

Research on the Determination of Evaluation Indicators in the Performance Evaluation of China's IPR Protection

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Abstract: The exact evaluation of the performance of IPR judicial or administrative protection in China is normally done through constructing a IPR protection performance evaluation indicator system which consists of target-layer indicators, task-layer indicators and element-layer indicators. In this article, how to determine the indicators in each layer and their weights in the evaluation of performance of IPR protection is expounded in detail.

Keywords: Performance evaluation; Target-layer indicators; Task-layer indicators element-layer indicators; Weights

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1. Introduction

While determining the performance of IPR judicial or administrative protection, we need construct an IPR protection performance evaluation indicator system which consists of target-layer indicators, task-layer indicators and element-layer indicators [1]. The scientific and effective determination of the indicators and their weight in each layer is the key for us to objectively evaluate the performance of IPR judicial or administrative protection in China [2] and it also plays a very important guiding role in the process of obtaining the final IPR protection evaluation results.

2. Section One to Design the Indicators at Different Layers

2.1 To Determine the Target-layer Indicators

According to the structure of performance evaluation indicator system, when designing the indicators, the first-step work that we shall do is to determine the target-layer indicators. As discussed earlier in this article, target-layer indicators are located at the top of the whole performance indicator system and determine the logical relationship of the whole indicator system. Selecting the appropriate target-layer indicators is the base for ensuring that performance evaluation indicator system is more rational and evaluation perspective is more focused [3]. The decomposition of the target-layer indicators must be closely around the performance objectives, that is, target-layer indicators represent the factors which are needed to support and achieve performance objectives. The consideration of whether an objective can be achieved can usually be analyzed from two perspectives, one is the ability to achieve objectives, another is the situation in which how some necessary and essential work must be done to achieve the objectives. The ability to achieve objectives is the foundation or environmental factor that ensures the achievement of objectives; while the work needed to be done in achieving the objectives refers to specific

measures which are used to support the achievement of objectives.

Meanwhile, by observing the working principle of "designing two sets of indicators according to a unified framework", and highlighting the comparison of performance results of IP administrative and judicial protection, we think that the logic structure of IP administrative protection performance evaluation indicator system is the same as that of IP judicial protection performance evaluation indicator system. Thus, in accordance with the performance objectives of IP administrative protection-to "enhance the ability of administrative organs to manage and protect intellectual property and significantly improve China's current IP protection situations", and the performance objectives of IP judicial protection-to "make judicial protection become the main channel in China's IP protection and largely reduce right holders' cast of protecting their IP", we decompose the target-layer indicators into "protection ability" and "protection situation". The unified structure of indicators of administrative and judicial protection indicator system is shown in the following diagram (Figure 1).

The indicator of "protection ability" aims to evaluate the ability of the administrative or judicial organs to carry out the activities of IP protection so as to obtain the objective evaluation results concerning the basic conditions or environment in which administrative or judicial organs carry out their activities of IP protection. The indicator of "protection ability" is the essential factor to verify effectiveness of IP protection of administrative and judicial organs. The indicator of "protection situation" aims to evaluate the specific acts or measures of the administrative or judicial organs to carry out the activities of IP protection so as to analyze specific achievements achieved by administrative or judicial organs when carrying out their activities of IP protection. The indicator of "protection situation" is the most intuitive reflection to verify effectiveness of IP protection of administrative and judicial organs.

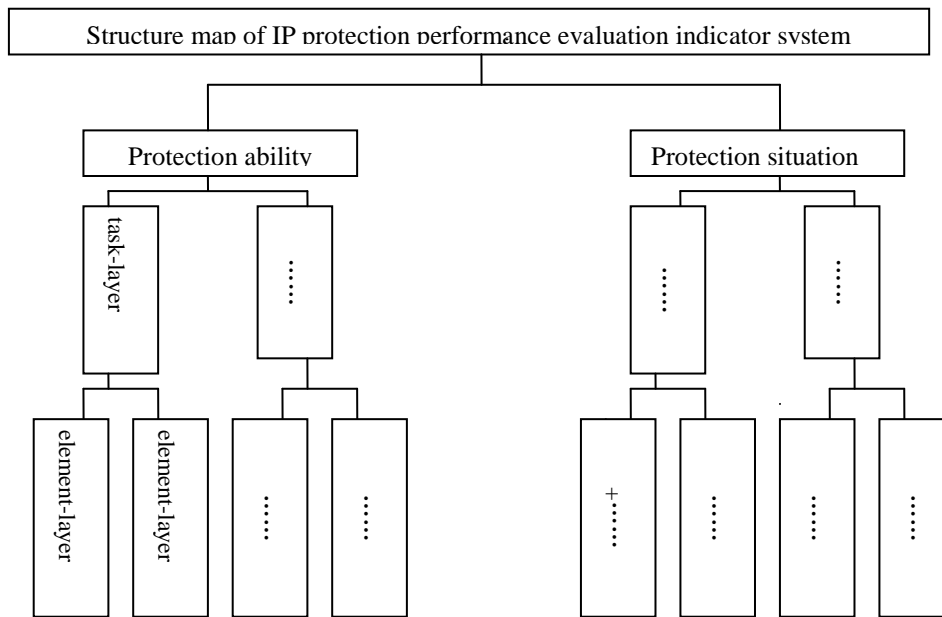


Figure 1. Structure map of IP protection performance evaluation indicator system.

2.2. Determine the Task-layer Indicators

The task-layer indicators refer to the actual contents of tasks which need to be completed in order to achieve performance objectives. In our performance evaluation, only we take the completion of task-layer indicators into consideration, can we reach the conclusion of whether the performance objectives can be achieved as well as to what degree these objectives have been achieved [4]. Therefore, the task-layer indicators are the most important indicators in the whole performance evaluation indicator system. Whether the task-layer indicators are designed scientifically and objectively will directly determine the success or failure of performance evaluation. So, in our research, with the help of the experts' judgment, we use the Delphi method to determine the task-layer indicators. More detailed working steps are as follows:

(1). In our research, we made a significant discussion closely around the performance objectives of IP administrative and judicial protection. According to the decomposition principle of focus, comprehensiveness, independence and necessity and under the two target-layer indicators of "protection ability" and "protection situation", we sketch out and design a number of proposed alternatives of task-layer indicators for evaluators to select to do their performance evaluation of IP administrative and judicial protection respectively.

(2). The above-mentioned proposed alternatives of task-layer indicators shall be submitted to relevant experts who are requested to make their independent and separate judgments to these indicators. These experts shall be required to explicitly answer the following questions: under each and every target-layer indicator, how many task-layer indicators are needed? Under each target-layer indicator, which task-layer indicators can be used to describe the performance objectives? Or any other indicators shall be included?

(3). In our research, we take back the opinions that each expert has made for the first time and then we summarize and sort out these opinions. And then, we give back the results of summarizing and sorting out these opinions to the experts, without pointing out the specific name of each expert who has made different opinions, but just giving his or her specific opinions. Finally, each expert is requested to compare his or her opinions with those of other experts and then once again all experts are required to express their opinions and judgments.

(4). In our research, we repeatedly request the experts to express their opinions about the proposed alternatives of task-layer indicators until we finally get the opinions of experts which are relatively consistent with each other. Only doing this, can we determine the final task-layer indicators for our performance evaluation.

As discussed earlier in this article, the designing and selecting of performance indicators is an experience-based subjective judgment working process. By relying on the experts' profound theoretical foundation and broad vision, we can make this subjective judgment working process maximally objective and rational. At the same time, the relatively consistent opinions we finally get by repeatedly requesting the anonymous experts to give, analyze and revise their opinions is another guarantee for us to scientifically design and determine the task-layer indicators in our performance evaluation. According to the foregoing analysis and discussion, we got the following conclusions:

First, the task-layer indicators shall not be in great numbers. 3-5 indicators are sufficiently enough to clearly and completely describe the contents of the work which are needed to achieve the performance objectives.

Second, the determination of task-layer indicators

shall be centered on the performance objective of IP administrative protection-to “enhance the ability of administrative organs to manage and protect intellectual property and significantly improve China’s current IP protection situations”

By summarizing the opinions of each expert, we draw the conclusions: first, under the target-layer indicator of “protection ability” in the framework of the IPR administrative protection performance evaluation indicator system, the task-layer indicators include the following four indicators: legal status of administrative protection, working mechanism of

administrative organs, administrative protection personnel and administrative protection resources; second, under the target-layer indicator of “protection situation” in the framework of the IPR administrative protection performance evaluation indicator system, the task-layer indicators include the following four indicators: administrative law enforcement, administrative examination and approval and registration, international cooperation of administrative protection and publicity and service of administrative protection. More details are shown in the following diagram (Figure 2):

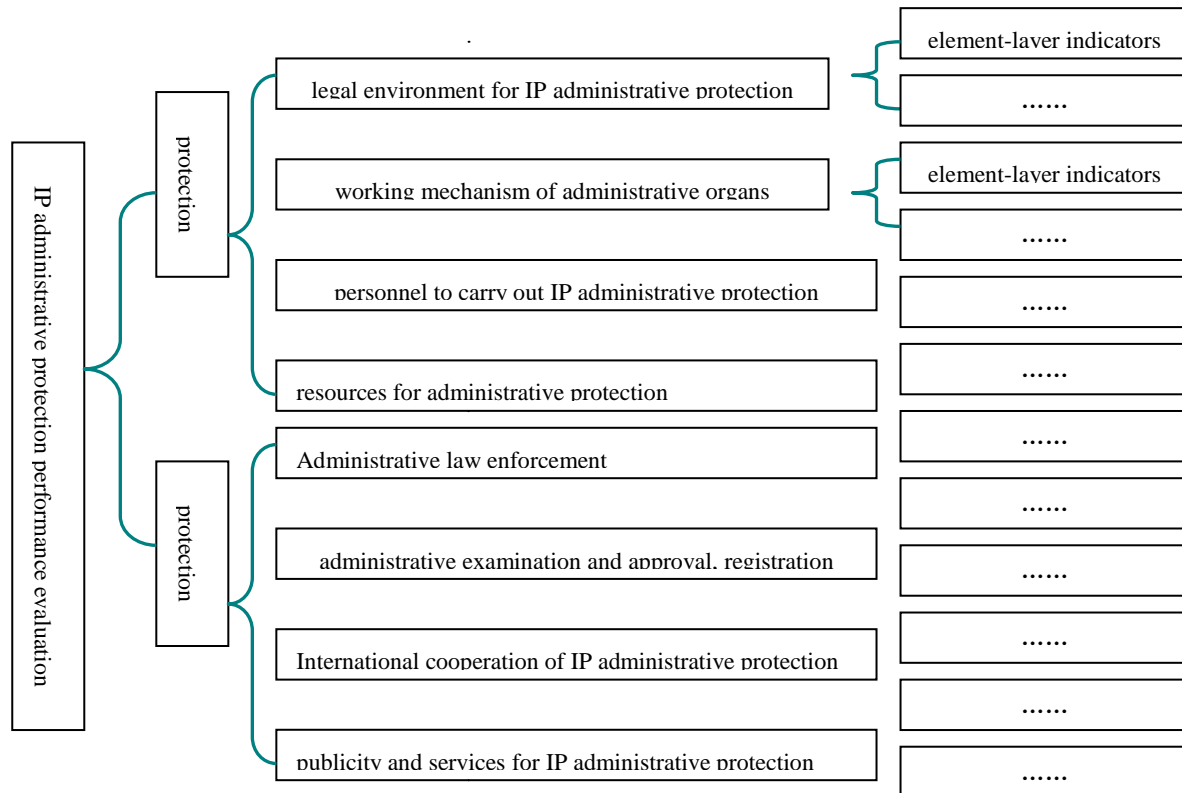


Figure 2. structure map of task-layer indicators of IP administrative protection performance evaluation.

The meaning of the above-said task-layer indicators is as follows:

(1) Legal status of IP administrative protection: This indicator aims to consider the construction, amendments and improvement of administrative regulations related to IP protection.

(2) Working mechanism of administrative organ: This indicator aims to consider the working mechanism related to IP protection.

(3) Personnel to carry out IP administrative protection: This indicator aims to examine the situation of human resources and the construction of personnel for carrying out IP administrative protection.

(4) Resources for administrative protection: This indicator aims to consider the administrative resources and their allocation invested by the state in IP administrative protection.

(5) Administrative Law Enforcement: This indicator

aims to consider the results obtained by administrative organs while investigating IP infringement and violations through the daily activities of law enforcement and special law enforcement.

(6) Administrative examination and approval and registration: This indicator aims to consider whether the administrative organs can organize the examination and approval and registration completely in timely manner in order to ensure that the intellectual and creative achievements can be protected according to law.

(7) International cooperation of IP administrative protection: This indicator aims to consider whether China’s administrative organs can effectively participate in international cooperation of IP protection for the purpose of enhancing China’s international influence in the field of intellectual property.

(8) Publicity and services for IP Administrative

protection: This indicator aims to consider the situation that the administrative organs to provide IP education and services for the public and IP right holders.

2.3. Determine the Element-layer Indicators

Element-layer indicators refer to the specific working elements which are used to complete the task, with each element being the decomposition and implementation of specific higher-layer task respectively. Element-layer indicators are empirical indicators which are used to describe specifically the behaviors of objects being evaluated and are the direct reflections of the contents being evaluated. Each element-layer indicator is the direct critical data to determine the results of performance evaluation. In our study, element-layer indicators are determined according to the principles of the focus, comprehensiveness, independence and necessity. All element-layer indicators are first determined in the way of brainstorming by the researchers and then submitted to the experts for examination and approval. The finally determined element-layer indicators for the performance of IP administrative protection are shown in the following diagram (Figure 3).

The meaning of the above-said element-layer indicator is as follows:

(1) Completeness of IP administrative protection system: It means whether the administrative regulations and rules are complete and adequate enough to ensure that the administrative organs can carry out their IP protection in accordance with laws and regulations.

(2) Timeliness of the making and amendment of the administrative regulations and rules by administrative organs: it means whether the administrative organs can make and amend the regulatory documents which are needed for IP protection in timely manner.

(3) Completeness of executive organizations of IP administrative protection: it means whether the administrative organs for the work of the IP protection are completely and adequately established and there are corresponding administrative organs to assume the commitment of IP protection.

(4) The openness of activities of administrative organs: it means whether all the information concerning the IP administrative protection activities of administrative organs is disclosed in all-round and timely manner, and the administrative organs' executive powers, working procedures and methods of supervision etc. are open and transparent.

(5) Innovation of working mechanism of administrative organs: it means whether the administrative organs can innovate their working mechanism actively so that they can make them adapt to the new development trend of IP protection.

(6) Quality of personnel engaging in IP administrative protection: it means whether the composition of working personnel of administrative organs and their quality can meet the relevant requirements necessary for IP protection.

(7) The construction of qualified personnel needed for IP protection: it means whether the training and education activities carried out by administrative organs for the purpose of enhancing the ability of qualified personnel needed for IP protection can meet the practical needs of intellectual property protection.

(8) Abundance of IP administrative protection resources: it means whether the human or material resources invested in IP administrative protection are abundant enough.

(9) Rationality of the allocation of IP administrative protection resources: it means whether the distribution of administrative resources invested in IP administrative protection is reasonable and scientific enough to ensure balanced development of IP administrative protection in different regions and fields.

(10) Normativeness of law enforcement: it means whether the administrative organs can make their administrative acts legal and normative during the enforcement activities of combating illegal acts of IP infringement.

(11) Strength of law enforcement: it means whether the administrative organs can effectively combat illegal acts of IP infringement during their IP law enforcement activities.

(12) Efficiency of law enforcement: it means whether the efficiency of IP administrative law enforcement activities of the administrative organs is adequately quick and highly effective.

(13) Effect of united law enforcement: it means whether the united law enforcement actions carried out by different administrative departments can effectively combat the cross-field IP illegal infringement acts.

(14) Normativeness of administrative examination and approval, registration: it means whether the administrative organs can carry out the work of examination and approval, registration of different types of intellectual property normatively.

(15) Quality of administrative examination and approval, registration: it means whether the intellectual property examined and approved, registered by the administrative organs is of high quality.

(16) Efficiency of administrative examination and approval, registration: it means whether the administrative organs can complete the work of examination and approval, registration of intellectual property within the time period prescribed by laws and regulations.

(17) Space of international cooperation in IP administrative protection: it refers to the situation that China's administrative organs organize or participate in relevant international conferences and international activities which are concerned with the intellectual property protection as well as the situation that China's administrative organs observe and fulfill the international cooperation treaties concerning intellectual property protection.

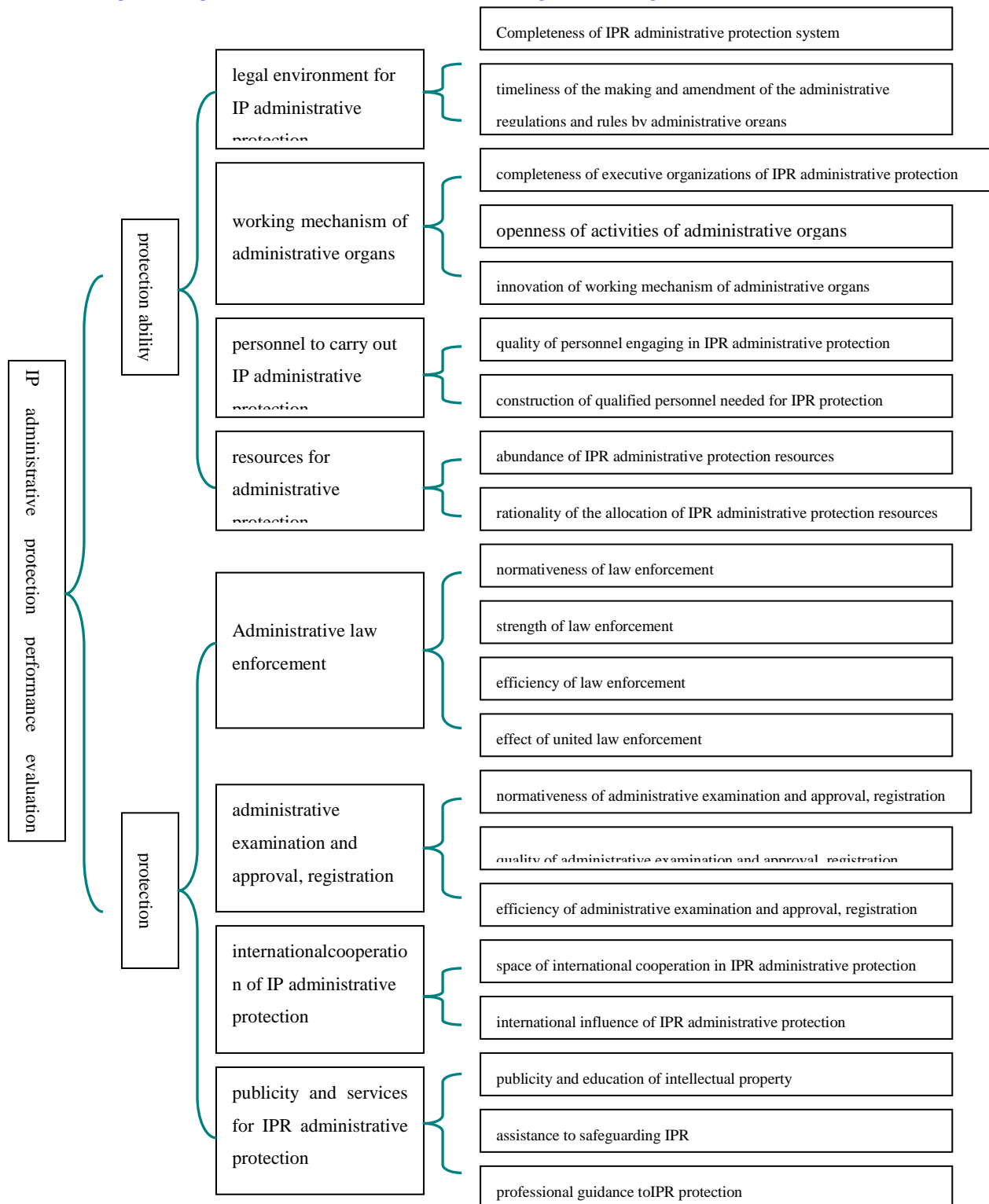


Figure 3. Structure map of element-layer indicators of IP administrative protection performance evaluation.

(18) International influence of IP administrative protection: it means whether China’s administrative organs can effectively enhance China’s international influence in international cooperation concerning the protection of intellectual property.

(19) Publicity and education of intellectual property: it means whether administrative organs carry out

adequate publicity and education concerning intellectual property among the public and the IP awareness of the society as a whole is highly enhanced.

(20) Assistance to safeguarding intellectual property: it means whether the administrative organs can provide the IP right-holders with guidance or direct assistance

necessary and essential enough for them to safeguard their intellectual property.

(21) Professional guidance to IP protection: it means whether the administrative organs can provide enterprises, the most important innovators with guidance necessary and essential for them to manage and operate their intellectual property

3. Section Two to Determine the Weight of Each Indicator

Indicator-weight refers to the importance of indicators in performance evaluation indicator system or the proportion of indicators in the total score of performance evaluation. The reasonable arrangements of indicators is the key for evaluators to obtain an objective result of performance evaluation, because in the evaluation indicator system consisting of many indicators, some indicators are of much importance while others are of less importance due to the uneven development of thing itself. In order to show the degree of influence imposed by different indicators on the results of performance evaluation, we need to weigh all indicators to see which indicators are much more important and will contribute too much to the results of performance evaluation. Under such circumstance that the indicators are relatively fixed, the changes of the weight of each indicator is certain to directly affect the results of performance evaluation. Therefore, the determination of weight of each indicator is very important to direct the evaluators to obtain the results of their performance evaluation.

The structure of indicator system designed in our research is a multi-dimensional three-layer indicator system which consists of target-layer, task-layer and element-layer. We need to distinguish the importance of each indicator at different layer, because each indicator contributes differently to the results of performance evaluation, that is, the weight of each indicator, whether it is in target-layer, task-layer or element-layer, shall be analyzed in our performance evaluation.

3.1. Weight of the Target-layer Indicators

Located at the top of the whole performance indicator system, Target-layer indicators determine the logical relations of the overall indicator system. Target-layer indicators consist of two aspects-“protection ability” and “protection situation”. The evaluators can determine the results of performance of IP administrative and judicial protection through assessing the “protection ability” and “protection situation” of administrative organs or judicial organs. Our research shows that “protection ability” refers to the indicator which is used to measure the ability of the objects being evaluated to achieve their goals, while “protection situation” is used to measure the actual working conditions of the objects being evaluated to achieve their targets. “Protection ability” also refers to the indicator which determines

the IP protection situation and protection level, while “protection situation” in turn can prove the fulfillment situation of “protection ability”. “Protection ability” and “protection situation” have almost the same influence on the achievement of performance objectives. Therefore, the weight of target-layer indicator shall be determined equally and impartially, with the indicator of “protection ability” and “protection situation” accounting for 50% respectively with respect to their role and importance in performance evaluation.

Name of indicator	Weight
protection ability	50%
protection situation	50%

3.2. Weight of the Task-layer Indicators

Task-layer indicators are used to describe actual task which must be completed in order to achieve performance objective. Through measuring the situation that the task-layer indicators are completed, we can determine whether the performance objectives can be achieved as well as the degree of the achievement of performance objectives. In accordance with the structure of performance indicator system designed in our research in each target-layer, there are four task-layer indicators which play a different role in supporting the achievement of performance objectives. In order to scientifically and accurately distinguish different roles played by these indicators in the whole performance indicator system, the research team used AHP (Analytic Hierarchy Process, herein after referred to AHP) to assess the weight of task-layer indicator in the corresponding target-layer indicator.

Analytic Hierarchy Process (AHP) refers to such a process that the decision makers make their thinking process of complex problems modeled and quantitative. Through such process, evaluators can decompose the complex problems into several levels and a number of factors and make a simple comparison and calculation between each factor so that they can determine the importance of different factors in their performance evaluation. AHP does not mean that we put all factors together for the purpose of comparing each factor with each other; instead, we just put two factors together and compare them with each other. By doing so, we can try to minimize the difficulty of comparing factors which are different in their nature with each other so as to improve accuracy of comparison of factors. The specific work steps are as follows:

First, to establish a hierarchical structure model

In our research, we divide the hierarchy into five different layers. While making a paired comparison, if one factor is as same important as the targeted one, its score is 1; if one factor is little more important than the

targeted one, its score is 3; if one factor is more important than the targeted one, its score is 5; if one factor is much more important than the targeted one, its score is 7; if one factor is extremely more important than the targeted one, its score is 9. Although 2,4,6,8

are not reflected in the table of hierarchical structure, they can be used to score when the above-mentioned score criteria cannot be compromised. Hierarchical structure model is as follows (Table1):

Table 1 Hierarchical structure

same important as the targeted one	little more important than the targeted one	more important than the targeted one	much more important than the targeted one	extremely more important than the targeted one
1	3	5	7	9

Second, to construct the paired comparison matrix
 In order to construct the paired comparison matrix in task-layer, we need to distinguish between IP administrative protection and IP judicial protection and clearly understand “protection ability” and “protection situation”. Therefore, four paired comparison matrix shall be established for the purpose of scoring. The scoring is done according to the Delphi method.

Experts need to give comparative value and their average value is used as the average score of comparison to construct the paired comparison matrix. In our research, we make use of EXCEL to complete the calculation of the paired comparison matrix and the test of its consistency. Based on this calculation, the weight of different indicators is as follows (Table2A and B)

Table 2A The Weight of Task-layer indicator in IP Administrative Protection

	Name of Indicators	Weight		Name of Indicators	Weight
	protection ability	administrative protection legal environment		25%	protection situation
working mechanism of administrative protection organs		30%	administrative examination and approval, registration	30%	
Administrative protection personnel		20%	international cooperation of administrative protection	15%	
resources of administrative protection		25%	publicity and services of administrative protection	10%	

Table 2B The Weight of Task-layer Indicator in IP Judicial Protection

	Name of Indicators	Weight		Name of Indicators	Weight
	protection ability	judicial protection legal environment		25%	protection situation
working mechanism of judicial protection organs		30%	administrative or criminal case trial	30%	

	judicial trial team	25%		disclosure of judicial protection	15%
	resources of judicial protection	20%		cooperation and exchange of judicial protection	15%

The “protection ability” and “protection situation” target-layer indicators’ weight accounts for 50% in performance evaluation indicator system respectively. So, the weight of each task-layer indicator shall be multiplied by 50% before the above-mentioned task-layer indicators are brought into the indicator

system of IP administrative and judicial protection so that the weight of task-layer indicator in indicator system can be calculated and converted. Such weight of task-layer indicator is shown in the following table (Table 3).

Table 3 Weight of task-layer indicator

	Target-layer indicators	Weight	Task-layer indicators	Weight
Weight of administrative protection indicators	protection ability	50%	administrative protection legal environment	12.5%
			working mechanism of administrative protection organs	15%
			Administrative protection personnel	10%
			resources of administrative protection	12.5%
	protection situation	50%	administrative law enforcement	22.5%
			administrative examination and approval, registration	15%
			international cooperation of administrative protection	7.5%
			publicity and services of administrative protection	5%
Weight of judicial protection indicators	protection ability	50%	judicial protection legal environment	12.5%
			working mechanism of judicial protection organs	15%
			judicial trial team	12.5%
			resources of judicial protection	10%
	protection situation	50%	civil case trial	20%
			administrative or criminal case trial	15%
			disclosure of judicial protection	7.5%

			cooperation and exchange of judicial protection	7.5%
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3.3. Weight of Element-layer Indicators

Element-layer indicator refers to the specific work element which is used to complete the task. Each element is the specific decomposition and implementation of the higher-level task respectively [5]. Element-layer indicator, often described in more specific way, is the direct reflection of the object being evaluated and it is very difficult for us to distinguish

the importance of various element-layer indicators in our performance evaluation indicator system. Therefore, the weight of element-layer indicator is determined according to the principle of equal weight, that is, the weight of each element-layer indicator included in the task-layer indicator is divided on average according to the principle of equal weight (Table 4).

Table 4 Performance Evaluation Indicator System of IP Administrative Protection

Target-layer indicators		Task-layer indicators		Element-layer indicators			
Name of indicators	Weight	Name of indicators	Weight	Name of indicators	Weight		
Protection ability	50%	Administrative protection legal environment	12.5%	Completeness of IP administrative protection system	6.25%		
				Timeliness of the making and amendment of the administrative regulations and rules by administrative organs	6.25%		
		working mechanism of administrative protection organs	15%	Completeness of executive organizations of IP administrative protection	5%		
				The openness of activities of administrative organs	5%		
				Innovation of working mechanism of administrative organs	5%		
		Administrative protection personnel	10%	Quality of personnel engaging in IP administrative protection	5%		
				The construction of qualified personnel needed for IP protection	5%		
		resources of administrative protection	12.5%	Abundance of IP administrative protection resources	6.25%		
				Rationality of the allocation of IP administrative protection resources	6.25%		
		Protection situation	50%	administrative law	22.5%	Normativeness of law enforcement	5.625%

	enforcement		Strength of law enforcement	5.625%
			Efficiency of law enforcement	5.625%
			Effect of united law enforcement	5.625%
	administrative examination and approval, registration	15%	Normativeness of administrative examination and approval, registration	5%
			Quality of administrative examination and approval, registration (5%
			Efficiency of administrative examination and approval, registration	5%
	international cooperation of administrative protection	7.5%	Space of international cooperation in IP administrative protection	3.75%
			International influence of IP administrative protection	3.75%
	publicity and services of administrative protection	5%	Publicity and education of intellectual property	1.67%
			Assistance to safeguarding IP	1.67%
			Professional guidance to IP protection	1.67%

4. Conclusion

The key to objectively evaluate the performance of IPR judicial or administrative protection lies in the scientifically designing of a IPR protection performance evaluation indicator system. In China's IPR judicial or administrative protection performance evaluation, this indicator system mainly consists of target-layer indicators, task-layer indicators and element-layer indicators. How to determine the indicators in each layer and their weights directly affect the performance evaluation quality, therefore, in order to obtain an objective performance evaluation result of China's IPR judicial or administrative protection, we must scientifically and exactly determine the indicators and their weights in each layer.

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