# Influencing factors for green supply chain management:a qualitative paper based on ESG concept

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**Abstract.** At present, green supply chain management is one of the hot spots in supply chain management. For the long-term future world of enterprises and the harmony between human beings and nature, the implementation of green supply chain management should be vigorously promoted. The article outlines the five most researched areas of green supply chain management through a keyword classification, clearly explaining the potential for green supply chain development in both theoretical and practical terms. On this basis, the article analyzes the influences on the green supply chain management from three perspectives: environmental, social and governance. In conclusion, environmental, social, governance philosophy will strengthen overall green supply chain management capabilities.

**Keywords:** Green Supply Chain Management; Management; Drivers; ESG.

## 1. Introduction

Environmental social governance(ESG) mentioned in this review is the abbreviation of “environment”, “social”, and “governance” three words. ESG illustrates a series of factors used to measure the non-financial effect of specific investments and enterprises. It is an investment philosophy that takes corporate environment, social and governance performance into account during the investment decision-making process. Green means focus on the environment primary, which play an important role in sustainable development. Green supply chain management(GSCM) is a modern organizational style that wants to consider environmental impact and resource efficiency throughout the supply chain. It involves suppliers, manufacturers, sellers, and consumers and is based on green creation theory and supply chain management technology. It is intended to lessen the burden of the product from raw material acquisition, processing, packaging, warehousing, transportation, and use to recycling. Therefore, the GSCM approach is adapted to the ESG investment concept. Also, ESG concept will lead to green supply chain management development sustainable.

In this paper, I aim to review the existing literature of green supply chain management, including its influencing factors and consequences. I hope this research will provide some implications to corporate managers, consumers, capital market investors, regulators, etc.

## 2. The background and importance of supply chain management

### 2.1 Background

In order to facilitate a quick understanding of the existing literature on green supply chain management, I have summarized the most relevant literature of the last five years in each of the five major research areas, which I hope will be useful for the research. The data is taken from BASE. BASE provides access to over 270 million documents from more than 8,900 content sources in all disciplines.

Area 1: Effects of industries and plants on the environment, Environmental sciences, renewable energy sources. This area is a favourite among researchers, with an uninterrupted flow of literature published over the last five years, and it has a 26.19% share of the literature. As society changes, environmental problems become increasingly serious. A series of factors such as shortage of resources and irreplaceable energy sources require research and application in different fields[1]. As green supply chain management focuses more on green and environmental protection, experts have done separate studies in different directions in different industries such as cement, electric vehicles and retail, just to explore how to achieve a more efficient and effective supply chain.

Area 2: Organizational performance, Green paradigms, Lean agile. The field has experienced explosive growth over the past three years, three years ago there was basically no research in this direction. Social pressure cannot be denied as having a positive impact on environmental commitment and incentives to the green economy. The findings have motivated practitioners, researchers, and policymakers to build strategic strategies to stimulate circular economic transformation in SME and supply chains, as well as to emphasizes the role of sustainable development in supply chain management.

Area 3: Green purchasing, Operational performance, Organizational performance. This area is a critical direction for managing the green supply chain, which is an important component of managing the green supply chain. According to research, implementing sustainable supply chains improves a company's economic performance and competitiveness, providing it a competitive advantage. The link between sustainability management and corporate success is demonstrated via green innovation[2]. If managing the green supply chain improves operational efficiency and effectiveness, the company's performance will improve.

Area 4: Green supply chain practice, Supply chain practices, practices in Chain management. Today, sustainable development is the number one concern for the world, and it is one of the main objectives of the United Nations in terms of sustainable development. The field focuses on the impact of green supply chains on organizational performance, and there are also many scholars who have collected a large amount of data to study its contribution, based on the actual situation in their countries.

Area 5: Organizational sustainability, Circular economy, Green light. There is very little research literature in this area, but the last two years have seen a gradual increase in research in this direction due to the increased popularity of green supply chain management among people from all walks of life. In short, scholars have argued that research into green supply chain management initiatives has become necessary due to the embedding of green concepts such as social pressure, environmental commitment, green economic incentives, supply chain relationship management, sustainable supply chain design and circular economy capabilities.

## 2.2 The importance of the green supply chain management

A good ecological environment is the hidden wealth for an enterprise. In this environment, enterprises could avoid the development situation being a passive position. In recent years, due to the living standards improving, people’s concepts have undergone changes substantial. It leads to the environmental, social and governance(ESG) performance has received widespread attention from all sectors of society. Meanwhile, it’s report that good ESG performance helps to alleviate financing constraints, improve operational efficiency, and reduce financial risks, thereby increasing firm value[3]. In order to better demonstrate the green supply chain management tangible benefits, the paper discusses its value from both practical and theoretical perspectives.

About theoretical significance, first and foremost, enterprises implement the GSCM is a strengthen environmental control manner,which is the initiative undertake social responsibilities embodiment[4]. Secondly, Implement green supply chain management and improve enterprise environmental assessment system, which is propitious to decreasing quantities of waste and realizing the sustainable development. Meanwhile, strengthening the green supply chain system construction is conducive to establishing a relatively stable green supplier selection model,ensuring the suppliers qualification, and connecting the friendly cooperative relationship between enterprises and suppliers. Last but not least, long-term and stable cooperative relations are beneficial to reducing the final product production cost, improving the environmental production, and providing better services for consumers.

On the other hand, practical significance, the various environmental emergence crises in an endless stream,so that society pays more and more attention to environmental problems. Who can better achieve the production and environmental protection problem, then who can preemptively gain an advantage. The supply chain is the source of enterprises production work, so enterprises must coordinate well between society, production, and environmental protection. They must readjust the supply chain process and incorporate environmental problems into the supply chain management. Green supply chain management is an effective means that takes into account both enterprises benefits and environmental protection issues.

## 3. The influencing factors of green supply chain management.

When it comes to implementing green supply chain management, the firm under study's management faces significant challenges. Due to the complexity of GSCM procedures, customer and cost demands, and regulatory uncertainty, implementing GSCM is seen as a thankless chore that raises product costs [5]. Consider this influencing factors from two perspectives motivating factors and obstructive factors. In the following pages, I will go through the details.

### 3.1 Environmental Regulations

The International Organization for Standardization (ISO), in response to environmental laws and regulations and environmental management mechanisms, etc., it has developed a environmental management as the starting point for a series of standards. In the last the last few decades, as the market and consumption levels of green products and consumer levels have expanded significantly over the last few decades, companies' environmental credentials are also influenced by consumer purchasing decisions. These decisions reflect the customer's decision. These decisions reflect changing customer. These decisions reflect the changing behaviour of customers, which is placing greater demands on companies to be environmentally.

These decisions reflect changing customer behaviour, which in turn places greater demands on companies to be environmentally conscious[6]. Competitors in the industry can also press companies to gain environmental diploma. If a company discovers that many competitors have adopted environmental confirmations such as ISO 14001, the company and its supply chain partners will be far more interested in receiving recognition in order to maintain their competitive position.

Using the triple bottom line theory, Penn Sweet analysed this issue in his article in 2022, where he clearly identified environmental system factors as important factors influencing green supply chain management[7]. In Zhou Hongyu article, he writes that in order to achieve GSCM, enterprises should pay attention to the concept of environmental protection and economic benefits to coexist and promote enterprises to carry out environmental assurance and improve their market competitiveness. Green design should be integrated into the product development of enterprises to achieve both environmental protection and economic benefits[6].

### 3.2 Market Demand (social)

Sustainability in operations is gradually becoming acknowledged knowledge as a balance between the economic, environmental, and social components of production and consumption. The relationship between GSCM practices, environmental and economic efficacy was investigated using "market, regulatory, and competitive institutional constraints" as a moderator[8]. In fact, since the 1990s, consumers have been increasingly concerned about environmental issues, and as a retailer we are aware of the focus of consumer concern. We have a good understanding of these concerns. According to UN statistics, the Dutch account for 80% of global green consumption, the Germans for 90% and the US for 89% of people in the USA prioritise the environmental criteria of the products they consume during the shopping process. 85 per cent of Swedes pay a higher price for environmental cleanliness. According to the above data, consumers are already inclined to buy environmentally friendly products[9]. This has put a lot of pressure on companies to produce in line with consumer needs. This has put pressure on companies to produce in line with consumer demand.

Current government, society and enterprises should not stop at raising and cultivating consumers' green consumer awareness, but also in bridging the green consumption psychology and behavioral gap. To encourage consumers to transform their green consumption psychology into to encourage consumers to transform their green consumption psychology into consumption behaviour, so as to enhance the influence of green supply chain management practices on enterprises [10]. Green supply chain management strategies should have a greater impact on businesses. People's desire for green products and services is increasing as the economy and society continue to expand and their living conditions improve, and therefore more and more people are inclined to buy green products and services, which provides an important opportunity for enterprises to implement green supply chain management [7].

### 3.3 External Partners (governance)

External can be categorised into stakeholders, technology and information transparency. Compared to individual enterprises, the supply chain as a whole also has a variety of stakeholders, and this stakeholder portfolio expands dramatically when environmental considerations are taken into account. GSCM emphasises the cooperation of companies throughout the supply chain. Cooperation, with suppliers being upstream throughout the supply chain and their actions being passed on to the entire supply chain nodes, for example, in terms of cost savings, which can be passed on to downstream links by way of the supply chain [6]. For example, in terms of cost savings, these can be passed on to the downstream segments in a way that ensures overall efficiency is improved. Technology of China has recommended the fifth batch of green manufacturing lists in order to speed up the construction of green manufacturing systems and promote high-quality industrial development. These manufacturers will play an active role in leading green transformation in the manufacturing industry in the region through their demonstration role. Transparency of information between supply chain parties can help. The ability to learn in groups is facilitated, and business operations should allow for this. Green supply chain management expertise and know-how should be allowed to be shared and disseminated among departments. Expertise and know-how to improve the implementation of GSCM. The ability to implement a sustainable supply chain management system.

Accelerating the innovation of green technology and information management becomes an important basis for green supply chain management of enterprises [11]. Information can only be made available to the public and widely monitored by society only when information is made public and widely monitored by society can its authenticity and reliability be guaranteed [12]. Green supply chain management should pay particular attention to technological innovation, and the fundamental solution to environmental and energy problems is technological innovation, which is also the most important part of the green supply chain management process [13].

### 3.4 Internal initiatives (governance)

Internal partners can be classified into ESG and Carbon emissions. In today's hyper-globalized market, ESG metrics are meaningless unless the entire supply chain is addressed [14]. As an example, ExxonMobil claimed to be decreasing carbon dioxide emissions while actually increasing them by offloading filthy work to its supply chain partners [15]. As for the flip side, it is becoming essential to include ESG risk in the supply chain management process.In times of crisis, ESG does not just measure moral values, it measures actual risks to firms' supply chains. One example from the COVID-19 pandemic is that the U.S. medical supply chains suffered significant disruption throughout much of 2020 in large part due to the failure of manufacturers and distributors to incorporate risk factors for public health and national security into their supply chain design, thus over-relying on foreign suppliers for essential medical supplies and unable to ramp up production during the initial months of the pandemic [16]. In addition to ESG's role as an internal driver for green supply chain implementation, Carbon Dump and Carbon Neutral have also made a significant contribution. In the global trend to address climate change, China, the EU and more than 130 other countries and regions have set zero or carbon neutral and are moving towards a low carbon economy. The practice of green supply chain management has undergone new changes in the context of carbon peaking and carbon neutrality: the management content has shifted from "small green" to "big green," the management target has expanded from "part" to "all", and the management requirements have shifted from "light green" to "deep green". The management goal has been raised from "part" to "all", and the management standards have been upgraded from "light green" to "deep green"[17]. We can create a new model of collaborative carbon reduction among large, medium, and small firms in the supply chain by continuously upgrading pilot work and boosting advice and support for pilot enterprises.

Corporate leaders are urged to take into consideration the sustainability and social responsibility of their companies through ESG investing. Specifically, the "E" and "G" pillars of ESG are broadly accepted measures, whereas the "S" pillar may not be widely accepted[18]. The "S" is confusing in part due to a lack of agreement on the breadth of the social challenges it addresses. Supply chains are a criterion for the "S" in several major ESG index providers. They, on the other hand, tend to handle supply networks apart from the rest of the pillar. In the Bloomberg ESG index's "S" pillar, for example, "supplier chains" are evaluated independently of other measures including discrimination, human rights, and stakeholder engagement [19]. When internal and external GSCM practices are adopted as part of a comprehensive strategy, the indirect impact of GSCM on financial performance can be mitigated by operational and environmental performance. Therefore, ESG can be used as a reference for the SCM, especially in sustainability development.

## 4. The economic consequences of green supply chain management

The indirect impact of GSCM on financial performance can be minimized by operational and environmental performance when internal and external GSCM practices are used as part of a holistic plan.

### 4.1 Financial ROI

Corporate leaders guiding their companies through the recession will look at the supply chain to assess whether they are meeting maximum return on investment by using global open supply chain standards and to ensure the ultimate success of the project[20]. It might be the difference between their corporate achievement and failure. What's more, they plan ahead with their trading partners and think globally by integrating data showing with partners through their operations and supply chain, thus safeguarding the proper flow of funds in their own supply chain. Because GSCM could refine the considerations of managers, they can have a high financial return, which motivates continued investment from leaders and closes the loop on sustainability.

### 4.2 Reverse logistics

The reverse logistics services process guarantees that product materials are returned to the manufacturer to be recycled, reused, or reconditioned after they have been used. The chain is covered in the opposite direction in reverse logistics. To summarize, A collection of approaches for developing, implementing, and controlling the flow of raw materials and finished commodities with the purpose of recovering and recycling them is known as reverse logistics. Standardized recyclable containers, well-designed storage arrangements, and rapid access to information cut down on platforms and delivery times, saving operational expenses and reducing environmental effect. Only a few of the logistics operations include collection, sorting, processing, and reconditioning.

## 5. Conclusions

Previous studies have almost exclusively focused on the existing literatures of green supply chain management, including its influencing factors and economic consequences. Some of the study's limitations may require more investigation in future research. Being limited to the last five years of research literature, this review lacks extensibility and does not allow for a perfect trend analysis. The review of green supply chain management undertaken here, has extended our knowledge of green supply management drivers. The insights gained from this paper may be is GSCM can help companies to accomplish environmental performance, and the level at which it is achieved is not only influenced internally by its own technological and organizational developments, but is also driven by external policies and the social environment. Countless practical implementations have focused on isolating operational functions from external factors, including the natural environment, in order to increase efficiency, reduce costs and improve quality. But the complexity of the environment and the entanglement of stakeholders leads us to consider the operational efficiency of the supply chain in an integrated manner. The next step requires a great deal of research to facilitate the development of greening practices for businesses across the supply chain. Using data to substantiate the GSCM will be a major focus of the next study.

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