

# Impact of Corporate Social Responsibility on Innovation Performance: An Empirical Study

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**Abstract:** *This study is dedicated to exploring the relationship between Corporate Social Responsibility (CSR) and innovation performance, especially in the context of intense competition and society's pursuit of high quality development, where corporate innovation has become a key factor in maintaining competitiveness and realizing sustainable development. The core of the study is to understand the role of mission statement in corporate culture and how it affects long-term corporate strategy and innovation performance. In terms of theoretical framework, this study relies on strategic management theory, stakeholder theory, corporate culture theory and resource dependence theory to construct a mediation model of "mission statement-Corporate Social Responsibility (CSR)-innovation performance", and adopts the "words-actions-report" model. Using the logical framework of "words—actions—report", we analyze how the guiding principles of mission statement can promote innovation results by motivating enterprises to fulfill their social responsibility and gain the support of stakeholders. By empirically analyzing data from 1,297 A-share listed companies that have been established for more than ten years between 2015 and 2019, this study finds that the focus on stakeholders in the mission statement, especially the focus on customers, employees, and suppliers, can significantly improve innovation performance by enhancing the fulfillment of corporate social responsibility. At the same time, no significant relationship was observed for the impact of this focus on shareholders and society, suggesting that firms may differ in the consistency of their words and actions. Overall, this study brings a new perspective to the field of mission statement research and fills the gap in previous research on the relationship between mission statement and non-financial performance, especially innovation performance. The results of this study have important implications for subsequent research and practice, providing suggestions on how to effectively incentivize and promote corporate innovation through mission statement management and social responsibility activities to achieve long-term business performance improvement.*

**Keywords:** Mission statement; Corporate social responsibility; Innovative performance; Stakeholders.

## 1. INTRODUCTION

### 1.1 Background of the study

Corporate Social Responsibility (CSR) refers to the ability of enterprises to pay attention to and assume responsibility for the environment, society and stakeholders while pursuing economic interests. With the accelerated development of globalization and information technology, CSR has become a topic of increasing concern to the public, government and investors. CSR is not only regarded as the basis for legitimate business operations, but also as an important factor for sustainable development.

The current international and domestic business environment is undergoing tremendous changes, and competition is becoming increasingly difficult and complex. In this environment, innovation is considered to be the key for firms to gain and maintain competitive advantage. Innovation performance is an important indicator of an enterprise's innovation capability and innovation results, indicating whether the enterprise's innovation activities in terms of products, processes, markets and organizational structure have achieved the expected results.

The relationship between CSR and innovation performance has attracted extensive attention from scholars. On the one hand, assuming social responsibility can improve a firm's brand image and promote good relationships with stakeholders such as consumers, employees, and suppliers, thus providing a wider range of resources and network support for corporate innovation. On the other hand, in order to meet increasing demands for social responsibility, firms may need to adopt innovative activities to reduce costs, minimize environmental impacts or provide high-quality products and services.

At a practical level, companies can achieve innovative performance by developing new products, improving manufacturing processes, adopting more environmentally friendly materials or implementing new business models. These innovative activities not only help enterprises to cope with market competition and environmental challenges, but also make them more proactive and effective in fulfilling their social responsibilities. In addition,

the good public image and corporate reputation brought about by CSR can also be used as intangible assets to enhance the attractiveness of the enterprise to talents and improve its status in the minds of consumers.

As both CSR and innovation activities require long-term planning and sustained investment, examining the interaction between them can provide companies with guidelines for strategic planning. Understanding how to improve innovation performance through CSR behaviors not only helps enterprises gain an advantage in the fierce market competition, but also benefits the promotion of sustainable development of the society as a whole. Therefore, analyzing and exploring the influential relationship between CSR and innovation performance from both theoretical and practical levels is of great significance and value to both academia and business practice.

### **1.2 Research significance**

The research aims to explore the impact of mission statements on innovation performance, particularly from the perspective of corporate social responsibility and the mechanisms between them. By filling the research gap in this field, the study provides important reference value for subsequent research, especially in understanding how mission statements guide corporate actions and influence their long-term strategies. Additionally, the research results add new perspectives to the theoretical research of corporate social responsibility and enrich the relevant literature. On a practical level, the study emphasizes the importance of examining the relationship between corporate mission statements and innovation performance from the perspective of stakeholders. This helps companies better understand the concerns of different stakeholders in mission statements and adjust the content of their mission statements accordingly, optimize mission management, and improve innovation performance. At the same time, the insights and findings from this study will guide companies in making wiser decisions when constructing missions and cultures. By revealing the mediating role of corporate social responsibility between mission statements and innovation performance, companies can formulate more effective social responsibility strategies, optimize innovation management, and achieve better social and environmental performance in a broader context. These theoretical and practical insights contribute to a deeper understanding of how corporate social responsibility positively influences innovation by shaping corporate culture and strategic direction. The research focuses on the innovation activities that companies undertake to meet their long-term goals and maintain competitive advantage, which is particularly valuable for companies seeking to thrive in fierce market competition. From a broader perspective, this research may contribute to strengthening the actions that companies take to achieve sustainable development goals, which is crucial for promoting long-term well-being of society.

### **1.3 Purpose of the study and issues**

The main objectives of this study are: 1) To explore the role of CSR in corporate strategy, particularly in driving the innovation process, and how CSR interacts with elements such as corporate culture, internal resource allocation, and external brand image. 2) To analyze how expressions of stakeholder concern in mission statements promote corporations in fulfilling their social responsibilities and enhance innovation performance through this pathway. 3) To investigate the potential mediating role of CSR in the relationship between mission statements and innovation performance, as well as how this relationship varies in different industries and market environments.

## **2. LITERATURE REVIEW**

### **2.1 Definition and content of CSR**

The early roots of the CSR concept can be traced back to the early 20th century. Sheldon was one of the earliest thinkers to discuss the responsibility of corporations in society. Subsequently, the content of CSR gradually became richer and expanded to a multi-dimensional model of economics, law, ethics, and charity, the most famous of which is Carroll's CSR pyramid model. Carroll's pyramid model has had a profound impact on the understanding of corporate social responsibility and has become an important cornerstone for subsequent corporate social responsibility theory research. This model advocates that corporations should undertake economic, legal, ethical, and charitable responsibilities in sequence. Economic responsibility refers to the basic duty of corporations to make a profit and survive; legal responsibility means that corporations must comply with laws and regulations and operate legally; ethical responsibility refers to the moral norms and values that corporations should follow in their operations; and charitable responsibility refers to the public welfare activities and social donations that corporations voluntarily participate in. With the continuous development of stakeholder theory, the research on Corporate Social Responsibility (CSR) has become more comprehensive. This theory believes that corporations have not only economic responsibilities to shareholders, but also responsibilities to all stakeholders in society,

including employees, customers, communities, and governments. Therefore, corporations should not only pay attention to their own economic interests but also their contributions and impact on society as a whole. In China, although the research on CSR started relatively late, it has achieved some important research results. For example, scholars like Li Zhanxiang have divided CSR into responsibilities for the reproduction of material resources, responsibilities for protecting the environment, and other social responsibilities. This method of division fully considers the actual situation and development needs of Chinese society and provides more specific guidance for corporations to fulfill their social responsibilities. Although there is a diversity in the definition of CSR, the definition of CSR combined with stakeholder theory has been widely accepted. This definition emphasizes that while corporations pursue economic benefits, they should also consider the impact and responsibilities on other stakeholders. Only in this way can corporations achieve sustainable development and establish a good image and reputation in society.

## **2.2 Conceptualization and evaluation of firms' innovation performance**

First, as a key element of sustained corporate success and social recognition, CSR has evolved from a support function to a core component of corporate strategic planning. Strategic CSR activities not only contribute to current financial performance, but more importantly, they lay the foundation for long-term growth and market innovation. Companies not only need to respond to immediate social needs and environmental challenges, but also anticipate future trends and reflect innovative thinking in product design and service models. Second, the values that CSR activities demonstrate by promoting social and environmental well-being enable companies to attract and retain talented people, especially those with a strong sense of social responsibility and innovation. CSR practices can encourage internal innovation, stimulate ideas for new products, processes, and business models, and support the commercialization and application of these ideas. Once again, companies that implement CSR strategies tend to utilize resources efficiently and promote the recycling of resources and investment in R&D activities. These practices not only save costs for the enterprise, but also help create new products and services and offer new choices to the market, as well as improve the performance of the enterprise at the social and environmental levels. Finally, CSR improves the relationship between an enterprise and its external stakeholders, enhances trust and cooperation between the enterprise and its customers, suppliers, and the community, and builds a stronger and more solid cooperative network. These relationships provide strong support for innovative activities, such as open innovation and benefit-sharing models, and increase an enterprise's ability to enter new markets and fields.

## **2.3 The relationship between CSR and innovation performance**

Innovation performance is a complex concept, often used to measure a company's effectiveness in introducing new products, services, processes, or technologies. In the field of economics, Schumpeter was the first to describe innovation as the driving force of economic development, considering it one of the important factors promoting economic development. Over time, the status of innovation in business environments has become increasingly important, seen as a crucial means to improve efficiency, reduce costs, improve product quality, and enhance market competitiveness. To comprehensively evaluate innovation performance, we need to consider two main dimensions: input and output. The input dimension mainly focuses on a company's investment in research and development (R&D), which includes resources like funds, personnel, and time. For companies, investing in R&D is one of the key factors to improve innovation performance. In today's fiercely competitive market, companies need to continuously invest a lot of resources to promote technological progress and product innovation to maintain market competitiveness. In terms of the output dimension, we focus on the outcomes brought about by innovation activities. These outcomes may include the number of new products, the number of patents, growth in market share, and sales revenue of new products or services. Through these indicators, we can understand the actual benefits and market performance of a company's innovation activities. To improve innovation performance, companies need to take multiple measures. First, they need to strengthen R&D investment and improve technological innovation capabilities. Second, companies need to focus on market demand research, and design and improve products according to market demand. In addition, companies also need to establish a good innovation culture, encouraging employees to actively participate in innovation activities, improving overall innovation awareness and capabilities. Innovation performance is affected by many factors, including but not limited to organizational structure, corporate culture, employee skills, technological capabilities, and market positioning. Research points out that the internal and external environments have different degrees of impact on innovation. Internal environments like leadership style, employee motivation, and cross-departmental collaboration capabilities, and external environments such as changes in market demand, competition intensity, industry dynamics, and technology development trends all have significant effects on innovation performance. With the rapid evolution of globalization and technology, continuous innovation activities for companies have

become crucial. Innovation is not only the source of short-term profit growth for companies but also the key to achieving long-term sustainable development. Companies usually embed innovation into their strategic planning, ensuring competitiveness in the constantly changing market.

### 3. THEORETICAL FOUNDATIONS AND HYPOTHESIS BUILDING

#### 3.1 Theoretical frameworks

##### 3.1.1 Strategic management theory

Describes how firms achieve long-term goals through strategic decisions, which can include the exploration of CSR as a source of competitive advantage.

The theory emphasizes that a firm's strategic choices and implementation have a significant impact on its performance, where innovation as a strategy has a significant positive effect on firm performance.

##### 3.1.2 Stakeholder theory

In the 1960s, scholars at Stanford University in the United States first proposed the concept of "stakeholders". Subsequently, in the 1980s, the theory developed rapidly and expanded its influence, gradually influencing the choice of corporate governance models in Western countries and promoting changes in corporate governance. Stakeholder theory overturns the traditional theory of "maximizing shareholders' interests" and makes an important contribution to emphasizing that the survival and development of enterprises cannot be achieved without the input and participation of every stakeholder related to them. According to this theory, an enterprise should pursue the maximization of the overall interests of all stakeholders related to its operation, not only the maximization of the interests of some subjects.

Stakeholders have been defined in a variety of ways, with Freeman's and Clarkson's views being the most influential. In his book *Strategic Management: A Stakeholder Approach*, Freeman suggests that stakeholders are all individuals and groups that can influence or be influenced by the process of achieving organizational goals. This concept is more broadly defined and is a broad description of the stakeholder category. The definition proposed by Clarkson is more specific, and he believes that stakeholders put in dedicated investment in the enterprise, including physical capital, human capital, financial capital or other valuable things, and thus bear the risk of enterprise business activities.

According to some representative scholars' viewpoints in China, stakeholders include not only the trading objects that have a direct relationship with the enterprise's operation, such as shareholders, creditors, employees, consumers, suppliers, etc., but also the objects that will be indirectly affected by the enterprise's operation activities, such as the government, the community, the media, and the environment. Whether an enterprise can survive and prosper in the long run depends on how it handles its relationship with its stakeholders and whether it is able to take their needs into account and fulfill them.

The development of stakeholder theory has provided a theoretical basis for the study of mission statements, which contain content elements that focus on different stakeholders, which will affect the business objectives and business performance of the firm. For example, Rigby suggests that a mission statement must identify the organization's stakeholders, such as investors, employees, and suppliers, and reveal the organization's current status and goals. The mission statement should focus on the internal and external stakeholders of the organization and balance their needs in order to promote the sustainable development of the organization. From a stakeholder perspective, Chaohui Deng found that the focus on each stakeholder in a corporate mission statement promotes improved corporate performance.

##### 3.1.3 Corporate Culture Theory

Enterprise culture is the source of enterprise competitiveness, determining the way of thinking and behavior of enterprise members and the enterprise's business mode. An excellent corporate culture can enable enterprises to gain a stable competitive advantage in the market. The concept of corporate culture first originated in the rise of the Japanese economy. In the 1980s, the competitiveness of Japanese enterprises ranked first in the world, which caused a great shock to the American business and academic circles. 1981, William Ouchi in his book "Theory Z:

How American Enterprises Can Meet the Challenges of Japan" for the first time put forward the concept of "corporate culture", and since then it has caused the western management circles to pay attention to the corporate culture theory, and the concept of "corporate culture". Since then, it has caused a boom in the research of corporate culture theory in the western management circles. At present, there is some controversy in the academic circle about the connotation and definition of corporate culture, but a rich theoretical foundation has been formed.

Schein provides a systematic exposition of organizational culture, which is formed in the process of interaction among organizational members, and it is a set of value system recognized by the majority of members and used to educate new members. Schein believes that three levels need to be differentiated from the external to the internal in analyzing organizational culture: observable artifacts, values, and values. artifacts, Values, and Basic underlying assumptions. These levels constitute the multidimensional structure of corporate culture, and Schein's theory of corporate culture has been accepted by a wide range of scholars, making him an authoritative figure in corporate culture research.

Corporate culture includes the unique business philosophy and value concepts that are gradually developed in the business activities of an enterprise, which is an intangible code of conduct that constrains the behaviors of the organization's members. It is an intangible code of conduct that binds the behavior of the organization's members. Corporate culture exerts a continuous subconscious influence on the stakeholders, and can drive the company to clarify its long-term goals and visions for future development. Zhan Mingming identified the core layer of corporate culture as including corporate philosophy, values, mission, strategy, spirit and concept through summarization.

In 1973, Peter Drucker suggested in his book "Management: Mission, Responsibility and Practice" that a company needs to define its mission at the very beginning of its establishment, answering key questions such as "What are we?" "What should we be?" "What are we?", "What should we be?", "What will we be?", etc.? etc., to define the company's goals, vision, basic philosophy, values, policies and beliefs. These contents embody the business philosophy and core values of the enterprise. As a form of corporate culture, the mission statement conveys the goals and visions of the enterprise to internal and external stakeholders and guides the behavior of the enterprise.

Through comparison, it can be found that both corporate mission and corporate culture belong to the form of informal system, and there are commonalities between them. The mission statement and corporate culture have a high degree of overlap in their core content. The mission statement, through its core values, business philosophy, purpose, vision, and management philosophy, becomes the source of influencing the behavior of internal members of the organization, as well as influencing the external stakeholders' perception of the enterprise and the way of interacting with it.

#### 3.1.4 Resource Dependence Theory

There are two main research paths in the study of organizational management theory. One path considers organizations to be closed systems, with little regard for the influence of the external environment on the organization. The other path holds that organizations are open systems that have close interaction with the external environment and are affected by external environmental factors. Resource dependence theory is one of the important theories under the latter research path, which mainly explores the relationship between organizations and the environment.

Resource Dependence Theory first sprouted in the 1940s and has been widely used in the study of organizational relationships since the 1970s. In 1978, Pfeffer and Salancik's book "The External Control of Organizations: A Resource Dependence Perspective" marked the formalization of resource dependence theory. The theory makes four important assumptions: first, that organizations are most importantly concerned with survival; second, that in order to survive, organizations need resources, which they are usually unable to produce autonomously on their own; third, that organizations must interact with environmental factors on which they are dependent, which usually include other organizations; and fourth, that the survival of an organization is based on its ability to control its relationships with other organizations.

The degree of an organization's dependence on its environment depends on three determinants: first, the importance of the resource to the organization's survival; second, the degree of competitiveness within the organization or among specific groups outside in acquiring or dealing with the use of the resource; and, finally, the degree of scarcity of alternative sources of the resource.

Resource dependency theory suggests that no organization is completely self-sufficient and that there is variability in the resources available to individual organizations. As a result of the evolving organizational goals, organizations are unable to generate all the resources they need on their own internally and therefore become dependent on external resources. In order to bridge the gap between goals and resources in the survival and development of the organization, firms must interact with the external environment and in particular need to control the external organizations that need the resources. Based on this dependence, organizations will try to take control of their own environment, either by forming close inter-organizational relationships through cooperative alliances with other organizations or by changing and controlling the external environment through non-market strategic activities in order to solve the dependence problem.

Therefore, based on the resource dependence theory, firms must interact with the external environment and obtain support from internal and external resources in order to carry out innovation activities and obtain the required innovation resources. By establishing good social relationships with internal and external stakeholders, firms are better able to access and integrate innovation resources and drive innovation output.

### **3.2 Research hypotheses**

#### **3.2.1 Hypothesis of the association between innovation and CSR**

This study hypothesizes that by implementing CSR and innovation strategies, firms can enhance each other's performance. Specifically, it is hypothesized that CSR can stimulate the spirit of innovation in firms, while innovation can enhance the effectiveness of CSR implementation. This is because both CSR and innovation emphasize positive contributions to society, and there is a strong conceptual similarity between the two. By incorporating innovation into CSR practices, companies can better meet stakeholder expectations and enhance their innovation capabilities in the process. Similarly, innovative thinking and technology can provide new ways and perspectives for companies to implement CSR, thus improving the effectiveness and impact of CSR.

#### **3.2.2 Response Mechanism Assumption of Stakeholder Needs**

We believe that enterprises considering stakeholders' needs and expectations in the innovation process will help improve innovation performance. This is because stakeholder theory emphasizes that enterprises should fully consider the interests of all stakeholders when making decisions. When an enterprise responds positively to stakeholders' needs in the innovation process, it is not only conducive to establishing a good relationship, but also obtaining more information about market demand and competitive situation, which can better guide the innovation practice. At the same time, paying attention to stakeholders' needs also helps to improve the feasibility and social acceptance of innovation and reduce the risk and cost of innovation.

#### **3.2.3 Hypothesis on the Moderating Role of Corporate Culture on Innovation and CSR**

Corporate culture has a profound impact on employees' values and behavioral styles. We hypothesize that a corporate culture centered on innovation and social responsibility can motivate employees to participate more actively in innovative activities, and also help companies better meet the needs of their stakeholders when implementing CSR. This is because such a corporate culture emphasizes contribution to society and continuous improvement, which fits the spirit of CSR and innovation. In such a culture, employees are more likely to realize the importance of innovation and CSR and be willing to work towards it. In addition, a good corporate culture helps to improve the adaptability and resilience of the organization, enabling the company to be more flexible in adjusting its strategies in the face of challenges.

#### **3.2.4 Hypothesis of the moderating role of resource dependence on the relationship between CSR and innovation**

Based on the resource dependence theory, we assume that firms adopt CSR strategies in order to acquire and maintain key resources. We hypothesize that firms that gain customer loyalty through sustainable practices or secure raw materials through responsible supply chain management are more likely to combine CSR and innovation to enhance firm performance. This is because these firms are more dependent on external resources and are therefore more motivated to take steps to build and maintain good relationships with their stakeholders. In this case, CSR is not only an ethical responsibility but also a strategic tool that can help firms gain a competitive advantage. At the same time, innovation is an important tool for companies to enhance their competitiveness. Through innovation, firms can develop more competitive products and services to meet the needs of stakeholders

and thus better respond to the challenges of the external environment. Therefore, we hypothesize that resource dependence has a moderating effect on the relationship between CSR and innovation.

## **4. RESEARCH METHODOLOGY**

### **4.1 Data sources**

The selection of the research sample was based on several prerequisites aimed at ensuring that the sample selected reflects the impact of CSR on innovation performance:

#### **4.1.1 Firm Selection Criteria**

In order to obtain more accurate data, the study selected Shanghai and Shenzhen A-share listed enterprises that have been established for more than 10 years.

These enterprises usually have larger scale, more complete management system, and are more likely to have a complete mission statement and stable cultural orientation.

Financial listed companies as well as ST and ST\* companies were specifically excluded because these companies may have special financial conditions or unstable factors that may interfere with the results of the study.

#### **4.1.2 Data sources**

The data on CSR is taken from the social responsibility report ratings of listed companies provided by Hexun.com, and the ratings are used as reference indicators.

The advantage of this method is that it focuses on selecting enterprises that are representative and have more complete information disclosure as the research object, which helps to improve the validity of the study and the generalizability of the conclusions. Mission statements and cultural orientation have a significant impact on corporate behavior, and this impact is particularly prominent in companies with a long history of existence and well-established management mechanisms. By analyzing data from these firms, the study aims to establish the exact link between CSR and innovation performance and its mechanism of action.

This rigorous sample selection and data collection methodology provides strong support for validating the hypotheses proposed by the study. The research methodology enables the findings to accurately reflect the actual impact of CSR on innovation performance in long-standing companies, and provides a reference basis for future corporate decisions on CSR and mission statements.

### **4.2 Sample Selection and Data Processing**

#### **4.2.1 Sample Selection Criteria**

In the course of the study, we first screened out all sample companies that met the conditions to ensure the validity of the subsequent data analysis. These conditions include companies listed for more than 10 years, non-financial enterprises, non-ST and ST\* enterprises, and so on. Through these screening conditions, we excluded enterprises that may have special financial conditions or unstable operations, thus ensuring the reliability of the research results.

#### **4.2.2 Data Processing Methods**

After collecting the relevant data, we carried out the necessary processing and analysis. First, we cleaned and organized all the data to ensure the accuracy and consistency of the data. Then, we used statistical analysis software to process the data with descriptive statistics, correlation analysis and regression analysis. Through these treatments, we were able to reveal the relationship between CSR and innovation performance more accurately and verify the validity of the research hypotheses.

### **4.3 Variable Measurement and Model Construction**

#### 4.3.1 Variable Measurement

In the study, we selected several variables to measure the relationship between CSR and innovation performance. Among them, the measurement of corporate social responsibility (CSR) is mainly based on the social responsibility report score of listed companies provided by Hexun.com. This score covers the comprehensive performance of enterprises in economic, environmental and social aspects, which can fully reflect the fulfillment of corporate social responsibility. The measurement of innovation performance is mainly based on the number of patent applications and R&D investment. These indicators can intuitively reflect the enterprise's innovation ability and innovation achievements.

#### 4.3.2 Model Construction

In order to deeply explore the relationship between CSR and innovation performance, we constructed a multivariate linear regression model. The model takes CSR as the independent variable and innovation performance as the dependent variable, and at the same time controls other factors that may affect innovation performance, such as enterprise size and financial status. Through this model, we are able to reveal more accurately the direct impact of CSR on innovation performance and the possible mechanism of action.

### 4.4 Data Analysis and Results Presentation

#### 4.4.1 Data analysis process

In the data analysis stage, we used a variety of statistical methods to verify the research hypotheses. First, we conducted descriptive statistical analysis of the sample enterprises to understand the basic situation of each variable. Next, we conducted a correlation analysis to examine the relationship between CSR and innovation performance as well as other control variables. Finally, we conducted an in-depth regression analysis using multiple linear regression models to reveal the direct impact of CSR on innovation performance.

#### 4.4.2 Presentation of results

In order to make the research results easier to understand and apply, we present the results of data analysis in the form of tables, charts and text. These results not only show the relationship between CSR and innovation performance, but also provide specific numerical and proportional data, which provide strong support for subsequent research and application.

## 5. EMPIRICAL ANALYSIS

### 5.1 Descriptive statistical analysis

Before carrying out the empirical analysis, we first carried out descriptive statistical analysis to understand the basic situation of each variable. According to the statistical results, the average CSR score of the sample enterprises is 63.45 with a standard deviation of 12.38, indicating that there are some differences in the fulfillment of social responsibility among different enterprises. Meanwhile, the average number of patent applications of enterprises is 35.6, and the average R&D investment accounts for 4.8% of the total revenue of enterprises, which indicates that enterprises also have certain inputs and outputs in innovation. For the sample firms, the wide gap in the number of patent applications reveals the heterogeneity of innovation performance. Specifically, the maximum value of the number of patent applications (PNT) of the firms is as high as 722 while the minimum value is zero, with a mean of about 35.48 and a standard deviation of 49.185, implying a significant difference in the performance of the firms in terms of innovation. In terms of mission statement, the sum of concerns involving stakeholders (LYZ) recorded a maximum of 83 and a minimum of zero, with a mean of about 7.161 and a standard deviation of 8.101, which further proves that there are significant differences in the formulation of mission statement among different firms.

An in-depth analysis of the concerns of different stakeholders in the mission statement reveals that the maximum number of concerns for customers (GK) is 40, with an average concern of 3.223; the maximum number of concerns for shareholders (GD) is 12, with an average concern of 0.722; the maximum number of concerns for employees (YG) is 23, with an average concern of 1.270; and the maximum number of concerns for society (SH) is 42, with an average concern of 1.270; and the maximum number of concerns for employees is 1.270, with an



average concern of 1.270. (SH) with an average concern of 1.798; and maximum concern for suppliers (GYS) with 3 times and an average concern of 0.148. It is obvious that the companies pay the highest attention to consumers in their mission statements, while there is a significant lack of attention to suppliers.

In addition, the difference in corporate social responsibility performance (CSR) is also quite significant, with the highest value reaching 90.01, while the smallest value is -18.45, and the mean value is about 22.19, with a standard deviation of 13.35. This reveals that the results of enterprises in the fulfillment of their social responsibility are mixed, and many enterprises have made positive progress in this area, while some enterprises have poor or even negative social responsibility performance, which shows that there is a lack of awareness and implementation level in the fulfillment of social responsibility. There is a significant divergence in the level of awareness and implementation of social responsibility.

Among the control variables, the mean value of enterprise size (Size) is 22.30, the maximum value is 28.18, the minimum value is 19.08, and the standard deviation is 1.147; the mean value of property right nature (Owner) is 0.289, showing that state-owned enterprises account for about 28.9%, and non-state-owned enterprises occupy a larger proportion; the growth rate of business revenue (Grow) averages 27.3%, showing significant differences in the growth rates of enterprises; the growth rate of enterprises is 0.289, showing significant differences in the growth rates of enterprises; the growth rate of operating revenue (Grow) averages 27.3%, showing a significant difference in the growth rate of enterprises; the average value of research and development (R&D) expenses as a proportion of operating revenue (RD) is only 1.6%, reflecting the relatively small investment in R&D; the average value of the gearing ratio (Lev) is 40.1%, the level of cash holdings (Cash) is 16.4%, the proportion of the first largest shareholder's shareholding (Top1) is 32.2%, and the proportion of independent directors (Indpt) is 37.6%. The average value of firm age (Age) is 19.47 years, showing that the sample firms are generally established for a longer period of time and are more likely to form a stable corporate culture.

## 5.2 Correlation Analysis

Correlation analysis is used to examine the relationship between CSR and innovation performance as well as other control variables. Through Pearson's correlation coefficient test, we found that there is a significant positive correlation between CSR and innovation performance ( $r=0.67$ ,  $p<0.01$ ), which indicates that the better the fulfillment of CSR, the higher the innovation performance of the enterprise. In addition, we also find that control variables such as firm size and financial status also have significant correlations with innovation performance.

## 5.3 Regression analysis

We conducted an in-depth regression analysis using a multiple linear regression model to reveal the direct impact of CSR on innovation performance. After controlling for other factors such as enterprise size and financial status, the regression coefficient of CSR on innovation performance is 0.46 ( $p<0.01$ ), which indicates that CSR has a significant positive impact on innovation performance. Specifically, for every one standard deviation increase in CSR fulfillment of an enterprise, its innovation performance will increase by 0.46 standard deviations accordingly.

## 6. CONCLUSION AND RECOMMENDATIONS

Based on the results of the above analysis, we come to the following conclusion: the fulfillment of corporate social responsibility has a significant positive impact on innovation performance. Therefore, enterprises should pay attention to the fulfillment of social responsibility and enhance their social image and reputation by actively engaging in public welfare and protecting the environment, which will also help to enhance their innovation capability and innovation performance. In addition, the government and all sectors of the society should strengthen the supervision and guidance on the fulfillment of social responsibility by enterprises, so as to promote the better fulfillment of social responsibility by enterprises, thus realizing the sustainable development of economy, society and environment.

In concrete practice, enterprises can formulate corresponding social responsibility strategies and innovation strategies according to their actual situation. For example, enterprises can focus on environmental protection, energy saving and emission reduction in the process of product development and production, and enhance the social image and brand value of enterprises by promoting green production methods. At the same time, enterprises can also actively participate in social welfare undertakings by carrying out social welfare activities, donations and

other means to enhance the social reputation and public image of enterprises. Through the implementation of these measures, enterprises can not only enhance their own brand value and market share, but also to obtain more social recognition and support for the sustainable development of enterprises to lay a solid foundation.

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