

Study on Enterprise Industrial Property Value Evaluation—Take Huawei Company as an Example

Bo Feng^{1,2}, Shangen Xie², Junwen Feng^{2,3*}

¹School of Intellectual Property, Nanjing University of Science and Technology, Nanjing 210094, China

²Nanjing Audit University Jinshen College, Nanjing 210023, China

³School of Economics and Management, Nanjing University of Science and Technology, Nanjing 210094, China

*Corresponding Author.

Abstract:

The evaluation of enterprise value is very important in enterprise management decision. The goal of corporate financial management is to maximize the value of the enterprise. With the continuous development of enterprises. As an indispensable part of enterprise value, industrial property value has become an important index to evaluate enterprise value to a certain extent. It is also an important embodiment of enterprise development and provides a reference basis for investors. This paper applies two methods to discuss the industrial property evaluation problem, one is the CAPM method, and another is the income method of asset appraisal. The capital asset pricing model (CAPM) is a finance theory that establishes a linear relationship between the required return on an investment and risk. The income method of asset appraisal, also known as income reduction method or income principal method, is one of the basic methods of asset appraisal recognized internationally. The influence factors of industrial property value is analyzed. The different assessment methods are discussed, and based on the optimal evaluation method, value approach is selected, and a case study of Huawei Company is given. This paper analyzes and studies the enterprise industrial property value evaluation index system. A systematic and comprehensive and scientific index system model is constructed, and a case study is analyzed and evaluated by using this model. This study provides a new way of thinking for business industrial property valuation. In addition, it is very necessary to determine the industrial property technology sharing rate and construct a detailed scientific weight index system.

Keywords: *Industrial property rights, Value assessment, Huawei Company, Intangible assets*

I. INTRODUCTION

With the rapid economic growth, the asset appraisal industry has developed greatly. This new profession that stands out from accounting gradually goes into fashion. China's assets appraisal industry development speed is breathtaking, just a few decades, China's assets appraisal from a small sprout new has become an international leader, although China has lags behind western powers in the tangible assets

evaluation, but by leaps and bounds in recent years, China's intangible assets appraisal, enterprise value assessment in the international lead, including the industrial property rights value evaluation. But in terms of industrial property value evaluation, there are still continue to study the significance of this paper is based on the author's own ability to try to go to the industrial property rights value evaluation to a less comprehensive analysis, in the comprehensive analysis of some trivial conclusion, find the shortage of some possible industrial property rights, in turn, can to enterprise's value assessment to contribute to this field. This article first has made the industrial property rights of enterprises and industrial property rights value evaluation of some introduction, secondly analyzes some possible influence on the value of enterprise industrial property rights, and then through these factors, the comparison of different assessment methods, it is concluded that the best and most suitable for industrial property rights value evaluation method, and then through the analysis of Huawei and Huawei industrial property value, some of the more reasonable conclusion, finally, to summarize the full text of this article, the final conclusion and prospect and insufficiency, and puts forward some improvement program within our capabilities.

Paris Convention on the Protection of Industrial Property (HEREINAFTER referred to as Paris Convention), an international Convention on the Protection of Industrial Property concluded in Paris on March 20, 1883, is one of the treaties under the administration of the World Intellectual Property Organization. The adjustment object of Paris Convention is industrial property right.

On July 7, 1884, with the entry into force of the Paris Convention, industrial property rights began to be truly protected. China became a member of the Convention on March 19, 1985, which means that China's industrial property valuation began to get on the right track. Taking advantage of the upsurge of economic development, more and more attention is paid to industrial property rights, and people begin to focus on industrial property rights. Industrial property rights to an enterprise, just as the name is to a person, hear a person's name, you can know his popularity, his contribution, etc., trademark rights in industrial property rights is the same, the quality of enterprise development determines the visibility of the enterprise trademark.

As the main part of promoting the rapid development of economy, the development of enterprises affects the development of economy and then society to a certain extent. As the right arm of an enterprise, industrial property rights also affect the future of an enterprise. For some enterprises with a large proportion of scientific research, the development of industrial property rights even determines the survival of enterprises. A good patent can support an enterprise, while some unsuccessful patents may drag down an enterprise. Therefore, the value of industrial property determines the vitality of an enterprise to a certain extent.

II. RELEVANT LITERATURE REVIEW

According to the development of industrial property rights, China summarizes the characteristics of industrial property rights valuation, which has the characteristics of purpose, timeliness, consultation and estimation. At present, many areas are looking for the use of property rights market, in order to serve the

search for diversified investment subjects, of course, this is also an effective way to express and expand the function of enterprise industrial property rights market. It is feasible to use present value of income method, current market price method and replacement cost method to evaluate the value of industrial property under the large Approach. However, the evaluation method should be selected comprehensively according to the specific type, evaluation purpose and environment.

Liu Y.P.^[1] pointed out that industrial property valuation is a difficult point in asset valuation, because of the weak correspondence between cost and income and the difficulty in obtaining market price, income method has become a common method. Yang D. and Chen Y.^[2] concluded that the current income method estimates by discount rate, and the change of discount rate has a considerable impact on the evaluation. Li J.W. and Gao B.^[3] proposed that although on the whole, the current accounting confirmation, measurement methods and treatment of intangible assets have not yet formed a unified standard, but this does not prevent us from studying the financial accounting of intangible assets. With the continuous development of modern finance and accounting, China's financial accounting is constantly improving its integration with the international community, and the development and integration of enterprises around the world are constantly intensifying. Therefore, the research on intangible asset value evaluation will be constantly improved. Wang L.F.^[4] stated that it is a complicated work to put forward the evaluation of the value of trademark right in the study of several problems of trademark right evaluation. In the evaluation of trademark right, we should not only consider legal factors, but also consider economic and cultural factors as well as consumer cognition degree and many other factors. Comprehensive evaluation should be carried out according to whether the evaluated trademark has been approved for registration, whether the evaluated trademark has the possibility of being revoked, whether the evaluated trademark has become an undisputed trademark, whether the evaluated trademark is close to the protection period, etc. Luo S.H.^[5] stated that the brand value evaluation in practice is the most commonly used method of excess earnings, but its limitation, only reflects the enterprise trademark financial valuation, although financial value for the future of enterprise trademark has carried on the related forecast, but ignore the influence of brand competitiveness to the enterprise brand value. Yang L.N.^[6] proposed that the contribution of trademark right to enterprises includes two aspects: the buyers' psychological understanding and recognition of products marked with trademarks in the market, and the enterprises' continuous maintenance and promotion of trademarks. Zhu G.H.^[7] found that there are many defects in the research and application of trademark right valuation. The three traditional methods of intangible assets evaluation do not have applicability in China's trademark valuation market. He divided the value of trademark rights into two parts, one is financial value and the other is market comprehensive value. The brand strength coefficient is used to obtain the trademark determination coefficient and calculate the expansion value of trademark rights. Liu Z.G.^[8], based on the empirical study of Shanghai A-share listed companies, pointed out that the proportion of intellectual property in intangible assets and total assets is not high, and there is still A big gap compared with foreign countries, so it has not become an important wealth of enterprises. Among all kinds of intellectual property rights^[9,10], the total amount and average value of proprietary technology are the largest, and the proportion of intangible assets is also the highest. Although trademarks and patents are second only to proprietary technology, the total amount of nitrogen is relatively small, and the characteristics of information disclosure industry of intellectual property rights are not obvious.

Based on the above analysis, the evaluation of industrial property value of enterprises in China is quite good, while the evaluation of industrial property value of foreign countries is not satisfactory^[11,12]. But through the evaluation methods of industrial property rights or very limited or in other words, assets appraisal has much room to improve the development of the industry, the evaluation methods of industrial property, after all, is not so flexible, matching, and other single asset assessment of the tangible assets except still need continuously to proceed the research.

First of all, the concept of industrial property rights and the evaluation of industrial property rights are thoroughly analyzed. After all, the word industrial property rights is not well understood by most people. Secondly, it analyzes some important influencing factors of enterprise industrial property value evaluation, such as time limit, development trend, environment, benefit and so on. Then comparative analysis to find suitable methods for industrial property value assessment, and then use this method to analyze a case, finally draw conclusions, shortcomings and prospects.

III. RELEVANT CONCEPTS AND THEORETICAL BASIS OF INDUSTRIAL PROPERTY RIGHTS OF ENTERPRISES

3.1 Related Concepts

Please remember that all the papers must be in English and without orthographic errors. Please remember that all the papers must be in English and without orthographic errors. Please remember that all the papers must be in English and without orthographic errors. Please remember that all the papers must be in English and without orthographic errors.

3.1.1 Industrial property rights

From a connotative point of view^[13], industrial property rights refer to certain proprietary rights similar to property rights in the field of industry and commerce for creative ideas or distinguishing marks or symbols, plus certain rules for preventing improper conduct in the same field. Paris Convention for the Protection of Industrial Property rights (interpretation) is the exclusive right that the law gives people in various fields of industry to the creative conception and use of distinctive signs and marks.

From the point of view of extension^[14], the scope of industrial property rights is very extensive. Article 1 (2) of the Paris Convention for the Protection of Industrial Property stipulates that "the objects of protection of industrial property rights shall include patents, utility models, designs, trademarks, service marks, names of manufacturers, marks of sources or designations of origin, and the suppression of improper competition". With the continuous development of society, the scope of industrial property rights is gradually becoming wider. In China, the scope of industrial property protection mainly includes trademark exclusive right and patent right.

3.1.2 Industrial property value assessment

Industrial property is a single asset like the general appraisal target ^[15]. The appraisal of industrial property value is defined in accordance with the traditional appraisal definition, that is: the appraisal institution and appraisal professionals assess and estimate the industrial property value of the enterprise according to the entrusting party, and issue the appraisal report. In short, it is to estimate the value of industrial property rights.

3.1.3 Characteristics of industrial property rights

1) Exclusivity of rights: Industrial property rights are the rights granted by the state to the patentee and the trademark holder to monopolize, use, profit from and dispose of the invention-creation and registered trademark during the period of validity ^[16, 17].

2) Regional rights: industrial property rights are spatially limited, and are protected only within the scope of the country and have no legal effect on other countries, except under certain conditions when the international convention on uniform protection of industrial property rights is used ^[18, 19].

3) The timeliness of rights ^[20]: industrial property rights have time limits, and the protection of industrial property rights has a certain period of time. After the expiration of the legal provisions, the property rights of industrial property rights will terminate automatically.

3.2 Theoretical Basis

3.2.1 CAPM model

Income method ^[21,22]: To determine the value of an asset by estimating its expected future income and converting it to present value. Income approach as the key point of this article, including the income method is the most important yield through the capital asset pricing model (CAPM) to calculate, CAPM so investors in the securities market outside are the same as the initial preference, inherited the assumptions of the portfolio theory, information symmetry, completely securities without risk, investors can freely by the risk-free interest rate to borrow capital; All investors are rational and make decisions based on the mean variance analysis of Markowitz portfolio model. The security market is frictionless; The return rate of securities is normal distribution; Transaction costs are negligible; Each asset is infinitely divisible, and investors can own any portion of a security.

Markowitz ^[23], an American economist, put forward Portfolio Theory for the first time in 1952 and carried out systematic, in-depth and fruitful research, for which he won the Nobel Prize in Economics. This theory contains two important contents: mean-variance analysis method and portfolio efficient boundary model.

3.2.2 The deterministic theory of income years

According to the convention on the protection of industrial property Paris although there is no specific fixed number of year of industrial property rights to make the necessary restrictions, but with the gradual development of industrial property rights, most of the industrial property by market comparison, or the actual service life can be used, that is to say, we are in need to make the most of the industrial property value assessment activities, the fixed number of year of the industrial property gains can be reliably measured, or according to the general use of the market, or according to the real life of the industrial property rights can get a more accurate data. Therefore, it provides some convenience for us to use income method to evaluate the value of industrial property.

IV. INFLUENCING FACTORS OF INDUSTRIAL PROPERTY VALUE

4.1 Analysis of Service Life

The value of each asset is inseparable from its life. Generally, the longer the service life of an asset is, the lower its value will be. After all, the asset will be depreciated or amortized. If the straight-line method is used, the value of the asset changes seen in Fig 1.

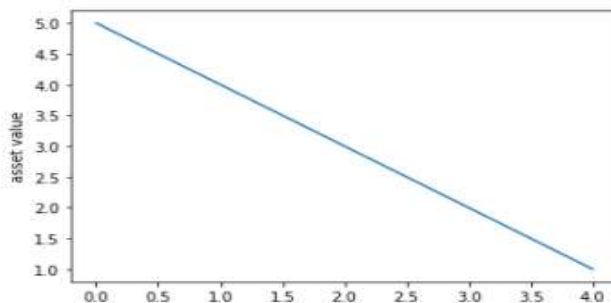


Fig 1: Value change of assets after impairment by straight-line method

However, industrial property is a kind of intangible assets, which may incur accumulative amortization or may not be amortized, but even without amortization, the asset also needs to be tested for impairment every year, so the value of industrial property will also be affected by the service life ^[24,25]. In my opinion, the impairment of industrial property is not as simple as the general straight line, the straight line model is just an idealization. For our research of the patent right, the patent law of the People's Republic of China article 42: the period of 20 years of invention patents, utility model patents and appearance design patent period for 10 years, that is to say, industrial property rights of the patent right will be devalued, and in the end, when it is no longer patent worthless, so I think the value of the patent right is a kind of accelerated decline, as shown in Fig 2.

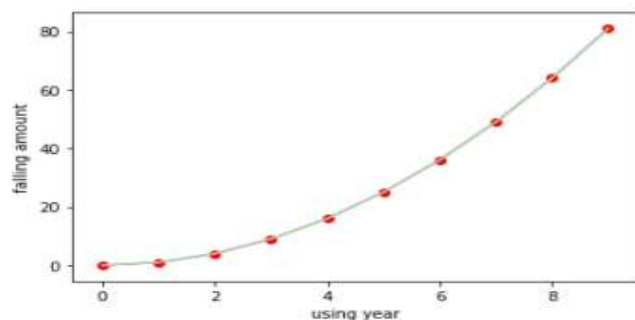


Fig 2: Amount of decline of patent rights with the increase of years

4.2 Development Trend, Upgrading and Speed Analysis

Compared with other assets, industrial property is a relatively new term, which has not been thoroughly studied, so it has a considerable research space ^[26,27]. In my opinion, the development trend is booming and full of potential like bamboo shoots after a spring shower. And industrial property rights will not be quickly replaced, after all, scientific research or patents are not achieved overnight. Therefore, from the above point of view, industrial property rights have great potential value and preservation, and the investment in industrial property rights will make enterprises more pillar force. Industrial property right is also an important property right for a country, which determines the comprehensive strength of a country to a certain extent. Therefore, considering the value of industrial property rights from the development trend and the direction of renewal is promising.

4.3 Analysis of Benefit Factors

Industrial property rights are not as practical and visible as machinery and equipment and real estate, but its potential benefits can not be underestimated ^[28,29]. Take Haidilao as an example. The reason why Haidilao can develop so rapidly in the hotpot industry must be inseparable from its service. The service of Haidilao is that most enterprises cannot do it now. But is Haidilao really all about experiencing services? In my opinion, it seems not so, maybe Haidilao this trademark right may be more valuable, in other words, eating hot pot to Haidilao looks tasteful, grade, can satisfy vanity, although flashy. So, to some extent, trademark rights are extremely valuable to Haidilao. Industrial property is really the pillar for some businesses, you can build other pillars better, but you must be inseparable from industrial property.

V. ENTERPRISE INDUSTRIAL PROPERTY VALUE EVALUATION METHOD AND ITS SELECTION

Please produce your figures electronically, and integrate them into your document. Check that in line drawings, lines are not interrupted and have a constant width. Grids and details within the figures must be clearly readable and may not be written one on top of the other. Figure resolution should be at least 300 dpi. Please do not use indentation and set the figure layout to in line with text.

5.1 Basic Methods of Industrial Property Valuation

The evaluation method of industrial property value is the same as that of other assets^[30]. There are three basic methods, namely, market method, cost method and income method. The concept of these three methods has been briefly introduced above. There are two preconditions for market law: first, there should be an active public market, and second, there should be comparable assets and trading activities in the open market. The formula is: value of evaluation object = transaction price of reference x correction coefficient. Cost method needs to determine replacement cost and depreciation of entity loss in calculation, which is especially suitable for the evaluation object where the evaluation of single asset and income cannot be determined and it is difficult to find the transaction reference in the market. The formula is: value of assessed assets = replacement cost - substantial depreciation - economic depreciation - functional depreciation. The use of income method also has two premises^[31]: one is that the future income and risk can be predicted and measured in money; the other is that the profit period can be predicted. The advantage of using income method is that the assessed value is easy to be accepted by all parties. The formula of revenue method is:

$$P = \sum_{i=1}^n \frac{R_i}{(1+r)^i}$$

Where P is the evaluated value, n represents the return life, r represents the discount rate, i represents the return forecast life, R_i is the expected revenue in year i.

5.2 Selection of Evaluation Methods for Various Industrial Property Rights

This paper is mainly based on China's industrial property rights, so it mainly discusses the value evaluation of trademark exclusive right and patent right.

First see the trademark, generally every enterprise will have his trademark, this is equivalent to its name, the name on the surface is worthless, but it is huge, the effects of different degree of enterprise its trademark ring will be different, so the combination of marketing premise, the asset comparability is not particularly significant, so basic can need not consider market method. Secondly, as this law, the right to exclusive use of trademarks belongs to intangible assets, the depreciation of intangible assets is basically no way to measure, therefore, the cost method is not feasible. Finally, only the income method can be selected. The advantage of the income method is that the income period can be known and the discount rate can be calculated. Therefore, the income method is the most advantageous.

Then we talk about patent rights. Patent rights don't have much reference value for ordinary enterprises, but they have great potential for high-tech enterprises, just like Huawei's 5G technology is known all over the world. Since 5G is mentioned, there must be no other patent that can match and

compare with it in the market at present, so the market law cannot be applied. The conclusion of the cost method is similar to the trademark exclusive right mentioned above. It cannot reliably measure various devaluations, so the income method is the only choice.

5.3 Reliability Analysis of Industrial Property Value Evaluation by Different Methods

5.3.1 Reliability analysis of the market method

Use market method ^[31] to evaluate the value of industrial property rights of enterprises, can only be futile, first of all, it is difficult to find a similar industrial property rights and your other industrial property rights on the market. Secondly, even if found, the value and the evaluation of the difference between the industrial property value is also difficult to measure, could not be difference factor correction, if use the market method to calculate out, so its reliability is very low, so the market method for industrial property value assessment is not reliable and even is not feasible.

5.3.2 Reliability analysis of cost method

The cost approach ^[32] may be more successful than the market approach in assessing the value of a firm's industrial property. According to the formula of cost method, we need to calculate the replacement cost, functional depreciation, economic depreciation and substantive depreciation of the appraisal object. First of all, functional depreciation of industrial property does not exist until other more advanced technologies are invented, so I think it can be ignored in a certain period of time. Secondly, from the perspective of economic depreciation, industrial property rights do not involve factors such as raw material price rise, so they can be ignored. Then look at the substantial depreciation, the substantial depreciation for industrial property is nonsense, industrial property belongs to a kind of intangible assets, intangible how substantial depreciation? Therefore, we can reliably assess the value of the industrial property by simply measuring its replacement cost.

5.3.3 Reliability analysis of income method

With income approach to industrial property value assessment is the most applicable, three methods of evaluation of industrial property rights benefits fixed number of year is easy to determine, second is the need to calculate the discount rate, the discount rate can be calculated according to the interpolation method, also can use other methods to measure, so the income approach is the most suitable for industrial property rights value evaluation.

VI. CASE STUDY OF HUAWEI INDUSTRIAL PROPERTY VALUE EVALUATION

6.1 Enterprise Brief

Founded in 1987, Huawei is the world's leading provider of ICT (information and communications)

infrastructure and smart terminals. Currently, the company has about 197,000 employees and operates in more than 170 countries and regions, serving more than 3 billion people worldwide. Huawei is a private enterprise. No government department or institution holds any equity in Huawei. Once a company is listed, it will be swallowed up by its capital. Although it will bring economic benefits to the company, it may be a big loss to the country. At this point, I have to admire Ren's long-term vision. When PHS was on fire in Japan, Ren Zhengfei did not choose to mass produce PHS to gain profits, because he knew that PHS would not live long. Although many people on the board of directors thought that the company could not miss the windfall profits, it seems really wise now. The most outstanding aspect of Huawei is its research and innovation, which is also the value of this article. Huawei is one of the largest patent holders in the world. It insists on investing more than 10% of its sales revenue in research and development every year. This is a key point.

6.2 Huawei Industrial Property Rights

Huawei's industrial property rights mainly include trademark exclusive right and patent right. The exclusive right to use the trademark is the name Huawei and its logo. People may only know Huawei for mobile phones or tablets, but these are only a small part of Huawei's operation. Huawei focuses on network services and cloud computing. Huawei's patent rights are too numerous to enumerate. For 5G, although it is jointly developed, this one is enough to show the strength of Huawei's industrial property rights. After all, Huawei goes to 985 universities to recruit talents every year.

6.3 Valuation of Huawei Industrial Property Rights

Use income method to evaluate the value of Huawei's trademark exclusive right. Estimate Huawei's expected earnings and calculate its value at a certain discount rate. The CAPM model is used to calculate the discount rate. If the risk-free return rate is 1.5% according to the one-year bank deposit rate, the market return rate of the communication industry in 2020 is determined to be 7% by consulting the State-owned Assets Supervision and Administration Commission, and the sensitivity of the capital market system risk changes is estimated to be 1.2.

$$\gamma = r_f + \beta(r_m - r_f) = 1.5\% + 1.2 \times (7\% - 1.5\%) = 8.1\%$$

If the excess earnings period is determined as 2 years, Huawei will invest 916.9 million yuan in goodwill and intangible assets in 2020, up 4 percentage points from 8822 million yuan in 2019, and goodwill and intangible assets account for 1% of the total assets. The data are shown in Table I.

Table I. Summary consolidated financial position

RMB million	2020.12.31	2019.12.31
Goodwill and intangible assets	9169	8822
Property, plant and equipment	118378	97719
Right assets	18423	17417
Contract assets	1648	2200
Accounts receivable and notes receivable	3963	4540
Other assets	11048	5196

So $R_1 = 9169 \times (1+4\%) \times 1\% = 95.3576$ million

$R_2 = 9169 \times (1+4\%)^2 \times 1\% = 99.1719$ million

And $P = \sum_{i=1}^n \frac{R_i}{(1+r)^i} = \frac{95.3576}{(1+8.1\%)} + \frac{99.1719}{(1+8.1\%)^2} = 173.08$ million yuan

Therefore, Huawei's industrial property value is about 173.08 million yuan.

VII. CONCLUSION

For industrial property, it is absolutely impossible to evaluate by market method. Cost method can be carried out appropriately, and the best choice is income method, but income method must estimate the income years and discount rate. Therefore, if the development is as expected, the result must be very accurate. As the research focus of asset appraisal development, industrial property has a great breakthrough. Meanwhile, industrial property itself is also very valuable. Personally, I am very optimistic about the development prospect of industrial property appraisal.

Rome was not built in a day, and we are still at the initial stage of the study of industrial property rights. After all, this topic is not very popular at present. Moreover, at present, the best method to evaluate the value of industrial property rights, income method is still very variable, if the number of years is not good forecast? Or maybe you can't figure out the discount rate? These are inevitable problems of earnings method, so I think the biggest shortage is failed to apply the three methods together, of course, considering the condition of marketing must require sufficient comparable cases on the market, so they need to reach a certain level of scientific research, I think this is the toughest, but it is the most ideal, if the future really have a year to achieve market method was used to assess the value of the industrial property rights, so our technology must have reached a very high level.

The value evaluation of industrial property rights of enterprises is of great research significance. We hope that our country can spend more energy on the value evaluation of industrial property rights. Although it has been in a leading position in the world, it still cannot be relaxed. Therefore, there is a long way to go for the study of industrial property valuation, and we still need to concentrate on it. After all, the improvement of the evaluation level of industrial property value brings not only the improvement of the accuracy of the asset evaluation itself, but also the reference basis for other assets.

ACKNOWLEDGEMENTS

This research was supported by Postgraduate Research & Practice Innovation Program of Jiangsu Province.

REFERENCES

- [1] Y.P. Liu, "The Selection and Application of Industrial Property Valuation Method". China Asset Appraisal, no.1, pp. 28-32, 1997.
- [2] Y. Chen, "Evaluation and Analysis of Technical Intangible Assets Based on Income Method," Finance and Accounting Communications, no.35, pp.58-62, 2019.
- [3] J.W, LI, B. Gao, "Research on the application of intangible assets Valuation Method," Cooperative Economics and Science and Technology, no.7, pp.25-28, 2016.
- [4] L.F. Wang, "Research on several Issues of Trademark Right Evaluation," China Business Administration Research, no.2, pp.52-53, 2004.
- [5] S.H. Luo, "Evaluation Of Enterprise Trademark Value Based On Brand Competitiveness – A Case Study of Guizhou Bailing Enterprise Trademark," Lanzhou University of Finance and Economics. 2018.
- [6] L.N. Yang, "Research on the Evaluation of Trademark Right Value," Jiangxi University of Finance and Economics, 2007.
- [7] G.H. Zhu, "Research and application of Trademark Right Value Evaluation," Chongqing University of Technology, 2020.
- [8] Z G. Liu," Research on intellectual property information disclosure and its value correlation -- Based on the Empirical study of Shanghai A-share listed companies," Agricultural University of Hebei, 2009.
- [9] S.M. Wen, "Application of "Income Method" in industrial Property Valuation," China Audit, no.1, pp.48-49, 1998.
- [10] Y. Zhou, M. M. Dong, "Research on the status and current situation of real option pricing theory in enterprise Valuation Methods," Value Engineering, no.25, pp. 23-27, 2006.
- [11] H.M. Sun, A.Q. Hu, "Discussion on the economic value evaluation method of financial assets," Commercial Accounting, no.24, pp. 57-58, 2010.
- [12] X.H. Zhang, W.M. Li, J.H. Li, "An empirical study on the valuation method of intellectual capital: A case study of the valuation of pharmaceutical manufacturing industry proprietary technology," China Soft Science, no.6, pp. 167-174, 2015.
- [13] Z.G. Chen, J.C. Zhou, X.J. Huang, "Evaluation model and application of farmland price in regional

- expropriation of property value,” Transactions of the Chinese society of agricultural engineering, vol. 24, no.12, pp. 191-195, 2008.
- [14] Q. Han, J.H. Wei, “The Application of Income Method in the Valuation of Service-oriented Enterprises,” Accounting and Accounting Bulletin, no.17, pp. 93-94, 2011.
- [15] R. H. Li, “The right structure method and application of intangible assets valuation in enterprise MERGER and acquisition,” Science and Law, no.6, pp.24-28, 2011.
- [16] Q. Zhang, “Analysis on star Value Evaluation,” Folk Music, no.2, pp.76-78, 2013.
- [17] Y.K. Xue, Z T. Wang, “Research on intangible asset information disclosure and its value correlation: empirical evidence from Shanghai Stock Market,” Accounting Research, no.11, pp.40-47, 2001.
- [18] W.P. Wang, Y. Shi, “On the four classifications of intangible assets of modern enterprises,” Accounting research, no.12, pp.56-59, 2007.
- [19] L.P. Yang, “Research on film and television copyright pledge evaluation,” Shandong University of Finance and Economics, 2015.
- [20] H. Ye, “A Brief discussion on the factors influencing the value evaluation of intangible assets in film industry,” Hua Zhang, no.34, pp.23-24, 2013.
- [21] X. Zhang, M. Xie, “Research on intangible Assets Evaluation Method Based on Option Pricing Model,” Chinese Business Journal, no.15, pp. 45-55, 2021.
- [22] Z. Huai, “Research on the Correlation between intangible Assets and enterprise value,” Commerce, no.18, pp.115-116, 2013.
- [23] S.Z. Wang et al., “Theory and Application of Asset Appraisal. Beijing,” China Market Press, 2002.
- [24] S.Y. Wu, “Intangible Assets Management and Evaluation,” Capital University of Economics and Business Press, 2007.
- [25] J.H. Wang, “Research on practice of Cultural Enterprise Value Evaluation,” Finance and Accounting, no.4, pp.56-58, 2013.
- [26] J. J. Wang, L.Y. Mei, “Current situation analysis of intangible assets of Listed companies in China - Based on data research of listed companies in Shanghai and Shenzhen,” Journal of Zhongnan University of Economics and Law, no.2, pp.102-105, 2007.
- [27] J. Yang, “Analysis of discount rate and Value Evaluation,” China Management Informatization, no.1, pp.56-59, 2013
- [28] Y X. Li, “Study on the value evaluation of Trademark right of Keming Noodle industry based on B-S option pricing model,” Hunan University, 2018.
- [29] G Du, “Selection and application of Internet enterprise valuation method,” New Finance World, no.4, pp. 60-61, 2020.
- [30] Y.P. Liu, X.X. Yang, “Some problems in the evaluation of trademark right,” State-owned Assets Management, vol.9, no.5, pp.47-48, 1999.
- [31] F. Dong, “Research on compensation System of Intellectual Property Damage,” South China University of Technology, 2019.
- [32] H.T. Tan, J.H. Wei, J.B. Li, “Selection and Application of enterprise value Evaluation Methods,” Cooperative Economics and Science and Technology, no.4, pp.67-69, 2014.