear cyberspace, there will be black and gray - the breeding of plug-in industry chains. Next, the author will discuss the possibility of criminalization and punishment of plug-in producers and users from the perspective of the online game market, cyberspace governance policies, and domestic and foreign legislation.

4.1 Analysis of the Criminalization and Punishment of Plug-in Producers and Sellers

1) Online game companies, as market entities, have intensified their crackdowns. Many game companies have stepped up their crackdown on cheating producers and sellers and have taken legal action to hold them accountable. Take the Tianjin Binhai New Area People's Court as an example in the case of an unfair competition dispute between Shenzhen Tencent Computer System Co., Ltd., Tencent Digital (Tianjin) Co., Ltd. and Hong Xu (hereinafter referred to as the "Aircraft Group Case"). Tencent believed that Hong's conduct obstructed and undermined the normal operation of the game involved in the case, obtained a large amount of illegal gains, undermined the fair and just game order of the game involved in the case, harmed the economic interests of the plaintiffs, and harmed the legitimate rights and interests of other gamers, and caused damage to the goodwill of the two plaintiffs, constituting unfair competition, and sued him to the People's Law of Tianjin Binhai New Area, demanding that Hong bear the legal responsibility of stopping the acts of unfair competition, eliminating the impact, making a formal apology and compensating for losses. In the end, the court found that the use of plug-in programs in the game involved in the case to provide large-scale group and fight services violated the agreement between the plaintiff and the plaintiff, infringed on the legitimate rights and interests of the plaintiff and consumers as ordinary players, violated the principles of fairness, good faith and business ethics, and was a kind of cannibalistic and fattening free rider, which constituted unfair competition in accordance with the law (Intellectual Property Matters, 2020). At the same time, in order to protect their copyrights, major online game companies have also maintained their game systems through technological upgrades. For example, FairGuard is technology-driven, has developed a number of industry-exclusive technologies, and built a functional matrix for different scenarios and game types, which can cover the security issues of all game scenarios. Common functions include anti-plug-in function, anti-cracking function, active identification of malicious module mechanism, anti-injector function, anti-engine-level speed change, variable speed invalidation, resource encryption function, data verification function, and security environment detection.

2) The state encourages and regulates the development of online games through relevant policies. Today, uncertainties such as the pandemic are largely no longer an obstacle, and the overall climate tends to encourage positive growth in all walks of life – and the gaming industry is no exception. On November 27, 2023, the National Press and Publication Administration issued a notice announcing the implementation of the "Online Game Boutique Publishing Project". Previously, the more well-known support policies included the "China National Online Game Publishing Project" launched by the Copyright Administration in 2004 and the "Original Game Boutique Publishing Project" launched by the State Administration of Radio, Film and Television in 2016, which provided support for hundreds of domestic games. Such policies not only give China's game industry a breeding ground for a qualitative leap but also send an important message that the state encourages the development of China's game industry at the policy level. Judging from one of the key points emphasized in the 2023 "Online Game Boutique Publishing Project", games are required to "promote scientific and technological innovation and the application of new technologies", which will inevitably lead to the application of new computer systems and the emergence of many new legal issues in the field of intellectual property, which will stimulate the emergence of new legal interpretations.

3) The country's criminal law is gradually merging with the crime of cyber plug-ins. At the level of criminal law, judging from the current statistics of China's judgment documents on the keyword "plug-in" in the past five years, the crimes involved in the production and sale of plug-ins are at least the crimes of providing intrusion and illegal control of computer information system programs and tools (hereinafter referred to as the crime of providing invasion) (Liu, 2022), the crime of illegal business operation, the crime of illegally obtaining computer information system data, the crime of copyright infringement, the crime of destroying computer information systems, the crime of selling infringing copies, and the crime of fraud, etc., and there is no relatively consistent judicial characterization. At the level of civil law, among the 56 judgments retrieved by Wolters Kluwer with the keyword "game plug-in", the use of online game plug-ins can constitute liability for breach of contract and may also constitute tort liability, including intellectual property infringement and online liability infringement. Whether to apply for breach of contract, tort liability or unjust enrichment, it is necessary to clearly choose the right of claim in the civil lawsuit. At the level of administrative and economic law, in the Wolters Kluwer Advance Legal Database, 70 cases of administrative punishment were obtained, most of which were the production and sale of game plug-ins, and fines and warnings were imposed on violators. The online game plug-in industry is a complete chain of interests formed with the rapid development of online games in today's era, and it still needs to be regulated by a multi-pronged approach.

4.2 Analysis of the Possibility of Criminalization and Punishment of Plug-in Users

According to China's existing legislation, there is no criminalization and punishment for the use of plug-ins; however, users may use plug-ins to log in to other people's accounts and steal game currency, game equipment and other virtual assets on other people's accounts, (Lv, 2014). Article 4 of the Decision of the Standing Committee of the National People's Congress on Safeguarding Internet Security stipulates: "In order to protect the lawful rights and interests of individuals, legal persons and other organizations, any of the following acts, which constitute a crime, shall be investigated for criminal responsibility in accordance with the relevant provisions of the Criminal Law..... Use the Internet to commit theft, fraud, extortion. "Virtual property has its market value and can be exchanged for real property, and interpreting virtual property as property under criminal law will not

infringe on the predictive possibility of the people and does not violate the principle of legality (Zhang, 2015). Online accounts, game currency, game equipment, and so forth shall fall within the scope of virtual property, are property in the legal sense, and maybe the target of crimes against property. Therefore, if the use of plug-ins to steal virtual property meets the basic constitutive elements of the crime of traditional theft, and the amount is relatively large, it shall be punished as the crime of theft.

Compared with South Korea, China's law does not have a clear criminal definition of the boundaries between cheating and destroying computer software programs. It is common to regulate the criminal acts of plug-in as the crime of illegal intrusion into computer systems under Article 285 and the crime of sabotage of computer systems under Article 286 of the Criminal Law. If game manufacturers want to crack down on cheats at the legal level, most of the time, they will have the judicial authorities identify cheats as "illegal Internet publishing activities" and then investigate them as "illegal business operations". There are also some acts of creating and disseminating plug-ins that will be included in the crime of "sabotage of computer information systems". In recent years, in order to show the importance of protecting the game industry and intellectual property rights and to purify the environment for online games, South Korea has revised the "Information and Communication Network Utilization and Promotion of Information Protection and Other Related Act" twice (Zhong, 2018). However, while it is illegal to develop and distribute cheats in many countries, it is not illegal to use them. As a result, a South Korean lawmaker has proposed a brand new bill that would impose fines on clay users.

Jeon Jae-so, a lawmaker from the Democratic Party of Korea, recently proposed partial amendments to the law on the promotion of the game industry. The core content of the plan is to impose a fine of up to 200,000 won (equivalent to about 1,100 yuan) on game plug-in users, and the penalty for the production and distribution of plug-ins will be increased from the current fine of up to 1 year in prison or 10 million won (equivalent to about 55,000 yuan) to up to 5 years in prison or a fine of up to 50 million won (equivalent to about 275,000 yuan). With the rapid development of the Internet and the vigorous development of China's game industry, in order to avoid the proliferation of cheat-in behaviors that undermine the balance of the game operation environment and become unfair, the regulation of cheat-in behaviors in Japan and South Korea undoubtedly provides a good reference for China to improve the law in this field.

5. Suggestions for Legislative Regulations for Plug-in Users

The author believes that the use of plug-ins as a crime into the criminal law does not conform to the modest characteristics of the criminal law, and is easy to lead to a very high crime rate, which is not only not conducive to the normal operation of society and the maintenance of social order, but also weakens the authority of the criminal law, and is not conducive to the realization of the deterrent function of criminal punishment and the function of crime prevention; On December 22, 2023, the National Press and Publication Administration issued the Measures for the Administration of Online Games (Draft for Solicitation of Comments) (hereinafter referred to as the "Measures") to solicit public opinions, the legislative purpose of which is to "strengthen the management of online games, regulate the order of the online game industry, protect the legitimate rights and interests of users, protect the physical and mental health of minors, and promote the healthy and orderly development of the online game industry." The measures mainly set up a number of obligations and prohibitions for online game operators and, at the same time, clarify the responsibilities of the online game supervision and management departments, of which Article 45 (5) stipulates that the publication management department shall "lend, lease, buy, sell, apply, and use the "Online Publishing Service Permit", approval number, publication number, private server, plug-in, infringement and piracy and other behaviors that disrupt the order of the online game market", mentioning the management of plug-ins, but there are still no supplementary and detailed provisions on whether plug-in users need to be punished. The author believes that relevant provisions can be added to the Measures to increase restrictions on user behavior, and here are two suggestions:

- 1) Under Chapter 3 of the Measures, "Publishing and Operation of Online Games", it may be added: Online game operators shall explicitly prohibit users from using plug-ins and other means of unfair competition in their service rules, and once it is discovered that users have used plug-ins and other behaviors, they shall ban the account, require them to make corrections within a time limit, deduct the game currency and virtual property illegally obtained by them due to the use of plug-ins, and confiscate and impose fines on the profits from the use of plug-ins to carry out boosting behaviors for other users.
- 2) Under Chapter 5 of the Measures, "Supervision and Management", it may be added: Online game users have the right to complain and report to the online game operator if they discover that other users have illegally used plug-ins. Network service operators shall establish and complete mechanisms for complaints and reports, set up convenient portals for complaints and reports, publish the handling process and time limits for feedback, promptly accept and handle public complaints and reports, and give feedback on the results.

6. Conclusion

This paper discusses in detail the criminalization analysis of the production and sale of online game plug-ins based on the current law and proposes that in order to better regulate the order of the online game industry and promote the healthy development of

the online game industry, this paper proposes supplementary legislative suggestions for plug-in users, that is, to restrict and punish the use of game plug-ins in the Measures for the Administration of Online Games. It is worth mentioning that the legal regulation of the use of game plug-ins should be used as a bottom-line regulation and a last resort, and restricting the use of plug-ins requires gamers to establish a correct understanding of games, improve their own moral standards, and require online game operators to strengthen supervision and management, and communicate efforts to create a good fair competition environment for online games.

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