

The Effect Of Factors On Green Supply Chain Management Implementation In Northern India's Small And Medium-Sized (Smes) Leather Industries

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ABSTRACT

Environmentally friendly supply chain management is concentrated the responsibility of an organisation in appreciating overall ecological consequences of production from the acquisition of raw materials, use of the product, and eventual disposal are all parts of its whole life cycle. This study intends to outline the demands on Northern Indian small- and medium-sized leather industry to adopt green supply chain management. Literature reviews and input from leather industry specialists help outline the factors that facilitate the implementation of green supply chain management. Standard deviation, correlation, and regression analysis were used to examine the quantitative data. The results of this investigation showed that the industries do not plan to green the complete supply chain (SC) system through management commitment, green purchasing and marketing strategies, eco-friendly proposals, or environmental practises. The leather industry has strict environmental policies and protocols, yet despite this, the industry continues to break the law because the relevant bodies have not taken any action. This research paper suggests that the relevant departments create an appropriate monitoring structure and a consolidated green supply chain technique to minimize the issues and encourage balanced economic growth.

Keyword: Green Supply Chain, Leather Industries, Standard Deviation, Procurement, Emissions, Greenness, Regression, Emissions.

Introduction

According to Karn and Harada (2001), the tannery industry has mostly been moved developed world to underdeveloped world as a result of its environmental sensitivity. Due to the abundance of locally produced raw materials, this industry has thus been formed in India. Although the business generates sizable amounts of foreign currency through exports each year, it is under intense pressure from government regulations as a result of degradation of the environment (Arias-Barreiro et al., 2010). Despite having a large economic potential, government regulations prevented the industry from growing substantially. If the environmental challenges were adequately addressed and resolved, the sector might easily succeed in terms of generating more income. Along with governmental regulations, the business is under additional environmental pressure from globally and domestically aware consumers. As a result, the industry must immediately address the environmental challenges. Manufacturers can survive environmental regulatory pressure, according to Tseng et al. (2014), by integrating environmental issues into their supply chain practises. Green supply chain management (GSCM) are practises in the supply chain that incorporate environmental considerations (Sarkis et al., 2011). As a result, GSCP implementation can enhance environmental performance and increase industry sustainability. However, the absence of a GSCM assessment approach in implementing and monitoring GSCM in the leather industry has become difficult for practitioners due to the literature. Because of this, a growing number of leather industries in North India are continually seeing the widespread approaches to enhance their supply chain network in order to boost productivity and increase environmental performance. The majority of businesses have realized their obligations and began applying various eco-friendly strategies, such as cleaner production, ISO accreditation, etc., to achieve their environmental goals.

Also, "green practises" are being promoted by India's manufacturing sectors.

Literature Review

According to Tseng (2009), supply chain management now includes environmental considerations as a distinct and developing subject. To help operations managers gain a competitive edge and enhance their environmental performance, Govindan et al. (2015a) offered GSCM as a practical approach. According to Rao and Holt (2005), in order to improve environmental performance, reduce expenses, and minimise waste, GSCM fosters efficiency and synergy among partner businesses. In response to environmental pressure from domestic and global agencies, the GSCM takes proactive action by successfully achieving the environmental goals. The objective of the study is to evaluate GSCM in the North Indian leather sector and determine the key GSCM features that must be used. What is the best way to deal with GSCM, is the question? The phrase "green supply chain management" (GSCM) refers to the process of integrating environmental considerations or worries about corporate purchasing choices and long-term supplier connections. An environmentally friendly supply chain aims to keep wastes confined inside the industrial system in order to conserve energy and prevent the release of dangerous materials into the environment (Torres, Nones, Morques, & Evgenio, 2004). Green purchasing, manufacturing, packing, distribution, and marketing are all combined within GSCM. According to Olugu, Wong, and Shaharoun (2010), Reducing or eliminating waste in the forms of energy, emissions, hazardous materials, and solid waste is the aim of GSCM. It is essential to have a competitive supply chain nowadays in order to have a product that is competitive in the market (Cabral, Grilo, and Cruz-Machado 2012). This supply chain must be connected with LAGR concepts. In order to find the top partners who care about the environment and prioritise the critical preferential standards, Rostamzadeh et al. (2015) used a fuzzy VIKOR approach to examine a Malaysian laptop manufacturer's GSCM. To examine the impact of GSCM criteria, Wu et al. (2015) used fuzzy -DEMATEL to analyze GSCM in the Vietnamese automobile manufacturing business. In order to determine the perceived impact of GSCM on organizationally sustainable performance, Kusi-Sarpong et al. (2016) used an analytical network process (ANP) and fuzzy-DEMATEL. According to their significance and performance level, earlier studies, however, were unable to determine the current stage of GSCM implementation. The leather sector may not be using GSCM to its full potential, for this reason. The key GSCM must also be identified in order to improve performance. Currently, there is pressure on the sector to perform better environmentally. To reap the benefits of the implementation of GSCM, it is necessary to make consistent efforts and get through change resistance. Difficulties are the resistance that a current system presents to a change in systems or processes, and various studies have attempted to identify and connect the difficulties implementing the GSCM. To determine the relative relevance of the various barriers in relation to one another, the methodologies used to further categorise them include cross impact metrics multiplication (MICMAC) (A. Jayant, M. Azhar, 2014).

The core concept has remained the same despite the fact that numerous research studies have used different nomenclature to identify the various parts of the manufacturing process and supply chain. Since reducing environmental effect is everyone's top priority, GSCM has been accepted since it covers all operations, from source materials to product disposal or reuse (S. Kumar, S. Chattopadhyaya, V. Sharma, 2014). In order to dispose of the materials produced at the end of a product's life in the most environmentally friendly way, an organisation takes them back. This is known as reverse logistics. Reverse logistics, green manufacturing, packaging, and green purchasing are all part of GSCM (A. Jayant, A. Tiwari, 2017). This study makes three contributions to the body of literature already in existence. First, this study has created a brand-new tool for measuring GSCM in the leather sector. Second, the methodology employed to evaluate the GSCM is brand-new. In terms of technique, this work thus adds to the corpus of knowledge. Third, the information from developing nations advances our understanding of the world. Additionally, there aren't any academic studies on GSCM from an Indian perspective (Malviya and Kant, 2015). As a result, the current study expands on literature from the perspective of developing nations.

Problem Description

A lot of research has been done in the field of GSCM, as is seen from the literature. It is sad that the industrialised sector in India is still not fully supporting the GSCM idea. The importance of the leather industry in the north Indian economy is well known, along with the importance of the yarn and fabric industries. North Indian leather industry are being quickly reformed, yet they are still resistant to the idea of GSCM. Extreme environmental contamination is brought on by the emissions produced by the tanning businesses. Authorities from the PCB (Pollution Control Board) claimed in a statement that the leather industry obtained a low grade in the green grading system, and the supply chain had a substantial impact on the industry's deteriorating green rating. Therefore, it's crucial to pinpoint the forces that encourage industries to migrate from conventional to environmentally friendly supply chains and aid companies in implementing GSCM systems.

Conceptual Framework

The theoretical framework is based on the exploratory questions and assumptions mandates solid commitment, eco-friendly supply chain practices, and environmentally conscious design (such as green manufacturing, marketing, distribution, and green purchasing) have an impact regarding economic, social, and environmental performance.

EXPERIMENTAL

Using a triangulation illustrative technique, the exploration's conclusions were discussed. Quantitative and qualitative information was combined to respond to the exploratory questions. As a result, the performance of the leather industry in Northern India was examined using a descriptive exploration design. In this work, the pollution control board, the industrial department, and the administrator of the leather industries serve as the population for analysis. 15 leather industries were found in Northern India's leather industry database. In order to boost the likelihood of switching from the traditional supply chain approach to a green supply chain method, a carefully constructed set of questions was created. Authorities in the leather business (managers) were sent the specially created questionnaires, and they were thoroughly educated on how to rate the various elements using a five-point scale. Numerous techniques (including mean, standard deviation, correlational, and regression methods) were used to analyse the data in accordance with the responses received.

The following table shows the grading points:

Table-1: Grade Points and their Remarks

| S. No. | Grade Points | Remarks |
|--------|--------------|-------------------------------|
| 1 | 03.5 to 05.0 | Fully Relevant Factor |
| 2 | 02.0 to 03.4 | Presently Considerable Factor |
| 3 | 01.0 to 02.0 | Unconsidered Factor |

RESULTS AND DISCUSSIONS

A thorough research was done. The research revealed their individual mean and standard deviation values, and the following tables provide comments on these findings.

Table-2: Effects related to Organizational Commitment

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|---|------|----------------|--|
| 1 | Commitment from the top Management | 3.46 | 0.85 | The end result demonstrates how seriously top management is taking the issue of greening the whole supply chain. |
| 2 | Interdisciplinary teams to reduce environmental consequences. | 3.58 | 0.83 | The outcome demonstrates that cross-functional teams can cooperate. |
| 3 | Effects of the green initiative performance, employee evaluation, and compensation. | 3.19 | 0.82 | reveals that there is a need for greater training and awareness as well as evidence of the employees' varied perspectives. |
| 4 | EMS, or environmental management systems | 3.34 | 0.77 | The findings indicate that now leather/tannery industries are taking the green idea into consideration to better environmental management. |

Table-3: Eco-Design related issues

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|--|------|----------------|--|
| 1 | Products made to reduce energy use | 2.72 | 1.33 | The outcome demonstrates that leather companies use less energy and little material while designing products. |
| 2 | Products made with recycling and reuse in mind | 2.15 | 0.97 | The findings show that very few leather industries have considered recycling. |
| 3 | Designing things to support the natural environment. | 2.77 | 1.25 | By minimizing the use of harmful and dangerous components in product design, industries are enhancing the environment's eco-friendliness, according to the value received. |

Table-4: Issues relating to Green Marketing and Procurement

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|--|------|----------------|---|
| 1 | Cooperation between suppliers and environmental goals | 2.02 | 0.97 | The outcome demonstrates that industries want to consider green procurement in order to green the entire supply chain. |
| 2 | Auditing the environment | 2.05 | 1.09 | |
| 3 | Certification for ISO 14000 by Vendors | 1.85 | 0.93 | |
| 4 | Customer involvement in Eco-Design and Energy Efficiency | 1.77 | 1.17 | The outcome indicates that businesses are considering making green marketing a distinguishing part of GSCM in the future. Additionally, it demonstrates how industries are compelled by consumer awareness to convert their traditional systems into environmentally friendly ones. |
| 5 | Consumer support for environmentally friendly packaging | 1.72 | 1.18 | |

Table-5: Environmental Performance outcome

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|---------------------------|------|----------------|---|
| 1 | Air emission reduction | 2.77 | 1.08 | Results show that organizations are somewhat interested in lowering all specified parameters. |
| 2 | Water Pollution reduction | 3.04 | 0.43 | |
| 3 | Reduction of solid waste | 3.28 | 0.64 | |
| 4 | Reduction of accidents | 3.39 | 0.76 | |
| 5 | Recycling of Materials | 3.43 | 0.88 | |

Table-6: Result of Economic Performance

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|---|------|----------------|--|
| 1 | Cost reduction for energy use | 2.75 | 1.58 | The findings show that the enterprises are somewhat motivated to cut costs in order to satisfy economic performance. |
| 2 | Cost savings when buying materials | 3.09 | 1.22 | |
| 3 | Reduced charge for offal treatment | 3.08 | 1.05 | |
| 4 | Environmental conditions have improved overall. | 3.48 | 0.98 | |

Table-7: Result of Social Performance

| S. No. | Standard | Mean | Std. Deviation | Result Discussion |
|--------|------------------------------------|------|----------------|-------------------|
| 1 | Professional Conduct | 3.96 | 0.76 | Ordinary |
| 2 | Participation in Social Work | 3.92 | 0.68 | Significant |
| 3 | Providing employment possibilities | 3.74 | 1.09 | Significant |
| 4 | Obeys governmental law | 2.03 | 1.58 | unimportant |

CONCLUSION

Research on GSCM is now being done theoretically for the leather sector. This article attempts to investigate the GSCM framework in Northern Indian SMEs operating in the leather sector. A modest study of Northern India's Medium-Sized and Small Leather Industries has been done. By examining the outcomes through a questionnaire survey, the study's findings can identify the demands for implementing GSCM practises on Medium-Sized and Small Leather Industries. According to the findings of this article, stakeholder cooperation (SHC) is the crucial factor and possesses unrivalled persuasive power for the implementation of a green supply chain management in North India Leather/Tannery Industries. Additionally, it was shown that implementing green supply chain management presents significant financial problems as well as a shortage of qualified labour reserves and barriers to technology adoption. Other problems cited by respondents in implementing green supply chain management in North Indian leather sectors include customer ignorance, vendor resistance to moving towards GSCM, and a lack of government funds and laws.

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