

# The Implementation of Green Supply Chain- A Comparative Analysis between Small Scale Industries in India and Developed Nations

Dr. M. Geeta

Associate Professor, KLEF, KLH University,  
BBA 21 Batch, K. Jahnavi (2110560049), V. Siddharth Reddy (2110560055),  
G. Sai Karthik Reddy (21105600560), S. Pranathi Reddy (2110560057)

Date of Submission: 15-11-2023

Date of Acceptance: 25-11-2023

## ABSTRACT

Green supply chain are integrating ecofriendly concept into supply chain management to improve environmental sustainability with different green practices including, green purchasing, green distribution and warehousing, green transportation with usage of biofuels, green manufacturing processes and the products' end-of-life management Integrating environmental thinking into supply chain management, including ecological design of products, purchasing green materials and components, reengineering of manufacturing steps towards ecofriendly, reverse logistics management of the product after its useful life

## I. BACKGROUND

The green supply chain concept occurs to mitigate environmental degradations and control air, water and waste pollution through the adoption of green practices in business operations. The basic ideology behind green concept is to enhanced environmental sustainability, but firms adopt green concept as "kill two enemies with one bullet". Because green supply chain can reduce the environmental pollution and production costs and it also can spur economic growth, create competitive advantage in terms of greater customer satisfaction, positive image and reputation and provide better opportunity to export their products in pro-environmental countries

## Aim of project

The objective of the project is numerous green practices adopted, companies in their

business and supply chain operations improve their productivity with better environmental growth.

## Research questions

### RQ1. In which extent did the small scale industries adopted the green practices?

Here it is interesting to know While, some well-known green practices are as follows;

- Green material sourcing
- Green marketing
- Green management
- Green distribution and warehousing
- Green manufacturing

### RQ2. What are the parameters considered Green material Sourcing?

Green sourcing means sourcing or purchasing materials and components which have such enviable ecofriendly characteristics as reusability, recyclability and nonuse of hazardous/dangerous chemicals.

The successful adoption of green purchasing strategy, products' cost is reduced and environmental performance and financial performance of firms is increased with positive reputation obtained in the market.

### RQ3.What are the Green Manufacturing practices?

Green manufacturing practices are to implement socially and environmentally accountable practices to mitigate harmful effects of manufacturing and increased profitability of firms Green practices in production improve efficiency of processes .This practice involves the application of the green resources, which may lead towards

competitive advantage through reduction in products' cost and improvement in products' quality. Lean and green manufacturing industry both are working for eliminating waste and improving the efficiency of manufacturing processes.

#### **RQ4. What are the practices learnt in Green Management.**

Green management practices (GMP) provide a firm with supplementary sources of information that can enhance their business and environmental objectives. Adoption of green management practices help with improved firm image, increased efficiency, environmental compliance improvement, cost savings, achievement of societal commitment and reduction of carbon emissions etc.

#### **RQ5. What are the advantages of Green supply chain management?**

- **Reduced Waste:** Millions of tons of food is wasted within the supply chain every year. By making efforts to reduce that waste through improved process management and the adoption of lean policies, managers can eliminate costly losses that reduce their TCOB.
- **Lower Transportation Costs:** Companies typically try to bring down the weight of shipments as well as making trips shorter when they're trying to reduce their greenhouse gas emissions. This results in lower transportation costs, as trips use less fuel and trucks suffer minimized wear and tear.
- **Enhanced Reputation:** Eighty-one percent of consumers around the world believe that businesses need to help improve the environment. This belief factors in to buying decisions and can hurt companies that don't adopt sustainable practices. It also affects even businesses that don't sell directly to consumers, as businesses seeking to reduce their environmental impact will look into their vendors' policies on sustainable business practices.

#### **Limitations**

- Lack of professionals exposed to green systems,
- Lack of Environmental Knowledge ,
- Perception of out-of-responsibility zone ,
- Disbelief about environmental benefits ,
- Lack of awareness about reverse logistics,

## **II. METHODOLOGY**

### **Research method**

- General research questions
- Seeking relevant site(s) and subjects
- Collection of relevant data
- Conceptual and theoretical work
- Writing up finding/conclusions

### **Supply Chain Management**

In the present competitive world the relationships with supplier and customer plays a significant role in a company's growth. Generally the companies seek benefits for both themselves and their clients; these benefits can be achieved by a formalized process known as Supply chain. According to Somoygi et al (2009) Supply chain includes managing supply and demand, purchasing raw materials and spare parts, manufacturing and assembling, warehousing and inventory managing, order entry and management, distribution and logistics across all channel and finally delivery to the customer. Supply chain management can be defined as the integration of all these activities in to seamless and formalized process (Somoygi et al, 2009). Initially the supply chain was introduced to integrate the key business process, from supplier to the end user, were the information's on the process adds value for the consumers.

### **Green Supply Chain Management: An Overview**

Green Supply Chain Management is a broad term in which all the industries work with their suppliers and customers to improve their environmental performance. These environmental performances can be practiced by different focuses (Green Business Network, 2001).

- Focus on reducing or eliminating the excess materials used in the manufacturing processes or products.
- Focus on the supplier's environmental compliance status during the operations.
- Joint venture for developing the new materials, products and solutions for environmental issues.
- Requiring suppliers to implement and possibly certify environmental management systems.
- Educating the suppliers regarding the material use, prevention of pollution and tools of interest to the customer company.
- Refining the suppliers would help in developing new materials, parts and process with environmental concern.
- Auditing suppliers' compliance status.

**Motives for green supply chain management**

The green supply chain can be practiced in organization through several internal and external drivers. New Zealand Business Council for Sustainable Development (NZBCSD) as described in their practical guide for Business Guide to a Sustainable supply chain (2003) is that the supply chain is mainly focused on three areas as central:

- Improving the performance of business’s own operations.
- Ensuring that the goods and services provided by suppliers are sustainable and working with the suppliers increases the efficiency and competitiveness.
- Working effectively with customers and sales channel to design sustainable products and services.

**Environmental and Economic Benefits of Green Supply Chain Management**

<b>Qualitative Benefits</b>
Improved working condition
Better organization in public
Improved staff morale
Enhanced customer loyalty/satisfaction
Establishing or improving brand value
Lowered regulatory concerns
Increased market opportunities
Improved product performance
Decreased liabilities

The benefits mentioned above or derivative results from several works. Sangwan K. S (2011) classified different quantitative benefits such as:

<b>Quantitative benefits (waste related)</b>
<b>Reduced waste handling cost</b>
<b>Lowered waste categorization cost</b>
<b>Reduced waste treatment cost</b>
<b>Reduced waste disposal cost</b>
<b>Reduced waste storage cost</b>
<b>Quantitative Benefits (life cycle related)</b>
<b>Lowered transportation cost</b>
<b>Decreased packaging cost</b>
<b>Lowered cost of production</b>
<b>Low maintenance cost</b>
<b>Reduced overall cost of organization</b>

**III. CONCLUSIONS**

By adopting GSCM practices, firms may enhance their operational performance through improving products quality and improving delivery service [15]. Green supply chain management initiatives also help organizations to improve their environmental performance such as reduction in carbon emissions, elimination of waste from end-to-end supply chain, effective and strong collaboration with suppliers would decrease their communication costs and easily promote reuse, recycling and remanufacturing [52]. Environment management system (EMS) integrated into firms’

manufacturing strategy will assist the firms to enhance its ecological performance

**REFERENCES**

[1]. Abdullah, F., 2003. Lean Manufacturing Tools and Techniques in the Process Industry with a focus on Steel. University of Pittsburgh.

[2]. Almgren R., Brorson T. & Enell M. (2008) Miljöarbetstärker affärerna!, Uppsala Publishing House AB

[3]. Atlas, M., & Florida, R., 1998. Green Manufacturing. Handbook of Technology Management.

- [4]. Bashir, M., Afzal, M.T., and Azeem, M., 2008. Reliability and Validity of Qualitative and Operation Research Paradigm. *Pak.stat.oper.res*, [Online] 4 (1), pp. 35-45. Available at: <http://www.pjsor.com/index.php/pjsor/article/download/59/38> [Accessed 11 October 2011].
- [5]. Beamon, B.M., 1999. Designing the Green Supply Chain. *Logistics Information Mngement*,
- [6]. Awasthi A, Kannan G. Green supplier development program selection using NGT and VIKOPR under fuzzy environment. *Computers and Industrial Engineering*. 2016;91:100-108
- [7]. Hu AH, Hsu CW. Critical factors for implementing green supply chain management practice: An empirical study of electrical and electronics industries in Taiwan. *Management Research and Review*. 2010;33(6):586-608
- [8]. Kaushik A, Kumar S, Luthra S, Haleem A. Technology transfer: Enablers and barriers—A review. *International Journal of Technology, Policy and Management*. 2014;14(2):133-159
- [9]. Wang Z, Sarkis J. Investigating the relationship of sustainable supply chain management with corporate financial performance. *International Journal of Productivity and Performance Management*. 2013;62(8):871-888
- [10]. Kim J, Rhee J. An empirical study on the impact of critical success factors on the balanced scorecard performance in Korean green supply chain management enterprises. *International Journal of Production Research*. 2012;50(9):2465-248
- [11]. Gunasekaran A, Irani Z, Papadopoulos T. Modelling and analysis of sustainable operations management: Certain investigations for research and applications. *The Journal of the Operational Research Society*. 2013;65(2):806-823