

A Review of the Literature on the Effect of Green Supply Chain Management on Firm Performance

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Abstract: *The public raised the bar for businesses to meet in terms of environmental protection and green management. Green supply chain management has emerged, giving businesses more options. This paper offers prospective research trends and topics for more investigation, analyzes the relevant literature on green supply chain management, and examines the connection between green supply chain management and company performance.*

Keywords: Firm performance, Environmental sustainability, Operational performance.

I. INTRODUCTION

One of the biggest problems facing humanity today is environmental degradation. People now have a great deal of financial riches because to the quick growth of industry. But in order to achieve economic development, the broad economic expansion mode uses a lot of resources, which leads to resource waste and environmental damage.

The economy's explosive growth and people's unchecked resource use have severely damaged the natural environment that supports human life. People increasingly become more conscious of environmental conservation and understand that economic growth cannot come at the expense of the environment.

Academics are starting to integrate supply chain management with green and sustainable practices as a result of society's growing awareness for environmental concerns and the need for sustainable growth. Academics are paying more and more attention to green supply chain management, which takes environmental concerns into account. Businesses now have more technological options because to the advent of the idea of "green supply chain management." It takes technological innovation and green management as its central tenets, minimizes the adverse effects of operations on the environment, and optimizes company performance while fully accounting for the negative effects on the public and the environment throughout operation. There is currently no consensus on whether green supply chain management may raise or lower an organization's overall performance, despite the fact that the link between green supply chain management and business performance has been briefly examined in academic studies. As a consequence, this article examines the findings of studies on how green supply chain management affects business performance and talks about current research trends in this area.

GREEN SUPPLY CHAIN MANAGEMENT

According to recent studies, many academics mistakenly believe that sustainable supply chain management is the same as green supply chain management. However, sustainable supply chain management is a more expansive notion, while green supply chain management is more concentrated. By reviewing earlier studies, Ahi and Searcy made a distinction between the two ideas of sustainable supply chain management and green supply chain management.

By integrating economic, environmental, and social factors with important inter-organizational business systems, creating a coordinated supply chain, and effectively managing materials related to procurement, production, and distribution, sustainable supply chain management seeks to facilitate the flow of capital and information. Sustainable supply chain management offers goods and services to customers in order to satisfy stakeholders' demands and raise the organization's short- and long-term profitability and competitiveness.

Sustainable supply chain management is the foundation of green supply chain management, which is more oriented on ecologically friendly research. The first stage in incorporating sustainable development principles into supply chain management is green supply chain management.

The concept of green supply chain management is still up for debate among the theoretical community. Scholars define the term "green supply chain management" in accordance with their various study goals and issues that need to be resolved. Table 1 illustrates how some academics have characterized green supply chain management in recent years. When defining green supply chain management, the majority of academics have concentrated on environmental considerations.

It is evident that environmental considerations play a significant role in the study of green supply chain management. Based on current research, this paper will define green supply chain management as an organization that reduces its environmental impact by using an internal management and external collaborative management model, avoiding resource waste during production, preventing environmental pollution, and avoiding harmful components and side effects.

Table 1. Definition of green supply chain management.

Author	Concept Definition
Lee & Klassen	Plans and activities for companies to integrate environmental issues into supply chain management to improve supplier and customer environmental performance.
Walton S V	Adding upstream and downstream suppliers as important influencing factors into the company's environmental strategy. The core is to apply integrated thinking to the whole process of green supply, such as enterprise design, procurement, production and sales.
Tseng	It can be defined in terms of the evolution of environmental management, including cross-border activities and corporate activities in the supply chain, where companies, suppliers and customers are directly involved in joint planning solutions to reduce environmental impacts in the production of products.
Perotti	Organizations' activities and initiatives to reduce the impact on the natural environment.
Ahi & Searcy	Integrate environmental thinking into supply chain management, including product design, material procurement and selection, manufacturing process, final product delivery to consumers and product scrap management at the end of product life.

IMPACT OF GREEN SUPPLY CHAIN MANAGEMENT ON FIRM PERFORMANCE

Researchers started looking at the expansion of green supply chain management in great detail around the turn of the twenty-first century. One of the hottest areas for study is how green supply chain management affects business success. Existing research on the connection between green supply chain management and performance separated performance into three categories based on the triple bottom line theory: social, economic, and environmental performance.

IMPACT OF GREEN SUPPLY CHAIN MANAGEMENT ON ENVIRONMENTAL PERFORMANCE

Johnson proposed environmental performance indicators for the corporate performance assessment system by fusing the ideas of green supply chain management with a balanced scorecard methodology. It is noted that by enhancing environmental performance, green supply chain management may further boost company performance and accomplish corporate goals.

Theyel spoke about how environmental management techniques affect environmental performance and innovation, and the study demonstrates that these techniques can enhance factory environmental performance and innovation. According to Zhu and Sarkis, improving environmental performance is the main outcome of green supply chain management. Eco-design may greatly enhance corporate environmental performance, according to Eltayeb et al.'s analysis of sample data from 569 industrial enterprises in Malaysia.

Hajmohammad et al. examined the effects of supply management and lean management on green practices and their performance using data from 85 manufacturing facilities in Canada. The findings demonstrated that environmental performance was significantly improved by green measures such material recycling, pollution control, and ISO14001 certification. According to Dai et al., managers who embrace environmental management practices and businesses that use green supply chain management may provide a "win-win" scenario for businesses that can enhance both their financial and environmental performance. Green supply chain management, according to Tseng et al., may improve environmental performance by lowering risks and adverse environmental effects while removing waste and increasing eco-efficiency.

IMPACT OF GREEN SUPPLY CHAIN MANAGEMENT ON ECONOMIC PERFORMANCE

Carter et al. examined the effect of environmentally aware buying on business financial performance using historical data. According to the research, product cost and company net profit are significantly correlated with environmentally responsible buying. Using the network analysis method, Sarkis assessed the green supply chain management strategy and noted that the idea can lower production costs, increase an organization's organizational performance, boost a company's competitive edge, and safeguard the environment. Business performance is positively impacted by green supply chain management, according to Corbett and Klasen's research. Zhu et al. examined the relationship between the performance of 334 manufacturing companies in Dalian, Suzhou, and Tianjin as samples and environmentally-oriented supply chain cooperation and circular economy practices. According to the research, internal environmental management, ecological design, and investment recovery all improve with increased levels of green procurement execution and customer collaboration.

Additionally, the associated environmental and economic performance also improves.

Green et al. analyzed data from 159 manufacturing organizations using structural equation modeling. According to the study's findings, manufacturing companies that implemented green supply chain management technology saw improvements in both economic and environmental performance. These improvements would also boost operational performance, which would raise organizational performance.

Other researchers, however, have shown a negative relationship between green supply chain management and businesses' financial success.

According to Horbach et al., green supply chain management will unavoidably alter the current procedure significantly, adding to the enterprise's stress and expense and harming its financial interests. According to Wiengarten et al.'s analysis of data from the Global Manufacturing Research Group for European nations between 2006 and 2008, the economic performance of the supply chain is negatively impacted by the adoption of green supply chain management. According to Miroshnychenko et al., businesses' financial performance suffers when ISO 14001 is implemented.

The aforementioned research indicates that there has been preliminary investigation into the connection between green supply chain management and business economic performance. However, the academic community has not yet come to a consensus on whether the green supply chain management concept has a beneficial or negative influence on businesses' financial performance.

IMPACT OF GREEN SUPPLY CHAIN MANAGEMENT ON SOCIAL PERFORMANCE

The theory of corporate social responsibility, which describes businesses' attempts to avoid, reduce, or address the negative externalities or more general social issues arising from their operations problems that may not always be the result of the businesses themselves is the foundation for corporate social performance.

The assessment outcome of corporate social responsibility actions is known as corporate social performance. The quantity of research publications pertaining to corporate social performance has grown annually during the last several decades. It is evident that academic study on corporate social performance has grown in importance.

In recent years, social concerns including environmental pollution and product safety have drawn a lot of attention from scholars, and social performance is also seen as a crucial component of green supply chains. Companies should take on social responsibility and look for advantages for other stakeholders in addition to maximizing financial success for shareholders, according to Freeman and Gilbert's study. According to Preuss's study, procurement operations may

transmit environmental protection measures from the company to its suppliers, which can have a cascading effect and result in significant and quick improvements in the general social performance of the organization.

According to Eiadat and others, putting a green innovation strategy into practice will help businesses gain a positive reputation in the community, which will allow them to take the lead in environmental protection and improve their social performance. According to Chiu and Sharfman, a company's social performance is a result of its many socially responsible actions, and an organization's social performance may be raised by its environmentally conscious actions. According to Hanim Mohamad Zailani et al.'s analysis of data from 400 Malaysian manufacturing enterprises, social performance is positively impacted by green packaging and procurement.

It is evident from the aforementioned studies that implementing green supply chain management enhances business performance. Businesses are really carrying out their social obligations and lowering the incidence of certain social issues when they implement environmental protection measures.

II. CONCLUSIONS

The relevant study material on the effects of green supply chain management and green supply chain management on business performance is compiled and arranged in this article. It is discovered that several academics have already investigated and analyzed the connection between company success and green supply chain management. Although the majority of research indicates that green supply chain management improves a company's social and environmental performance, there is no consensus among academics regarding how green supply chain management affects a company's economic performance. This study suggests that the future might be further examined from the following three perspectives by collecting relevant material.

First, keep researching how corporate economic performance and green supply chain management are related, and determine if green supply chain management has a good or negative effect on economic performance. The two ideas may be separated to provide coherent findings, such as a split of company types and whether or not the same kind of firm applies the green supply chain management concept to affect its financial performance.

Investigating the causes of the erratic effects of green supply chain management on business financial performance is the second step. Does green supply chain management, for instance, have a distinct and particular way to evaluate performance? Is it appropriate to assess the effectiveness of green supply chain management using the performance assessment approach of conventional supply chain management? Will the present approach to performance assessment result in an uneven effect of green supply chain management on businesses' financial success?

The third step is to investigate how green supply chain management relates to other aspects of business success, such financial and operational performance. Using the triple bottom line theory, this research separates business performance into three categories: social, economic, and environmental. These three factors, however, are not the only ones that affect corporate success. From different facets of corporate performance, future studies may examine the connection between green supply chain management and corporate success. This is the article's research restriction as well.

REFERENCES

- [1]. Ahi, P. and Searcy, C. (2013) A Comparative Literature Analysis of Definitions for Green and Sustainable Supply Chain Management. *Journal of Cleaner Production*, 52, 329-341. <https://doi.org/10.1016/j.jclepro.2013.02.018>
- [2]. Carter, C.R., Kale, R. and Grimm, C.M. (2000) Environmental Purchasing and Firm Performance: An Empirical Investigation. *Transportation Research Part E: Logistics and Transportation Review*, 36, 219-228. [https://doi.org/10.1016/S1366-5545\(99\)00034-4](https://doi.org/10.1016/S1366-5545(99)00034-4)
- [3]. Corbett, C.J. and Klassen, R.D. (2006) Extending the Horizons: Environmental Excellence as Key to Improving Operations. *Manufacturing & Service Operations Management*, 8, 5-22. <https://doi.org/10.1287/msom.1060.0095>
- [4]. Dai, J., Montabon, F.L. and Cantor, D.E. (2014) Linking Rival and Stakeholder Pressure to Green Supply Management: Mediating Role of Top Management Support. *Transportation Research Part E: Logistics and Transportation Review*, 71, 173-187. <https://doi.org/10.1016/j.tre.2014.09.002>

- [5]. Eltayeb, T.K., Zailani, S. and Ramayah, T. (2011) Green Supply Chain Initiatives among Certified Companies in Malaysia and Environmental Sustainability: Investigating the Outcomes. *Resources, Conservation and Recycling*, 55, 495-506. <https://doi.org/10.1016/j.resconrec.2010.09.003>
- [6]. Hajmohammad, S., Vachon, S., Klassen, R.D. and Gavronski, I. (2013) Lean Management and Supply Management: Their Role in Green Practices and Performance. *Journal of Cleaner Production*, 39, 312-320. <https://doi.org/10.1016/j.jclepro.2012.07.028>
- [7]. Johnson, S.D. (1998) Identification and Selection of Environmental Performance Indicators: Application of the Balanced Scorecard Approach. *Corporate environmental strategy*, 5, 34-41. [https://doi.org/10.1016/S1066-7938\(00\)80079-2](https://doi.org/10.1016/S1066-7938(00)80079-2)
- [8]. Lee, S.Y. and Klassen, R.D. (2008) Drivers and Enablers That Foster Environmental Management Capabilities in Small- and Medium-Sized Suppliers in Supply Chains. *Production and Operations Management*, 17, 573-586.
- [9]. Perotti, S., Zorzini, M., Cagno, E. and Micheli, G.J. (2012) Green Supply Chain Practices and Company Performance: The Case of 3PLs in Italy. *International Journal of Physical Distribution & Logistics Management*, 42, 640-672. <https://doi.org/10.1108/09600031211258138>
- [10]. Sarkis, J. (2003) A Strategic Decision Framework for Green Supply Chain Management. *Journal of Cleaner Production*, 11, 397-409. [https://doi.org/10.1016/S0959-6526\(02\)00062-8](https://doi.org/10.1016/S0959-6526(02)00062-8)
- [11]. Theyel, G. (2000) Management Practices for Environmental Innovation and Performance. *International Journal of Operations & Production Management*, 20, 249-266. <https://doi.org/10.1108/01443570010304288>
- [12]. Tseng, M.L. (2011) Using a Hybrid MCDM Model to Evaluate Firm Environmental Knowledge Management in Uncertainty. *Applied Soft Computing*, 11, 1340-1352. <https://doi.org/10.1016/j.asoc.2010.04.006>
- [13]. Tseng, M.L., Tan, K. and Chiu, A.S. (2016) Identifying the Competitive Determinants of Firms' Green Supply Chain Capabilities under Uncertainty. *Clean Technologies and Environmental Policy*, 18, 1247-1262. <https://doi.org/10.1007/s10098-015-1064-0>
- [14]. Walton, S.V., Handfield, R.B. and Melnyk, S.A. (2010) The Green Supply Chain: Integrating Suppliers into Environmental Management Processes. *Journal of Supply Chain Management*, 34, 2-11. <https://doi.org/10.1111/j.1745-493X.1998.tb00042.x>
- [15]. Zhu, Q. and Sarkis, J. (2004) Relationships between Operational Practices and Performance among Early Adopters of Green Supply Chain Management Practices in Chinese Manufacturing Enterprises. *Journal of operations management*, 22, 265-289. <https://doi.org/10.1016/j.jom.2004.01.005>