



# Research on Green Supply Chain Management Practice and Enterprise Sustainable Development Strategy

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**Abstract:** This study investigates the impact mechanisms of green supply chain management (GSCM) practices on corporate sustainable development, with a focus on economic, environmental, and social performance. By integrating case studies of Huawei and Haier with empirical analysis, the research identifies key success factors and implementation strategies for GSCM. Findings reveal that GSCM enhances economic outcomes through cost reduction, resource efficiency, and market competitiveness, driven by green procurement, clean production, and low-carbon logistics. Environmentally, GSCM reduces pollution, improves compliance with regulations, and strengthens corporate environmental image. Socially, it boosts employee satisfaction, fosters supply chain collaboration, and elevates corporate social responsibility. Huawei's success stems from top-down strategic commitment, technological innovation, supply chain collaboration, and integration of environmental ethics. Haier exemplifies innovation-driven strategies, human-centric management, and efficient global supply chain integration. The study highlights challenges, including balancing costs and benefits, managing supply chain risks, and navigating diverse regulatory standards. Future trends emphasize technological advancements (e.g., IoT, AI), global collaboration, and rising green consumer demand.

**Keywords:** Globalization, Competition, Transnational Trade, Supply Chain Cooperation, Environmental Problems

## Introduction

Green supply chain management emphasizes the realization of win-win economic and environmental benefits through adopting environmentally friendly materials, optimizing production processes, improving resource utilization efficiency, reducing waste discharge and other measures throughout the supply chain life cycle. For enterprises, the implementation of green supply chain management can not only help reduce production costs and improve product competitiveness, but also establish a good corporate image and enhance consumer trust and loyalty. More importantly, green supply chain management can help enterprises cope with increasingly stringent environmental regulations and policy requirements, and ensure the long-term and stable development of enterprises.

The purpose of this study is to deeply explore the impact mechanism of green supply chain management practices on the sustainable development of enterprises, and analyze its specific role in improving the economic performance, environmental performance and social performance of enterprises. Through case analysis and empirical research, this study will reveal the key success factors and implementation strategies of green supply chain management, and provide valuable reference and guidance for enterprise practice. The significance of this study is as follows: on the one hand, it enriches the theoretical research results in the field of green supply chain management and expands the research perspective of enterprise sustainable development; On the other hand, it provides practical guidance and decision support for enterprises to realize green low-carbon transformation under the background of globalization. The main contribution of this study is that through systematic combing and in-depth analysis, a set of scientific and feasible green supply chain management implementation framework and strategy suggestions are proposed, which will help promote enterprises to take solid steps on the road of sustainable development.

## Literature Review

### 1. Origin and development of green supply chain management

The concept of green supply chain management sprouted in the 1970s in the United States, and initially appeared in the logistics management industry, with the basic feature of increasing the consideration of environmental factors in the supply chain. With the increasing prominence of environmental issues and the popularity of the concept of global sustainable development, green supply chain management has gradually become an important topic in business management and academic research. In the 1990s, western scholars began to conduct special research on green supply chain, and put forward concepts such as green procurement and environmentally responsible manufacturing (ERM), which laid the foundation for the formation of green supply chain management. After entering the 21st century, green supply chain management has developed rapidly worldwide, and its application scope has expanded from the initial manufacturing industry to many fields such as service industry and agriculture, becoming an important means for enterprises to achieve sustainable development goals.



## **2. Current research status at home and abroad**

(1) Foreign research status: Foreign scholars in the field of green supply chain management research started earlier, the research content is extensive and in-depth. They not only focus on the concept, definition and theoretical basis of green supply chain management, but also through empirical research, case analysis and other methods, to explore the application effect of green supply chain management in enterprise practice, influencing factors and optimization strategies. In addition, foreign scholars also pay attention to the promotion mechanism and development prospects of green supply chain management from the perspectives of policy, law, economy and so on.

(2) Domestic research status: In recent years, domestic scholars have gradually paid attention to the study of green supply chain management, and achieved a series of results. They combined with China's national conditions and the actual situation of enterprises, the connotation of green supply chain management, characteristics, implementation path and so on have been deeply. At the same time, domestic scholars also pay attention to the application of green supply chain management in specific industries (such as manufacturing and logistics), and put forward many targeted policy suggestions and practical guidance. However, compared with foreign research, the theoretical innovation and practical application of green supply chain management in China still need to be strengthened.

## **3. The theoretical basis of green supply chain management**

The theoretical basis of green supply chain management mainly includes green manufacturing theory and supply chain management technology. Green manufacturing theory emphasizes the green production of products through adopting environmentally friendly materials, optimizing production processes, improving resource utilization efficiency and other measures in the whole life cycle of products. While supply chain management technology focuses on how to reduce business operating costs and improve market response speed through effective supply chain management and coordination, and integrate environmental protection concepts in the process to realize the green transformation of the supply chain.

## **4. Main viewpoints, shortcomings and future research directions of existing research**

(1) Main points:

Green supply chain management is an important way for enterprises to achieve sustainable development.

Green supply chain management involves all links of the supply chain, and requires internal and external cooperation.

Government policies, laws and regulations play an important role in promoting green supply chain management.

(2) Deficiency:

Most of the existing studies focus on theoretical discussion and case analysis, lack of systematic empirical research.

The specific application of green supply chain management in different industries and enterprises of different sizes is not well understood.

The research on the performance evaluation and incentive mechanism of green supply chain management is not deep enough.

(3) Future research directions:

Strengthen the empirical research of green supply chain management and verify its effect in practical application.

More targeted research on green supply chain management should be carried out according to the characteristics of enterprises in different industries and different sizes.

Explore the performance evaluation and incentive mechanism of green supply chain management to provide strong support for enterprise practice.

Pay attention to ethical issues and social responsibilities in green supply chain management, and promote enterprises to achieve the harmonious unity of economic and social benefits.

## **Description of the Study Area: Case study of green supply chain management practice**

Key success factors of Huawei

(1) High-level attention and strategic guidance

Huawei's top management attaches importance to green supply chain management, which is the primary factor for its success. The company has set up specialized bodies such as the Sustainable Development Committee and the Energy Conservation and Emission Reduction Committee, with the direct participation and decision-making of senior leaders, to ensure the important position of green supply chain management at the strategic level of the company. This top-down promotion mechanism enables the concept of green supply chain management to penetrate deeply into all levels and links of the company.

(2) Technological innovation and drive

Technological innovation is the core driving force of Huawei's green supply chain management. Huawei has continuously invested in research and development resources, adopted advanced environmental protection technologies and green manufacturing technologies, optimized product design, production processes and logistics processes, and reduced resource consumption and pollutant emissions. For example, in the product design stage, Huawei uses recyclable, degradable or low-pollution materials to design products that save energy and water; In the production process, it introduces clean production technology and automated production equipment to improve resource utilization efficiency and reduce the generation of waste and pollutants.

(3) Supply chain coordination and optimization

Huawei focuses on collaboration with supply chain partners to jointly promote the construction and development of green supply chain. By holding supplier carbon reduction conferences and providing technical and financial support,

Huawei works with suppliers to develop and implement carbon reduction plans to reduce the carbon emissions of the entire supply chain. At the same time, Huawei also uses ICT technologies, such as the Internet of Things and big data, to carry out intelligent management of the supply chain to achieve collaborative optimization and green transformation of all links of the supply chain.

#### (4) Deep integration of environmental and social responsibility

Huawei deeply integrates environmental and social responsibility into green supply chain management. In the procurement process, it adheres to the principle of green procurement, giving priority to products with good environmental performance or using recycled materials. At the same time, it pays attention to suppliers' environmental performance and social responsibility fulfillment, and links suppliers' sustainable development performance to procurement shares and cooperation opportunities. In addition, Huawei actively participates in the formulation and promotion of industry green supply chain standards, and establishes close cooperative relationships.

## **2. Key success factors, specific measures and results of Haier enterprises**

As a leading enterprise in the home appliance industry, Haier's success is not accidental, but due to a number of key success factors and its implementation of specific measures and remarkable results. The following is a detailed analysis of these factors, measures and results:

### 1. Key Success Factors

#### ① Innovation-driven:

Haier has always adhered to the innovation-driven development strategy, from product research and development, production process to marketing strategy, all reflect a strong sense of innovation. This kind of innovation is not only reflected in the upgrading of technology, but also pays more attention to meeting consumer needs and pain points.

#### ② Humanistic management:

Haier regards employees as the valuable assets of the enterprise. Through the establishment of employee training system, incentive mechanism and career development path, Haier fully stimulates the enthusiasm and creativity of employees, and forms a people-oriented corporate culture.

#### ③ Market orientation:

Haier takes the market as the orientation and adjusts its strategy and tactics flexibly. In terms of marketing, Haier pays attention to consumer insight and guides product development and production according to market demand, so as to ensure that products can accurately meet market demand.

#### ④ Supply chain management:

Efficient supply chain management is one of Haier's core competitiveness. Through measures such as supplier integration, information management and global layout, Haier has established an efficient supply chain system, reduced costs, and improved product quality and delivery speed.

#### ⑤ Globalization strategy:

Haier has actively promoted the globalization strategy and set up production bases and marketing networks in many countries and regions. This globalization layout has not only improved Haier's competitiveness in the global market, but also enabled it to better integrate into the global economic system.

## **The impact of green supply chain management on the sustainable development of enterprises**

The impact of green supply chain management on the sustainable development of enterprises is far-reaching, which can be shown as follows from the three dimensions of economy, environment and society:

### 1. Economic dimension

#### (1) Cost reduction:

Green supply chain management directly reduces the production costs of enterprises by reducing energy consumption and resource waste. For example, by optimizing the production process and adopting energy-saving equipment and materials, enterprises can reduce unnecessary waste in the production process, thus reducing the consumption cost of raw materials and energy.

At the same time, green supply chain management can also reduce the operating costs and risks of enterprises. By choosing environmentally friendly materials and suppliers, companies can reduce the fines and legal risks they face for environmental violations, thereby saving on costs such as legal proceedings and fines.

#### (2) Improve resource efficiency:

Green supply chain management emphasizes the recycling and efficient use of resources. By implementing measures such as green design, green procurement and green manufacturing, enterprises can improve the efficiency of resource utilization and reduce resource waste during the whole life cycle of products. This will not only help reduce production costs, but also improve the economic benefits of enterprises.

#### (3) Enhance market competitiveness:

With the increasing attention of consumers to environmental protection and sustainable development, green supply chain management has become an important means for enterprises to enhance market competitiveness. Through the implementation of green supply chain management, enterprises can produce more environmentally friendly and energy-saving products to meet the green needs of consumers, thus winning the favor of consumers and market share.

At the same time, green supply chain management can also help enterprises establish a good brand image and reputation, enhance the brand value and market position of enterprises.

## 2. Environmental dimension

### (1) Reduce pollution emission:

Green supply chain management requires enterprises to take environmental protection measures in all links of the supply chain to reduce pollution emissions. For example, cleaner production technologies and processes are adopted in the production process to reduce the discharge of waste gas, wastewater and solid waste; In the logistics link to adopt low-carbon transport and environmentally friendly packaging materials to reduce carbon emissions in the transportation process. These measures will help reduce the negative impact of enterprises on the environment.

### (2) Improve the environmental image:

Enterprises that implement green supply chain management are often seen as models of environmental protection and sustainable development, thus enhancing their environmental image. Such image enhancement helps enterprises win the trust and support of consumers, investors and the government, bringing more business opportunities and development space for enterprises.

### (3) Comply with environmental regulations:

As environmental regulations become increasingly stringent, companies need to comply with more environmental regulations and standards. Green supply chain management can help companies better understand and comply with these regulations, reducing the risks and costs they face due to environmental violations. At the same time, by implementing green supply chain management, companies can also actively participate in the formulation and promotion of environmental protection policies, contributing to the sustainable development of the industry.

## 3. Social dimension

### (1) Improve employee satisfaction and loyalty:

Green supply chain management not only focuses on the economic and environmental benefits of the enterprise, but also focuses on the health and safety of employees. By improving the working environment and providing environmental training and benefits, among other measures, companies can increase employee satisfaction and loyalty. Such improvement in employee relations helps to enhance the cohesion and centripetal force of the enterprise, and provides a strong human resources guarantee.

### (2) Enhance the sense of social responsibility:

Enterprises that implement green supply chain management usually have a stronger sense of social responsibility. They not only focus on their own economic interests, but also actively undertake social responsibilities and contribute to the sustainable development of society. For example, by participating in environmental public welfare activities and supporting the research and development and promotion of environmental protection technologies, enterprises can demonstrate their good social image and sense of responsibility and win respect and recognition from society.

## Results and Discussion

### 1. Conclusion

This dissertation deeply discusses the multi-dimensional impact of green supply chain management on the sustainable development of enterprises, and makes a detailed analysis from three dimensions: economy, environment and society. The main viewpoints and research conclusions are as follows:

(1) Economic dimension: Green supply chain management can significantly promote the economic benefits of enterprises by reducing costs, improving resource utilization efficiency and enhancing market competitiveness. It not only helps enterprises achieve long-term cost savings, but also meets the market demand for green consumption by providing environmentally friendly products and services, thus enhancing the market competitiveness of enterprises.

(2) Environmental dimension: Green supply chain management plays a key role in reducing pollution emissions, promoting environmental image, and complying with environmental regulations. By implementing measures such as green procurement, clean production and low-carbon logistics, enterprises can significantly reduce their negative impact on the environment, establish a positive environmental image, and effectively avoid the risks and costs brought about by environmental regulations.

(3) Social dimension: Green supply chain management also promotes social harmony and sustainable development of enterprises by improving employee satisfaction and loyalty and enhancing social responsibility. It pays attention to the health and safety of employees, promotes the green coordinated development of the upstream and downstream of the supply chain, and makes positive contributions to the construction of a harmonious society.

Conclusion. Green supply chain management plays a crucial role in the sustainable development of enterprises. It not only helps enterprises to achieve a win-win situation of economic benefits and environmental protection, but also promotes the harmonious coexistence between enterprises and society.

### 2. Outlook

Looking into the future, green supply chain management will face broader development prospects and a series of new challenges. The following are the prospects of future development trends and challenges, as well as further research directions and suggestions:

#### (1) Development trend:

Technological innovation and intelligence: With the progress of science and technology, green supply chain management will be more dependent on technological innovation and intelligent means. The application of technologies such as the Internet of Things, big data and artificial intelligence will further enhance the transparency and efficiency of the supply chain and promote the intelligent development of the green supply chain.

Globalization and collaborative cooperation: In the context of globalization, green supply chain management will pay more attention to cross-border and cross-industry collaborative cooperation. Enterprises will establish close cooperative relationships with suppliers, customers, governments and non-governmental organizations to jointly promote the construction and development of global green supply chain.

Green consumption and market demand: With the increasing attention of consumers to environmental protection and sustainable development, green consumption will become the mainstream trend in the market. Enterprises will pay more attention to the research and development and promotion of green products to meet consumers' demand for green products and services.

(2) Challenges:

Standards and certification: Different countries and regions have different standards and certification systems in green supply chain management, which brings challenges to the green supply chain management of multinational enterprises. Companies need to actively adapt and respond to these differences to ensure green compliance in their supply chains.

Balance of cost and benefit: The implementation of green supply chain management needs to invest a lot of funds and resources. How to maximize economic benefits while ensuring environmental protection effects is an important challenge for enterprises.

Supply chain risk: Green supply chain management involves multiple links and stakeholders, and a mistake in any link may have a major impact on the entire supply chain. Therefore, enterprises need to strengthen supply chain risk management to ensure the stability and reliability of the supply chain.

(3) Further research directions and suggestions:

Quantitative evaluation of green supply chain management: Research on how to establish a scientific and reasonable quantitative evaluation system to objectively and accurately evaluate the effectiveness of green supply chain management.

Research on green supply chain management policies and regulations: Pay attention to the latest trends of green supply chain management policies and regulations at home and abroad, and study their impact on enterprises and coping strategies.

Case study of green supply chain Management: Through in-depth analysis of the cases of enterprises that have successfully implemented green supply chain management, the experience and lessons are summarized to provide useful reference and reference for other enterprises.

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