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A Review of Research on Corporate Social Responsibility and Technological Innovation

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Abstract

By sorting out the research results of corporate social responsibility and technological innovation at home and abroad, it clarifies the specific models and methods adopted by the theoretical circle for the evaluation of corporate social responsibility and technological innovation, as well as their respective views and future development directions. It is conducive to the scientific and standardized research on corporate social responsibility and technological innovation in our country, and it is also helpful to promote Chinese enterprises to better fulfill corporate social responsibility and strengthen technological innovation.

Keywords

Corporate Social Responsibility; Technological Innovation; Review.

1. Introduction

In the context of my country's economic transformation and development, improving the quality of development and achieving sustainable development is the future direction and inevitable choice. In the process of deepening reform, various problems of enterprises are becoming more and more prominent, and all sectors of society are paying more and more attention to such non-essential corporate social responsibility. Financial Information and Nonprofit Behavior. At the same time, technological innovation is an important part of economic transformation and upgrading and building a new engine for sustainable development. How to establish a competitive internal development strategy and give full play to the leading role of corporate social responsibility in technological innovation has become an important issue. Under the guidance of the spirit of the 19th National Congress of the Communist Party of China, where innovation leads development and builds a strong country in science and technology, attention has been paid to the relationship between corporate social responsibility and technological innovation. Scholars at home and abroad have conducted in-depth research in this field, but there are still disputes and unresolved issues. The problem. Therefore, the review of domestic and foreign research literature has significant practical significance, and also has beneficial enlightenment for related theoretical research and practical activities in my country in the future.

2. Literature Review

2.1. Review of Research on the Concept of Corporate Social Responsibility

2.1.1. Foreign Literature

The starting point of early CSR evaluation research is social issues. The researchers believe that many problems faced by today's society are directly or indirectly related to the operation of enterprises, and enterprises should be responsible for solving these problems. This research perspective starts from the social problems faced by enterprises, and through extensive research and research, determines some important social problems that general large

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enterprises can affect and solve through their capabilities, such as racial and gender discrimination, environmental issues, product quality and research and development. And safety issues, etc., according to the company's attitude and contribution to these issues, to evaluate the level of corporate social responsibility. With the progress of the times, the responsibility of enterprises to society is no longer limited to the role given by the traditional prescriptive economy, and the definition of corporate social responsibility is also constantly improving.

In 1953, Bowen first defined corporate social responsibility as "a businessman's obligation to meet the goals and values expected by society when formulating policies, making decisions and taking actions"[1]. Since then, he has pioneered research in the field of corporate social responsibility, and Bowen is also known as the "father of corporate social responsibility". Subsequently, foreign researchers tried to construct a corporate social responsibility framework from multiple dimensions, so as to explain its inner meaning more comprehensively and comprehensively. After the Second World War, the concept of corporate social responsibility generally recognized by the academic circles includes the concept of "pyramid" and "triple bottom line".

After more than 20 years of exploration, Carroll came up with a more classic and most recognized definition of corporate social responsibility on the basis of summarizing previous research, namely the four-level theory [2]. He argues that a company's social responsibility includes society's expectations of an organization at a given point in time, and these expectations involve economic, legal, moral, and discretionary powers. This actually divides corporate social responsibility into four dimensions: economic responsibility, legal responsibility, moral responsibility, and charitable responsibility. The specific meaning of each dimension is explained in detail. Later, he mapped the four components into a pyramid model, which gradually narrowed from bottom to top according to economics, law, morality, and charity (see Figure1).

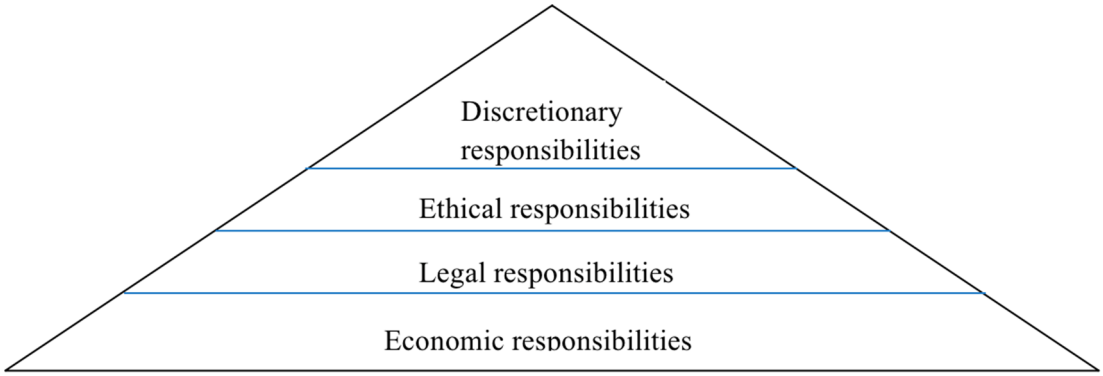

Figure 1. Pyramid of Corporate Social Responsibility

Late 1980s, foreign scholars' research on the field of social responsibility began to gradually change from theoretical research to empirical research, and the research objectives also extended to stakeholders, long-term performance of enterprises, and even ethical norms. In 1984, the Stanford Institute proposed the concept of "stakeholders". Based on this concept, Professor Freeman of the University of Virginia and many scholars made continuous efforts to put forward the "stakeholder" theory that was popular in academia. The theory states that companies have social responsibilities to explicit stakeholders. Since then, this theory has gradually become the mainstream thought in the study of the concept of corporate social responsibility.

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In the 21st century, Mcwilliams & Donald constructed a supply and demand model for corporate social responsibility. Based on this framework, scholars hypothesize that a company's level of CSR will depend on its size, level of diversification, R&D, advertising, government sales, future consumers, labor market conditions, and the stage of the industry's life cycle [3]. From these assumptions, he concludes that there is an "ideal" level of CSR that managers can determine through a cost-benefit analysis, and that there is a neutral relationship between CSR and financial performance, and that companies should Integrate social responsibility behaviors into the service and production process, not only in external donations for disaster relief and accountability to stakeholders. Turker has made a precise description of the stakeholder part of this concept, "corporate social responsibility refers to corporate behaviors that aim to positively influence stakeholders and transcend their economic interests" [4]. Aguinis & Glavas argues that CSR is specific organizational behaviors and policies that take into account the expectations of stakeholders and the triple bottom line of economic, social, and environmental performance [5]. LauLee & Cheng argue that since CSR is a complex process involving the implementation of a wide range of concepts and practices, some companies may focus on specific CSR practices while ignoring those they deem unimportant [6].

2.1.2. Domestic Literature

The initial exploration of Corporate Social Responsibility by Chinese scholars is many years later than that of foreign scholars, which also makes China 's exploration in this field always in a state of reference and absorption.

Headed by China Enterprise Management Yearbook, its description of social responsibility is: Enterprises should care about the development and interests of society, and actively participate in the development of society. Tianhe Song & Wei Yang divided corporate social responsibility into four stages of development: the first stage was before the 19th century [7] , which basically did not require companies to perform social responsibility; the second stage was from the 19th century to the 19th century During the 1990s , enterprises were required to fulfill their economic responsibilities during this period: the third stage was from the 1890s to the 1960s , and legal responsibilities were added to the requirements of enterprises; the fourth stage was from the 1960s to the present . In addition to economic responsibility and legal responsibility, ethical responsibility and charitable responsibility are also required to make the content of corporate social responsibility more complete. Zheng Li & Rui Xiao, corrected the problem of excessive emphasis on shareholders' interests in the current corporate governance standards [8] . He pointed out that corporate social responsibility should not only be responsible for shareholders' business goals, but also to social groups or individuals who have an interest in the company. Bear economic and legal responsibilities. The definition of corporate social responsibility is based on the premise of social harmony and sustainable development of enterprises [9]. Enterprises are also members of the social ecosystem. Considering their own long-term benefits and values, they should also take the initiative to voluntarily fulfill their obligations. Responsibilities that other stakeholders of the society (including corporate employees, local governments, customers, corporate shareholders, etc.) should perform.

At present, domestic scholars have generally accepted the idea of integrating corporate social responsibility with stakeholders.

2.2. A Review of the Concept of Technological Innovation

The concept of Technology Innovation originated from the discussion of innovation by the Austrian American economist Schumpeter in 1912. Schumpeter believed that innovation is the establishment of a new production function or supply in the book "The Theory of Economic Development". function, which introduces a "new combination" of production factors and production conditions into the production system. After Schumpeter, scholars further extended technological innovation, put forward different understandings, and proposed new technology

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innovation theories. Donaldson & Preston pointed out that technological innovation capability requires implementation subjects, operating platforms and a highly inclusive corporate culture [10]. Teece also believed that technological innovation capability is not only related to the improvement and application of existing technologies, but also It includes the technical personnel, R&D management organization and innovation culture of the enterprise [11]. Domestic scholars [12] put forward science-based innovation, arguing that technological innovation is highly dependent on scientific research and knowledge, high R&D intensity is an important measure, and breakthrough innovation can bring huge of excess profits. From the perspective of innovation investment, professional scientific knowledge, R&D personnel and abundant R&D funds are essential [13], however, R&D has high risks, and R&D outputs patents, new technologies and new products. The success rate reflects the dynamic transformation ability of knowledge of the enterprise. But in general, it is generally believed that technological innovation activities include the entire process of a technology or product from the generation of new ideas, to research and development, trial production and first commercialization.

R&D expenditure, that is, the expenditure of research and development, the English is The Cost Of Research & Development, referred to as R&D. Research and development activities refer to an activity in which a group organization uses new scientific and technological knowledge to qualitatively improve products or services. Generally refers to the research and development of products and technologies. R&D activity is an innovative activity that requires creative work. Investments in R&D activities are R&D expenditures. The measurement of technological innovation of enterprises is mainly reflected in the R&D expenditures in the report. The expenditures of R&D activities of enterprises are divided into two stages, one is the expenditure of the research stage, and the other is the expenditure of the development stage. Expenses in the research phase should be recorded in the current profit and loss and be expensed. Expenditures in the development phase should be recorded in the intangible assets item and capitalized.

In the existing literature research, indicators such as the number of patents, R&D investment and new product sales are mainly used to measure the technological innovation of enterprises [14, 15]. R&D activities are the systematic knowledge creation process of the company, and excellent employees are the important implementation subjects. Some scholars also measure the human capital expenditure of enterprises in the process of technological innovation by the ratio of the number of highly educated employees to the total employees [16].

2.3. Review of Research on the Relationship between Corporate Social Responsibility and Technological Innovation

In recent years, some scholars have discussed the impact of corporate social responsibility on technological innovation capabilities. They selected different companies as samples, designed indicators according to their own research directions, and obtained empirical results. There is a negative correlation effect in the argument, and there is no effect in the inference. I have collected relevant literature and carefully reviewed it as follows:

2.3.1. Positive Correlation

A study of the Dominica (KLD) social index found that a company's better practice of social responsibility can attract high-quality and creative employees to join [17]. The company helps employees improve the working environment, thereby stimulating their enthusiasm for work and promoting the generation of technological innovation.

There are many reasons why CSR can improve investment efficiency and technological innovation. First of all, from the perspective of corporate strategy, technological innovation is a long-term and uncertain activity, which requires management to have a long-term perspective and avoid short-sighted behavior. Management with a strong sense of social responsibility is more likely to avoid short-term interests. short-sighted behavior; secondly,

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from the perspective of employees, innovation is essentially a risky activity. In enterprises with a sense of social responsibility, employees tend to have a higher sense of occupational security, and they are less worried about losing their jobs due to innovation failure; finally, from the perspective of financial commitment From the perspective of social responsibility, it can help enterprises establish good relations with the government, banks and other enterprises, which is conducive to alleviating the financing constraints faced by enterprises, thereby promoting technological innovation of enterprises. However, if managers' overconfidence affects CSR programs, especially those that are superficial, we may not find a link between CSR performance and technological innovation.

The representative literature that corporate social responsibility and technological innovation are positively correlated is shown in Table 1.

Table 1. Representative literature on the positive correlation between corporate social responsibility and technological innovation

author	research method	in conclusion
McWlliams & Siegel [18]	The impact of corporate social responsibility is estimated by regressing the evaluation of corporate performance on corporate social performance and several control variables.	Research shows that if enterprises take the cost of fulfilling social responsibility as a long-term investment behavior, it may stimulate the motivation of enterprises to carry out innovative research and development and explore product differentiation.
ÜbiusAlas & Vanhala [19]	86 different industry organizations in Estonia were interviewed, and descriptive statistical analysis of the interview results was carried out.	The results show that there is an obvious positive correlation between corporate social responsibility and technological innovation.
Bocquet, Le Bas, Mothe, & Poussing [20]	By conducting CSR and CIS surveys of 1,144 companies in Luxembourg, two types of corporate social responsibility were summarized by means of cluster analysis. Then, the author conducts an empirical analysis on the relationship between corporate social responsibility and innovation.	The results show that companies that perform social responsibility for economic benefit are more innovative in product and process innovation, while those that perform social responsibility for better learning adopt organizational innovation.
Ubius & Alas [21]	Through surveys and interviews with business executives in electrical and electronic equipment retailing and manufacturing industries in seven countries, including Estonia, China, Germany, Finland, the Czech Republic, Slovakia and Japan, the paper attempts to demonstrate the link between corporate social responsibility and fostering an atmosphere of corporate innovation.	The empirical results show that corporate social responsibility is conducive to the establishment of an innovative atmosphere for enterprises.
Bögel [22]	Through research based on cognitive dissonance theory , the impact of prior firm reputation on consumers' overall evaluation of CSR communications, and the development of consumer trust in ongoing CSR activities and their responses .	When enterprises establish an environmental protection corporate image, they will increase their investment in research and development of degradable materials and non-polluting products, and fulfilling corporate social responsibilities can gain the value recognition of high-quality corporate employees, and attract

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		outstanding R&D personnel to join in to promote technological innovation.
Cook, Romi, Sánchez, & Sánchez [23]	Two important channels through which corporate social responsibility affects corporate value are examined: investment efficiency and innovation.	The study found that companies with higher CSR performance are more efficient in investment, and companies with higher CSR performance generate more patents and patent citations.
Huang Jun & He Guoliang[24]	Taking A-share listed companies in Shanghai and Shenzhen stock exchanges from 2011 to 2013 as samples, this paper studies the mechanism of corporate social responsibility on corporate value through technological innovation, and further analyzes the impact of different property rights on this mechanism.	The results show that corporate social responsibility can enhance corporate value, and technological innovation plays a partial intermediary role between the two. In state-owned enterprises, technological innovation has a negative moderating effect on the relationship between corporate social responsibility and corporate value; in non-state-owned enterprises, technological innovation plays a complete intermediary role between corporate social responsibility and corporate value.
Li Yuanyuan, Li Guihua & Zhang Huilong[25]	The panel data of A-share listed companies in "China's 500 Most Valuable Brands" released by World Brand Land from 2013 to 2016 is used for analysis.	The study found that corporate social responsibility has a negative impact on brand value, technological innovation has a positive and significant impact on brand value, and a high level of technological innovation can weaken the negative effect of corporate social responsibility on brand value .
Wu Di, Zhao Qifeng & Han Jiayi[26]	By constructing a comprehensive index of corporate social responsibility in China's listed companies, this paper analyzes and investigates the specific effect and impact mechanism of corporate social responsibility on technological innovation.	Empirical research finds that corporate social responsibility has a significant positive effect on technological innovation. Further mechanism research shows that corporate social responsibility can improve employees' sense of occupational security, improve management's shortsightedness, ease financing constraints, and thus promote technological innovation.

2.3.2. Negative Correlation

Barbera & McConnell collected relevant data for analysis, and found that 10% to 30% of the productivity decline in the US chemical, steel and paper industries from 1960 to 1980 can be attributed to pollution control investment[27]. Corporate social responsibility includes the protection of the environment by enterprises, and environmental regulation is the social responsibility that enterprises undertake to the public, so their research shows that corporate social responsibility is negatively correlated with technological innovation. Wang Guoyin & Wang Dong used the panel data of eastern and central provinces from 1999 to 2007 to try to conduct an empirical comparative study on the impact of their environmental regulation on enterprise technological innovation[28]. To carry out environmental regulation is to force enterprises to undertake social responsibility for the environment, which is not conducive to enterprises' technological innovation.

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2.3.3. Uncertain Relationship

Hu Mingyong & Zhou Jizhong's research shows that enterprises can obtain government funding if they undertake social responsibilities to the government[29]. However, they believe that policy tools can promote technological innovation in the private sector, but at the same time, they will play a role of restraint and substitution among various departments. . This leads to an extreme value of the total amount of government funding. Before the extreme value, the effect will increase with the increase of the total amount of funding, and after the extreme value, it will turn into a downward trend, that is, in the long run, government funding will not improve enterprises. of technological innovation. A study on the index enterprises in 31 provinces and autonomous regions from 1998 to 2004 showed that the corporate social responsibility and increased investment in pollution control had no significant impact on technological innovation[30].

3. Implications for Future Research in China

There are three incompatible viewpoints above. Nevertheless, we can still see that the positive correlation between corporate social responsibility and technological innovation capability is a relatively mainstream viewpoint. In view of the fact that there are few literatures that directly study the negative or uncertain relationship between the two, and the literatures on the positive correlation are mostly supported by empirical data, future research by scholars can tend to believe that the impact of corporate social responsibility on technological innovation capability is positively correlated. of. At the same time, foreign scholars have made abundant research on the relationship between corporate social responsibility and technological innovation capabilities, including empirical analysis and case analysis. In comparison, domestic research on the relationship between the two has only just developed in recent years, and the number of relevant studies Fewer and fewer empirical studies.

In terms of research objects, some scholars take enterprises in a single industry as the research object, and there are also general researches on all industries. On this issue, there is no comparison of enterprises in different industries, which makes the research somewhat incomplete. Future research can compare companies in different industries to explore the impact of corporate social responsibility and technological innovation on different industries and the relationship between the two.

In terms of research methods, most of them focus on case analysis. In recent years, the use of empirical methods through data research has become popular, and there are not many at present. Scholars have used regression analysis to empirically test the relationship between corporate social responsibility, technological innovation and other related variables. However, they have not conducted in-depth interviews and investigations in enterprises, and have not been able to observe how corporate social responsibility behaviors are implemented, and what measures are used to affect technological innovation, Political legitimacy and organizational legitimacy, the differences in the impact of these corporate social responsibility behaviors cannot be observed for the time being, and further research is needed.

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