

Study on the motivation of enterprise greenwashing behavior based on the perspective of environmental commitment implementation

-- A case study of Hegang

Yanqing Yang, Yijun Chen

School of management, Sichuan University of Science & Engineering, Zi Gong 643000, China

Abstract: With the rapid economic growth, the issue of ecological environmental protection has been widely concerned by the public, and has triggered diversified discussions. As the main participants in social and economic activities, enterprises play a pivotal role in this issue, not only bearing social responsibility, but also playing a decisive role in environmental protection practices. In the context of consciously undertaking social responsibilities and responding to institutional requirements, enterprises often express their firm position and commitment to environmental protection and compliance with laws and regulations through information disclosure. In practice, some enterprises run counter to their environmental protection commitments, choosing to "low investment, high return" as the goal of greenwashing behavior. Taking Hegang as the research object, this paper summarizes the process of implementing environmental commitment as the result of the joint action of two factors: implementation ability and implementation motivation. Then, the paper analyzes the major environmental pollution cases of Hesteel, analyzes the motivation of Hesteel's greenwashing behavior from the perspective of the implementation ability and implementation motivation of environmental commitment, and finally puts forward corresponding suggestions for the shortcomings of the enterprise itself and external regulatory departments in preventing greenwashing behavior, in order to optimize the governance mechanism and improve regulatory efficiency.

Keywords: Greenwashing behavior, Information disclosure, Environmental commitment.

1. Introduction

With the rapid growth of China's economy, the problem of environmental pollution has gradually become prominent, and has become a major social issue that needs to be faced squarely and solved. The increasingly sharp contradiction between economic growth and environmental protection has prompted us to reflect on the limitations of simply pursuing economic expansion and to recognize that sustainable development is the only way forward [1]. In this context, the environmental action of enterprises has become a key force to balance the contradiction between economic development and environmental protection. Business, as an important pillar of the social and economic system, naturally bears the social responsibility to protect the environment, and its role in this respect is particularly critical. Out of conscious responsibility for social responsibility and response to policy requirements, many enterprises actively publish environmental commitments while disclosing information, so as to demonstrate their firm determination to commit to environmental protection and comply with regulations [2]. However, the reality is not always so ideal. Driven by the pursuit of economic benefits, some enterprises try to reduce costs by reducing environmental protection investment, and at the same time, they hope to use the "green bleaching" action, that is, the surface of environmental protection commitments and actual environmental protection actions do not match to create a positive corporate image, and thus obtain more economic benefits. This strategy of "low input, high return" actually deviates from real environmental commitments and ignores corporate social responsibility [3].

2. Research Status

Foreign scholars have a long history of studying corporate environmental commitment and greenwashing behavior, and have accumulated a profound academic accumulation. In contrast, China's research in these two fields is still in the initial stage, and most of the research focuses on the theoretical level of discussion and normative analysis.

In the research field of environmental commitment, scholars mainly link environmental commitment with corporate environmental strategy, but there is no consistent and recognized conceptual explanation for environmental commitment. Gao and Pratima Bansal (2013) defined environmental commitment as the firm stance and practical actions on environmental protection shown by enterprises on the road of pursuing sustainable development. This includes developing and promoting environmentally friendly products and services, actively implementing pollution prevention and control measures, effectively recycling and reusing resources, prioritizing clean energy, and establishing and maintaining efficient environmental management systems and programs [4]. On the other hand, Yu Linxiu (2019) believes that environmental commitment can indeed be regarded as a resource input of enterprises in fulfilling their social responsibilities, including technology, human resources and strategic resources. In addition, such commitment also needs to show continuity and durability in the time dimension, but the enterprise's long-term and stable persistence and investment in environmental protection efforts [5]. On the content of environmental commitment projects, different scholars have different views. Chamind and Lama (2019) point out that a company's environmental commitment is not

just a mere word, but its real core lies in the actual actions and exemplary role of the company's decision-making level, which can be started from the decision makers' support for environmental protection and sustainable development practices, attitude towards sustainability and views on market green consumption requirements [6]. Although different scholars have not yet formed a unified standard for the definition of environmental commitment, they generally agree that the implementation of environmental commitment by enterprises can bring positive impacts on society and economy.

However, at present, the academic community has not formed a set of scientific and systematic greenwashing behavior identification standards. Despite this, most studies point to the negative effects of greenwashing on businesses and society. Huang Rongbing and Zhao Qian (2018) found that greenwashing is essentially an opportunistic strategy with significant negative externalities, which makes the private cost paid by enterprises during implementation much lower than the resulting social cost, but enables enterprises to gain additional revenue growth [7]. CAI Ling and Chen Lingfang (2021) point out that in the short term, enterprises may indeed create a positive environmental image through the "greenwashing" strategy, thus attracting market attention and bringing certain traffic growth. However, in the long run, this strategy of only staying on the surface and lacking actual environmental action will eventually become unsustainable [8]. In the study of greenwashing behavior, the connotation of greenwashing has gradually deepened from a single marketing phenomenon to the level of corporate social responsibility behavior. When discussing the motivation of greenwashing, many scholars tend to regard it as a manifestation of the lack of corporate social responsibility or the illegal disclosure of environmental information. Xiao Hongjun et al. (2022) believe that greenwashing behavior significantly reflects the serious lack of enterprises in fulfilling their social responsibilities, which not only impedes the healthy development of enterprises, but also significantly restricts the improvement of social welfare level [9]. However, in the current economy, a phenomenon that cannot be ignored is that more and more companies are beginning to make environmental promises to the public, and consumers and investors tend to pay for these promises.

In this context, greenwashing often happens quietly in the process of implementing companies' environmental commitments. Therefore, the implementation of environmental commitment is particularly critical, especially the possible subtle relationship between it and greenwashing behavior, which is worthy of further research and discussion in academia, business circles and even the whole society. This not only helps us to better understand the real intention and effect of corporate environmental commitments, but also provides a strong theoretical support and practical guidance for building a more healthy and sustainable economic development model.

3. Introduction of Green Bleaching Case of Hesteel Shares Based on Environmental Commitment

3.1. Introduction of Hesteel Shares

Hesteel Co., LTD., officially listed on the Shenzhen Stock Exchange in 1997, is a super large steel enterprise established by the merger of Tangshan Steel Co., LTD., Handan Iron and Steel Co., LTD., and Chengde Vanadium and Titanium Co., LTD., three industry leaders listed companies through the securities market. The merger not only highlights the strong integration ability of the capital market, but also further consolidates Hesteel's leading position in the steel industry. The main products include steel, billet and vanadium and titanium products, titanium products are of excellent quality, leading in the world in production technology, providing a strong competitiveness for the domestic market, and widely praised and recognized, to build "domestic leading, international first-class" for the enterprise goal of development. Hesteel continues to practice the low-carbon development path and actively implements the "double carbon" work; Continuously promote the standardized management of environmental protection, and invest 1.61 billion yuan in 2023 for pollution prevention and environmental improvement, and its subsidiaries have passed the environmental management system certification; Make efforts to save energy and reduce carbon, through the research and development and introduction of applicable technologies, optimize the production process, break through the difficulties in the ultra-low emission process, and complete the annual energy consumption target as planned.

Hesteel regards environmental construction, management and protection as an important part of operation and management, constantly improves the environmental management system, and strengthens the standardized management of environmental protection. At the same time, enterprises strengthen risk investigation and rectification, build a solid environmental compliance bottom line; Prepare emergency plans, take the initiative to respond to environmental emergencies, ensure the implementation of the sustainable development strategy of the enterprise, and constantly improve the level of environmental performance, laying a solid foundation for the high-quality development of the enterprise.

3.2. Industry Institutional Background

After sorting out the regulations and policies related to the disclosure of corporate environmental information in China, the Ministry of Ecology and Environment issued the first policy document on the disclosure of corporate environmental information in 2003, "Announcement on the disclosure of corporate environmental information", which marks the formal establishment of the institutional framework for the disclosure of corporate environmental information in China. Since then, China's government and financial regulatory authorities continue to pay more attention to the disclosure of corporate environmental information, and the relevant rules and regulations are gradually enriched and improved, and the requirements for disclosure are increasingly detailed and specific. See Table 3-1 for the regulations and policies on corporate environmental information disclosure.

Table 3-1. China's corporate environmental information disclosure policies and regulations

Publication time	File name	Issuing authority	File subject
The year 2003	Announcement on Disclosure of Corporate Environmental Information	Ministry of Ecology and Environment	To stipulate the content of environmental information mandatory and voluntary disclosure by enterprises
The year 2006	Administrative Measures on Information Disclosure of Listed Companies	China Securities Regulatory Commission	Standardize the information disclosure behavior of issuers, disclosure obligors and listed companies
The year 2007	Environmental Information Disclosure Measures (Trial)	Ministry of Ecology and Environment	Standardize the ways and contents of environmental information disclosure of enterprises
The year 2008	Guidelines on Environmental Information Disclosure of Listed Companies	Shanghai Stock Exchange	Environmental information disclosure procedures have been formulated, which clearly require listed companies to attach importance to non-commercial contributions from stakeholders, society, environmental protection, resource utilization and other aspects
The year 2011	2010 Annual Report on Government Information Disclosure Work of the Ministry of Environmental Protection	Ministry of Ecology and Environment	Promote the diversification of corporate environmental information disclosure
The year 2013	Measures for Enterprise Environmental Credit Evaluation (Trial)	Ministry of Ecology and Environment	Establish and improve the environmental credit mechanism, properly evaluate and timely announce the environmental behavior of enterprises, and urge enterprises to actively fulfill their social responsibilities
The year 2014	Environmental Protection Law of the People's Republic of China	The eighth session of the 12th NPC Standing Committee	We will clarify the subjects responsible for pollution, increase the cost of violating environmental protection laws, and strictly regulate the environmental protection responsibilities of local governments
The year 2015	Air Pollution Prevention Law of the People's Republic of China	16th Session of the Standing Committee of the 12th National People's Congress	The first single law after the new environmental protection Law, improving a number of detailed provisions
The year 2018	Environmental Protection Tax Law of the People's Republic of China	The 25th Session of the 12th National People's Congress Standing Committee	"Fee to tax" China's first single-line tax law that specifically reflects the "green tax system" and actively promotes the construction of ecological civilization is an important node in the green and environmental protection development of China's tax system
The year 2021	Measures for the Administration of Legal Disclosure of Enterprise Environmental Information	Ministry of Ecology and Environment	The subject, form, time limit and report content of environmental information disclosure are determined
The year 2022	Implementation Plan for Environmental Impact Assessment and Emission Permit in the 14th Five-Year Plan	Ministry of Ecology and Environment	Some measures are put forward, such as the full implementation of the pollutant discharge permit system and the construction of the core system of fixed pollution source supervision

3.3. Environmental commitment of Hesteel Shares

According to the official annual report and social responsibility report published by Hesteel, the company has always adhered to the code of conduct of safety, health and environmental protection in daily operations, and has unswervingly implemented the sustainable development strategy. The company focuses on the operation of the environmental management system, takes the three-level standardized management of environmental protection as the key path, continuously strengthens the basic management, comprehensively reviews and optimizes the environmental protection and site management processes, improves the environmental protection system and regulations,

successfully passes the three-level standardized management audit of environmental protection, and continuously improves the environmental management level. In addition, the subsidiaries of Hesteel also strictly abide by national laws and regulations and relevant requirements, and strictly implement the environmental assessment system in construction projects to effectively reduce the negative environmental impact. In 2023, all subsidiaries of Hesteel have passed the environmental management system certification.

It can be seen that Hesteel has expressed its social responsibility in environmental protection from the aspects of the company's mission, business philosophy and management system, and has also made corresponding environmental commitments. This paper summarizes the annual reports and social responsibility reports of Hegang from 2014 to 2023. Some environmental commitments are shown in Table 3-2.

Table 3-2. Some environmental commitments of Hesteel

A given year	Specific content
2023	"Strengthen climate-related risk management from a strategic perspective, take measures to reduce their own carbon emissions and reduce the impact of production and operation on the environment" "Incorporate environmental construction, management and protection into the whole process of operation and management, and constantly improve the environmental management system"
2022	"Vigorously promote the research and development of environmental protection technologies, promote ultra-low emission and energy-saving transformation, continue to reduce pollutant emissions, develop circular economy to promote the secondary use of resources, promote the coordinated development of economic efficiency and environmental protection, and achieve positive results in green and low-carbon industrial development."
2021	"Establish and improve a multi-level environmental protection management organization system covering all units, departments and positions of the company, clarify the environmental protection responsibilities of leaders at all levels, and strengthen environmental protection"
2020	"Continue to increase the research and development and promotion of low-carbon technology, won the highest award in the field of environmental protection - the first prize of environmental protection Science and Technology Award"
2019	"Promote the whole process of green manufacturing technology research and development and application, the implementation of coking, sintering, iron, steel process energy conservation and emission reduction transformation projects" "in-depth promotion of major investigation and rectification of the major action, the production environment and equipment facilities and other seven categories of comprehensive self-inspection and rectification work, found hidden problems and timely rectification of the complete"
2018	"Continue to strengthen investment in environmental protection, and actively promote the in-depth management of environmental protection" "The company further improves the level of comprehensive environmental remediation of the factory"
2017	"Strengthen energy and environmental protection management, strictly control pollutant emissions, and upgrade environmental protection equipment and facilities according to new environmental protection standards"
2016	"The concept of manufacturing green steel for human civilization, and creating a green steel circular economy industry chain with low resource consumption, environmentally friendly production and low-cost manufacturing"
2015	"Innovate the management mode, build a long-term mechanism for environmental protection" "Establish and improve the environmental risk deposit system, environmental management accountability system, environmental protection assessment system and other supporting management assessment systems"
2014	"Organized and carried out a two-month comprehensive environmental remediation action, forming a normal mechanism for environmental governance"

Source: Social Responsibility report of Hesteel Co., LTD

3.4. River Steel Shares Greenwashing Event Introduction

He Steel Co., Ltd. is the main shareholder of Tangshan Thick plate Co., LTD., holding 51% of its equity. Tangshan Thick plate Co., Ltd. occupies an important position in the steel industry, with an annual output of 3 million tons of thick plate production capacity, is the key development of China's iron and steel industry, mainly used in shipbuilding, boiler manufacturing, automotive and other industries, the future development space is very large, but the company has repeatedly appeared in the process of environmental violations, and before 2021, Hesteel did not publicly disclose the specific details of these environmental violations in its annual report or social responsibility report. In the face of media exposure and public doubts, River Steel shares did not give a positive response.

3.4.1. Mode of Environmental Information Disclosure

From 2015 to 2021, Hesteel mainly adopted the form of supplementary reporting to disclose its environmental information, and did not begin to fully adopt the form of ESG reporting until 2022. In the company's annual report, regarding the company's business, operating conditions, social responsibility and independent social responsibility reports, Hesteel will mention the company's environmental protection concept, specific measures for green transformation and the effectiveness of emission reduction, but some contents are repeatedly mentioned. In the "environmental protection" part of the social responsibility report, Hesteel will disclose environmental information in detail, but in some years, only specific data such as the funds

invested in some environmental protection projects will be disclosed.

In general, the environmental information disclosure form of Hegang is mainly based on supplementary reports, which leads to the dispersion of environmental information content in multiple channels such as annual reports and social responsibility reports, which brings certain difficulties to the collation and comparison of information. For external investors, it is difficult to directly measure the quality of such scattered environmental information, which increases the difficulty of investment decisions.

3.4.2. Contents of Environmental Information Disclosure

(1) Emphasize positive information and disclose less negative information.

In its environmental information disclosure, Hegang adopts a selective disclosure method, that is, it is more inclined to emphasize and render the achievements of the enterprise in green development and energy conservation and emission reduction, while relatively ignoring or concealing the actual situation of the company in environmental violations. This selective disclosure strategy was evident across multiple years, particularly in key years such as 2019 and 2020. According to the social responsibility report of Hesteel, the company spends a lot of time each year describing its investment in green technology and the awards it has won. For example, in 2016, it was mentioned that the company implemented a total of more than 20 key energy-saving and emission reduction projects, Tangshan Branch invested 284 million yuan, Handan Branch invested 500 million yuan, and Chengde Branch invested 400 million yuan in the construction of energy-saving and emission reduction projects. In 2018, with excellent technical research and

development strength, we successfully independently designed and built the first set of counter-current CSCR process equipment in China, achieving ultra-low emission of sintering flue gas, and its emission level is in the leading position in the domestic industry, fully demonstrating the company's outstanding achievements in environmental protection technology innovation. In 2020, remarkable achievements have been made in energy saving and emission reduction technologies, winning a number of important awards in China. Among them, its "steel flue gas ultra-low emission multi-functional coupling key technology and application" technology won the highest honor in China's environmental protection field - the first prize of environmental protection Science and Technology Award, fully proved the company's excellent strength and industry leading position in environmental protection technology innovation and application.

However, at the same time, the actual situation of Hesteel's environmental violations is rarely mentioned. According to an investigation report by the Institute of Public and Environmental Studies, an environmental organization, several affiliated companies of Hegang had multiple environmental regulatory records in 2019 and were fined a total of 1.1 million yuan. However, this information was not mentioned in the 2019 annual report, and Hesteel shares filled in "no" on the relevant environmental indicators, and made it clear that there were no major penalties and rectification during the reporting period. Although in the 2020 financial report, the company mentioned that it had received a total of nine administrative penalties and a fine of 1 million yuan, it did not elaborate on the specific reasons for the punishment. Therefore, Hegang adopted a selective disclosure strategy in environmental information disclosure, focusing more on showing its achievements in green development and energy conservation and emission reduction, while relatively ignoring the actual situation of the company in environmental violations. This practice may mislead investors and the public to have excessive expectations and evaluations of the company's environmental performance.

There are more qualitative statements. There are a large number of qualitative statements in the environmental information disclosed from 2015 to 2021, which is more obvious in 2019. In 2015 and 2016, the company clearly mentioned the energy conservation and emission reduction projects invested in each branch and the specific amount in the social responsibility report, and listed the company's main emission indicators in the past three years in the form of a table. The 2018 Environmental Report highlights the green logistics to curb dust. In 2019, the text of the "environmental protection" section of the company has been reduced, and more emphasis has been placed on the daily management of environmental protection and the release of monthly work information briefings, which may reflect the adjustment of the company's environmental information disclosure strategy, but the specific effect still needs to be further observed. In 2021, the multi-process ultra-low emission technology of steel industry developed by Hesteel Co., LTD won the second prize of National Science and Technology Progress Award. In 2022, Hesteel uses advanced technologies such as low-temperature rolling to improve energy efficiency, and the emission index is 10% lower than the ultra-low standard of the industry, reaching the advanced level of the industry. In 2023, each subsidiary company has established a solid waste management system, and the general solid waste adopts the

way of self-utilization and entrusted utilization to achieve 100% solid waste recycling. Such information is difficult to verify, and the effect and specific impact remain to be studied.

Repeat statements. The obvious feature of Hesteel's information disclosure is that some key projects and technologies are repeatedly mentioned in multiple years and different types of reports. In 2020, the technologies of "Sintering flue gas Purification and waste heat Utilization" and "Coke Oven waste gas waste heat Utilization" of Hesteel were selected into the "Hebei Province Low Carbon Technology Promotion Catalog (2020)". However, these two technologies are not only developed or applied in 2020, they have already been mentioned and described in the 2017 Social Responsibility report. Similarly, energy-saving technologies mentioned in 2020, such as "the implementation of sintering waste heat power generation, high temperature and ultra-high pressure power generation, greatly improving the self-generated electricity", were also mentioned in the report as early as 2017. This repetition of information not only makes it difficult for information users to judge the latest advances in the company's environmental and energy-saving technologies, but also may lead to the misleading impression that these technologies and projects are important achievements that have been achieved in recent years.

4. Motivation Analysis of Greenwashing Behavior of Hesteel Based on Environmental Commitment

The effective implementation of corporate environmental commitments and whether there is greenwashing behavior can be summed up by two core factors: one is the firm implementation motivation of corporate environmental commitments, and the other is the ability of enterprises to convert commitments into actual actions. In short, this involves two aspects of the enterprise's implementation motivation and implementation ability. Only when enterprises have enough motivation to fulfill environmental commitments, and have the ability to convert commitments into actual results, environmental commitments can be really effectively implemented to avoid the occurrence of greenwashing behavior.

4.1. Dynamic Analysis of Environmental Commitment Implementation

Implementation motivation refers to the pressure or incentive provided by the external economic market on enterprises to fulfill their environmental commitments. This includes the clear requirements of national environmental protection policies, effective government supervision and corresponding penalties, and the market's favor for enterprises that pay attention to environmental protection. In China, environmental protection policies are uniformly planned and deployed by the central government, while local governments at all levels are responsible for specific implementation and supervision. However, due to the division of power structure, there is a certain game relationship between the local government and the central government. Standing at the height of the whole society, the central government emphasizes the overall protection and balanced development of the ecological environment. On the other hand, local governments, as independent interest subjects, may sometimes be more inclined to pursue regional economic

interests under the pressure of political performance assessment and take a relatively lenient attitude towards enterprises with good economic returns, and may even over-protect them, resulting in weak supervision and affecting the actual implementation effect of environmental commitments.

(1) Lack of local government supervision

According to the notice of the Ministry of Ecology and Environment, there have been environmental pollution problems since the listing of Hesteel shares, however, the local government and relevant departments have been highly tolerant of it. This tolerance is not only reflected in the surface of the investigation and punishment work of the Party committee, government and environmental protection departments, but also reflected in the disregard for environmental violations of Hesteel. In 2022, when the central first ecological environmental protection inspection team launched the second round of ecological environmental protection inspection action in Hebei Province, it found that the relevant departments were negligent in the audit process, making Hegang shares able to easily evade their responsibilities. The local government and relevant departments turned a blind eye to the "masking" behavior of Hesteel shares and wrongly confirmed its completion of the task of resolving production capacity. Reviewing the green bleaching incident of Hesteel shares, it can be clearly found that the local government and environmental protection departments have failed to do their duty in supervision and policy implementation. This dereliction of duty may stem from Hesteel's important contribution to the local economy as a large local listed company, which makes the local government tilt between economic development and environmental protection and choose to "protect" Hesteel's environmental violations.

This lack of oversight is also exacerbated by possible partnerships between Hesteel and local governments. Due to poor supervision by local governments, Hesteel's incentive to implement its environmental commitments has been greatly weakened, giving it more room to "greenwash". In this context, Hesteel chose the strategy of "only promise, not implement" in the game with the local government to maximize its corporate interests. This not only harms the environment, but also affects public trust in environmental protection policies.

(2) Insufficient punishment for environmental violations

In the green bleaching event of Hesteel shares, the company received a clear punishment from the relevant departments, and the cumulative number of administrative punishment decisions received was large. Taking Tangshan Ecological Environment Bureau as an example, since March 2021, the bureau has issued 11 consecutive punishment decisions to Tangshan Medium Thick Plate Co., LTD., a subsidiary of Hesteel, with a cumulative fine of 6.07 million yuan. From these repeated environmental violations, it can be seen that Hesteel is powerless in responding to and dealing with environmental violations, failing to effectively respond to and disclose relevant information. This highlights the serious deficiencies and loopholes in the environmental management of Hesteel shares. For steel company Hesteel shares, the fine may be only a small part of the risk composition, although its environmental violations and information disclosure violations are serious, but the punishment is not serious, and the interval between penalties is long. From the disciplinary point of view, such a punishment is obviously not enough to bring a strong

deterrent effect to the River Steel shares.

Therefore, due to the relatively low cost of violation, Hesteel chose to take risks in the process of operation and falsely implemented environmental commitments in order to pursue the maximization of corporate interests. This further proves that strengthening environmental supervision and penalties and increasing the cost of corporate violations are of great significance in promoting enterprises to truly fulfill their environmental commitments and achieve sustainable development.

(3) The disclosure system of environmental accounting information is not perfect

It is very important to establish a sound environmental accounting information disclosure system to accurately evaluate the environmental performance of enterprises, and it is an important supervisory tool to ensure that enterprises fulfill their environmental responsibilities in the process of operation. However, there are still many defects in China's current environmental accounting information disclosure system.

On the one hand, the current environmental information disclosure system mainly focuses on some specific industries and enterprises, and the existing laws have not yet formed a systematic and complete system, with scattered contents, general expressions and weak operability. On the other hand, from the internal perspective of enterprises, many enterprises have not established a standard internal control mechanism of environmental accounting information disclosure. As can be seen from the information released by Hesteel, Hesteel has not set up a special department to supervise the implementation of the company's environmental commitments. In the internal control evaluation report, the disclosure of environmental protection indicators is extremely limited, and there are even behaviors of fabricating false data and providing false statements to cover up the real situation. This reflects that there are serious deficiencies in the environmental management and system construction of Hesteel.

4.2. Analysis of the Ability to Implement Environmental Commitments

Implementation capacity refers to the ability of an enterprise in terms of resources, management and governance to enable it to carry out its environmental behavior. This ability can be evaluated from multiple dimensions such as business performance, financial condition and internal control mechanism. First, the implementation of environmental commitments usually requires a large investment of money and resources, such as the construction of environmental protection facilities, research and development of clean technologies. All these require enterprises to have a stable financial foundation and sufficient capital reserves to support. Secondly, the internal governance level of an enterprise is also an important factor affecting its implementation ability. When the internal governance mechanism of an enterprise is not sound enough, the individual will of the controlling shareholder may excessively affect the operation and management decisions of the enterprise, making it difficult for the enterprise to formulate long-term development goals. At the same time, the deficiency of organizational management level may also lead to the difficulty of effective implementation of reasonable decisions, making enterprises more likely to choose greenwashing behavior when facing the temptation of short-term interests. Last but not least,

corporate executives directly affect corporate strategy formulation, while the management, as a bounded rational person, tends to ignore the importance of environmental issues when attracted by short-term interests, and tends to make decisions for higher economic interests when fulfilling corporate social responsibilities. This can also lead to companies that have strong environmental commitments, but may struggle to actually implement them.

For enterprises with financial constraints, operating difficulties, low organizational management efficiency, and weak internal control, even if they have strong motivation to implement environmental commitments, they will be powerless, and thus embark on the road of "passive" greenwashing. This paper mainly analyzes the implementation ability of environmental commitment from two aspects: enterprise financial ability and corporate governance level.

(1) Analysis of the company's financial capability

i. Free up financial resources

Retained earnings, as an indispensable financial

cornerstone within an enterprise, are essentially the undistributed profits accumulated in the past operating years. These profits provide valuable financial support for the subsequent business activities and investments of the enterprise. According to the principle of priority financing in financing theory, enterprises usually give priority to the use of internal resources, such as retained earnings, rather than external financing when financing. In order to more accurately evaluate the financial strength of Hegang in the implementation of environmental commitments, this paper specially selects the two indicators of surplus reserve balance and undistributed profit as the standards to measure the financial resources that can be released by the enterprise. These two indicators directly reflect the amount of internal funds available to support the company's operations and investments in the current and future period, and thus provide a strong basis for us to evaluate the ability of Hesteel to implement its environmental commitments. The relevant data of Hegang from 2014 to 2023 are shown in Figure 4-1 and Figure 4-2 below.

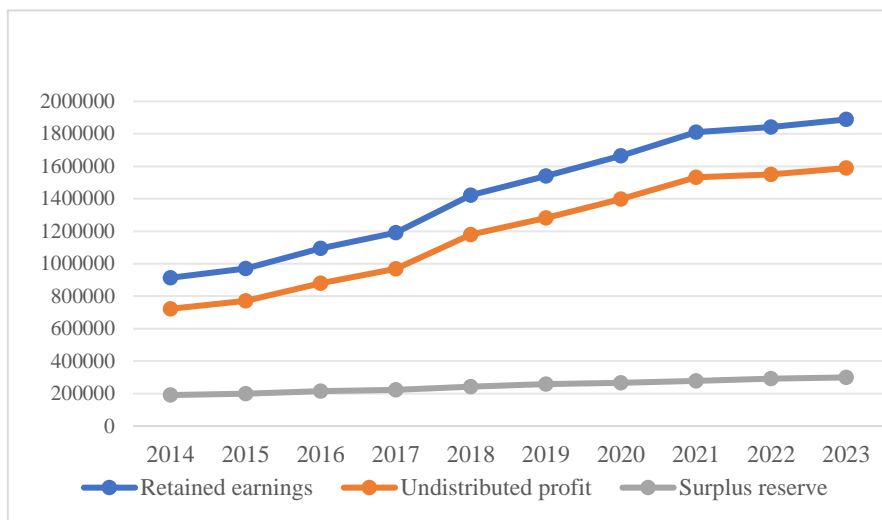


Figure 4-1. Retained earnings of Hegang from 2014 to 2023 (ten thousand yuan)

Data source: CSMAR database

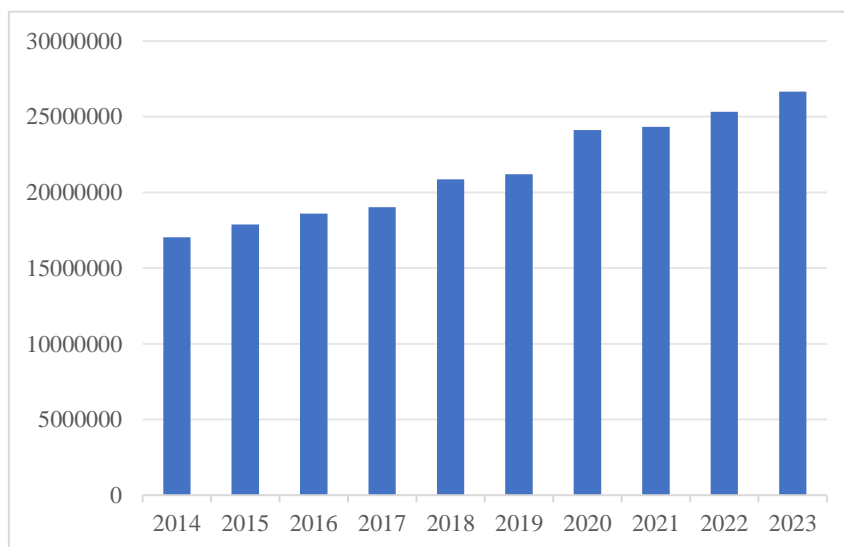


Figure 4-2. Assets of Hesteel from 2014 to 2023 (ten thousand yuan)

Data source: CSMAR database

As can be seen from Figure 4-1 and Figure 4-2, both retained earnings and asset scale of Hesteel from 2014 to 2023

show an upward trend, which can release financial resources objectively. From the perspective of releasing financial

resources, Hesteel Shares have a strong ability to implement environmental protection commitments.

ii. Currently available financial resources

In evaluating the financial resources of a company, in addition to the internal capital accumulation of retained earnings, the situation of cash flow is also crucial. In the complex and changeable business environment, even if the enterprise has a high profit, it may face the risk of capital shortage and even bankruptcy because it can not effectively transform into cash flow. Whether the cash flow is smooth or not is directly related to the survival of enterprises and the realization of strategic objectives. Especially for the implementation of environmental commitments, such as the construction of environmental protection facilities, clean technology research and development, require a large number

of immediate financial investment. These investments not only require companies to have sufficient financial reserves, but also require that these reserves can be quickly converted into cash flow to meet actual spending needs.

For a typical manufacturing enterprise such as Hesteel, the cash flow generated by operating activities is directly generated through the core business activities of the enterprise, which has a high degree of liquidity and sustainability, and is the most direct and reliable part of the financial resources of the enterprise. Therefore, this paper chooses the net cash flow generated by operating activities as the key indicator to measure the available financial resources of the enterprise, so as to more accurately evaluate the financial strength of Hesteel in implementing environmental commitments. Figure 4-3 shows the related data.

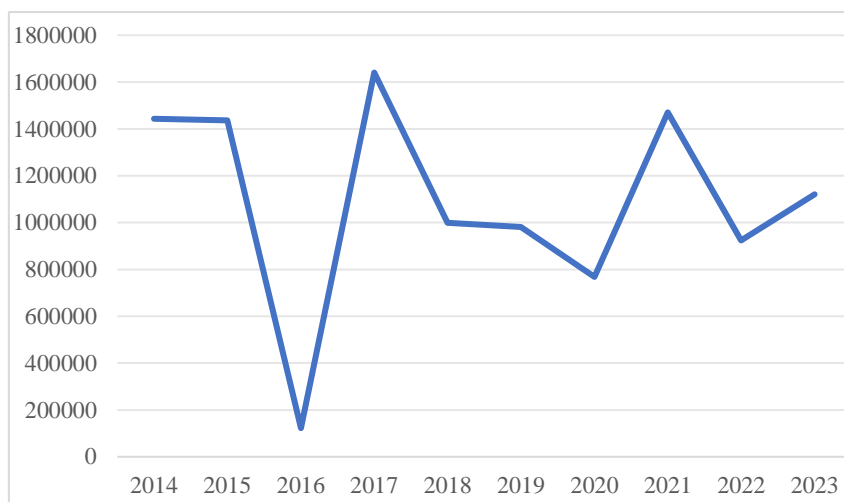


Figure 4-3. Net cash flow generated by operating activities of Hegang from 2014 to 2023 (ten thousand yuan)

Data source: CSMAR database

As shown in Figure 4-3, from 2014 to 2023, the amount of cash flow generated by the operating activities of Hesteel showed significant instability or volatility. In 2015, the new environmental protection Law was officially implemented, and Hesteel faced strict supervision and supervision rectification in environmental management, resulting in greater cash flow pressure, resulting in a decrease in net cash flow. Although the net cash flow in 2017 soared, steel prices rose significantly, making the overall profitability of the industry significantly improved. However, due to the impact of policy measures such as capacity reduction and environmental protection, the company's profit growth rate has failed to keep up with the industry average, showing a certain lag. Therefore, from the perspective of available financial resources, Hesteel Shares have certain financial pressure when implementing environmental commitments.

iii. Potential financial resources

In addition to the use of retained earnings and production and operating activities to generate cash flow, enterprises can also obtain external financial resources through external financing. As the core component of corporate debt financing, bank loan has a profound impact on the capital flow and operational activities of enterprises. Investors and creditors usually pay attention to the level of financial leverage of a company because it directly reflects the financial risk of a company. The lower a company's financial leverage means that its financial risk is relatively low, making it easier to obtain potential debt financing. The higher the level of potential financial resources of the enterprise, the more quickly and efficiently the enterprise can obtain the required funds from the outside when it needs financial support. Considering the debt level, this paper uses the asset-liability ratio index to measure the potential financial resource capacity of Hesteel shares, as shown in Figure 4-4.

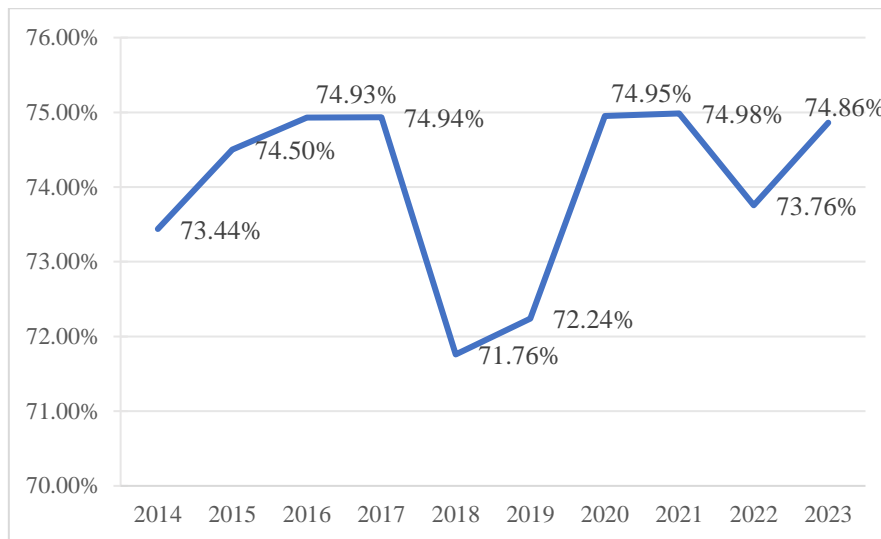


Figure 4-4. Asset liability ratio of Hesteel shares from 2014 to 2023

Data source: CSMAR database

It can be seen from the figure above that the asset-liability ratio of Hesteel shares has fluctuated greatly since its listing, and the asset-liability ratio of Hesteel shares has exceeded 50%. High financial leverage will make Hesteel unfavorable in financing, which will lead to potential capital risks in the effective implementation of enterprise operation and environmental commitments.

In summary, from the release of financial resources, available financial resources and potential financial resources three dimensions of analysis. The amount of retained earnings of Hesteel shares is considerable, but the net cash flow generated by production and operation fluctuates frequently. In terms of potential financial resources, the improper use of leverage of Hesteel shares led to low operating efficiency of total assets and net assets. The implementation of environmental commitments involves a variety of capital investment, and the weak financial resources have weakened the ability of Hesteel to carry out environmental management, unable to build pollution control facilities and green technology innovation and research and development, and ultimately led to the occurrence of green bleaching behavior.

(2) Analysis of corporate governance level

i. The supervisory functions of the independent directors and the board of supervisors are insufficient

In the governance structure of listed companies in China, the independent directors and the board of supervisors should be the important forces that restrict and supervise the decision-making of the board of directors. However, the two mechanisms in Hegang stock have failed to play their due supervisory role effectively. It can be seen from the annual report data that as of the end of 2019, the number of independent directors of Hesteel was only 4, which directly affected the strength and effect of their performance of

supervision functions. When the company is faced with environmental pollution and other problems, independent directors are powerless to restrict the integrity and authenticity of relevant information disclosure. In addition, the supervisory board of Hesteel Shares also failed to fully perform its supervisory duties. In the annual report of previous years, Hesteel said that the supervisory board had said that there was no risk in the supervised activities and had no objection to the supervision matters. However, the subsequent exposure of Hesteel's serious environmental violations is in stark contrast to this statement. The members of the supervisory board apologized for the incident and admitted that they failed to abide by their duties and diligence, which shows that the supervisory board did not fully play its due supervisory role in the process of environmental pollution and environmental supervision and rectification.

ii. The overall education level of senior executives is low, and the age level is older

As shown in Figure 4-5, by 2023, only 21% of the employees in Hegang have a master's degree or above, and most of the employees have a bachelor's degree or below. Employees with higher education level often have stronger professional quality and logical thinking ability, which makes them more deeply understand the significance of corporate social responsibility and environmental commitment for the long-term development of the company. Not only that, but well-educated employees tend to be more sensitive to environmental changes and social challenges. Therefore, when companies issue environmental policies, they are more likely to integrate these policies with corporate strategies to find new growth points and thus more actively promote the implementation of corporate environmental commitments.

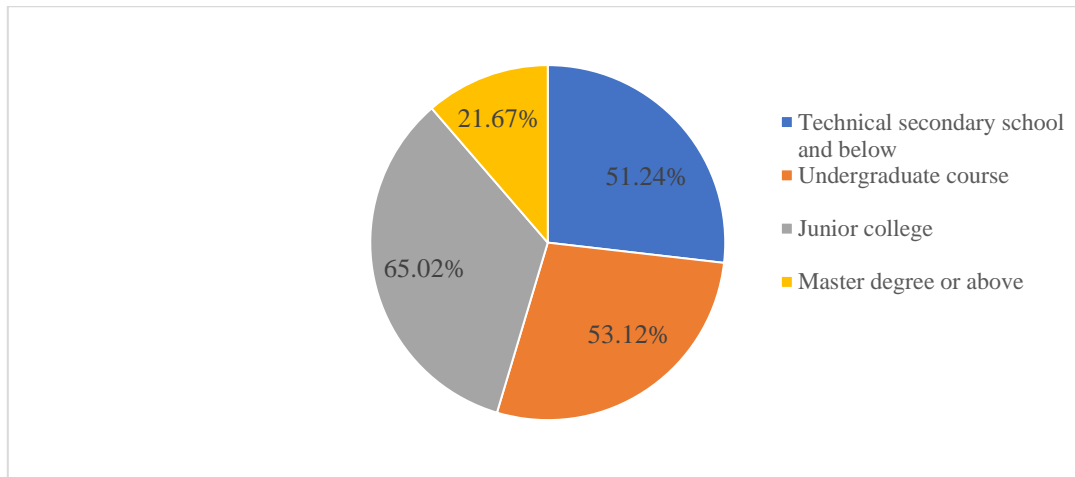


Figure 4-5. Educational background of Hesteel employees in 2023

Data source: CSMAR database

As can be seen from Figure 4-6, the most senior executives in Hesteel are between 51 and 55 years old. People of different ages live in different times and backgrounds, which greatly affect people's experience and experience, and experience is often an important basis for executives to make business management decisions. Due to the age difference, executives of different ages have different attitudes and choices towards environmental protection and corporate decision-making. On the one hand, for older executives, they have grown up in a "development first, governance later" environment, leading them to underestimate the importance and urgency of current environmental protection. In the process of learning and growing up, young executives will be more influenced by the social values of environmental protection and have a stronger awareness of environmental protection. On the other hand, since older executives are in the later stages of their careers, they tend to prefer more conservative decision-making strategies. In the face of environmental commitments requiring high investment and long-term benefits, they may choose to avoid or resist, and instead pursue the so-called "greenwashing" behavior with low cost and high benefits in the short term.

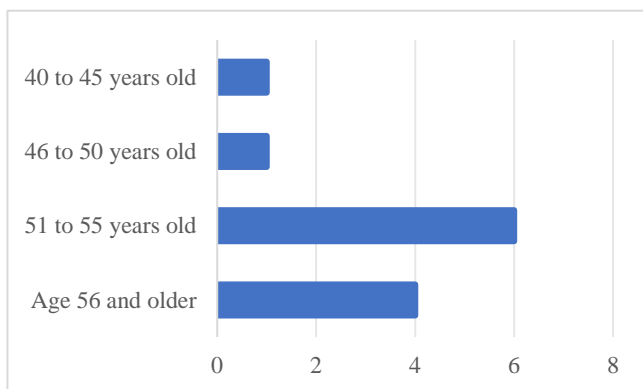


Figure 4-6. Age distribution of senior executives of Hesteel in 2023

Data source: CSMAR database

5. Greenwashing Management Strategies Based on Environmental Commitments

5.1. Improve the Motivation for The Implementation of Corporate Environmental Commitments

5.1.1. Strengthen environmental protection supervision and improve system construction

Local governments should not tolerate illegal enterprises in the name of economic development, and must adhere to the bottom line of environmental protection, assume due regulatory responsibilities, especially to strengthen the supervision and management of local heavy polluters. Local governments should attach great importance to real clues about environmental pollution reported by the masses to ensure that every report can be dealt with in a timely and effective manner. In the process of law enforcement, the principle of fairness and selflessness must be upheld, and any illegal acts should be severely punished according to law to ensure the effectiveness of regulatory measures and a strong deterrent against potential illegal acts. At the same time, in order to enhance the environmental responsibility of enterprises, the CSRC and the stock exchange need to further improve the environmental accounting information disclosure system, requiring enterprises to regularly disclose detailed and true strategic plans and implementation status corresponding to environmental commitments. Through such information disclosure, enterprises can effectively prevent the phenomenon of "empty talk about environmental commitments, but no actual action", so as to promote the formation of a more green and sustainable development atmosphere for the whole society.

5.1.2. Cultivate consumers' concept of green consumption

The core of the market performance of green products and services lies in consumers' willingness to buy and their premium acceptance of environmental attributes. If consumers do not agree with the concept of green consumption and are not willing to pay extra for the environmental characteristics of products or services, then the large amount of money invested by companies to fulfill their environmental commitments will be difficult to turn into profits. In this case, there is no economic incentive for

companies to consistently fulfill their environmental responsibilities. By actively cultivating and promoting the concept of green consumption and expanding the scale of green consumer groups, effective demand for green products and services can be created in the consumer market. This increase in demand will not only encourage companies to be more active in fulfilling their environmental commitments, but also encourage companies to abandon superficial "greenwashing" behavior and truly commit to green and sustainable development.

5.2. Enhance the Ability to Implement Corporate Environmental Commitments

5.2.1. Strengthen management of the Board of Directors

In order to ensure the scientific management decision and the high efficiency of strategy implementation, the optimization of board structure is particularly critical. Companies should aim to strengthen the function of the board of directors to ensure that independent directors can fully exercise their supervisory duties. Especially in major decisions involving environmental protection, enterprises can give priority to hiring talents with professional knowledge and experience in environmental accounting as senior executives or independent directors, which can not only reduce the risk of information disclosure, but also gather the advantages of all parties to help enterprises formulate and implement environmental strategies more accurately.

In addition, the decision-making level of enterprises needs to actively understand the latest environmental policies, deepen the understanding of ecological environmental protection, and enhance their own ideological realm. In this way, corporate decision makers can not only better fulfill their social responsibilities, but also find a sustainable development path in the increasingly severe environmental challenges, laying a solid foundation for the long-term development of enterprises.

5.2.2. Strengthen the functions of the Board of Supervisors

In the daily operation and management of enterprises, the Board of supervisors shoulders a crucial dual responsibility: to monitor whether the board of directors and the management are fully performing their duties, and to ensure that the decisions of the board of directors do not bring potential risks to the company, and can properly cope with crises at critical times. In order to ensure that the supervisory board can perform these duties with complete impartiality, companies need to take a series of measures to strengthen the functions of the supervisory board. These measures include, but are not limited to, ensuring that members of the Supervisory Board are represented on the board in a reasonable proportion so that they can effectively voice and monitor; Detailed statistics on the voting of the board of directors, so that the Board of Supervisors can fully understand the process and results of decision-making; As well as regular internal inspections and audits by supervisors to ensure compliance and robustness of the company's operations. Strengthening the function of the Board of supervisors is of great importance for protecting the rights and interests of minority shareholders and maintaining the reputation of the company. By strengthening the functions of supervisory boards, companies can ensure that the interests of all shareholders are treated equally and avoid large shareholders using their power to harm the interests of minority shareholders. At the same time, a strong supervisory

board can also improve the level of corporate governance, enhance the transparency and credibility of the company, and thus maintain the good reputation and image of the company.

5.2.3. Establishment of internal environmental accounting audit system

At present, although many enterprises in our country have set up internal audit departments, but the audit mechanism specializing in environmental accounting is rarely involved. With the continuous progress in the field of environmental accounting and the increasing standards of information users for environmental information disclosure, the environmental accounting system is moving towards a more mature and perfect stage, which also puts forward higher expectations for the professional quality of internal auditors in enterprises. In order to meet this demand, enterprises should actively absorb talents with professional knowledge of environmental accounting, build a set of special internal environmental accounting audit system, and ensure its effective implementation. Through this initiative, enterprises can more effectively deal with various problems encountered in the process of environmental information disclosure, reduce the risk of violation caused by improper information disclosure, so as to provide a solid guarantee for the healthy and stable development of enterprises.

6. Research Conclusions and Prospects

This paper regards the implementation process of environmental commitment as the result of the joint impact of implementation ability and implementation motivation, and makes a detailed study of the greenwashing case of Hesteel, and analyzes the greenwashing behavior of Hesteel in the implementation of environmental commitment. It is found that there is a significant greenwashing phenomenon in the implementation of Hesteel's environmental commitments. Further analysis shows that this greenwashing behavior is mainly due to two factors: first, the lack of implementation motivation, which is mainly due to the government's insufficient supervision of environmental pollution behaviors and insufficient punishment for violations, resulting in the lack of sufficient motivation for Hegang to fulfill its environmental commitments; The second is the limitation of implementation capacity. Due to the relatively weak financial resources of Hesteel and the inadequacy of the company's internal governance mechanism, it is difficult for Hesteel to effectively implement its environmental commitments.

Based on the above analysis, this paper puts forward the countermeasures for enterprises' greenwashing behavior, aiming at strengthening enterprises' environmental governance from the perspective of environmental commitment implementation. Finally, this paper concludes that the failure of Hegang to effectively implement its environmental commitments and a series of greenwashing behaviors are mainly caused by the double inadequacy of its implementation motivation and implementation ability. Therefore, in order to improve the environmental governance of enterprises, it is necessary for the government, enterprises and all sectors of society to work together to strengthen supervision, improve punishment, and strengthen the internal governance and financial strength of enterprises.

References

- [1] Chen Xiaoyan, Xiao Hua, ZHANG Guoqing. Does environmental Punishment promote corporate environmental

- governance? Analysis based on dual dimensions of process and result [J]. *Economic Management*, 2019, 43(06):136-155.
- [2] Huang Shizhong. "Greenwashing" and "anti-greenwashing" in ESG report [J]. *Financial Monthly*, 2022(01):3-11.
- [3] Zhang Kexin, Pan An 'e. Market reaction of listed companies' greenwashing behavior: Based on the perspective of environmental information disclosure [J]. *Finance and Accounting Bulletin*, 2018(29):57-60.
- [4] Gao and Pratima Bansal. Instrumental and Integrative Logics in Business Sustainability [J]. *Journal of Business Ethics*, 2013, 112(2): 241-255.
- [5] Yu Linxiu. Does institutional pressure inhibit the "greenwashing" of corporate environmental information? Based on the evidence of A-share market [J]. *Journal of Finance and Accounting*, 2019(22):105-114.
- [6] Chaminda Wijethilake and Tek Lama. Sustainability core values and sustainability risk management: Moderating effects of top management commitment and stakeholder pressure [J]. *Business Strategy and the Environment*, 2019, 28(1):143-154.
- [7] Huang Rongbing, Zhao Qian. Research on enterprise greenwashing from the perspective of evolution: a case study based on China's Greenwashing List [J]. *Accounting Research*, 2018(04):11-19.
- [8] CAI Ling, Chen Lingfang. Research on the negative effects of Corporate Social Responsibility "greenwashing" and governance countermeasures [J]. *Financial Management Research*, 2021(11):65-69.
- [9] Xiao Hongjun, Shang Huichen. Digital Corporate Social Responsibility: Current situation, problems and Countermeasures [J]. *Industrial Economics Review*, 2022(06):133-152.