

The Impact of Environmental Responsibility of Small and Medium sized Enterprises on Corporate Performance: Mediating Role Based on Sustainable Innovation

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Abstract: Since the beginning of industrialization and the development of urbanization, the sharp increase in pollutant emissions and human consumption of resources have led to the deterioration of the ecological environment. With the development of society, corporate environmental responsibility is a part of corporate social responsibility, which is related to the development of enterprises, society, and ecology. As the main body of practicing green development, small and medium-sized enterprises play an important role in fulfilling environmental responsibilities and promoting the comprehensive green transformation of enterprises. Meanwhile, by using sustainable innovation as a mediating effect and searching relevant literature, it was found that corporate environmental regulations affect corporate performance through sustainable innovation. Through literature review, it was found that the higher a company's environmental responsibility score, the stronger its financial performance. The research results can help promote enterprises to actively fulfill their environmental responsibilities, strive to improve financial performance in environmental governance, and achieve long-term investment value and sustainable development of enterprises. This article summarizes the current research status on corporate environmental responsibility, corporate financial performance, and sustainable development, identifies potential research directions for the future, assists small and medium-sized enterprises in achieving "comprehensive green transformation" and "high-quality economic development", and realizes the optimal value of enterprises on the path of sustainable development.

Keywords: Corporate Environmental Responsibility; Corporate Financial Performance; Sustainable Development; Small and Medium-sized Enterprises; Green Transformation

1. Introduction

Environmental pollution and climate change have become severe challenges facing the world today. If these issues cannot be effectively controlled, their negative impacts will seriously threaten the achievement of sustainable development goals [1]. Therefore, achieving sustainable development of resources and environment has become a major challenge on a global scale. As the main responsible party for social development, enterprises have caused significant damage to social resources and the environment due to the negative externalities brought about by their economic activities [2]. Due to the fact that enterprises often only focus on short-term benefits and neglect the social costs of later remediation, their blind expansion of development will ultimately lead to environmental remediation cycles far exceeding the production cycle of the enterprise, bringing huge environmental remediation costs to society [3]. This behavior not only seriously hinders the long-term progress and development of society, but also inevitably triggers more serious problems in the future. Therefore, it is necessary to deeply reflect on the environmental responsibility of enterprises in order to encourage them to pay more attention to sustainable development and jointly address current and future environmental challenges [4].

2. Literature Review

At present, scholars have explored the impact of corporate environmental responsibility on enterprises from multiple disciplinary

perspectives such as strategic management, economics, and ethics. However, the focus of the research is mainly on the selection of corporate environmental strategies [5], the motivations for implementation, and their impact outcomes, there is a lack of empirical research on the impact of corporate environmental responsibility on corporate performance, especially in the areas of sustainable innovation and corporate action capability on sustainable competition. It is worth noting that most of the existing literature focuses on listed companies, while research on small and medium-sized enterprises is relatively scarce. However, as an important component of society, small and medium-sized enterprises tend to invest more resources in short-term gains, while their focus on environmental responsibility for long-term performance is relatively weak. Therefore, research on the environmental responsibility of small and medium-sized enterprises is particularly urgent.

2.1 Corporate Social and Environmental Responsibility

For corporate environmental responsibility, we first need to define the three terms "enterprise", "environment", and "responsibility". Firstly, in daily life, we often confuse the concepts of enterprise and company. Enterprises, according to relevant explanations, refer to independent accounting economic units engaged in production, circulation, or service activities. They can also be classified into corporate enterprises and non-corporate enterprises [4]. The second environment generally refers to all things related to human beings, which can be further divided into natural ecological environment and social environment of life. Ecological environment, such as our exposure to living places, including air, water, animals, and plants; The social environment refers to the material and spiritual conditions of human society. The selected research literature for this article is on ecological environmental responsibility. The third word 'responsibility' can refer to on-the-job duties, actively fulfilling the burden of proof, or fulfilling the obligation of breach of contract. We can usually view responsibility according to the composition of subjective elements, objective elements, and forms. The objective element is the obligation, the

subjective element depends on whether there is a fault in the behavior, and the form refers to the binding force, which can be the consequences of violating national laws and regulations.

In 2021, the Ministry of Ecology and Environment of China passed the "Reform Plan for the Legal Disclosure System of Environmental Information" for the fourth time.

Further require companies to disclose environmental information and supervise management activities. The Reform Plan stipulates that key polluting units, mandatory clean production audit enterprises, and other enterprises need to disclose environmental management information, pollutant generation, treatment and emission information, carbon emission information, ecological environment emergency information, ecological environment illegal information, etc. The disclosed information must be timely, true, accurate, and complete. The glass industry, as a high-energy consumption and high pollution industry, is naturally a key focus of environmental issues. Enterprises should establish an environmental information management system, regularly disclose environmental information, and consciously accept public supervision.

The root of corporate environmental ethical responsibility lies in the fulfillment of ethical responsibility by enterprises as subjects towards environmental objects, thus its concept can be traced back to the concept of corporate ethical responsibility [6]. Corporate ethical responsibility is a responsibility that is not legally binding, but society expects companies to actively assume as members of society [7]. Corporate ethical responsibility emphasizes the strong self-restraint ability and altruistic consciousness of enterprises, which goes beyond mandatory legal provisions and is reflected as a high-level social responsibility [8]. Corporate ethical responsibility is an unregulated responsibility voluntarily assumed by the responsible party, which is guaranteed by means other than national legal enforcement [9].

After enterprises fulfill their environmental responsibilities, it will inevitably bring about widespread impact results. Therefore, many scholars have conducted in-depth discussions on the impact and effectiveness of corporate

environmental responsibility, in order to promote enterprises to actively assume environmental responsibility. These scholars have mainly studied the impact of corporate environmental responsibility from the perspectives of innovation [10] and technological progress, and believe that this behavior will promote corporate innovation and progress, thereby improving production efficiency, resource utilization efficiency, and reducing waste of natural resources. In other words, fulfilling environmental responsibilities by enterprises will save production costs and improve management efficiency.

2.2 Enterprise Performance

At present, the academic community has not yet formed a completely consistent definition of corporate performance. Different scholars define the concept of corporate performance differently. Corporate performance was initially understood as measuring how a company achieves the most wealth with the least material resources and human capital. The research on the connotation of corporate performance can be divided into four main stages. Firstly, the first stage is mainly defined through financial indicators, including indicators such as asset return rate, investment return rate, and net profit under the DuPont analysis method. Secondly, in the second stage, the connotation of corporate performance is mainly based on financial data, supplemented by non-financial data. In the third stage, from the 1990s to the end of the century, scholars emphasized that the core of corporate strategic goals was to measure corporate performance from a strategic perspective, and the evaluation system included both financial and non-financial indicators. Finally, in the fourth stage, from the end of the last century to the present, scholars have identified five key criteria for evaluating corporate performance: overall business performance, relevant financial indicators, productivity level, employee turnover rate, and employee satisfaction. Financial indicators can measure a company's financial performance through four dimensions. The four dimensions are debt paying ability, profitability, operational ability, and development ability, which evaluate the financial situation and operating results of the enterprise. Non-financial data can be qualitatively analyzed from employee

satisfaction, enterprise after-sales, supply chain, and other aspects.

As an important component of social responsibility and in the context of "dual carbon", environmental responsibility has become a hot topic in social responsibility research. However, this study found through literature review that at the theoretical level, most scholars only study environmental responsibility from a single discipline or perspective, lacking the universality and systematicity of the theory. In addition, most scholars only consider environmental responsibility as a part of social responsibility, lacking empirical research on the independent concept of environmental responsibility.

2.3 Sustainable Innovation

Under the ecological construction guidance that green mountains and clear waters are as valuable as mountains of gold and silver, enterprises with high pollution, high energy consumption, and high emissions.

The business is gradually not accepted by the market, losing market share. In this context, enterprises demonstrate green practices to society through fulfilling environmental responsibilities, enhance their reputation and brand image, guide resonance in protecting the social environment, encourage green consumption, and drive their own sustainable development. In addition, due to the unwillingness of companies to cooperate with suppliers with low moral standards and no social responsibility, while taking on their own environmental responsibilities, companies will also require suppliers to actively respond to energy conservation and emission reduction, reduce pollution throughout the supply chain, in order to achieve long-term cooperation in the supply-demand relationship.

Scholars' empirical research on the pre-influencing factors of sustainable innovation mainly focuses on environmental regulation, market orientation, and stakeholder perspectives. People believe that environmental regulation can affect corporate performance by influencing sustainable innovation, and sustainable innovation plays a dynamic mediating role between environmental regulation and corporate performance, in contrast to the static analysis of the neoclassical view that environmental regulation reduces corporate performance.

Feng and Cui believe that environmental regulations can enhance sustainable innovation in enterprises, thereby improving resource utilization in production.

3. The Intrinsic Logic of the Impact of Environmental Responsibility on the Performance of Small and Medium-sized Enterprises

Therefore, for small and medium-sized enterprises, in the process of fulfilling their corporate environmental ethical responsibilities, there is an urgent need for clear guidance on how corporate environmental ethical responsibilities affect corporate performance and the pathways through which corporate environmental ethical responsibilities affect corporate performance. This article integrates existing research results and constructs a relationship model between corporate environmental responsibility, sustainable innovation, and corporate performance.

Corporate environmental responsibility has a significant positive impact on corporate performance. Hu believes that while pursuing the maximization of shareholder interests, enterprises should actively assume social responsibility and be responsible for the interests of all stakeholders. Chen believes that companies have recognized the importance of corporate social performance for their survival and development. Fulfilling environmental responsibilities meets the needs of stakeholders and enhances the reputation of the company, forming intangible assets that enable the company to gain greater social recognition.

Corporate environmental responsibility has a significant positive impact on sustainable innovation. According to resource-based theory and sustainable development theory, sustainable innovation can play a role in achieving energy conservation, emission reduction, resource recycling, and environmental governance in the production and operation process of enterprises. According, sustainable innovation can be divided into sustainable product innovation and sustainable process innovation. Sustainable innovation, as a practice of introducing more environmentally friendly and socially sustainable elements into products, services, and management, is closely related to corporate environmental responsibility. Li

focus on sustainable innovation mainly focuses on various stages of the product lifecycle, including design, manufacturing, use, and disposal. The case analysis in the literature on how enterprises can reduce resource consumption, reduce environmental impact, and improve product efficiency through sustainable innovation shows that sustainable innovation is an effective way for enterprises to achieve environmental responsibility. Environmental responsibility, as a strategic orientation, not only inspires innovation awareness within enterprises, but also provides the driving force for innovation through active interaction with stakeholders. Researchers focus on the impact of corporate environmental responsibility on innovation processes, R&D investment, marketing, and other aspects, emphasizing that while pursuing environmental sustainability, companies also seek competitive advantages in the field of innovation. Corporate environmental responsibility and sustainable innovation are not only intertwined conceptually, but also complement each other in practice. In the process of fulfilling environmental responsibilities, enterprises not only achieve their own sustainable development through sustainable innovation, but also make positive contributions to society and the environment. The development of this research field provides a path for companies to shape a positive image and enhance competitiveness in a market that is increasingly focused on sustainability.

Sustainable innovation has a positive impact on corporate performance. Previous studies have emphasized the positive impact of sustainable innovation on corporate economic performance. Xia et al. argue that while promoting environmental protection and social responsibility, companies can achieve economic benefits such as cost savings and increased market share. Meanwhile, some studies have emphasized the positive impact of sustainable innovation on non-financial performance, such as brand value and employee satisfaction, from a long-term development perspective. The study also focused on the similarities and differences in sustainable innovation practices among enterprises of different industries and scales. In certain industries, such as green technology, clean energy, etc., the impact of sustainable

innovation on corporate performance may be more significant. Meanwhile, small businesses may be more adaptable to the needs of sustainable innovation through more flexible innovation practices, resulting in corresponding performance improvements. Sustainable innovation is not only a way for companies to respond to social and environmental challenges, but also an important means for companies to improve performance and maintain competitiveness.

Enterprises fulfill their environmental responsibilities and improve their financial performance through the intermediary role of sustainable development, but the path of action is unclear. Relevant literature has not yet formed a theoretical model for the fulfillment of corporate environmental responsibilities and the enhancement of sustainable development competition. Corporate environmental responsibility is a part of social responsibility. Incorporating environmental issues into the process of corporate operation and stakeholder interaction helps to integrate internal and external resources, promote green innovation, and enhance the sustainable competitiveness of enterprises from these two dimensions.

4. Conclusion and Prospect

Environmental issues actually stem from the negative externalities of human activities, where businesses, as economic entities, increase external costs by distributing pollutants. The external costs brought to society have an impact on sustainable development, whether analyzed from natural resources, capital, or labor factors. Environmental issues have led to the deterioration of the global ecological environment. Urgent need for green transformation of enterprises in response to the deterioration of environmental problems. When exploring the impact mechanism of environmental responsibility on corporate performance in small and medium-sized enterprises, this study mainly relies on research results from relevant theories and existing literature (2013-2023). Although it has certain theoretical and practical basis, it cannot cover all influencing factors.

From the perspective of impact results, most studies currently indicate that fulfilling environmental responsibilities has a positive impact on corporate performance to some

extent. Enterprises that are responsible for the environment should not only be able to protect their own interests and strengthen the trust of stakeholders through environmental responsibility, but also improve their reputation, create more business value, and thus be more likely to receive support from investors, helping them obtain funding and related resources. And the environment

At present, most research on corporate performance has not delved into ways to improve it from the perspectives of corporate environment and sustainable innovation. This study starts from the perspective of corporate environmental responsibility and explores in detail how corporate environmental responsibility affects corporate performance, thus enriching the research content on corporate performance. The results of this study provide inspiration for sustainable innovation in small and medium-sized enterprises, which can help these enterprises achieve more innovation through fulfilling environmental responsibilities, thereby enhancing their sustainable innovation capabilities and providing reference for the sustainable development of enterprises. This study is based on resource-based theory, innovation theory, responsible environmental behavior model, and corporate social responsibility theory. Sustainable innovation is used as an intermediary variable to establish the impact mechanism of corporate environmental responsibility on corporate performance, providing theoretical support for future research on corporate environmental responsibility behavior.

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