How Prepared is the "Fashion Capital of India" In Meeting the Challenge of Green Apparel Production?

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Abstract -The Companies with a concern towards environment and environmental regulations becoming more stringent are likely to adopt Green Supply Chain Management (GSCM) practices in apparel industry. With the end of Multi-Fibre Arrangement and Agreement on Textiles and Clothing, in Karnataka state of India especially Bengaluru, there is a strong base for the growth of apparel industry. Bengaluru is the garment capital of India and fashion capital of the east. The objectives of this article is to analyse the perception of apparel units toward green initiatives and the implications of adopting Green and Lean Supply Chain Management practices in addressing three pillars of sustainability namely economic, social and environmental issues. To analyse the objectives, the data is collected using key informant interviews and questionnaires. Qualitative data collection with quantitative content analysis is used. The study reveals that integrating green supply chain management is economically burden to a great extent. Although adoption of Green Manufacturing would be economically viable to certain extent, it is practiced because after the break-even point is reached the turnaround of the company is achieved. Bengaluru is a better destination for apparel exports provided it, focuses on infrastructure development, extend subsidies on use of non-conventional energy source, export concessions, tax concessions and reduction of corporate tax on green apparels and strong legislations to discourage the use of hazardous chemicals

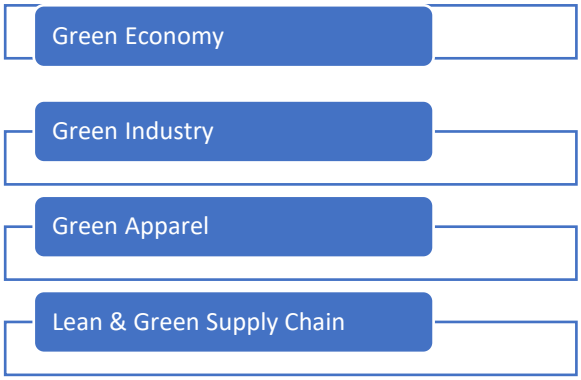
Key Words: Green Industry, Green Apparels, Lean and Green practices.

INTRODUCTION

Environmental Degradation and Sustainable Development:

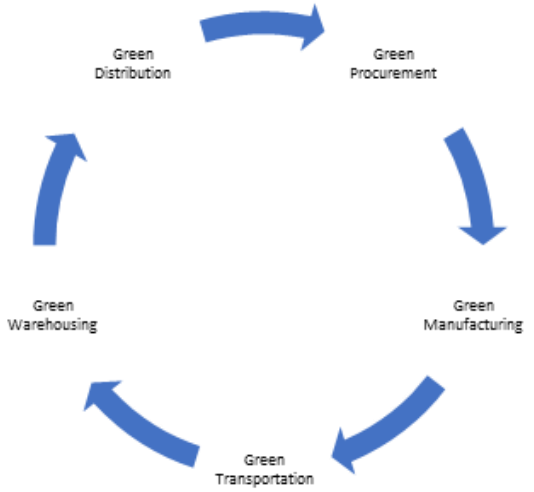
Rapid economic growth and the resultant increase in income and consumerism has given rise to resource depletion and acute environmental degradation. Green economy can be considered to meet sustainable development goals. Green Industry is one of the important components of green economy. The United Nations Industrial Development Organisation, insists that every country should increase their participation in international trade while simultaneously safeguarding their environment to reduce poverty, through sustainable industrial development. Among green industry, apparel industry holds a unique position especially in a developing country like India, which is in the phase of demographic dividend. But due to fast fashion, clothing is becoming trendy and less expensive. At each stage of product life cycle, due to large quantity of products manufactured, used and disposed, fast fashions generate environmental and occupation related hazards and is contributing to 10% of global carbon emissions. In Karnataka state of India especially Bengaluru which is the garment capital of India and fashion capital of the east, attracts foreign direct investments from foreign apparel manufacturers due to brand image and good reputation it has carved in the global market after Delhi and Mumbai. Therefore Green and lean supply chain practices have to be adopted in apparel industry to mitigate carbon footprint.

Integration of Lean & Green Supply Chain Management

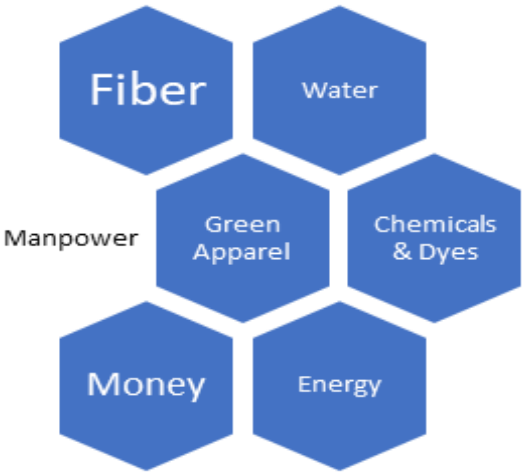


The economic implication of, integration of Lean and Green practices in apparel product life cycle provides a number of benefits to the customers in terms of reduction in cost and price, reduction in waste and increase in profits to the manufacturers or suppliers and reduction of waste and environmental degradation from environmental perspective.

Green Supply Chain Practices consists of Green Procurement, Green manufacturing, Green Transportation, Green Warehousing and Green Distribution as explained in the cycle below.



The flow chart below explains the management of six key inputs- Cotton(natural fibre), Water, Chemicals and Dyes, Energy, Money and Manpower under Lean & Green Supply Chain Management so as to enable the production of green apparels.



Author's Flow chart

REVIEW OF LITERATURE

Lean is a systematic approach to identify and eliminate waste through continuous improvement of the product at the demand of the customer (Sanchez and Nagi 2001; Mazedul Islam et al 2013).

Islam etal.(2014) observe that make-up also known as cut-make-trim, involves cutting the garment pattern out of fabric, sewing it together, and then adding any trim or embellishments. By eliminating waste in the overall process, the product's manufacturing sustainability can be increased remarkably.

In his study, Ranjith Karthick (2011) adopts a model which integrates lean and Green Supply Chain Management / Advance Lean system and analyses wastes in the life cycle process in small scale industries such as, food processing, garment and automobile industry in Tirupur and Coimbatore respectively.

A similar research study by Lakshmi Meera B.L et al (2016) collected through structured interview, found that in 45 textile and garment companies out of 122, LSCM and GSCM practices was above the defined standards and GSCM practices and LSCM practices had positive influence on the environmental performance.

OBJECTIVES

To analyse the perception of apparel units toward green initiatives and the implications of adopting Green and Lean Supply Chain Management practices in addressing three pillers of sustainability namely economic, social environmental issues.

METHODOLOGY

The study has collected data on garment units concerning green manufacturing process. Interviews are a major source of information for this study. The primary data is collected through interviews and questionnaires of key informants such as the, Business heads, Human resource managers, Merchandisers, floor managers, designers, workers and the like. Qualitative data collection and quantitative content analysis is used to analyse the objectives.

FINDINGS

The study reveals that

- integrating green supply chain management is economically burden to a great extent. Although adoption of Green Manufacturing would be economically viable to certain extent, it is practiced because after the break-even point is reached the turnaround of the company is achieved.
- With regard to dyes, prohibited dyes and chemicals by the pollution control board are not used
- Karnataka particularly Bengaluru stands to gain from the end of Multi-Fiber Arrangement and Agreement on Textiles and Clothing. The foreign buyers prefer apparels from Bengaluru after Bombay and Delhi due to the brand image they have attached to it due to adhering to environmental compliance.
- Bengaluru is now emerging as the new centre for the farm to fashion movement to support the cause of Zero waste design philosophy, handlooms, organic fabrics and natural dyes from plants

SUGGESTIONS

- Integrated textile parks and mega projects with common effluence treatment plant, sewage treatment plant and other environmental conservation facilities have to be developed. To reduce Logistics cost, the government should invest on infrastructure development.
- Additional financial incentives in the form of power subsidies to industries using non-conventional source of energy. Export concession, tax concession and reduction in corporate tax should be provided to green apparel industry to encourage the manufacture of green apparel
- Above all strong legislation to discourage use of hazardous chemicals and dyes should be strictly implemented.

CONCLUSION

Over the years, environmental regulations are becoming stringent. Consumers are becoming more health and environmental conscious. This has prompted the industries to manufacture green apparel. Since India has the advantage of demographic dividend and currently the trust is on encouraging higher education, there is tremendous scope for the growth of apparel sector as it is the second largest employment provider after agriculture.

Karnataka particularly Bengaluru which is the garment capital and fashion capital of the east stands to gain from the end of Multi-Fiber Arrangement and Agreement on Textile and Clothing and is well prepared to meet global challenges in apparel industry.

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