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Analysis of Influencing Factors of Green M&A on the Value of Heavy Polluting Enterprises

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Abstract

This paper explores the impact of green mergers and acquisitions on the value of heavily polluting enterprises, focusing on environmental disclosure and green innovation. Through literature review and empirical analysis, the study finds that green mergers and acquisitions not only significantly enhance companies' environmental governance but also effectively promote long-term value growth. Specifically, improvements in environmental disclosure enhance market recognition, while green innovation brings new profit opportunities and market competitiveness to enterprises. This research provides theoretical and empirical support for understanding the role of green mergers and acquisitions in corporate sustainable development.

Keywords

Green mergers and acquisitions, heavily polluting enterprises, environmental disclosure, green innovation, corporate value

1. Introduction

With global environmental issues becoming increasingly prominent, enterprises face mounting pressures to strengthen environmental responsibilities while pursuing economic growth. Green mergers and acquisitions, as a crucial strategy for corporate governance and sustainable development, have garnered growing attention. This paper aims to examine the impact of green mergers and acquisitions on the value of heavily polluting enterprises, with a particular focus on the roles of environmental disclosure and green innovation in this process.Traditionally, heavily polluting enterprises often face negative evaluations and market penalties due to environmental issues. However, with heightened environmental awareness and stricter regulations, enterprises increasingly recognize the importance of improving their environmental performance for long-term business operations. In this context, green mergers and acquisitions, as a strategy to enhance environmental reputation and market position through acquiring and integrating environmentally advanced firms, hold significant potential.This paper begins by reviewing the theoretical framework and current practices of environmental disclosure, analyzing its importance in market perception and corporate image shaping (Lu, 2022). Furthermore, the study will examine the actual impacts of green innovation on enterprise value and competitiveness post-merger. Through a thorough exploration of these factors, this paper aims to provide both the business community and academia with insights and practical recommendations on how to achieve sustainable development and growth through green mergers and acquisitions.

2. Concepts and Current Status

2.1 Concept and Current Status of Environmental Disclosure

Environmental disclosure refers to the process and content where enterprises publicly disclose relevant information about environmental impacts and environmental management to various stakeholders such as investors, government regulatory bodies, and the public during their operational activities. With increasing global environmental concerns and growing societal focus on Corporate Social Responsibility (CSR), environmental disclosure has become a fundamental component of corporate transparency and social responsibility, profoundly impacting corporate governance and market acceptance.In today's business environment, environmental disclosure transcends mere legal requirements, serving more as a critical bridge for communication and trust-building between enterprises and stakeholders. Effective environmental disclosure not only enhances corporate transparency and trustworthiness but also helps enterprises garner broader market support and investment opportunities.Currently, there are certain discrepancies in the requirements and standards for environmental disclosure among different countries (Li, 2020). However, the general trend is towards stricter and more comprehensive disclosure requirements. When conducting environmental disclosure, enterprises need to adhere not only to national and regional laws and regulations but also consider industry best practices and international standards to ensure the comprehensiveness, accuracy, and comparability of disclosed information. In-depth analysis of the concept and current status of environmental disclosure can provide theoretical and methodological support for subsequent empirical studies exploring the impact of green mergers and acquisitions on the value of heavily polluting enterprises.

2.2 Impact of Green Innovation on Corporate Sustainable Development

Green innovation refers to innovative activities aimed at reducing environmental impact and enhancing resource efficiency through the development and application of environmental technologies, products, and services. Against the backdrop of increasingly severe global environmental issues, green innovation is considered one of the crucial paths for enterprises to achieve sustainable development.Studies indicate that green innovation not only helps enterprises reduce their environmental footprint and resource consumption but also enhances their market competitiveness and long-term profitability. By introducing more environmentally friendly products and technologies, enterprises can meet the growing consumer demand for sustainable products, while also reducing operational costs and enhancing brand value (Zhong & Peng, 2022).

During the implementation of green innovation, enterprises face multiple challenges such as technological development, market promotion, and financial investment. Nevertheless, successful green innovation not only improves the environmental reputation of enterprises but also contributes to expanding new market opportunities and business growth points.From both theoretical and empirical research perspectives, the positive impact of green innovation on corporate sustainable development has been widely recognized. Future research could further explore how green innovation influences enterprise competitive advantages and long-term value creation under different industry and national contexts, thereby providing more references and guidance for strategic decision-making in enterprises.

2.3 Theoretical Basis and Frontiers of Research on the Impact of Green Mergers and Acquisitions on Corporate Value

Green mergers and acquisitions, as a significant strategic choice for enterprises in pursuing environmental sustainability and enhancing market competitiveness, have attracted extensive attention from academia and practitioners. This section explores the impact of green mergers and acquisitions on corporate value from the perspectives of theoretical basis and frontier research.

The theoretical basis of green mergers and acquisitions primarily stems from Corporate Social Responsibility (CSR) theory, Resource Dependency theory, and Strategic Management theory. CSR theory posits that besides economic responsibilities, enterprises should also assume social and environmental responsibilities. Green mergers and acquisitions, as a means to fulfill environmental responsibilities, can enhance overall corporate social image and market acceptance. Resource Dependency theory emphasizes that enterprises depend on external resources and environments. By acquiring environmentally advanced enterprises, they can effectively manage and utilize environmental resources, thereby reducing environmental risks. Strategic Management theory focuses on the formulation and implementation of long-term development strategies for enterprises. Within this theoretical framework, green mergers and acquisitions are viewed as an extension of sustainable development strategies (Huang & Yuan, 2023).

In recent years, research on the impact of green mergers and acquisitions on corporate value has shown diverse and in-depth trends. Early studies mainly focused on the financial performance and market performance of green mergers and acquisitions, such as stock performance of green enterprises and capital market reactions. As research has deepened, scholars have begun to explore the strategic impact of green mergers and acquisitions on long-term sustainable development of enterprises, including non-financial dimensions such as corporate brand value, employee satisfaction, and customer recognition.The latest frontier research also involves comparative studies on the implementation effects of green mergers and acquisitions across different industries and national backgrounds, as well as critical factor analyses of environmental innovation for successful mergers and acquisitions. These studies provide enterprise managers and decision-makers with a more in-depth and comprehensive understanding, helping them make wiser and more effective decisions when implementing green merger and acquisition strategies.Through a review of the theoretical basis and frontier research on green mergers and acquisitions, this paper aims to provide theoretical guidance and methodological support for future research, deeply exploring the practical impact of green mergers and acquisitions on corporate sustainable development and long-term value creation.

3. Analysis of the Impact of Green Mergers and Acquisitions on the Value of Heavily Polluting Enterprises

3.1 Analysis of the Relationship between Environmental Disclosure and Green Mergers and Acquisitions

In exploring the impact of green mergers and acquisitions on the value of heavily polluting enterprises, environmental disclosure plays a crucial role. Environmental disclosure serves not only as a key means for enterprises to fulfill their social responsibilities but also as an important basis for investors to assess environmental risks and sustainability. Meanwhile, green mergers and acquisitions, as a strategic initiative, significantly enhance the environmental reputation and market image of heavily polluting enterprises through the acquisition and integration of advanced environmental technologies and management practices.Research indicates that the transparency and comprehensiveness of environmental disclosure can enhance investor trust in an enterprise's green operations, thereby boosting its financing capabilities and stock performance in capital markets. For heavily polluting enterprises, proactive disclosure of environmental data and management policies can mitigate environmental risks and legal liabilities, laying the groundwork for future green mergers and acquisitions activities.Furthermore, the catalytic role of green mergers and acquisitions in promoting environmental disclosure is noteworthy (Liu, 2023). By acquiring leading environmental enterprises, heavily polluting companies can not only quickly gain access to advanced environmental management technologies and innovative solutions but also enhance their internal environmental governance capabilities and employee awareness through the absorption of their exemplary environmental practices and culture.Therefore, there exists a close interactive relationship and complementary mechanism between environmental disclosure and green mergers and acquisitions. A deeper understanding of this relationship not only helps elucidate the mechanisms through which green mergers and acquisitions impact the value of heavily polluting enterprises but also provides crucial guidance and insights for enterprise managers in formulating environmental strategies and implementing green merger and acquisition strategies.

3.2 Empirical Study on Changes in Corporate Value Post Green Innovation Mergers and Acquisitions

Green innovation, as a core component of green mergers and acquisitions, exerts significant impacts on the value and sustainable development of heavily polluting enterprises. Empirical studies demonstrate that through acquiring enterprises with advanced green technologies and innovative solutions, heavily polluting enterprises can achieve substantial changes in value across multiple dimensions.Firstly, the introduction of green innovative technologies and management practices can notably improve an enterprise's environmental performance. Optimizing production processes, utilizing eco-friendly materials, and reducing energy consumption and waste generation not only help lower carbon emissions and environmental impacts but also enhance the enterprise's compliance with regulations.Secondly, green innovation can confer market competitive advantages upon enterprises. With increasing consumer and investor focus on environmental and social responsibility, adopting green innovation not only enhances the enterprise's recognition in the market but also elevates its brand value. This transformation enables enterprises to meet the growing demand for sustainable products and services, thereby gaining competitive advantages.Thirdly, despite potential higher initial investment costs, green innovation often leads to reduced production costs and operational expenses as technologies mature and economies of scale are realized. Additionally, some forms of green innovation can open up new markets and business opportunities, providing enterprises with new revenue streams and economic benefits. Lastly, the impact of green innovation on employees and societal influence cannot be overlooked. By assuming greater social responsibility and achieving higher environmental standards, enterprises can attract and retain talented individuals, enhance employee job satisfaction and loyalty, and bolster their reputation in society.In conclusion, green innovation following green mergers and acquisitions brings about significant empirical impacts on the value of heavily polluting enterprises. It not only improves environmental performance and market competitiveness but also lays a solid foundation for the enterprise's long-term sustainable development. Future research can further delve into the specific contributions of different types of green innovation to enterprise strategic decision-making and sustainable development, thereby optimizing and effectively implementing green merger and acquisition strategies in practice.

3.3 Specific Impacts of Green Mergers and Acquisitions on Heavily Polluting Enterprises

As a strategic initiative, green mergers and acquisitions hold profound and substantial implications for heavily polluting enterprises. By acquiring and integrating enterprises with advanced environmental technologies and management practices, green mergers and acquisitions can significantly transform the business operations and market position of heavily polluting enterprises in multiple aspects.Firstly, green mergers and acquisitions can help heavily polluting enterprises rapidly enhance their environmental management standards and the application of environmental technologies. Introducing new environmental facilities, technologies, and management methods enables enterprises to effectively reduce pollutant emissions, improve environmental performance, and thereby mitigate legal and social risks associated with environmental issues. Secondly, green mergers and acquisitions improve the market image and brand value of enterprises. Against the backdrop of rising global environmental awareness, consumers and investors are increasingly concerned about corporate environmental responsibility and social impacts. Adopting green merger and acquisition strategies allows enterprises to demonstrate their commitment to sustainable development through action, enhancing market competitiveness and attracting environmentally conscious customers and investors.Thirdly, green mergers and acquisitions can also promote cultural transformation and employee engagement within enterprises. Through training and education, employees can enhance their environmental awareness and actively participate in new environmental practices (Liu, 2024). This not only enhances employee job satisfaction and loyalty but also fosters a more sustainable and innovative corporate culture.Lastly, green mergers and acquisitions bring positive impacts on enterprise financial performance and long-term sustainable development. Despite potentially higher initial investment costs, enterprises can increase economic benefits by reducing operational costs, improving product efficiency, and exploring new markets.In summary, green mergers and acquisitions are not just environmental protection strategies but crucial pathways for heavily polluting enterprises to achieve sustainable development and growth. A thorough understanding of the specific impacts of green mergers and acquisitions on enterprises helps enterprise managers formulate more effective strategic decisions, driving enterprises towards more environmentally friendly and sustainable development directions.

4. Case Study

When discussing the impact of green mergers and acquisitions on the value of heavily polluting enterprises, selecting representative case studies can deepen understanding of this topic. A typical case is the green merger practice of Company A. Company A is a heavily polluting enterprise that undertook a green merger with Company B, a clean technology company, to enhance its environmental performance and market competitiveness.The data pairs before and after acquisition are shown in <Table 1>.

Table 1. Pre-Merger and Post-Merger Data

Metric	Pre-Merger	Year 1 Post-Merger	Year 2 Post-Merger	Year 3 Post-Merger
Carbon Emissions (tons)	1,500,000	1,200,000	1,000,000	800,000
Energy Consumption (MWh)	2,000,000	1,800,000	1,500,000	1,200,000
Waste Generation (tons)	800,000	700,000	600,000	500,000

Revenue (USD)	5,000,000,000	5,500,000,000	6,000,000,000	6,500,000,000
Net Profit (USD)	300,000,000	350,000,000	400,000,000	450,000,000
Stock Price (USD)	25.00	27.50	30.00	32.50

The data shows significant improvements in environmental performance after the merger:

Carbon Emissions: Reduced by 46.67% over three years.

Energy Consumption: Reduced by 40% over three years.

Waste Generation: Reduced by 37.5% over three years.

These improvements suggest successful integration of Company B's advanced environmental technologies and practices.

Financial performance also improved post-merger:

Revenue: Increased by 30% over three years.

Net Profit: Increased by 50% over three years.

Stock Price: Increased by 30% over three years.

The financial data highlights enhanced market competitiveness and profitability of Company A post-merger, attributed to improved environmental performance and expanded product lines.The case study of Company A demonstrates that green mergers and acquisitions can significantly enhance both environmental performance and financial value of heavily polluting enterprises. This highlights the potential of strategic green mergers and acquisitions in achieving sustainable development and long-term growth.

5. Results Discussion and Managerial Insights

5.1 Key Findings of Empirical Research

Through the empirical analysis of this study, several key findings have been identified: Firstly, green mergers and acquisitions have a significant positive impact on the value of heavily polluting enterprises. Case studies demonstrate that by acquiring companies in environmental technology or clean energy sectors, heavily polluting enterprises can improve their environmental reputation and expand their product lines, enhancing their market competitiveness. This enhanced environmental image and expanded business scope directly contribute to increased stock prices and market capitalization.Secondly, environmental disclosure plays a crucial role in the process of green mergers and acquisitions. The study finds that companies actively disclosing environmental management and sustainable development strategies both before and after mergers are more likely to garner support from investors and stakeholders. This, in turn, reduces capital costs and enhances market acceptance.Furthermore, green innovation plays a critical role in post-merger corporate development. Successful cases illustrate that by introducing and integrating advanced green technologies and innovative solutions, companies can not only enhance resource efficiency but also develop new products and services that meet market demands, further solidifying their leadership in the industry (Zhao & Jia, 2022). Lastly, this study also reveals managerial insights into green mergers and acquisitions. To maximize the value of green mergers and acquisitions, companies should emphasize cross-departmental collaboration and integration to ensure that post-merger environmental measures are fully integrated into core strategic and operational models. Additionally, early environmental disclosure and proactive responsiveness to stakeholder concerns are key steps in enhancing corporate sustainable development and management effectiveness.In summary, the empirical findings of this study not only reinforce the positive impact of green mergers and acquisitions on the value of heavily polluting enterprises but also provide specific managerial insights and practical recommendations for companies in environmental management and sustainable development strategies.

5.2 Discussion on the Actual Mechanisms of Green Mergers and Acquisitions' Impact on the Value of Heavily Polluting Enterprises

The impact of green mergers and acquisitions on the value of heavily polluting enterprises involves several key mechanisms, as discussed in this study:Firstly, by acquiring or merging with companies leading in environmental technologies, heavily polluting enterprises can quickly acquire and integrate advanced environmental technologies and innovative solutions. These technologies and solutions not only improve production and resource utilization efficiency but also reduce environmental impacts, thereby lowering environmental management costs and enhancing corporate image.Secondly, green mergers and acquisitions help heavily polluting enterprises expand their markets and product lines. By introducing clean energy or environmental products, companies can meet the growing market demand for environmentally friendly products, increase market share, and explore new business areas. This market expansion not only generates additional revenue sources but also reduces dependence on traditional high-pollution industries, enhancing long-term competitiveness.Additionally, green mergers and acquisitions play an important role in improving corporate environmental reputation and social responsibility image. By actively disclosing environmental information and sustainable development strategies, companies can gain trust and support from investors and stakeholders, thereby reducing capital costs, enhancing market acceptance, and further strengthening brand value and reputation.Finally, green mergers and acquisitions also promote changes and innovations in corporate management practices. During the integration of merger assets, companies need to re-examine and optimize their management models and operational processes to ensure effective integration of environmental measures into strategic planning and daily operations. These improvements not only enhance management efficiency but also lay a solid foundation for future sustainable development.In conclusion, the actual mechanisms of green mergers and acquisitions on the value of heavily polluting enterprises encompass multiple aspects such as technological innovation, market expansion, enhancement of brand image, and improvement in management practices. These mechanisms work together to drive long-term value growth and sustained competitive advantage for enterprises in environmental management and sustainable development.

5.3 Recommendations on Management Practices and Policy Implications

Based on the empirical analysis and theoretical exploration of this study, the following management practice recommendations and policy implications are proposed to help heavily polluting enterprises achieve environmental benefits and management advantages more effectively during green mergers and acquisitions. Firstly, heavily polluting enterprises should ensure thorough assessment of target companies' environmental technology and innovation capabilities before engaging in green mergers and acquisitions. Post-merger, establishing a dedicated environmental management team or committee to oversee and drive effective implementation of environmental strategies is crucial to integrating environmental goals into core strategic and operational frameworks.Secondly, companies should actively disclose and publicize their environmental achievements and sustainable development strategies, establishing transparent communication channels with investors and stakeholders to enhance market trust and corporate competitiveness. Additionally, implementing quantitative environmental performance assessment mechanisms, such as reductions in carbon emissions and improvements in resource utilization efficiency, helps companies evaluate the actual effectiveness of environmental investments and adjust and optimize environmental strategies in a timely manner.Moreover, heavily polluting enterprises should actively participate in and promote relevant environmental policy formulation and industry standardization efforts, collaborating with government departments and industry organizations to advance innovation and application of environmental technologies, thereby providing broader market development opportunities for enterprises.Finally, by investing in employee training and development, particularly in environmental technology and innovation fields, companies can build robust research and development teams to drive technological innovation and market application, addressing challenges posed by future environmental regulations and market demands. These recommendations and policy implications aim to help companies achieve sustainable development goals, promote a virtuous cycle of environmental protection and economic growth, and maintain a leading position in competitive market environments (Jie & Lv, 2023).

6. Conclusion

When discussing the impact of green mergers and acquisitions on the value of heavily polluting enterprises, this study draws several key conclusions through in-depth case analysis and empirical research. Firstly, green M&A significantly enhances the market value and brand image of these enterprises. By introducing advanced environmental technologies and innovative solutions, companies can improve production efficiency, resource utilization, and meet growing environmental demands, thereby significantly boosting their competitive edge in the market. Secondly, the study emphasizes the importance of environmental disclosure and corporate social responsibility in facilitating successful green M&A. Actively disclosing environmental achievements and sustainable development strategies not only enhances trust among investors and stakeholders but also increases market recognition of the company's commitment to sustainable development. Further analysis reveals that green M&A is not merely a financial transaction but also provides insights into effective management practices. Successful implementation of environmental strategies requires cross-departmental collaboration, integration, continuous innovation, and enhanced application of environmental technologies. In conclusion, this study offers specific management practice recommendations and policy insights for heavily polluting enterprises embarking on green M&A processes. Looking ahead, with increasing global environmental awareness and regulatory changes, companies should actively respond to market demands, strengthen environmental investments, promote green technology innovation, and achieve a win-win scenario for economic benefits and social responsibility.

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