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The Impact of the Sino-US Intellectual Property Cases on the Evolution of Chinese Law and the Future Globalization Trend of Chinese Law from the Perspective of the WTO

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Abstract

This paper critically examines the trade relations between China and the United States, with a particular focus on the sensitive issue of intellectual property rights (IPR) trade frictions and disputes. It delves into the root causes of IPR conflicts between the two nations by analyzing IPR cases that have arisen since China acceded to the World Trade Organization. Notably, during the period from 2001 to 2016, the United States initiated a total of 243 “337 investigations” cases against China, which represents 77.66% of all such investigations targeting China. This study also considers the strategic implications of these cases and assesses the impact of the evolving IPR system in China. In 2008, China’s IPR policies were notably centered on enhancing protection, which is reflected in text mining results where the keyword “protection” emerged as one of the top eight high-frequency words, with occurrences ranging from 25 to 73. Furthermore, this analysis forecasts the future trends in China’s legal globalization, informed by the evolution of its intellectual property law.

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1 Introduction

The real sense of the development of Sino-US trade history of only forty years, in this short period of decades, China opened the door, into the international market and occupy a pivotal position [1]. The emergence of Sino-US intellectual property relations is a historical inevitability. The conditions for its emergence are the United States launching the internationalization of intellectual property protection offensive, China establishing the policy orientation of reform and opening up, and the establishment of Sino-US economic and trade relations [2]. In order to have a truly comprehensive, clear, and accurate understanding of the intellectual property disputes between the United States and China, it is necessary to have an in-depth knowledge of the intellectual property system of China and the United States [3-4], and fully understand the differences between the two countries' intellectual property systems, and the root causes of the differences. The intellectual property system in China is relatively late compared to the Western developed countries, which will inevitably result in China's intellectual property protection measures being relatively backward [5-6].

In the era of economic globalization, with the rapid development of multinational corporations and the advancement of transportation and communication technologies, exchanges among countries have become more and more common and convenient. The different comparative advantages of each country's economy have made the production and supply of goods and services more internationalized and globalized [7-8]. The resulting common needs have facilitated the exchange of ideas and the convergence of values, leading to a certain degree of harmonization of legal systems. In the process of the legal system's uniformity, in addition to the increase in consensus, some specific system designs specific provisions of the expression of this feature, are reflected. In particular, the establishment and operation of the World Trade Organization (WTO) have led to the unification of trade rules trade-related rules to the greatest extent possible [9-10].

Legal development strategy is the country to achieve the development goal of the rule of law, but from the actual situation of the country, the overall situation of the legal system construction planning and guidance [11]. The core content of the legal development strategy is the overall goal of the country's legal development over a longer period and the basic way to achieve the goal. This points out the direction for the development of all aspects of legal development. The ability to formulate a correct legal development strategy is the key to the success or failure of legal construction [12-13].

Literature [14] points out that intellectual property rights protection in China has received considerable attention, especially after China's "Belt and Road" initiative, intellectual property rights have received more attention. The Chinese government has invested a lot in the countries along the "Belt and Road", and many of these countries are developing countries. The Chinese government has invested heavily in the countries along the Belt and Road, many of which are developing countries with high investment risks. Literature [15] suggests that IPRs are designed to foster innovation and to protect original companies and their culture or services. However, in reality, IPRs are difficult for many scientists. Literature [16] mentions that achieving the goal of decent work faces serious challenges under different transnational pressures, and in solving this problem, international labor law plays an important role because it is the core of transnational labor law and can reorganize the transnational legal structure. Literature [17] points out that intellectual property rights can facilitate dissemination through trade transaction activities, and each country's intellectual property rights have some degree of influence on its imports. Literature [18] states that with the development of new technologies such as the Internet of Things (IoT), there is hope for further development of agriculture. Food security is a major strategic issue and intellectual property rights relate to food security. Literature [19] emphasizes the importance of intellectual property

rights, stating that intellectual property rights have an important role in promoting the production of renewable energy and that the protective role of intellectual property rights promotes the application of renewable energy technologies and the production of renewable energy.

This paper starts from the perspective of WTO, puts forward the problem of intellectual property rights under the trade friction between China and the United States, and summarizes the reasons for the problem between China and the United States into four aspects: the different pace of legislation between the two countries, the differences in law enforcement, the differences in the level of innovation and cultural awareness, and the imbalance between the two sides of the trade. Against the background of asymmetry in trade relations between China and the United States, the “337 investigation” case is analyzed in detail. From the judgment of China, the real purpose of the “337 investigation” case is interpreted. By examining the keywords of the 2009-2016 National Intellectual Property Strategy Implementation and Promotion Plan, it summarizes the impact of China-US IPR cases on the evolution of China’s IPR laws and predicts the globalization trend of China’s laws in the future based on the evolution of China’s laws.

2 Study on the Impact of Intellectual Property Cases between China and the United States from the Perspective of the WTO

2.1 Intellectual Property Rights Issues under China-US Trade Friction

Internationally, in today’s technological era, trade between countries has become closer and closer. Intellectual property rights account for a large part of the trade process, and the relationship between them is as close as bone and flesh. This inextricable relationship has also made it possible for it to take its place in the system of the World Trade Organization (WTO). Since then, an agreement of great significance for international intellectual property rights and economic and trade relations of the world’s countries, namely the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), was signed. The signing of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) is of great significance to the international intellectual property rights of the participating countries. The signing of the Agreement will unify the intellectual property rights legislation of the signing countries to a standard so as to make the intellectual property rights system of the countries reach a consensus on the standard of protection, and the standard is the minimum standard that the countries should implement. The countries can further strengthen the legislation on the standard, which shows the significance of the Agreement. The signing of this agreement has had a profound impact on the intellectual property system around the world and the development of intellectual property laws in each country. As the world enters the era of economic globalization and information globalization, contact and exchange between countries are becoming more and more convenient, and trade exchanges are also becoming more and more close. As science and technology advance, all countries are transitioning from an industrial economy to a knowledge-based economy, and the intellectual property system is also evolving. With the innovation of science and technology, all countries are transforming from an industrial economy to a knowledge economy, and the intellectual property system is an indispensable and important part of the knowledge economy[20]. All countries have made great progress in the aspects of legislation, law enforcement, and judiciary of intellectual property rights, thanks to the fact that intellectual property rights all over the world provide the impetus for the progress of each country and promote the development of the economy.

2.2 Causes of Intellectual Property Trade Friction between China and the U.S.

The different legal systems of China and the United States created the difference between the two countries' intellectual property protection systems. The basic national conditions of the two countries are different, and the development of intellectual property-related laws is different in the implementation of the road is bound to collision and friction. The United States has been dissatisfied with China's rapid rise and the development of science and technology, particularly, the United States for long time to China's exports there is a huge trade deficit, so the United States and China's intellectual property rights in the occurrence of trade friction Are caused by the two countries legal, economic and other aspects of the reasons together.

2.2.1 Different paces of legislation in the two countries

The primary cause of intellectual property friction between the two countries is the differences in legislation. The United States intellectual property legislation has a history of more than 200 years, the earliest in the United States Constitution in 1789 mentioned the concept of intellectual property protection. Subsequently, the first copyright law, patent law, and trademark law were enacted. After many revisions and improvements, the legislation on intellectual property rights has become more and more complete. The scope of protection has become more and more extensive, and the term of protection is also more permanent. In the long process of development, the United States practiced the combination of theory and practice. It constantly improved the legal system of intellectual property protection. In most countries, compared to the United States of America, the intellectual property protection system is relatively rigorous, forming a more perfect system than other countries.

In contrast to China's intellectual property rights legal norms, China basically did not have the concept of intellectual property rights protection before the reform and opening up, and even more so, there is no sense of intellectual property rights protection. Intellectual property rights were not protected in China prior to reform and opening up. This system was in a state of absence until 1978 after the introduction of intellectual property rights to the process of socialist legal construction, and now only has a history of more than 40 years, compared to the United States is nearly 200 years later, the gap between the two countries of the pace of legislation is large enough. China's protection of the scope of the system is to be further expanded, the protection system is to be further perfected, and awareness of the right to protection is to be further improved. In short, China should actively study and find out the problems of its legal system and other aspects and constantly narrow the gap between the two countries.

2.2.2 Differences in enforcement efforts between the two countries

Since China's legislation on intellectual property started relatively late, in order to catch up with the level of intellectual property protection in developed countries, China established the relevant legal system for intellectual property in accordance with the requirements of TRIPS within a relatively short period. Due to the social conditions at that time, it did not form a systematic environment for intellectual property protection. The whole social environment for the protection of intellectual property rights was not strong awareness, only in the form of legislation, which led to an increase in the difficulty of law enforcement.

2.2.3 Differences in the level of innovation and cultural awareness between the two countries

The U.S. has invested heavily in research and testing, which has widened the gap between its innovation level and that of China, resulting in a lack of consistency between China and the U.S. in the development of new technology industries. The U.S., which has a strong capacity for innovation, also has a high level of intellectual property protection, which is precisely why it has strengthened its intellectual property protection in order to prevent the other side or third parties from infringing on its rights and interests. On the one hand, it can escort U.S. intellectual property products into foreign markets. On the other hand, it can restrict the enterprises or products that may cause potential damage to their intellectual property industry from entering the U.S. market. In addition to the differences between China and the U.S. in terms of the level of innovation, differences in cultural awareness are also a major factor in the occurrence of trade friction. The U.S. has always been practicing individual interests, advocating freedom, especially focusing on the individual's innovative achievements, so that U.S. citizens, for their rights and interests, especially the protection of intellectual property rights, can realize the value of the individual's particularly important, coupled with their continuous improvement of legal regulations for the protection of intellectual property rights to provide a perfect system of protection and good social conditions, personal awareness and national awareness of the positive role in defense of foreign enterprises to the U.S. intellectual property rights to cause the impact of the attack, but also actively attack those countries that are weaker in the protection of intellectual property rights. Confucianism has long influenced China "and", focusing on overall peace and collective growth but ignoring individual innovation and development. Innovation ability is lacking, which is also caused by the weak awareness of Chinese citizens of intellectual property protection is an important reason.

2.2.4 Increase in bilateral trade imbalances

The United States is the world's largest developed country; its foreign trade exchanges are frequent, and China is the largest developing country. Trade exchanges between the two countries are also very close, only increasing. Bilateral trade volume rises year by year. China's export market is increasingly concentrated in the United States as a huge economy, but also become its second-largest trading partner. Still, soon, there will be a huge surplus, it is due to the centralization of China's export markets is the the trigger for the trade friction between China and the U.S. on intellectual property rights.

2.3 Asymmetry of Intellectual Property Rights in the Perspective of Sino-US Trade Relations

From the perspective of China's trade relations, intellectual property rights have evolved from a private right at the time of its birth to an expanding state power, and intellectual property rights have become one of the powerful weapons in the geopolitical process of US-China great power competition with China, and various political tools derived from intellectual property rights are also an important form of the game in the fields of politics, science and technology, and economy and trade between China and the US.

In the asymmetric interdependence of weaponization, the dominant country can use the round prison effect to gain knowledge and information advantages in its position in the global network system and, at the same time, play the bottleneck effect to eliminate competitors from the worldwide information flow network, Figure 1 shows the asymmetric nature of interdependence of weaponization. The above asymmetric nature of interdependence of weaponization refers to the fact that state power is a power that can connect the geographic characteristics and structure of the

economic network with state authority. Weaponized interdependence is possible with the asymmetric network structure, and some states in the network can use interdependence to coerce other states. New types of weapons based on the asymmetric advantages of intellectual property rights may replace costly forms of warfare as one of the dominant strategies in the arrangement of U.S.-China relations in the future. At present, the American political science community has used asymmetric interdependence. Currently, U.S. political science studies asymmetric interdependence as a source of state power, examines the many ways in which it can be manipulated, and summarizes the core of these approaches as “the ability to dominate interdependence” and “the ability to defend against interdependence strikes”.

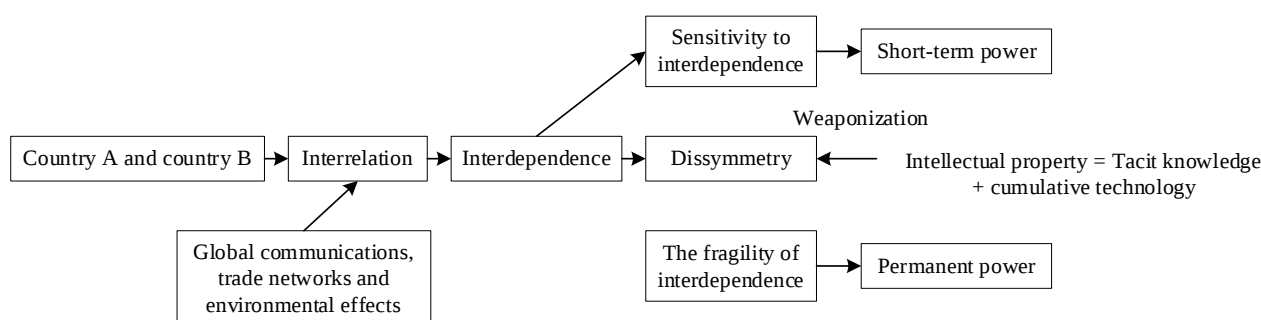


Figure 1. Asymmetric interdependence

2.4 Analysis of Intellectual Property Cases in China and the United States

2.4.1 Number of “337 investigations” initiated by the U.S.

Figure 2 shows the number of “337 investigations” initiated by the U.S. from 1986 to 2016. Since China acceded to the World Trade Organization (WTO) in 2001, the USITC has significantly increased the intensity of “337 investigations” against Chinese enterprises. China has been the largest target and victim country of U.S. intellectual property investigations for 15 consecutive years. China has been the most targeted and victimized country in U.S. intellectual property investigations for 15 straight years. From 2001 to 2016, a total of 243 “337 investigations” were initiated against China, accounting for 77.66% of the total number of investigations against China, which shows that “337 investigations” are frequently initiated. The number of “337 investigations” increased significantly in 2008 when the U.S. was affected by the financial crisis. The number of “337 investigations” increased significantly. The recurrence and spread of the European debt crisis in 2012 seriously affected the economy of the eurozone. Also, they caused a greater impact on other economies: weak domestic consumption, investment, import and export, the severe employment situation, and the beginning of the rise of inflation shows that the U.S. economy is still in the process of slow recovery. The United States, the European Union, Japan, and other major developed countries have adopted a more relaxed monetary policy. The United States election years (2008, 2012, 2016, etc.) will have more “337 investigations”, which is due to the election year congressional candidates can accept PAC contributions, thus exerting pressure on the USITC, and therefore believe that the infringement rate will be higher in these years. China’s level of IPR protection has been on a gradual upward trend. Still, the number of “337 investigations” has not declined as a result, so it can be seen that “337 investigations” are not closely related to the level of IPR protection in the world. This can be seen in “337 investigations” is not closely related to the level of security of intellectual property rights of countries around the world, but with the U.S. economic boom or not to maintain a highly correlated relationship, which has to make people doubt the fairness and justice of the U.S. “337 investigations” to the many Chinese enterprises have caused serious impacts, “337 investigations” to “337 investigations” to the Chinese enterprises. The

“337 investigation” has had a serious effect on many Chinese enterprises, and the “337 investigation gradually developed into an unreasonable intellectual property rights barrier in the United States.

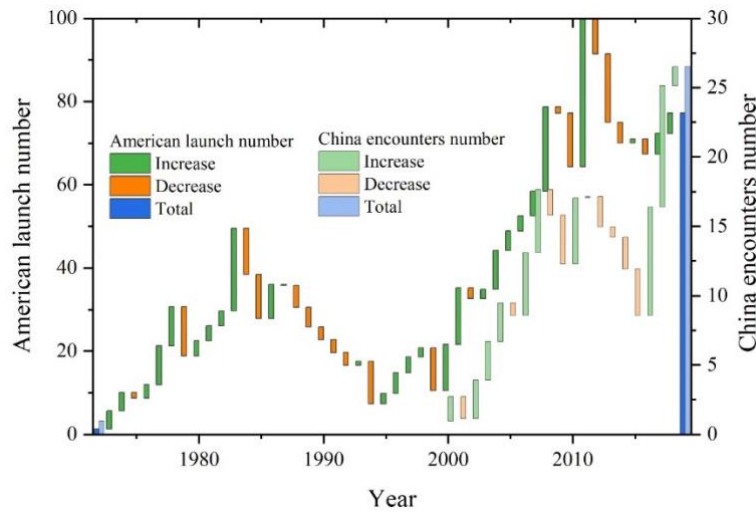


Figure 2. The number of U.S. launches in the United States from 1986 to 2016

2.4.2 Analysis of Sentences Imposed on China

Not only the number of “337 investigations” initiated, but its judgment results also show unfairness, Table 1 for the 2009-2015 world and China judgment summary. As can be seen from the table, due to the availability of data, this paper selects the data from 2009-2015. The average success rate of Chinese enterprises (withdrawn plus not found to be infringing) is 21.08%, which is lower than the world’s average success rate of 27.22%. Among all the cases of “337 investigations” in the world, there are about 95.36% of the cases in the period. During this period, about 95.36% of all “337 investigation” cases in the world were settled, no infringement was found, the plaintiff withdrew the case, failed to respond to the lawsuit, the consent order, and others, and only 4.64% of the cases were found to be established infringement. This is exactly the reason why so many companies have launched the “337 investigations.”, obviously the prosecution of intellectual property infringement is false, and through the application to initiate “337 investigations,” will be competitors into the quagmire of litigation, so the U.S. importers do not dare to import the disputed Manufacturers of products, to achieve the effect of trade containment, or so that the party being sued to pay a high “settlement fee” to achieve the effect of “knocking on the door” is the real purpose of the complaint enterprise.

Table 1. The world of 2015 and the summary of China’s judgment in 2015

Verdict	World quantity/times	World Specific Gravity / %	China/time s	China Specific gravity/%
Withdraw	79	15.93%	17	11.56%
Reconciliation	198	39.92%	37	25.17%
Undiscovered Infringement	56	11.29%	14	9.52%
Unused	44	8.87%	33	22.45%
Consent Order	67	13.51%	28	19.05%
Discovery Infringement	23	4.64%	13	8.84%
Other	29	5.85%	5	3.40%

3 Impact of China-United States intellectual property cases on the evolution of China's intellectual property system

3.1 Evolution of China's Intellectual Property System

Contemporary conceptual definitions and legal practices of intellectual property rights mainly originate from the historical tradition of intellectual property rights in Western countries. The international definition of intellectual property rights is based on the enumeration of objects for protection. At the same time, the World Intellectual Property Organization (WIPO) divides intellectual property rights into the categories of copyrights and industrial property rights, of which copyrights refer to the rights that authors are entitled to according to the law in respect of the works created by them, including personal rights and property rights. Industrial property rights are more abundant, including patent rights, trademark rights, anti-unfair competition rights, and so on. From the current legislative situation in China, intellectual property law is a legal concept, not a specific enactment of the law.

3.2 Strategic Considerations and Policy Practices of China's IPR Legal System

3.2.1 Strategic Considerations for the Intellectual Property System

The intellectual property system and technological innovation under its protection have increasingly become decisive factors in the competition for comprehensive national power, and intellectual property rights have become the focal point of scientific and technological competition among large countries. China's emphasis on intellectual property rights stems from its active demand for deeper and broader integration into global scientific and technological as well as economic and trade exchanges, as well as the reciprocal requirements of Europe and the United States and the promotion of global risks after it enters into the global trading system.

From the level of strategic considerations, the intellectual property system becomes the guidance and regulation of a country's government on the creation, attribution, utilization, and management of private knowledge resources in the name of the state through the configuration of the system and the arrangement of policies, usually manifested in a series of decrees, ordinances, rules, regulations, plans, plans, measures, projects, etc.[21] Whether or not a country protects intellectual property rights, which knowledge is granted to private property rights, what level of protection of intellectual property rights is based on the reality of a country's intellectual property rights, and what level of protection of intellectual property rights is based on its intellectual property rights. Whether a country protects IPRs, what knowledge it grants private property rights to, and what level of IPR protection it adopts are domestic policy arrangements independently implemented by the country in accordance with its actual development situation and future development needs. Whatever one calls it, it is best viewed as a means of global governance, whereby economic privileges are granted to individuals or institutions to enable a country to realize its public interests on a worldwide scale, and where such privileges are a means to an end, not an end in themselves." Thus, IPRs have evolved from being the private right of the individual to being a matter of national strategy for all countries.

3.2.2 Analysis of the implementation of the legal regime for intellectual property rights

- 1) Results of intellectual property strategy implementation and promotion

In this paper, the text mining of the national intellectual property strategy implementation and promotion plan from 2009 to 2016 is carried out first. The relationship between the promotion plan each year and its distribution in the network is visualized in the form of a keyword network diagram and correspondence analysis so as to reveal the trend of intellectual property macro-strategy at the national level. The word frequency analysis can determine several textual features of the intellectual property strategy implementation and promotion plan each year [22]. Table 2 shows the most frequently used words related to intellectual property.

Table 2. The emergence of high-frequency words of intellectual property

Intellectual Property	A	Continue	V
In Charge Of	B	Special Purpose	W
Work	C	Country	X
Strengthen	D	Law Enforcement	Y
Enterprise	E	Service	Z
Protect	F	Develop	AA
Intellectual Property Bureau	G	Push	AB
Carry Out	H	Resources	AC
Trademark	I	Informationization	AD
Implement	J	Management	GL
Perfect	K	Copyright Office	BQJ
Patent	L	Defense	GF
Construction	M	Industry And Commerce Administration	GS
Strategy	N	Enactment	ZD
Mechanism	O	Set-Up	JL
Industry	P	Study	YJ
Propulsion	Q	Information	XX
Training	R	Trespass	QQ
International	S	Emphasis	ZD
Copyright	T	Guide	ZDD
Organization	U	/	/

After using Python software to automatically separate words and filter irrelevant words in the above policy text, the top 50 high-frequency words and their word frequency statistics of the 2009-2016 National Intellectual Property Strategy Implementation and Promotion Plan were determined according to the frequency of the words in descending order. Table 3 exhibits the 50 most frequently used words in the 2009-2016 National Intellectual Property Strategy Implementation and Promotion Plan. Many of the high-frequency words in the general text, such as protection, patent, and intellectual property office, have a large change in the ordering of the eight advancement plans from 2009-2016. Following the formulation of the National Intellectual Property Strategy in 2008, China has focused its IPR policy on IPR protection, which is reflected in the fact that “protection” consistently ranked among the top 8 high-frequency words in 2009-2014, with a frequency ranging from 25 to 73. As the strength and scope of intellectual property protection continue to expand, the goal of intellectual property protection has been reduced relative to the previous.

In contrast, the goal related to innovation has been strengthened, which is reflected in the increase of “patent” as a high-frequency word, jumping from No. 12 in 2009 to No. 2 in 2015, and the comparison of the two years, the ranking of “patent” has increased. The word frequency of “patent” has increased by 10 times in two years. It can be seen that the central government attaches importance to the quality of patents and their industrialization in the hope of achieving

improvements in innovation capacity and growth of the industrial economy. In addition, the ranking change of the high-frequency word “intellectual property office” is also very obvious, and it became the keyword with the highest frequency in the 2016 promotion plan, with a word frequency of 54 times. This is mainly due to the fact that in 2016, the Leading Group of the Party Central Committee for Comprehensively Deepening Reform adopted the Overall Pilot Program for Comprehensive Management Reform of Intellectual Property Rights, which clarified that the main body for formulating intellectual property policies is the Intellectual Property Office.

Table 3. The first 50 high-frequency words in the 2016 national intellectual property strategy

No.	High Frequency Word : Frequency		High Frequency Word : Frequency		High Frequency Word : Frequency		High Frequency Word : Frequency	
	2009		2010		2011		2012	
1	A	283	A	312	A	267	A	169
2	B	244	C	96	C	95	G	39
3	C	113	F	64	F	73	K	26
4	D	79	D	63	N	54	L	26
5	E	54	G	53	D	50	Z	26
6	F	53	J	51	J	46	J	25
7	G	49	H	50	H	45	C	25
8	H	46	N	50	Q	44	H	24
9	I	41	M	46	M	38	D	24
10	J	41	L	44	T	37	AA	23
11	K	40	E	42	U	37	E	22
12	L	39	Q	41	V	36	Q	19
13	M	37	I	40	L	35	AB	19
14	N	36	K	35	W	35	W	18
15	O	35	R	32	X	34	AC	17
...	...	...	...	...	...	...	...	...
50	P	19	S	16		18	AD	7
No.	High Frequency Word : Frequency		High Frequency Word : Frequency		High Frequency Word : Frequency		High Frequency Word : Frequency	
	2013		2014		2015		2016	
1	A	179	A	197	A	136	A	153
2	C	58	C	46	L	49	G	54
3	D	45	L	35	H	32	D	38
4	H	43	J	34	M	24	L	34
5	L	41	K	34	E	23	M	32
6	GL	38	D	33	D	22	BQ	26
7	J	35	F	33	X	20	ZD	25
8	F	26	O	32	J	20	GS	25
9	ZD	25	AB	29	JL	18	YJ	24
10	K	23	N	27	XX	17	AB	23
11	N	22	GL	26	O	16	F	23
12	Q	22	JL	26	Z	15	GF	22
13	ZD	21	M	25	QQ	15	J	18
14	E	21	YJ	22	K	14	K	17
15	ZDD	20	ZD	22	F	13	GL	16
...	...	...	...	...	...	...	...	...
50	FL	7	XZ	4	ZH	7	QG	4

2) Correspondence analysis

By analyzing the interaction summary table composed of qualitative variables, correlation analysis can reveal the differences between individual categories of the same variable and the correspondence between individual categories of different variables. In this paper, 8 texts of the 2009-2016 National Intellectual Property Strategy Implementation and Promotion Plan are combined. The top 50 keywords in terms of frequency are selected, and the frequency of the 50 keywords in different plans is calculated. Then we take “keywords” as a column variable, “promotion plan” as a row variable, and “frequency” variable as a weighted variable, and input the code into SPSS20 statistical analysis software to get the scatter plot corresponding to the analysis results, as shown in the following figure. The scatter plot of the analyzed results is shown in Figure 3. According to the spatial location of the scatter points in Figure 3, it can be seen that the eight promotion plans were distributed in four quadrants, and the 41 keywords appeared in different degrees of clustering, concentrating in the range of dimension 1 (-0.57,0.89) and dimension 2 (-0.83,0.75). Among them: The advancement plans of 2009 and 2010 are in Quadrant 4, focusing on keywords such as Industry, Law Enforcement, and Work. The advancement plans of 2011 are separately distributed in Quadrant 3 concentrating on IP-intensive areas such as Mechanism, Management, and Trespass. The advancement plans for 2012 and 2016 are both distributed in Quadrant I, with adjacent keywords focusing on Develop Informationization, showing joint policy enactment by multiple departments. The three advancement plans for 2013-2015 are distributed immediately adjacent to each other in Quadrant II, with adjacent keywords including Industry And Commerce Administration and Intellectual Property Bureau, reflecting the pressure of market-oriented reforms faced by IP-related enterprises during this period, which required the state to revise the original laws and regulations and issue detailed policy documents.

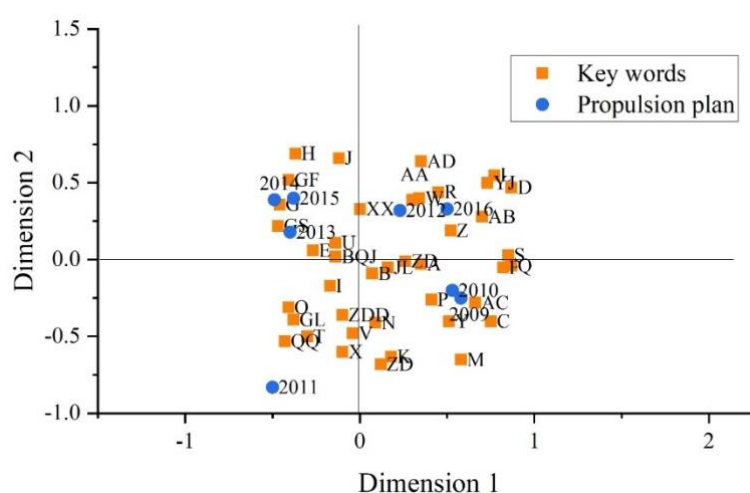


Figure 3. The corresponding analysis results of the propulsion plan

As intellectual property rights are becoming a key area of competition among countries around the world, China has been vigorously promoting the institutional construction and industrial development of intellectual property rights since the promulgation and implementation of the Outline of the National Intellectual Property Strategy in 2008 and has issued annual plans for the promotion of intellectual property rights strategy in a timely manner. The above analysis of national IPR policy documents reflects the evolution of China’s macro-strategy of IPR, i.e., The focus of China’s IPR policy has gradually shifted from a single protection function to an in-depth integration of patenting and industrial economy. In the early days, China’s main goal was to become a major intellectual property country, so the high-frequency words of the policy were mostly related to the establishment of intellectual property laws and regulations and the cultivation of enterprises with

superior intellectual property rights, for example, to increase law enforcement and carry out special actions for protection, and to promote the construction and implementation of the mechanism through special management and strengthened training on the management side, as a result of which, the number of intellectual property rights has increased dramatically. At the Fifth Plenary Session of the 18th CPC Central Committee in 2015, China established the Five Development Concepts. In the context of innovation and development leading the development of the country as a whole, the road towards a strong intellectual property rights country has become a key objective of China's new development stage. In order to effectively incentivize innovation, increase the rate of transformation of achievements, and enhance the value of intellectual property rights, China has begun to supplement and improve its policies on the creation and application of intellectual property rights. Relevant high-frequency words have appeared for the first time, such as the State Administration for Industry and Commerce (SAIC), the Copyright Administration (CAC), the Intellectual Property Office (IPO), and other departments to provide safeguards for the creation of intellectual property rights by expanding the scope of protection and guarding against the risks of intellectual property rights and promote the layout of intellectual property rights by constructing operation platforms and increasing Intellectual property utilization. Under the guidance of the overall national deployment, China's IPR is transitioning from a quantitative phase to a qualitative and efficient phase, thus providing strong support for economic restructuring.

4 Future trends in the globalization of Chinese law

The slogan of economic globalization is to break down trade barriers between countries and achieve free interaction in the world. Globalization is seen as "freedom of trade and investment" and "greater economic openness", in which freedom and democracy are pushed to unprecedented heights. As international trade continues to expand in the Chinese market, the values associated with business transactions are becoming more familiar to the general public.

4.1 Changing landscape of policy law performance

In terms of the macro style of legal culture, the expression of our policy law will gradually become controlled by law. Policies are political decisions made by political parties in their political activities to achieve certain goals, but they are not stable or universally binding. With the gradual deepening of people's demand for order and stability, policy can no longer meet the needs of society. With the strategy of reform and opening up and economic development, China has gradually embarked on a development path that relies heavily on law.

4.2 Independence of the Judiciary

The unity of the judiciary and the executive in ancient China was highlighted by the integration of the judiciary and the executive, i.e., The administrativeization of the judiciary. The judiciary was often subject to the government for various reasons, making it only independent on paper. Without an independent judiciary as an effective tool for restraining rights, public power will be able to arbitrarily extend to all aspects of society, and the society ruled by man will likely reoccupy the dominant position in the legal culture. At this point, the legal system will evolve in reverse.

4.3 Progressive improvement of the legal system

To establish an independent judiciary, protect people's private rights, control public rights, and establish a State based on the rule of law, a well-developed legal system is necessary. A state based on the rule of law requires the law to be the supreme controller of society, and as such, the law must

have well-developed social norms. The law is needed to be stable and predictable, but it is also required to be capable of coping with ever-changing social changes. The law must be geographically universal but also take full account of local autonomy in order to promote local initiatives, and so on. In reality, China's legal system has many flaws and requires gradual improvement. A perfect legal system is the only one capable of adapting to the demands of a modernized legal culture and eventually integrating into it.

5 Conclusion

From the perspective of the WTO, this paper studies the intellectual property cases occurring under the trade friction between China and the United States, puts forward the problems between the two countries, and summarizes the reasons for the issues. Through empirical research on intellectual property cases in China and the United States, I will present a case analysis on the impact of China's intellectual property system's evolution. According to the U.S.-China trade friction in the "337 investigations" case analysis, since China's accession to the WTO in the past 15 years, the United States launched a total of 243 investigations, accounting for 77.66% of the total number of investigation cases. China was subject to the judgment. About 95.36% of the results of the processing were not established. The United States is really aimed at achieving the effect of trade containment. However, the case has a certain degree of influence on the evolution of China's intellectual property system. China will be the center of intellectual property policy on the protection of intellectual property rights, 2009-2014, and the "protection" keyword frequency ranked in the top 8, a frequency of between 25~73. Through the method of correspondence analysis, it can be seen that the 8 promotion plans in 2009-2016 are distributed in 4 quadrants and 41 keywords are concentrated in the range of dimension 1 (-0.57, 0.89) and dimension 2 (-0.83, 0.75). Based on China's recent IPR strategy, future trends in the globalization of Chinese law are predicted.

References

- [1] Suh, J. K. (2019). U.s.-china trade conflict and the changing multilateral trading system: korea's perspective. *Asian Economic Papers*, 18(3), 142-160.
- [2] Helfer, L. R. (2017). Human rights and intellectual property: conflict or co-existence?. *Netherlands Quarterly of Human Rights*.
- [3] Brem, A., Nylund, P. A., & Hitchen, E. (2017). Open innovation and intellectual property rights: how do smes benefit from patents, industrial designs, trademarks and copyrights?. *Management Decision*, 55(6).
- [4] Chen, Y., Bharadwaj, A., & Goh, K. Y. (2017). An empirical analysis of intellectual property rights sharing in software development outsourcing. *MIS Quarterly*, 41(1), 131-161.
- [5] Huang, G. L., Geng, X., & Wang, H. (2017). Institutional regime shift in intellectual property rights and innovation strategies of firms in china. *Organization science*, 28(2), 355-377.
- [6] Sell, S. K. (2020). *Intellectual property rights in china*. by zhenqing zhang. philadelphia: university of pennsylvania press, 2019. 312p. \$69.95 cloth. *Perspectives on Politics*, 18(3), 972-973.
- [7] Lentner, G. M. (2024). How to safeguard social objectives of intellectual property rights in the context of investment arbitration. *Journal of International Economic Law*.
- [8] Ranjan, P. (2022). Trade-related aspects of intellectual property rights waiver at the world trade organization: a bit of a challenge. *Journal of world trade*(3), 56.
- [9] Wyzycka, N., & Hasmath, R. (2017). The impact of the european union's policy towards china's intellectual property regime. *International Political Science Review*, 0192512116641320.

- [10] Te-Cheng, L. U., Jin-Li, H. U., & Lin, Y. S. (2020). Coordination of trade and intellectual property rights policies. *The Singapore Economic Review*.
- [11] Jiang, L. (2021). Teaching reform and development strategy of law major education. *International Journal of Electrical Engineering Education*, 002072092110042.
- [12] Hughes, C. (2019). Action between the legal and the illegal: a-legality as a political–legal strategy:. SAGE PublicationsSage UK: London, England(4).
- [13] Park, S. K. (2021). Legal strategy disrupted: managing climate change and regulatory transformation. *American Business Law Journal*, 58(4), 711-749.
- [14] Fang, H., Peng, B., Wang, X., & Fang, S. (2019). The effect of intellectual property rights protection in host economies on the sustainable development of china’s outward foreign direct investment—evidence from a cross-country sample. *Sustainability*, 11.
- [15] Poticha, D., & Duncan, M. W. (2019). Intellectual property—the foundation of innovation: a scientist’s guide to intellectual property. *Journal of Mass Spectrometry*, 54(3), ii-ii.
- [16] Blackett, A. (2020). Introduction: transnational futures of international labour law. *International Labour Review*.
- [17] Zhou, M., Sheldon, I., & Eum, J. (2018). The role of intellectual property rights in seed technology transfer through trade: evidence from u.s. field crop seed exports. *Agricultural Economics*.
- [18] Zhang, Z., & Ge, Z. (2022). Protection and restriction of grain-related intellectual property rights in the context of food security based on industrial internet of things. *Mobile Information Systems*.
- [19] Tee, W. S., Chin, L., & Abdul-Rahim, A. S. (2021). Determinants of renewable energy production: do intellectual property rights matter?. *Energies*, 14.
- [20] Hamza Alkofahi,Heba Alawneh & Anthony Skjellum.(2024).MitM attacks on intellectual property and integrity of additive manufacturing systems: A security analysis.*Computers Security*103810-.
- [21] Dennie Oude nijhuis.(2024).Long-Term Strategic Thinking, Cost Considerations, and the Partisan Politics of Ghent.*Comparative Political Studies*(6),938-964.
- [22] Bryant A Chambers,Danilo Basili,Laura Word,Nancy Baker,Alistair Middleton,Richard S Judson & Imran Shah.(2024).Searching for LINCSto Stress: Using Text Mining to Automate Reference Chemical Curation.*Chemical research in toxicology*.