Chapter 11
Analysis of the Barriers to Green Supply Chain Management Implementation:
An Application on the BIST Sustainability Index

Merve Eser
Arel University, Turkey

Gülay İrak
iD https://orcid.org/0000-0002-0756-7937
Bulent Ecevit University, Turkey

ABSTRACT

The statistical analysis of the data obtained by the survey method was performed with SPSS 22.0 program. According to the findings of the research, the most important barriers in the implementation of green supply chain management are green projects with high investment costs in construction, changing facilities and equipment, as well as the international crisis and economic downturn. These barriers are raw material costs are higher in green applications, green projects having high operating costs, and high prices in green applications unable to compete with lower prices of competitors, respectively. Another finding of the study is that there is no significant difference between the implementation status of the green projects and the duration of the export activity on the barriers encountered in the implementation of GSCM.

INTRODUCTION

Conventional supply chain management focuses on the final product, without considering environmental degradation. In contrast, green supply chain management reorganizes environmental concerns and supply chain activities within the framework of environmental management principles. Companies that adopt the green supply chain may face some restrictive factors in the transition from the traditional supply

chain to the green supply chain. These constraints, defined as barriers, adversely affect the success of "green" initiatives. Barriers face to green supply chain management vary according to the size of the business and the area in which it operates. Therefore, companies that have adopted the "green" initiative should first try to eliminate barriers by identifying them according to their field of activity and size. In this study, operating in different sectors in Turkey "green" initiative adopted in the company of green supply chain management practices most frequently encountered barriers has been revealed as a result of an extensive review of the literature. The contribution of this study is provided with to be handled companies operating in different sectors related to barriers encountered in the management of green supply chain in Turkey. In the first part of the study, the green supply chain management and the barriers faced by the companies in the green supply chain management are discussed at the conceptual level. Then, the literature on the barriers encountered in green supply chain management was tabulated and explanations about the methodology followed in the study were made. Finally, the analyzes conducted according to the method of the research are presented with the results and the results obtained are summarized and recommendations are made for future studies.

CONCEPTUAL FRAMEWORK

In this part of the study, the barriers encountered in green supply chain management and implementation are expressed in a conceptual framework.

Green Supply Chain Management (GSCM)

In 1990s, as a result of the increase in the trade volume of products and services at national and international level, enterprises became inadequate to manage their own companies. In this way, the companies have started to strengthen the practices in which back and forward processes are integrated, which include all processes suppliers ensure raw material as well as the delivery of the final product to the consumer and after-sales processes. Thus, the companies started to control the processes before and after production efficiently by combining all functions under one roof. In this context, the concept of supply chain was born with the need to create a structure in which all components are connected to a single network and to control this structure transparently in order to meet the increasing consumer demand and provide competitive advantage (Baki, 2018). However, due to the decrease in raw material resources due to industrialization, increasing social pressures on effective environmental management due to increased environmental pollution, legal measures on packaging and green consumption, the supply chain activities have directed the attention to the impact on the natural environment and to create environmental performance changes (Muduli et al, 2013). Thus, the concept of green supply chain, which evaluates business processes in traditional supply chain management in the most efficient way with an environmental perspective, has emerged (Thun & Müller, 2010). The concept of GSCM dates back to the 1960s in the context of environmental management. However, the concept was put forward as a new discipline after the 1990s. The popularization of the green supply chain approach has been due to the increase in academic studies carried out in this field after 2000 (Tseng et al 2019; Zhu, & Sarkis, 2006). In the period of rapid industrialization that coincided with the 1960s after World War II, the use of resources by neglecting the environmental factor caused the ecological balance to deteriorate. Therefore, at the end of the 1960s, the concept of environmental management was started to be discussed. In the

Related Content

The Decisions on Backup Supply in the Presence of Supply Disruptions
Jing Hou, Amy Z. Zengand Lindu Zhao (2012). *International Journal of Information Systems and Supply Chain Management (pp. 21-38).*
www.irma-international.org/article/decisions-backup-supply-presence-supply/65544

An Extensive Group Decision Methodology for Alliance Partner Selection Problem in Collaborative Networked Organisations
Selin Soner Kara, Omar Ayadiand Naoufel Cheikhrouhou (2012). *International Journal of Applied Logistics (pp. 1-19).*
www.irma-international.org/article/extensive-group-decision-methodology-alliance/62261

AI-Powered Web Solution for Disaster Risk Management
Yatri Davda, Ruchita Khilariand Swapnali Gaikwad (2025). *Ecological and Human Dimensions of AI-Based Supply Chain (pp. 175-194).*
www.irma-international.org/chapter/ai-powered-web-solution-for-disaster-risk-management/371065

The Impact of a Manufacturing Execution System on Supply Chain Performance
Michael Krausand Dimitris Folinas (2022). *International Journal of Applied Logistics (pp. 1-22).*
www.irma-international.org/article/the-impact-of-a-manufacturing-execution-system-on-supply-chain-performance/286160

The Effect of Reverse Logistics Activities on Brand Equity and Customer Satisfaction: A Case Study in Turkey
Gözde Yanginlar (2020). *Handbook of Research on the Applications of International Transportation and Logistics for World Trade (pp. 395-414).*
www.irma-international.org/chapter/the-effect-of-reverse-logistics-activities-on-brand-equity-and-customer-satisfaction/245400