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P. 57-71

REVIEW PAPER

DOI: 10.5937/ESD2601057M

Received: October 6, 2025

Accepted: December 15, 2025

SUSTAINABILITY OF MODERN SUPPLY CHAINS

Abstract

The aim of the paper is to, based on the analysis of relevant sources, look at pertinent business dimensions: green supply chains, green innovations, sustainable supply chains, ecological superiority of suppliers, and green initiatives in the supply chain. The connections between these elements and their impact on company performance determine the subject of research. The results of this analysis can assist researchers and practitioners in improving the sustainability of supply chains, reducing environmental impact, encouraging ethical work practices, and promoting responsible procurement. In the era of growing pressures on companies to operate in an environmentally and socially responsible manner, green supply chain integration and sustainable supply chain management are emerging as strategic frameworks for achieving these goals.

Key words: green supply chain, green innovation, green supply chain integration, sustainable supply chain management, green initiative, performance

JEL classification: R4, Q01

ОДРЖИВОСТ САВРЕМЕНИХ ЛАНАЦА СНАБДЕВАЊА

Апстракт

Циљ рада је да се, на основу анализе релевантних извора, сагледају пословно релевантне димензије: зелених ланаца снабдевања, зелених иновација, одрживих ланаца снабдевања, еколошке супериорности добављача и зелених иницијатива у ланцу снабдевања. Везе између ових елемената и њихови утицаји на перформансе компанија одређују предмет истраживања. Резултати овог рада могу помоћи истраживачима и практичарима при побољшању одрживости ланаца снабдевања, смањењу утицаја на околину, подстицању етичких радних пракси и промовисању одговорне набавке. У условима раста притисака на компаније да раде на еколошки и друштвено одговоран начин, интеграција зеленог ланца снабдевања и управљање одрживим ланцем снабдевања се појављују као стратешки оквири за постизање ових циљева.

Кључне речи: зелени ланац снабдевања, зелене иновације, интеграција зеленог ланца снабдевања, управљање одрживим ланцем снабдевања, зелене иницијативе, перформансе

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Introduction

To enhance environmental protection, corporations must manufacture their products in a manner that minimizes environmental harm. Pollution, waste, and heightened demand for natural resources are unequivocally responsible for the degradation of planet Earth.

In a period of growing levels of environmental awareness and concern for ethical work practices, companies are increasingly grappling with sustainability issues. Companies that adopt environmentally sustainable practices can achieve lower costs, better environmental performance, and higher levels of competitiveness and profitability compared to those that do not adopt such practices (Asif et al., 2011). These are significant reasons for implementing the Green Supply Chain (GSC) and Green Supply Chain Management (GSCM) concepts. The notion of GSC arose as researchers started to incorporate environmental considerations into the supply chain. This concept focuses only on environmental and economic issues. These days, businesses across all sectors use GSCM to create innovative eco-friendly goods, procedures, and services. In addition, GSCM helps them reduce costs, and improve quality and customer satisfaction.

The worldwide emphasis on environmental and economic accountability has transformed consumer expectations and prompted legislative changes that necessitate firms to be more cognizant of their societal implications. Sustainable supply chain management (SSCM) has emerged as a pivotal strategic concept, facilitating the alignment of profitability with environmental and social accountability for firms. Unlike GSC, which focuses only on environmental and economic issues, SSCM focuses on environmental, economic, and social issues (Gawusu et al., 2022).

The competitiveness of companies increasingly depends on their ability to adapt their strategies to take advantage of new climate changes. Furthermore, companies increasingly base their competitiveness on cooperation with suppliers who are committed to fair work practices and environmental protection standards. Therefore, the aim of the paper is to, based on the analysis of relevant sources, look at business relevant dimensions: green supply chains, green innovations, sustainable supply chains, ecological superiority of suppliers, and green initiatives in the supply chain.

The paper is structured as follows: The first part deals with the theoretical concept of green supply chain and sustainable supply chain. In the second part, the relationship between green supply chain and green innovations is explored. Lastly, the third part of the paper sheds light on the differences between traditional, green, and sustainable supply chain management, thus drawing attention to the importance of contemporary businesses.

1. Literature Review

1.1. Green Supply Chain

The concept of green supply chain (GSC), which has been discussed in the literature for almost three decades, is very important for the competition of companies in the market and the change of the competitive environment in many industries. The growing interest in environmental sustainability, and green and sustainable innovations contributes to the

business affirmation of this concept. Consequently, GSC is integrated as an innovative strategy that can provide a company with a competitive advantage.

Starting from the symbol of the Olympic flag (five interwoven circles that symbolize the five continents, the universality of Olympism, and the meeting of athletes from all over the world), some authors created the concept of the Olympic green supply chain. This approach is built on five essential concepts (zero waste in the product life cycle, zero harmful chemicals, zero waste in activities, zero waste of resources, and zero emissions) in addition to green inputs and green outputs. However, these principles are still challenging to put into effect (Lakhal et al., 2009).

In order to ensure environmental compliance and advance environmental competence, GSC is a collection of procedures that integrate supply chain management with environmental concerns (Chu, 2017). It guarantees resource optimization and is regarded as a remedy for supply chain-wide consumption patterns and environmental issues.

One of the most popular operational management techniques for minimizing environmental effect is GSC. To create items that are environmentally friendly for consumers, it mostly uses renewable materials (MahmoumGonbadi et al., 2021). In addition, GSC is a common ecosystem and environmental improvement method applied in various fields to reduce energy consumption and increase growth rates. GSC encourages suppliers and customers to cooperate in the field of ecology to improve environmental and economic performance (Masi et al., 2017). Lastly, GSC enhances performance indicators such as operational efficiency, market share, and organizational image. Aligned with the resource-based view (RBV), GSC represents a difficult-to-imitate capability that builds environmental competencies and addresses stakeholder sustainability priorities across the supply chain (Levi-Bliech & Dahan, 2025).

1.2. Sustainable Supply Chain

The green transition's requirements have grown throughout time in line with the trends established by the idea of sustainable development, which encompasses social as well as ecological and economic aspects. A sustainable supply chain (SSC) is an extension of the earlier idea, which was developed with the goal of minimizing the environmental impact (Beamon, 1999). The concept of sustainable development has also been incorporated into supply chains, which has resulted in the emergence of sustainable supply chains. The sustainability of the supply chain is an important condition of their competitiveness today. Due to the increasingly developed awareness of society about environmental and social problems, companies are faced with the need to introduce changes and create systems that will meet the demands of modern society (Barbosa-Póvoa et al., 2018)

Supply chain sustainability is described as managing the effects on the environment, society, and economy while promoting sound management practices over the course of products' and services' life cycles in UN Global Compact publications (UN Global Compact & BSR, 2015). The goal of SSC is to create long-term environmental, social, and economic value for all stakeholders involved in the process of placing products and services on the market. The literature also states that modern supply chains should implement sustainable practices, not only for economic, but also for moral reasons (Dey et al., 2011). A sustainable supply chain is also described as a strategic integration that strives for the long-term fulfilment of social, environmental, and economic goals (Carter & Easton, 2011). It is defined as a complex

network system of different entities that ensure the product gets from the supplier to the customer, including returns, while taking into account environmental, social, and economic impacts (Barbosa-Póvoa et al., 2018). In the literature, there is an opinion that the integration of the concept of sustainability in the entire supply chain and the proactive monitoring of business effects on the indicators of each of the three dimensions of sustainability can have significant benefits for both actors of the supply chain and society (Paulraj, 2011; Veljković et al., 2022). Research in supply chain sustainability has developed along two main trajectories: a performance perspective and a learning perspective. The performance perspective, which has long dominated the field, focuses on measurable outcomes, often assessed through the Triple Bottom Line framework. However, this outcome-driven focus has been criticised for overlooking the deeper processes and dynamics that drive sustainability transitions. In contrast, alternative approaches, such as those grounded in ecologically dominant logic, place stronger emphasis on environmental priorities but may underplay social dimensions of sustainability (Sauer et al., 2022).

In general, sustainability integrated into supply chains should influence the minimization of negative environmental and social consequences, while ensuring good economic performance of supply chain participants (Schaltegger & Burritt, 2014). A sustainable supply chain seeks to continuously improve the environmental, social, and economic performance of the supply chain and keep them in balance (Osei, 2023; Veljković et al., 2022).

2. Green Supply Chain Integration and Green Innovation Implementation

Companies are under pressure from various organizations such as governments, investors, media, and customers to enhance their environmental policies throughout the supply chain and adopt ideas like green innovations (GI) and green supply chain integration (GSCI) (Abbas et al., 2022). Due to these pressures, companies are faster to implement green practices, which contributes to making their business greener. According to Xiong et al. (2025), implementing GSC and GSCM enables firms to reduce emissions and waste, lowering environmental costs and mitigating ecological damage. These efforts can attract government subsidies and policy support, as GSCM promotes environmental responsibility across the supply chain. Firms that demonstrate strong social responsibility often gain public and governmental recognition, further incentivizing green innovation. Since sustainable innovation entails high R&D costs and risks, consistent investment and government subsidies play a vital role in offsetting expenses, reducing financial constraints, and motivating firms to pursue green technology development.

The Green Supply Chain Initiative (GSCI) showcases the degree of strategic cooperation between manufacturers and supply chain partners in managing internal and interorganizational activities to minimize environmental effect (Lo et al., 2018; Kong et al., 2020). In the relevant literature, the division of GSCI into: 1) internal green integration, and external green integration or green supplier integration and green customer integration (Wu, 2013; Mao et al., 2017). Internal green integration means communication, sharing of information resources, and coordination between the company's functional departments to manage the environment (Yu et al., 2014). In order to integrate green suppliers, significant suppliers who supply the resources required for green practices must engage in cooperative environmental efforts, information

sharing, and cooperative environmental problem-solving. In order to give businesses the tools they need to implement green practices, green customer integration involves actions like information sharing, environmental collaboration, and cooperative problem-solving with important clients. Employers may better allocate, plan, and execute critical resources required for environmental protection strategies with the support of GSCI as a framework. According to Li et al. (2020), when a company aligns its environmental strategy with the GSCI mechanism, it can enhance its environmental performance and accomplish its strategic objectives.

By using information resources, companies can better manage their supply chain operations, which results in an increase in their environmental performance, competitive advantage, and efficiency (Chae et al., 2017). Based on quality information resources, companies can improve sustainability performance and GSCI.

Company information resources (IR) are one of the factors that affect GSCI. CIR opens up new opportunities for GSCI. A company that integrates activities using internal information technology can increase its efficiency. The environment benefits from the collaboration of GSCI and IR (Lin, 2022). The research of Jasrotia et al. (2024) highlights the transformative role of digital technologies such as blockchain in advancing firms' sustainability performance in the GSC. Achieving these benefits requires collaboration – governments should incentivize green initiatives, regulators must enforce clear environmental policies, and consumers need greater environmental awareness.

In order to explain the competitive position of companies and ways to improve performance, it is possible to combine the concept based on natural resources (Nature resource-based view) with GSCI. How particular GSCI procedures would become strategic assets for the business and boost performance is yet unknown for the scientific community.

Natural resources are becoming scarce, which has increased the significance of GSCI. It follows that GSCI is a useful management tool that can motivate industrial organizations to raise their sustainability. The growing worldwide consciousness about environmental issues is pressuring major businesses to devise strategies for reducing the environmental impact of their products.

The GSCI's dimensions are ever-changing. As a result, more research is required to determine how IR and GSCI and GSCI and GI interact as well as how this affects the company's intended performance. There is ample evidence to support the direct relationship between GSCI and GI. To meet performance goals, it is unclear how businesses will convert their GSCI initiatives into GI, nevertheless.

Large multinational companies are more successful than small ones in implementing the GSCM strategy and improving their environmental performance. They also provide more value to customers than small companies. This strategy allows large multinational companies to improve competitiveness based on reducing energy costs and waste disposal.

In a rapidly changing world, it is difficult to precisely specify the competencies and resources that will decisively influence the cost competitiveness of companies. The GSCM concept represents a formalized approach to sustainability. Since the nineties of the 20th century, when it was first defined, GSCM had the status of an organizational tool or a new ecological philosophy. The globalization of the economy has led to a situation where businesses have gradually merged based on a distinct set of goods and/or services,

improving interaction reliability, cutting down on delivery times, and removing extra expenses for end users (Martínez & Mathiyazhagan, 2020).

In addition to the term green innovation, the following terms are often used as synonyms in the literature ‘ecological innovation’, ‘environmental innovation’, and ‘sustainable innovation’. In any case, these terms show little differences in their descriptive precision, contribute to a better understanding of ‘green’ innovations, and can be used mostly as synonyms. Nonetheless, the definitions of the phrases given identify six crucial components: (1) the innovation’s target: a product, procedure, service, or technique (2) Focusing on the market: satisfying demands and competing in the marketplace (3) environmental aspect: minimize any negative effects (optimal = zero impacts); (4) phase: the entire life cycle needs to be taken into account in order to minimize material flow; (5) impulse: the reduction goal may be environmental or economic; and (6) level: establishing an innovation/green standard for the organization (Schiederig et al., 2011).

Businesses understand the strategic value of environmental conservation as well as how information technology contributes to global warming. Businesses can enhance their reputation and reduce their environmental effect by adopting green innovation and incorporating sustainable practices into their operations.

Environmental issues in industrialized nations are definitely caused by waste, pollution, and growing demand for natural resources (Abdullah & Thurasamy, 2015). Scholars in these nations are becoming increasingly interested in the connection between environmental movements and corporate environmental performance. In reaction to environmental pollution, the depletion of natural resources, and climate change, the international community is putting green industry and supply chain measures into place. But these actions are frequently insufficient or have limited scope, particularly in developing nations where the idea of “going green” is just beginning to take hold. The particular difficulties, prospects, and ramifications of implementing GSCI and procedures like GI are not well studied in these nations (Kitsis & Chen, 2021).

3. Supply Chain Management

3.1. Historical Context of Supply Chain Management

While the term ‘supply chain’ was first used in the British daily newspaper *The Independent* in 1905, the term network of suppliers, manufacturers, and consumers existed long before that. Historically speaking, the concept of supply chain management (SCM) was created in the eighties of the XX century. It was first used by Keith Oliver in an interview with the British daily *Financial Times* on June 4, 1982, so it is relatively young compared to related concepts such as procurement, logistics, and manufacturing (Mentzer et al., 2001). The last three decades have seen the expansion of supply chains, especially in the consumer electronics, automotive, and textile industries, which has led to the creation of the SCM concept. Effective SCM is a key success factor for companies in today’s highly dynamic and competitive business environment, dominated by advances in information technology. SCM requires coordination of the flow of products, services, information, and money between entities in the supply chain, such as suppliers, manufacturers, distributors, and buyers (Anđelković & Milovanović, 2021). The goal of SCM is to maximize value for

consumers while enabling companies to reduce costs, streamline business operations, and operate profitably.

With the goal of enhancing the profitability, productivity, and efficiency of the overall flow, traditional supply chain management focuses on the movement of goods and services from one end of the chain to the other. SCM covers the economic functions of the entire value chain of products or services. Management of relationships in the supply chain decisively affects the sustainability and competitiveness of companies in the modern market (Paschina, 2021). Modern SCM leverages advanced technologies such as RFID, IoT, and data analytics to enable real-time tracking, improve inventory accuracy, and foster interoperability across global networks. The integration of socio-technical systems theory highlights the importance of aligning organizational structures, human behavior, and technological infrastructure to achieve supply chain resilience and agility. As supply chains evolve in the digital age, sustainability and risk management become critical components, necessitating adaptive strategies that can handle uncertainties and disruptions in complex environments. Overall, effective SCM is vital for maintaining competitive advantage, reducing costs, and ensuring customer satisfaction in an increasingly interconnected world (Zhang, Lin & Esfahbodi, 2025).

The demand for a more responsible approach to supply chain management (SCM) emerged when managers and researchers began to pay attention to the environmental and social ramifications of corporate activities. Businesses' business philosophies underwent a dramatic shift at the start of the twenty-first century when they began to emphasize the value of ethical labor practices and environmental management. Changes in regulations (such as new labor laws and environmental laws) have made supply chains more dependent on sustainability. Under these conditions, SSCM started to be applied to match corporate operations with sustainable objectives. Businesses now view sustainability as a strategic endeavor rather than only a compliance requirement.

3.2. Green Supply Chain Management

The concept of GSCM is broad and there is no clear holistic definition to describe it. Nevertheless, based on the definitions of some authors, GSCM can be safely defined as the integration of environmental concerns into inter-organizational supply chain management practices during the product life cycle (Luthra et al., 2014). It can be also differentiated as internal and external GSCM. Internal GSCM is driven by organizational values, leadership, and resources, focusing on implementing sustainable practices through policies, training, and employee engagement. It builds internal capabilities that support sustainability goals, emphasizing culture and intra-firm learning, with entrepreneurial orientation encouraging innovation in environmental management. In contrast, external GSCM is shaped by market demands, regulations, and customer expectations. Firms respond to these external pressures through compliance, eco-labeling, and collaboration with suppliers. While internal GSCM develops green competencies from within, external GSCM aligns supply chain activities with external sustainability standards. Together, they foster comprehensive environmental management across the supply chain (Ahmed et al., 2024).

According to Luther et al. (2014), GSCM entails applying environmental management concepts to every step of the customer order cycle, including design, sourcing, production, assembly, packaging, transportation, and distribution. This is a new paradigm where

businesses may increase their environmental efficiency and increase market share while lowering their environmental risks and impacts.

Operations managers are adopting more and more health, safety, and environmental practices, particularly those who want to enhance the environmental performance of their company's operations (Duijm et al., 2008). Comparable to the evolution of the GSC idea, during the past three decades, GSCM coverage in scholarly papers has grown geometrically. Research has indicated that the comparative significance of these activities dates back to the late 1960s, when the environmental issue first surfaced. But the GSCM wasn't established or formalized until after the 1990s (Sarkis et al., 2011).

In contrast to conventional supply chain management, green supply chain management (GSCM) is defined by the development of "greener" products, the choice and acquisition of "greener" raw materials, as well as "greener" manufacturing, distribution, and post-purchase services. When creating GSC practices, two strategies should be taken into account: (1) a collaboration-based strategy and (2) a monitoring-based strategy. A monitoring-based strategy suggests that the sourcing business establishes criteria for assessing vendors and their goods. In order to improve a supplier's environmental performance while concentrating on long-term objectives, a collaborative strategy necessitates direct customer involvement (Lee, 2008).

A small number of companies have integrated green practices into their supply chains. The literature has not yet clearly established a comprehensive list of green practices and explained what constitutes a green supply chain practice. In addition, some authors confused the terms 'green' and 'sustainability' in the literature review on GSCM (Sarkis et al., 2011). A comprehensive list of green practices is essential for managers, policymakers, and academics for future research in this area.

In the academic literature, the terms 'green' and 'sustainable' are sometimes used interchangeably, to emphasize their impact on the economy, society, and the environment. The concept of GSCM is the result of the impact of the 'quality revolution' of the 1980s and the 'supply chain revolution' of the 1990s. These two transformative processes have generated significant challenges in supply chains. The discipline of GSCM itself is gaining more and more popularity, as it points to the fact that remanufacturing and environmental efficiency can enable a company to improve its standard operations. As GSC can be seen as a logistics structure that should guarantee companies to achieve global production and distribution of products in an environmentally friendly way, to achieve such a goal, companies must invest in designing and optimizing the planning of their logistics structures, taking into account the trade-off between profit and environmental impact (Sarkis et al., 2011).

GSCM is attracting the attention of people from science and business practice because of its potential for pollution mitigation and resource conservation. Increasing the awareness of managers and policymakers about environmental responsibility increases the need to implement the concept of GSCM. Companies that implement this concept reduce their negative impact on the environment by reducing emissions, pollution, waste, and the use of natural resources (Wang et al., 2013).

3.3. Sustainable Supply Chain Management

In order to find ways to behave sustainably, companies implement the concept of triple-bottom-line reporting. The concept was created by John Elkington in 1994. It integrates

three company reports into its corporate culture, strategy, and business operations: (1) the Profit report, (2) the People report, and (3) the Environmental Responsibility report. The reports reveal ways in which companies are improving the sustainability of their operations (Alhaddi, 2015). Similar to this, supply chain sustainability is a multifaceted idea with implications for the environment, society, and economy. Reducing the environmental impact of supply chain operations, which calls for actions like cutting back on energy use, waste production, and material procurement responsibly, can lessen the environmental component of sustainability. The social dimension of sustainability requires social responsibility, which is achieved by ensuring ethical work practices and respecting workers' rights. In addition to the environmental and social dimensions, the economic dimension of sustainability is very important, as companies must remain profitable while implementing sustainable practices (Arowoshegbe et al., 2016).

In addition to companies, consumers are also trying to find ways to behave sustainably. Consumers in various markets have changed their purchasing behavior in favor of environmentally friendly products. They are becoming more aware of the environmental impact of their purchasing decisions and are beginning to take more into account when gathering information to make those decisions (Mayer et al., 2022). Companies are responding to this trend by implementing a sustainability strategy. There are two goals of such a strategy: (1) alignment with the company's goals, mission, or values, and (2) building, maintaining, or improving the company's reputation (Galpin et al., 2015).

As a result, the SSCM can be viewed as a collection of managerial techniques that prioritize the environment, take into account every stage of the product's value chain, and adopt a multidisciplinary viewpoint that covers the full life cycle of the product (Gupta & Palsule-Desai, 2011). According to Seuring and Müller (2008), supply chain management (SSCM) entails managing capital, information, and material flows as well as cooperating amongst businesses along the chain while upholding the objectives of the economic, ecological, and social dimensions of sustainable development. These goals stem from the demands placed on businesses by their stakeholders and customers. According to Ahi and Searcy (2013), supply chain coordination (SSCM) is the process of creating coordinated supply chains by voluntarily integrating economic, environmental, and social dimensions with important inter-organizational business systems. These systems are meant to effectively and efficiently manage the flows of capital, information, and materials related to the acquisition, production, and distribution of goods and services, to satisfy stakeholders' demands both now and in the future, and to increase the organization's profitability, competitiveness, and resilience. This term covers several aspects of efficacy, efficiency, and coordination. It presents a supply chain model with the goal of enhancing the chain's environmental performance through the application of best practices (Kalyar et al., 2019). These consist of distribution, production, material selection and procurement, and product design.

Furthermore, SSCM signifies a significant shift in the management of supply chain operations and procedures. It includes a variety of methods and ideas that go beyond making money and cutting expenses. It should minimize the impact on the environment, support ethical work practices, and encourage responsible procurement all while optimizing supply chain operations. It makes it possible for sustainable practices to spur innovation, lower risk, and enhance brand reputation, turning sustainability into a competitive advantage rather than an expensive liability. Under such circumstances, businesses, and the environment benefit

(Paschina, 2018). On the other hand, primary barriers to adopting SSCM include technological incompatibilities, data management challenges, and the lack of advanced eco-efficiency technologies. These obstacles hinder effective integration of digital tools, limit real-time environmental decision-making, and impede the development of sustainable product designs. Addressing these barriers requires concerted efforts to improve technological interoperability, develop supportive data-sharing protocols, and advance eco-friendly innovations within supply chains (Han & Li, 2025).

SSCM affects businesses differently depending on their size and industry. It is possible to ascertain how SSCM addresses current sustainability challenges and what benefits it offers businesses in terms of lowering environmental impact, enhancing moral work practices, and guaranteeing responsible procurement by investigating best practices, case studies, and emerging trends. According to Primadasa et al. (2025), SSCM enhances operational efficiency and resilience by aligning business activities with environmental and social goals, reducing waste, ensuring regulatory compliance, and improving transparency and risk management. It also drives cost savings, strengthens brand reputation, and fosters trust among stakeholders. By integrating circular economy principles, SSCM enables firms to optimize resources and gain a competitive advantage in sustainability-driven markets.

In an era where globalization and sustainability are becoming more and more important, SSCM plays a transformative and integrative role by tying together corporate social responsibility and worldwide initiatives to save the environment and improve business operations. SSCM has a big impact on businesses, thus it is critical to grasp it holistically. Sustainability plays a crucial role in the success of its businesses when it is integrated into the supply chain.

Conclusion

Businesses that embrace green innovation and incorporate sustainable practices into their operations can boost efficiency, minimize negative environmental effects, and enhance their reputation. The performance of companies and the use of GI are significantly positively correlated with the adoption of GSCI. Environmentally relevant processes and product innovations enable companies to improve business performance. By using information technologies, companies can more successfully generate green innovations, and increase environmental performance and competitive advantage.

As businesses work to connect their operations with social and environmental responsibility, interest in the concepts of sustainable supply chain management and green supply chain integration is growing. Businesses need to apply GSCM if they want to gain and keep a competitive edge. The application of GSCM is expanding in response to a rise in environmental awareness and concern. Furthermore, GSCM is frequently perceived as a sophisticated and methodical approach utilized by businesses globally to attain environmental sustainability.

SSCM assists businesses in addressing contemporary sustainability issues. Businesses are embracing green practices more and more in addition to satisfying stakeholder demands and enhancing the sustainability of their operations.

By managing products, promoting sustainable growth, and minimizing pollution, a business can acquire a competitive edge by making a positive impact on sustainable

development. It may enhance its green image by cutting waste, which would help sway consumer decisions to buy.

Acknowledgment: This research is part of the 101136834 – CROSS-REIS – HORIZON-WIDERA-2023-ACCESS-03 project, funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the European Research Executive Agency can be held responsible for them.

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