



## GREEN SUPPLY CHAIN MANAGEMENT IN INDIA - AN OVERVIEW

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### **Abstract**

There is growing need for integrating environmentally sound choices into supply chain management research and practices. The green supply chain management it is also called as sustainable supply chain management (SSCM) is a sort of modern management mode which could comprehensively consider the environmental influence and resource utilization efficiency in the whole supply chain and how to implement the green supply chain management in industrial operations the role of the green factors are involved in industries supply chain activities from the procurement of the raw material to the transportation of the final products. Green supply chain management has emerged as a key approach for enterprises seeking to become environmentally sustainable.

### **Introduction**

The supply chain has been traditionally defined as a one-way, integrated manufacturing process wherein raw materials are converted into final products, then delivered to customers. According to it supply chain only includes those activities which are associated with manufacturing, from raw material acquisition to final product delivered. However, due to change in time the environmental requirements affected the manufacturing processes, and need arises to make strategies for the supply chain.

### **Aim and Objectives**

1. To identify practices to implement green concept in supply chain management.
2. To study the benefits of implementing the concept of GSCM.
3. To determine the various challenges/ obstacles in implementing this concept.
4. Overcome/Eliminate the obstacles identified by the companies for implementing the concept.

### **Green Supply Chain Management**

Green Supply Chain Management (GSCM) is the process of using environmentally friendly inputs and transforming these inputs into outputs that can be reclaimed and re-used at the end of their lifecycle thus, creating a sustainable supply chain. Green supply chain management is concerned with confining to the waste within the industrial system in order to conserve energy and prevent the dissipation of the dangerous materials into the environment. It is the concept of integrating the green purchasing, green manufacturing, green packing, green distribution, and green marketing. Green Supply chain management is directly linked to environmental protection along with the strategy, because the planning with regard to environmental protection is considered to be for longer time period. It is linked along with logistics, because the activities relate to the management of raw materials, distribution storage, waste management and recycling. The creation of green supply chain benefits not only the single economy but the whole nation. Green Supply chain management is directly linked to environmental protection along with the strategy, because the planning with regard to environmental protection is considered to be for longer time period.

GSCM = Green purchasing + Green manufacturing/materials management + Green Distribution / marketing+ Reverse logistics (Nimawat and Namdev, 2012).

Green SCM is getting more attention as a sustainable development mode for modern enterprises and is increasingly a part of Corporate Social Responsibility (CSR) initiative (Prabhakar, 2013).

**Green practices to Implement GSCM:** The green practices which are identified to be implemented in green supply chain management are as follows:-

1. **Green purchasing/Green procurement:** green procurement involves all those activities which include the reduction, reuse and recycling of materials in the process of purchasing. It includes buying materials from “green partners” who satisfy green partner environmental quality standards and pass an audit process in following the rules and regulations of environmental laws and stress upon paperless transactions and promote the use of recycled material.
2. **Green manufacturing:** The general manufacturing process consumes excess amount of energy required from burning various natural sources such as coal, coke and natural gas and combustion causes air pollution. On the other side Green manufacturing is defined as production processes which use inputs with relatively low environmental impacts, which are highly efficient, and which generate little or no waste or pollution. Green manufacturing can lead to lower raw material costs, production efficiency gains, reduced environmental and occupational safety expenses, and improved corporate image.



3. **Green distribution and marketing:** Green marketing is the marketing of products that are presumed to be environmentally safe. Green distribution consists of green packaging and green logistics. Packaging characteristics such as size, shape, and materials have an impact on distribution because of their effect on the transport characteristics of the product. Better packaging, along with rearranged loading patterns, can reduce materials usage and increase space utilization in the warehouse.
4. **Reverse Logistics:** Reverse logistics is the planning of process, implementing, and, cost effective flow of raw materials, in process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or disposal.
5. **Government Rules and Regulation:** Government at various levels, frame various laws/ ordinances/ regulations for conservation of environment, which enforce industries to incorporate for eco-friendly measures in their operations. Violation of these laws and regulations will invite punitive action.
6. **Top management commitment & Financial Support:** Setting an environmental vision or corporate policy. An overall strategy established to guide the company's effort to fulfil the vision. Strategic planning by top-level management incorporates environmental inputs. Environmental issues are being integrated into critical business operations and functions. Sufficient resources allocated to implement certain environmental projects.

**Importance of green supply chain management:** The need for green supply chain management arises because Companies that are going green will not only generate profits in the long term but will also help in conserving the ecology and reduce environmental impact. Implementing a green initiative program also ensures companies to meet current and future environmental regulations or legislation. Green Supply Chain Management (GSCM) is thus gaining significance due to diminishing raw materials, deterioration of environment, swarming waste lands and ever-increasing levels of pollution. The corporate should not expect huge benefits upon implementing Green SCM immediately but it can definitely proclaim to become competitive advantage for firms marketing goods with environmental characteristics. through attaining energy efficiency, renewable energy and green building projects companies can satisfy stakeholder demands, enhance brand image, and improve customer loyalty. Being environmental-friendly, organisation can reduce considerable waste and protect the natural resources.

#### **Challenges in adopting the green supply chain:**

1. Lack of tools to optimize the supply chain with environmental management. There is no dearth of tools for supporting green supply chain initiatives. The challenge lies in selecting the right tool.
2. Lack of information on regulations and green supply chain best practices that left organizations with a limited view of what to do and implement.
3. Lack of green architects, consultants, green developers, contractors in the region. Due to lack of green practitioners available, the organisations are apprehensive to go ahead with the investment.
4. GSCM is integration of recycling of the products. It is a major challenge for many companies to integrate the waste (recycling) as raw materials to again be used in manufacturing unit.
5. Lack of awareness regarding the implementation process, regulations and best practices.
6. Due to lack of customer awareness towards GSCM and Green products the companies are hesitant to go ahead with the implementation.

#### **Suggestions to Face the Various Challenges in Implementing the GSCM**

1. Indian government should announce extra benefits to the organization following green practices.
2. Government to take initiatives to make green practices compulsory.
3. Government should promote refurbishing and recycling through campaigns/ activities to raise reuse/recycle awareness in electronics consumption.
4. Encourage team building and train skilled labours for reverse logistics management
5. Regular training programs to create awareness about green which will encourage organizations to help adopt.
6. Special ad-campaigns & welfare programs to promote awareness among customers.
7. Set a database unit to collect and record information about production, import/export data, and waste management.
8. All obsolete computers, peripherals, batteries, cartridges etc. should be returned to e-waste vendors or to the suppliers who are authorized to dispose them appropriately.
9. It should become a necessary clause that the companies should do an audit of their suppliers and suppliers should do the same to their suppliers. A guideline regarding GSCM should be devised so that all the stakeholders comply with it.



### Conclusion and Discussion

Green Supply Chain management is the field that incorporates majorly environmental and sustainable issues starting from the procurement till the customers' shelf. Apparently in the present scenario the green supply chain practices focus on cost reduction and pollution prevention, due to which we are observing positive changes in organisations evolving and incorporating more proactive sustainable measures into their strategy and as everyday practice. However, organisations must also include the factor of corporate social responsibility into their kitty of strategies to build up credence about themselves in the view of customers, stakeholders, shareholders and employees; as the organisations are corporate citizens of the society at large. From the study it can be concluded that GSCM is a modern way of conventional supply chain management. We studied the need of GSCM and few measures have been suggested that will eliminate or help reduce the intensity of the barriers in implementing the GSCM. "Green" awareness in India is below the average line, which indicates that, there is a need to spread the GSCM awareness among the Indian industries, which may improve the economical performance and reduce environmental pollution by adapting GSCM. GSCM gives competitive edge and improves the economic status of an organization. Effective implementation of GSCM leads to reduction in waste, reduction in environmental pollution, optimization of resource utilization and reduction in costs. There is a greater scope for further research in GSCM either it be a qualitative or quantitative or exploratory or longitudinal study so as to drive corporations in adopting it.

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