

**Influence of Green Supply Chain  
Management (GSCM) Practices on  
GSCM Performance of the  
Manufacturing Sector in Sri Lanka**

By

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### Student Declaration

The work described in this research was carried out by me under the supervision of Dr. (Mrs) Amila Jayarathne and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree or Diploma.

A handwritten signature in blue ink, appearing to read 'B. Thilini Jayasuriya', is written over a horizontal dotted line.

B.Thilini Jayasuriya

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# Influence of Green Supply Chain Management (GSCM) Practices on GSCM Performance of the Manufacturing Sector in Sri Lanka

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## ABSTRACT

Concern for sustainability has become important than ever before. As in most developed and emerging economies, Sri Lankan firms place a high importance in focusing on the environmental aspect in order to ensure long term survival in the business environment.

This study aims at identifying whether there is an impact of implementing green supply chain management (hereafter referred to as GSCM) practices on GSCM performance, in terms of environmental, operational and financial among manufacturing firms in Sri Lanka. The central research question of this study is 'whether implementation of GSCM practices results in higher GSCM performance'. The main objective of the study is to examine the influence of GSCM practices on GSCM performance, followed by five specific objectives. A survey research was carried out using structured questionnaire collecting data from a sample of 106 (n=106) manufacturing firms in Sri Lanka operating in different industries including garments, automobile, food and beverage etc.

Survey data collected are first used to validate the measurement properties and then hypotheses were tested. A significant relationship between GSCM practices and performance was observed. Further, this study reveals a moderate level of GSCM adaptation in Sri Lankan manufacturing firms. In addition, the moderating impact of the

size of the firm on the relationship between GSCM practices and GSCM performance was also examined, but found that the size does not moderate such relationship. Thus, the results of this study support the view that GSCM practices do influence the GSCM performance of firms, ensuring growth and survival, regardless of the size of the firm.

The key findings were compared with prevailing literature based on developed and developing countries and managerial implications were drawn as to how GSCM practices can be adapted by manufacturing firms in future for better GSCM performance, which would lead to yield competitive advantages.

# Chapter 1

## INTRODUCTION

### 1.1 Background of the study

Running a business that entirely focuses on performance and gaining profits would no longer enable a firm to survive in this turbulent environment. Thus increase in globalization in every corner of the world has lead most of the firms to recognize the importance of pursuing Green Supply Chain Management (GSCM) practices especially in relation to supply chain management which not only result in environmental benefits but also business benefits (Laosirihongthong, Adebajo & Tan 2013).

As far as the Sri Lankan business context is concerned there is less evidence in terms of adaptation of green supply chain management practices, green supply chain performance and the influence of GSCM practices on GSCM performance, though Sri Lanka has been noted as one of the important countries to investigate the above noted areas by some scholars (e.g. Zhu & Sarkis 2004; Mitra & Datta 2013)

Firms generally commence with initiating GSCM practices within the internal systems of a firm. In fact, firms need to ensure that there is proper coordination and communication across functional departments so that adapting green initiatives would add value to the supply chain (Zhu & Sarkis 2004). Once the firm becomes established with internal practices, it should then focus on collaborating with customers (downstream of the supply chain) towards environmental concerns by building long lasting relationships which would make the customer loyal to the firm. Next, the firm needs to interact positively with its suppliers in order to implement GSCM practices along the supply chain. Suppliers need to be encouraged towards purchasing eco friendly materials.

The majority of firms, despite being production or service oriented are increasingly recognizing the importance of adapting green supply chain management practices in order to be financially, environmentally and operationally benefited. One main reason for firms to implement GSCM practices is the pressure they get from customers both B2C and B2B requesting for eco friendly products. A dramatic increase in green purchasing can be witnessed in the Sri Lankan context, where customers try to purchase and acquire products and services which have a minimal negative impact on the environment.

In addition some firms themselves believe that practicing such activities from the point of receiving raw materials until the finished good is delivered to end customer will help customers to differentiate the specific firm from competitors. Moreover some firms have decided to go green, with the intention of reducing waste.

Moreover, other stakeholder groups like government have also exerted pressure to firms in adapting GSCM practices in reducing negative environmental impact.

These factors have increasingly contributed towards adapting GSCM practices despite it being high costly and low flexible. Nevertheless, this study primarily aims at understanding the impact GSCM practices, would possibly have on GSCM performance, in terms of environment, financial and operational since no previous studies were found in relation to the Sri Lankan context.

In specific, the Sri Lankan manufacturing industry has been selected since it contributes towards a relatively higher level of resource consumption and waste release. In fact, according to Frosa & Venili (2002), manufacturer has being identified as the best person to study in the supply chain, since it utilizes resources to a greater extent.

## **1.2 Problem Statement**

To compete successfully and to ensure long term survival it is important for organizations to well manage its supply chain activities. However, in today's complex and dynamic business environment, managers need to focus more on GSCM practices on a regular basis as customers are shifting towards environmental concerns than ever before. Zhu, Sarkis & Lai (2012) argue that increasing in both institutional and technical pressures have made firms to focus on GSCM practices. Hence failure in implementing such practices may result in negative consequences for the entire business because of heavy competition and availability of substitutes.

Moreover, scholars argue that 'balancing economic and environmental performance had become increasingly important for organizations facing competitive, regulatory and community pressures' (Shultz & Holbrook 1999). These views on GSCM make it realize the importance of adapting GSCM practices in order to be sustainable.

In addition, firms no longer depend only on the conventional methods of financial measures to monitor performance. Rather, performance is being measured via other means like supply chain performance, with greater concern given to GSCM performance (Xiao 2006) which is mostly influenced by adaptation of GSCM practices.

The considerable amount of the prevailing studies is based on Asian countries like China and India, where mass production is catered (Zhu & Sarkis 2004, Mitra & Datta 2014). Even though Asian context has been recognized as the area for GSCM, Sri Lanka being one of the Asian suppliers for some international markets (eg. Tea, Clothing) has not been given

much attention in the literature to investigate the GSCM. The Sri Lankan context certainly requires investigation on this area, since Sri Lanka is one of the leading manufacturers and suppliers of commodities like garments, tea and cinnamon to many of the nations around the globe.

Thus, Rao (2002) discloses the importance of adapting GSCM practices in the Asian context, in order to enhance GSCM performance. It is pointed out that 'since a major portion of the world's manufacturing will be taken place in Southeast Asia in the coming decade, GSCM practices will be even more critical'.

These reflect the need of carrying out a research to investigate GSCM practices and performance of the manufacturing sector in the Asian context, in particular in Sri Lanka. Therefore the purpose of this study is to examine the influence of GSCM practices on GSCM performance among Sri Lankan manufacturing firms, since green supply chain management has become an important operational concept, in which firms try 'to balance between environmental performance with productivity and GSCM performance gains' (Yu et al. 2014).

Furthermore, scholars have argued in prevailing literature that the size of the firm may play moderating role on the relationship between GSCM practices and performance based on developed and developing countries (Paik 2011; Seman 2012; Thakkar et al. 2008). However, no comprehensive published study had been carried out in the Sri Lankan context, though existing literature reflects that the size of the firm influence GSCM practices and GSCM performance differently. As such, this study expects to address such