Enterprises Patents and Marketing Capabilities

Muhong Zhang

School of Economics, University of Nottingham, Ningbo 315000, China

Email: biymz10@nottingham.edu.cn

Abstract. The literature generally agrees with the close relationship between the level of economic and technological development, but there are different views on how to define and measure the level of technological development. The traditional theory holds that the relationship between capital and labor force is the dominant factor determining the level of technological development, while the technology gap theorists link innovation activities with the level of technological development. A high level of innovation activities means a higher per capita value-added level. The standards of measuring technology level and or innovation activities can be divided into technology input measures and technology output measures. This paper aims to explore the relationship between the number of patents owned by enterprises and marketing ability, including the relationship between the number of patents and enterprise income, the advantages and disadvantages of measuring patents for enterprise development, the advantages of multiple patents for enterprises, and the classification of patent dependent enterprises and non patent dependent enterprises.

Keywords: Innovation; technology; company operation.

1. Introduction

The existing literature generally agrees with the close relationship between the level of economic and technological development, but there are different views on how to define and measure the level of technological development. The traditional neoclassical theory holds that a country's technological development level mainly depends on the relationship between capital and labor [1]. The technology gap theorists link a country's technology development level with its innovation activity level [2].

. The high level of innovation activities means that "new" goods account for a high share of output, and "new" technologies are widely used in production. Because of the higher price of "new" products and the higher productivity of "new" skills, countries with higher levels of innovation activities tend to have higher per capita value-added levels than other countries.

Of course, a country can improve its economic development level through imitation activities, but according to the above theory, it cannot surpass the advanced countries economically without surpassing their innovation activities.

The standards for measuring the level of technology and or innovation activities can be divided into two categories, namely, technology input measures and technology output measures [3]. In terms of technology investment, it includes the expenditure on education, research and development and the employment of scientists and engineers. In terms of technology output, patent activities are mainly considered. Technology investment is related to a country's innovation ability and imitation ability, because a certain scientific foundation is a prerequisite for success [4]. Many countries can take these measures for a long time. In addition, the study of the relationship between patent activities and R&D at the enterprise or industry level also shows that there is a close relationship between patent activities and R&D.

This paper aims to discuss the relationship between the number of patents owned by enterprises and marketing ability. The number of patents refers to the patents owned by the enterprise, while the marketing ability is specifically reflected in the profit and market share in this paper. This paper will discuss from several aspects: first, the relationship between the number of patents and enterprise income; second, how to measure whether patents are beneficial to the development of the company; third, what are the advantages of a company with multiple patents; and the classification of patent dependent enterprises and non-patent dependent enterprises.

2. Theoretical Analysis

2.1. Patent Quantity and Enterprise Income

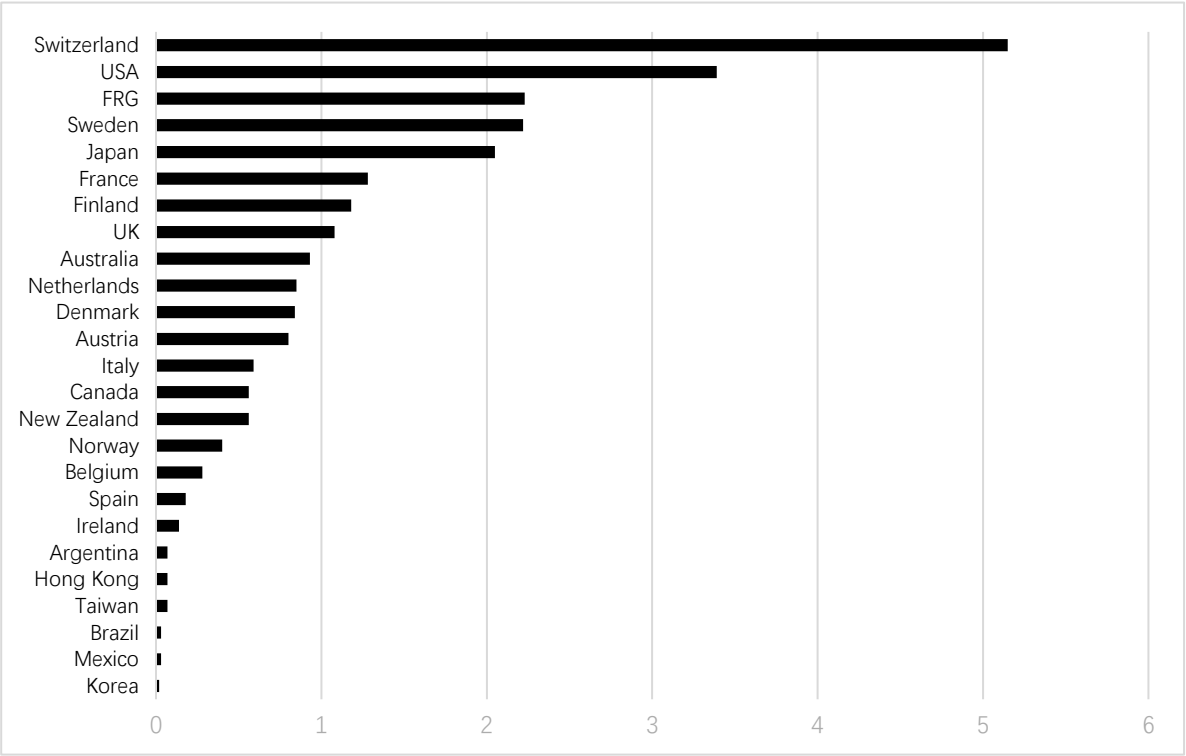


Fig. 1. Index of technical level (patient data)

The technical level index standard in Fig. 1 can reflect the progress level of a country. Some facts can be found from table 1 when considering patent application and export. First of all, from the perspective of standard deviation, the differences between countries' technological levels are more obvious than those based on R&D data. This is consistent with the assumption that patent statistics measure innovation activities, while R&D data measure innovation and patent imitation. Secondly, the ranking of the two countries is very similar in the two indexes. For example, according to patent statistics, in the early 1960s, the seven countries with the most advanced technology were Switzerland, the United States, FRG, Sweden, France, the United Kingdom and the Netherlands [1]. According to R&D statistics, these countries are also the most technologically advanced. Similar relationships also apply in subsequent periods. Third, these two indexes generally reflect the change of relative technological status over time. They all show that countries such as Japan, Finland and South Korea have improved their technological level compared with other countries, while the "old superpowers" such as the United States, Britain and the Netherlands have shown a similar downward trend. In addition, it can also be noted that during the early 1960s and early 1980s, both indexes showed that the technology gap was narrowing (measured by standard deviation). However, in the late 1970s, the process seemed to have slowed down [5]. Through the analysis of these indexes, we can better understand the changing trend of technology level in various countries. Therefore, we can clearly find that economically developed countries usually have obvious advantages in the level of science and technology - patent.

2.2. Technology and Innovation Measurement Index

Here is a technology level index standard that can reflect a country's level of progress. When considering patient applications and exports, some facts can be observed from Fig. 1.

So first we discuss the importance of patents. Enterprises with patents can help them consolidate their market position by obtaining patents, enterprises create a unique competitive advantage, and other competitors cannot copy or imitate the technology or product. This enables enterprises to

establish certain barriers in the market, prevent other companies from entering the same field, and stabilize their position in the industry [6]. Patents can also bring business opportunities and benefits to enterprises. Having effective patents can help enterprises transform innovation into business value. They can be used as bargaining chips for enterprises to negotiate license agreements or technology transfer with partners, so as to obtain additional sources of income. According to the table below, we can see that most enterprises' operating income is rising after they have more patents. It is obvious that this is a positive correlation.

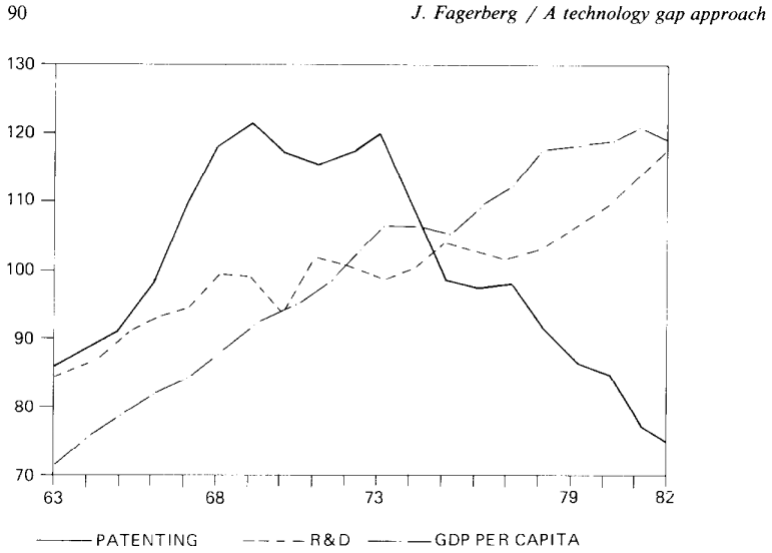


Fig. 2. Relation among 3 factors (patient data)

In Fig. 2, we can clearly observe a phenomenon. Before 1973, with the rise of the patent technology index, R&D and GDP per capita also showed an upward trend. We can understand that they have a convergence relationship. However, after 1973, the patent technology index continued to decline, but the other two indexes did not receive much impact, so the convergence trend we just mentioned cannot form a law. It can be optimized as that the increase in the number of patents will inevitably lead to the increase in R&D and GDP per capita, but the increase in R&D and GDP per capita is not necessarily related to the patent technology index. And this also reflects the marginal effect of patents. With the continuous rise of patent technology index, on the basis of existing patents, the impact of new patents on scientific research and economic activities is no longer strong.

Now, we are going to discuss how to measure the effectiveness of patents for the development of the company. Is it possible for the company to gain marketing growth as long as it absorbs patents? First of all, the effectiveness of patents on the company's development can be evaluated from multiple perspectives. From the perspective of quality and quantity, the number of patents reflects the activity of the company in technological innovation, while the quality of patents reflects the innovation, practicability and commercial value of patents [7]. The impact on the development of the company can be evaluated by counting the number of patents applied for and obtained by the company, as well as evaluating the grant rate and citation times of patents. Another important indicator is the company's ability to convert patents into business value and revenue sources. We can investigate the commercialization of patents by enterprises through selling their own products, signing license agreements with partners, or technology transfer. This can be assessed by analyzing patent related revenue, number of partners, technology transfer transactions, etc. Finally, to measure the effectiveness of patents on the company's development, we also need to examine the company's performance and competitiveness in the market. It can be evaluated by observing the market share, sales growth rate, brand awareness and other indicators of the enterprise. If the company can obtain more market opportunities and achieve good business results after having patents, it shows that patents have played a positive role in its development [8]. The above three standards are only applicable to patents in the field of enterprises. Will it have the same effect when the company absorbs

patents not in the field of the company? The standard to measure this problem should be whether there is demand in the market. Only when there is demand can there be supply. If the patent is in a field that the company has never researched and developed, but the market potential of this field is very large, Then this patent is likely to be a new breakthrough for the development of the company. This breakthrough may not be based on any basic industry. We can call it a popular product or online popular product. It is only because of the large demand caused by the temporary trend in the market. From the time line, this is a very short-term but profitable patent, When considering whether to absorb the patent, the company should measure whether the balance between the cost of maintaining the patent and the income obtained by the company through the patent is positive [9]. However, if the company can take advantage of this opportunity to form an industry trend and eventually become a leader in the industry, it is acceptable for this initial investment to be negative, but it is very difficult to measure whether it has potential for an emerging industry. This article will not discuss it specifically here.

2.3. Patent dependency company and Independent company

How to measure the effectiveness of patents for company? Does a company have as many patents as possible? Which companies need more patents and which do not need to develop too many patents? As mentioned above, the number of patents owned by a company reflects its level of activity in technological innovation. Of course, this is analyzed from the macro level. From the micro level, considering the marginal effect, it is not a good thing for a company to have more and more patents in the same field, because it needs to pay more to make a greater breakthrough on the existing basis, so for a company, The importance of patents is also related to the company's business scope. For companies with different business scopes, their dependence on patents will be different. Some companies can greatly improve their patents only once, while some companies rely heavily on patents because of the uniqueness of their businesses. First of all, patent dependent enterprises, such as technology oriented enterprises, take technological innovation as the core driving force, and maintain competitive advantage through continuous R&D activities and patent applications [10]. They usually operate in the high-tech field and have a strong R&D team and expertise. For non patent dependent enterprises, such as brand and patent combined enterprises, these enterprises combine brand value with their patents and consolidate their competitive position through brand recognition and market share [11]. They may have patents in many fields and achieve business success through brand promotion and marketing strategies. They may have high popularity and reputation in the market. For technology-oriented enterprises, since the goal of enterprises is technological innovation and the research and development of a high-end technology, continuous patent research and development is very important for the innovation of this technology. From the perspective of market competition, because of the uniqueness of the field, each technology-oriented company is more than whose patents are more breakthrough and can bring creative reform to the field. Relatively speaking, brand enterprises need more marketing strategies and multi-dimensional brand promotion, such as some well-known life apps. What they need to do may not only be how to collect so much information for users to refer to, but also accurately find out what users are really interested in according to their tastes, and then realize effective and accurate push. If users need it, they also need to enhance the live broadcast, The function of the shopping platform requires brand enterprises to be involved in many aspects of professional knowledge, but it does not need to be too proficient, because it is more practical than theoretical research.

3. Conclusion

By analyzing the technical level index standard, this paper discusses the importance of patents in the development of enterprises. Firstly, the paper analyzes the impact of the number of patents on the activity of the company in technological innovation from the perspective of the quality and quantity of patents. Secondly, it discusses several indicators to measure the effectiveness of patents on the

development of companies, including patent quality, patent commercialization ability and market performance. Finally, for companies with different business scopes, the differences of their dependence on patents are analyzed.

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