# Analysis of the correlation between intangible assets and the value of listed companies

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Abstract: With the rapid development of science and technology, the competition among enterprises in various countries is becoming increasingly fierce. Intangible assets have replaced the traditional tangible assets as the core resources and core competitiveness of enterprise development. Intangible assets have increasingly become an indispensable and important resource in the sustainable development of enterprises. To varying degrees, listed companies in China have increased the level of investment in intangible assets and investment efforts. The value relevance of intangible assets has gradually become the research focus of scholars in the field of corporate financial management. Most of the previous studies pay attention to the impact of the overall intangible assets on the value of listed companies. At the same time, the value of intangible assets of enterprises has attracted extensive attention of scholars at home and abroad. In 2005, many achievements have also made. Based on the current accounting standards of intangible assets in China, this paper analyzes the value relevance of different types of intangible assets, and finally probes into the irrationality of the current accounting standards in China. Taking the relationship between intangible assets of listed companies and the value of listed companies as the main research object, this paper puts forward some suggestions for improving the economic value of enterprises, which is of great theoretical significance and practical value for the realization of sustainable development of enterprises.

#### 1. Introduction

At present, each discipline has different definitions of intangible assets and adopts different classification standards. Based on various definitions, this paper puts forward the concept and classification method of intangible assets. At the same time, the influence of intangible assets on the value of listed companies analyzed theoretically. After entering the 21st century, the whole world has experienced the explosion of knowledge economy; every country has gradually realized that if enterprises want to develop, it is very foolish to talk only about scale and not to pay attention to efficiency. The strength of enterprises depends on science and technology, the development of science and technology depends on knowledge, and the dissemination of knowledge depends on talents. Replace it with science, technology, and knowledge the intangible assets of the Table have become an important driving force for the increase of social wealth and economic development. Because intangible assets can bring excess economic benefits to enterprises and contribute to the sustainable development of enterprises in the future, it is necessary to explore their value relevance.

#### 2. Research background

With the development of the human and the continuous improvement of the science and technology level, the intangible assets are the core resources and the core competitiveness of the enterprise's development with the substitute of the traditional tangible assets. The intangible assets play an increasingly important role in the development of the economy and the development of the enterprise. However, our country is still in the primary stage of socialism, the economic structure is not reasonable, and the economic development still depends on the input of resources. The overall

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scientific and technological content of the enterprise is still relatively low, and the intangible assets such as patent, trademark, expertise, copyright, customer resources and human resource still do not form the core assets of the enterprise. Moreover, the awareness of the development and protection of the intangible assets of the enterprise is not strong, In the process of joint venture and cooperation, a large number of intangible assets are lost, which poses a great threat to national economic security. Therefore, strengthening the study of the value of intangible assets has an important impact on the correct understanding of the status and role of intangible assets in Chinese enterprises.

What is the main composition of intangible assets of listed companies in China? Can the book value of accounting really reflect the value of intangible assets? What is the contribution of intangible assets to the profitability of listed companies in China? These questions have not yet effectively answered and solved. In order to answer and solve the above problems, based on the theory of value relevance, this paper studies the structure of intangible assets, historical development trend.

## 3. Purpose and significance of the study

This paper takes the value relevance of intangible assets as the research object, and intends to analyze and study the present situation of intangible assets of A-share listed companies in Shanghai Stock Exchange. The function of intangible assets on the business activities of enterprises, whether the intangible assets information disclosed in the real financial statements is valuable. and put forward targeted policy suggestions through empirical results to enhance the strength of intangible assets and improve the core competitiveness of listed companies in China. Promote economic and social development. Based on the previous research results, this paper enriches the theory of value relevance of intangible assets. In the study of value relevance, the intangible assets are refined and the technical knowledge products discussed respectively. Specifically, the main research purposes of this paper include:

Understand the main structure, proportion and development trend of intangible assets of listed companies in China;

To judge the contribution of the value of all kinds of intangible assets of listed companies to the profitability of enterprises;

Suggestions to improve the correlation between intangible assets value and enterprise profitability are proposed.

# 4. The concept, characteristics and Classification of Intangible assets

# 4.1 The concept of intangible assets

The accounting standards of enterprises in our country define intangible assets as "identifiable non-monetary assets owned or controlled by enterprises without physical form." This paper understands the physical characteristics of intangible assets: From three aspects. Intangible assets have no physical form (but not monetary financial assets); In the form of expression, intangible assets include both rights, such as public rights restricted by legal protection and non-public rights not protected by law, as well as economic resources, such as corporate image, marketing relationship network and so on. In the ability to generate profits, intangible assets bring long-term excess returns to enterprises.

#### 4.2 Characteristics of intangible assets

From the understanding of the definition of intangible assets in this paper, it can be seen that intangible assets have the characteristics of non-physical, non-monetary, long-term and special and extensive content.

# 4.3 Classification of intangible assets

In foreign countries, intangible assets divided into three categories: sales intangible assets

(market management angle), manufactured intangible assets (product production angle) and financial intangible assets (capital operation angle). In addition, in the specific classification, a total of 23 items have been listed abroad, including: patents, concessions, recipes, copyright, trademarks, exclusive rights, contracts, computer software, rental rights, preferential financing, goodwill, trade secrets, workforce, employment relations, distribution, packaging, core depositors basis, unemployment evaluation, sales system, microfilm, advertising materials, manufacturing secrets, new product development.

# 5. The influence of Intangible assets on the value relevance of listed companies

As a profit-making organization, the starting point and destination of an enterprise is profit, that is, the increase of value, and the profit is based on the resources owned or controlled by the enterprise, including tangible resources (such as plant, equipment, products, etc.) and intangible resources (such as intangible assets, financial assets). In the course of their business, enterprises transform these resources into their abilities in research and development, production, marketing, service and so on, to realize the appreciation of assets. In order to analyze the driving factors in the process of value creation of listed companies, Metapraxis Company of the United States has created a business-driven Table framework. This paper analyzes the framework and concludes that in the public listing. In the process of value creation, intangible assets play an equally important role as tangible assets and financial assets, and intangible assets often play a role as a pre-driving factor. So what makes intangible assets play such an important role in the process of value creation of listed companies? With regard to this problem, scholars at home and abroad have mainly analyzed and expounded from two aspects: the external environmental factors and the inherent characteristics of intangible assets. The most representative is the analysis of the value driving factors of intangible assets in the United States. He believes that there are three main value drivers. Dynamic factors: first of all, the use of intangible assets is non-competitive, that is, intangible assets can be used for different purposes at the same time or in different places at the same time, which makes the application of intangible assets extensive; secondly, the increasing return of intangible assets. That is to say, the universality of the application of intangible assets makes the return of intangible assets break through the limitation of decreasing returns of scale, but only restricted by the scale of the market; finally, the network effect of intangible assets. That is easy for enterprises to establish a tangible or intangible network through intangible assets such as brand, trademark and technical advantages, and the larger the network, the more income the customer base locked in the network obtains, and the more the company operates. So why do enterprises not only own or mainly own intangible assets? Scholars believe that this is mainly due to the existence of factors that hinder the contribution of intangible assets to the value creation of listed companies, called value inhibition factors. It mainly includes first, the partial monopolization of income. It is difficult for owners of intangible assets to obtain or control all the benefits they produce, and it is difficult to prevent others from enjoying their investment returns. Research and development, human capital and organizational capital and other intangible assets are the main input elements in the process of enterprise innovation, and enterprise innovation

Compared with enterprise production, marketing and other activities, the activities have a high risk. The investment risk of intangible assets is lower, but the risk always exists. The uniqueness of intangible assets determines that there are no similar or similar products in the market, which makes it difficult for the buyer to compare the information about intangible assets, while the seller has almost complete information about its own intangible assets. The serious asymmetry of the information owned by both parties makes it very difficult to determine their prices. In addition, many information-based intangible assets cost models are initial investments usually sink costs Huge, and the marginal cost of reproduction is almost zero, resulting in the absence of a sTable price system for such assets. The instability of the price system of intangible assets and the serious asymmetry of information between the two sides of the transaction, coupled with the unclear property rights of intangible assets, hinder the establishment and improvement of the intangible assets trading market, which makes it more difficult to trade.

The study of value relevance mainly discusses the correlation between accounting indicators and corporate value in a certain capital market environment and it is a main research field of empirical accounting research. The research on the value correlation of intangible assets mainly discusses the correlation between intangible assets accounting indicators and corporate value under a certain capital environment. The value of listed companies refers to three forms: "enterprise intrinsic value", "enterprise book value" and "enterprise market value". These are three different concepts, each with different meanings. The intrinsic value of an enterprise is that the estimated cash flow of a valuer to the future of the enterprise discounted at a certain discount rate. It is a subjective estimate and is not objectively comparable, because different valuers often have different understandings of the intrinsic value of the same enterprise.

The book value of an enterprise is the value of a listed company that meets the definition and conditions of accounting elements according to certain accounting rules. It calculated according to strict accounting procedures can found out from the enterprise accounting statements, and has objective comparability. In the accounting statements of the enterprise, the main forms of accounting indexes of the change of the book value of the enterprise are the main business profit, the operating profit, the after-tax profit after interest, the net profit and so on. The market value of an enterprise refers to a transaction price reached by the buyer and the seller to the target enterprise under certain market conditions. It is generally available from the market and has the Objective comparability.

The market value of an enterprise refers to a transaction price reached by the buyer and the seller to the target enterprise under certain market conditions. It can generally obtain from the market and has objective comparability. The main forms of enterprise market value are stock capital market price, enterprise revaluation, enterprise liquidation price and so on. There are differences in internal value, book value and market value, especially between book value and market value. This huge difference generally attributed to intangible assets.

#### 6. Analysis of the correlation between intangible assets and the value of listed companies

Classification of intangible assets. Intangible assets usually include patent rights, non-patented technologies, trademark rights, copyright, concessions, land use rights and so on. There are also different views on the classification of intangible assets. Based on the classification of scholars in the early stage, this paper divides intangible assets into technology and rights, and rights divided into marking rights, real rights and behavioral rights. The marking right includes trademark right, the real right includes land use right, and the behavior right includes monopoly right, production license and so on.

#### 7. Value relevance of listed companies with different types of Intangible assets

#### 7.1 Technical category

Technical intangible assets refer to intangible assets that enterprises invest in technical resources, to enhance the value and competitiveness of products and bring competitive advantages to enterprises. These intangible assets supported by a steady stream of intellectual resources, which in the final analysis lie in innovation. In order to respond to the national policy of vigorously developing the independent innovation ability of enterprises and building an advanced innovative country, Chinese enterprises gradually realize the importance of independent innovation and strive to transform Chinese manufacturing into Chinese creation. This requires enterprises constantly cultivate the independent innovation ability of their employees in order to research Based on the development activities, it brings fresh blood to the enterprise through R & D activities, provides the motive force for the development of the enterprise, and enhances the value of the listed company.

#### 7.2 Right category

There are three kinds of intangible assets, marking right, real right and behavior right. Among them, the marking right includes trademark right, factory name and so on. Trademark right refers to

the identification of the mark of a particular commodity, indicating the quality of the commodity, highlighting the reputation of the commodity, and representing the image of the enterprise. Enterprises through television advertising, naming a certain program, street publicity and other ways to start the brand of enterprises, known and familiar to the public, consumers because of the role of famous brand effect will buy the goods of the enterprise, bringing profits to the enterprise. China's "Haier" Group Company, which is famous for its international reputation, Guizhou "Maotai" and Lenovo Group Company, which are known as national wine, are also known as "Maotai" in Guizhou and "Lenovo" in Lenovo Group Co., Ltd. In the process of the development of the enterprise, the value of trademark continues to increase, which brings excessive profits to shareholders, and makes the economic value of the enterprise increase continuously.

The real right based on a certain article, indicating the right to use or own the article, such as the right to use the land, copyright and so on. Among them, the right to land use is an important intangible asset. Nowadays, the land price in our country, especially in the prosperous areas of economically developed cities, is very expensive and will become higher and higher with the passage of time. If enterprises own land use rights and sell goods in such places, they can attract a large number of consumers to buy goods and bring the inflow of economic benefits in the future. Therefore, the right to use land plays an important role in the value creation of enterprises.

Behavioral right refers to the right of an enterprise to have a certain behavior. Such as franchises, concessions, operating licenses and so on. The concession provides a similar monopoly force for the enterprise, consumers can only buy the goods or services of the enterprise, which brings the enterprise only their own profit and promotes the inflow of the economic interests of the enterprise.

The application value of intangible assets mainly includes: Property right conditions, reputation and favorable terms, including authorization strategy, favorable terms and product reputation. Interactive authorization relationship, including interactive authorization status and authorization mode.

The main contents are as follows: Market structure and scale structure, including commercial intensity and external resources, industrial competitiveness, product positioning and internal resources, marginal manufacturing costs and investment opportunity costs. Expected market and market acceptance, including customer and professional relationship intensity, market mastery ability and market area separation and protection ability. Market diffusion and promotion power, including market sensitivity and periodicity, industrial competitiveness state and potential, product responsibility structure and market diffusion power.

# 8. A study on the correlation between the value of Intangible assets and the profitability of listed companies

Product application and commercial value (market prospect). Among them, the application of technological strength and intangible assets can combine into "technical contribution" and "commercial value" as the basis of the total market value. The specific factors affecting each level are as follows: Technological innovation and competitiveness, including technological innovation ability, technology specificity and classification, product management and enhancement ability and technological competitiveness. Technical support and risk, mainly including technical support capacity and technical risk. Technical practicability and scientific citation ability, including technical practicability and basic technology application ability.

The application value of intangible assets mainly includes: Property right conditions, reputation and favorable terms, including authorization strategy, favorable terms and product reputation. Interactive authorization relationship, including interactive authorization status and authorization mode.

Business values mainly include: Market structure and scale structure, including commercial intensity and external resources, industrial competitiveness, product positioning and internal resources, marginal manufacturing costs and investment opportunity costs. Expected market and market acceptance, including customer and professional relationship intensity, market mastery ability and market area separation and protection ability. Market diffusivity and promotion power,

including market sensitivity and periodicity, industrial competitiveness state and potential, product responsibility structure and market diffusion power.

However, due to the different nature of different types of intangible assets, the factors that affect the value are also very different. For example, the factors that affect the value of patents mainly include legal factors, technical factors and economic factors. The legal factors mainly include the type of patented technology, the creativity of patented technology, the regionality of patented technology, the national macro-control and economic policy, the policy of science and technology and other legal factors. The technical factors mainly include the maturity of patented technology, the difficulty of implementing patented technology, the life cycle of patented technology and the conditions of the transferee of patented technology. Economic factors mainly include cost factors, income factors, market factors and risk factors. For example, at present, the protection of trademark rights in various countries is more than ten years, and the term of the trademark rights extended to continue the protection of the rights given by law. As long as the trademark owner conscientiously maintains the quality of his products, the value of the trademark right cannot only rise in the tide, but also maintained permanently. The economic value of rights such as patent rights may reach the highest economic point when the patent right is first obtained, but as the protection period fade away, the property benefits of patent rights will also gradually decrease. [WT5HZ] [WT5 "HZ] [WT5" HZ] When the patent right expires, the original patentee may lose the economic benefits brought about by intangible assets Benefit.

## 9. Summary

In a word, it driven by external environmental factors and the inherent nature of intangible assets that intangible assets play a more and more important role in the process of value creation of listed companies. The state and enterprises have increased the investment and management of intangible assets in order to get the rapid development of the national economy and the transformation of enterprise management model (from labor or capital-intensive to knowledge-intensive development model in the past). The study of the value relevance of intangible assets has always been a field that people should pay attention to, and with the change of economic background, intangible assets should paid more and more attention by the theoretical and practical circles. It is hoped that the development of the guidelines will be linked to The realistic economic background adapts to the reality, on the basis of drawing lessons from the foreign experience, formulates the criterion which conforms to the situation of our country, thus can improve the enterprise economic value, realizes the enterprise sustainable development. At the same time, the value inhibition factor hinders the rapid growth of the intangible assets of the enterprise.

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