

## **Sustainable supply chain management: An empirical study to evaluate success, challenges and current trends**

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### **Abstract**

The article's goal is to investigate how sustainable supply chain management (SSCM) affects the financial success of Indian businesses. Data from the top 100 BSE-listed companies by market capitalization were used in the empirical investigation. To examine the idea of "life cycle sustainability of goods and services," content analysis is used. To test the theories, hierarchical linear regression is used. The findings show that the two SSCM activities that have the biggest beneficial effects on the company's financial performance are resource utilisation and sustainable sourcing. The article provides advice on how to concentrate on tasks that raise shareholder value. As required by the regulators of sustainability reporting, this is the first study to concentrate on sustainable supply chain activities at the micro level and investigate the effects of such activities on the financial performance of Indian companies.

**Keywords:** Sustainable Supply Chain Management (SSCM), financial performance, Sustainability Reporting

### **1. Introduction**

According to this paper, sustainable development refers to meeting current needs without compromising our ability to meet those of future generations. The needs of the firm's stakeholders, including as shareholders, customers, investors, suppliers, authorities, groups, communities, and so on, must be met in order for a firm to meet its current obligations.

However, focusing just on shareholder economic objectives will not result in sustainability as this will worsen the environment and impact societal welfare. Therefore, it becomes necessary to balance all three pillars, or the triple bottom line approach, which is also known as the firm's economic goals, societal goals, and environmental goals.

On the basis of the proforma of the Business Responsibility Report (BRR) provided by the Security Exchange Board of India (SEBI) and the literature already in existence, the SSCM activities have been divided into numerous activities at the micro level (Carter & Roger, 2008; Golicic & Smith, 2013). Esfahbodi, Zhang, and Watson (2016) evaluated SSCM based on sustainable production, distribution, procurement, and logistics in reverse. In other words, the supply chain combines elements from the upstream or supply-side, the downstream, or customer-side, and the operations, which are located in the middle (Jonsson, 2008). This will assist in determining which SSCM activity or activities are more important to the company's

financial performance Figure 1 shows various Sustainable Supply Chain Management Elements.

<b>Supply Chain Planning</b>	Supply Chain Design	Demand Planning	Supply Planning	Distribution Planning	Production Planning	Forward/Reverse Transportation Planning
<b>Supply Chain Execution</b>	Materials Management	Manufacturing	Order Promising and Delivery	Warehouse Management	Forward/Reverse Transportation Execution	Foreign Trade/Legal Services
<b>Supply Chain Coordination</b>	Supply Chain Event Management		Supply Chain Performance Management	Fulfillment Coordination	Returns Coordination	
<b>Supply Chain Collaboration</b>	Collaboration Processes		Supply Chain Integration		Waste/Recycling Management	

Figure 1: Supply Chain Management Elements (adapted from S. Bansal, 2009)

## 2. Theory Building and Research Hypothesis

### 2.1 A Supporter of Sustainable Development is Stakeholder Theory

Stakeholders are the people or entities who have an interest in the organisation, either directly or indirectly. An organisation has a variety of direct and indirect stakeholders, including shareholders, employees, clients, advocacy groups, communities, and more (Dyllick & Hockerts, 2002). Because stakeholders' pressure may persuade a company to adopt some SSCM practises that are initially economically unfavourable, stakeholder theory is particularly pertinent to SSCM (Sarkis, Zhu, & Lai, 2011). The Global Reporting Index (GRI), non-governmental groups, governing bodies, the press and media, as well as the general public, have recently increased pressure on businesses to include sustainability into their operations.

### 2.2 Sustainable Sourcing

Basically, it means ensuring that a company's supply chain exhibits the same social and environmental performance. The business is required to list all the initiatives it oversees and all the procedures it has put in place to promote the sustainability of its supply chain, including transportation projects like the use of CNG trucks to reduce pollution. Relationships between buyers and suppliers are associated with improved operational performance for the company. This might occur as a result of the supplier and purchasing managers forming close bonds based on shared socially responsible principles. Sustainable sourcing involves obtaining materials from the closest source possible, which would lower prices by cutting down on transportation expenses. Sustainable sourcing may therefore lead to improved financial results. Consequently, the following theory has been put forth:

*Hypothesis 1: The company's financial performance is positively and significantly impacted by sustainable sourcing.*

### 2.3 Sustainable Procurement

This activity refers to the procedures used to buy goods and services from regional producers, including the neighbourhoods close to the workplace. BRR defines "local" as making a purchase from a location that is as close as practicable if a product of comparable quality is offered. Small refers to independent businesses with a worker as the owner, self-help organisations, or remote employees who work from home. Through a rise in sales and market share, sustainable procurement improves financial performance. From the debate above, the following theory has been put forth:

*Hypothesis 2: The company's financial performance is positively and significantly impacted by sustainable procurement.*

### 2.4 Sustainable Production

This activity, according to BRR, emphasises ways to recycle the goods and waste produced during operations. Sustainable production refers to the practises that businesses use to recycle their products, including the packaging, after consumers have used them. According to Aguilera-Caracuel and Ortiz-de-Mandojana (2013), technological advancement reduces energy use and recycles waste, helping to promote sustainability and improving a company's financial performance. The corporation may save money as a result of energy conservation and recycling because they can be applied to other parts of the production process. In light of the foregoing discussion, the following theory has been put forth:

*Hypothesis 3: The financial performance of the organisation is positively and significantly impacted by sustainable production.*

### 2.5 Sustainable Product/Projects

This activity sheds focus on the initiatives and goods created by the company that benefit society. These programmes and products need to be secure and support sustainability throughout their entire life cycle.

*Hypothesis 4: Sustainable initiatives and products have a negative and significant effect on the business's financial success.*

### 2.6 Resource Utilization

More than half of all costs and greenhouse gas emissions are incurred by supplier networks of manufacturing enterprises. It is crucial to take into account the cost and environmental change analysis since suppliers are more closely related to environmental change. We believe that better resource management will result in improved financial performance. Hence:

*Hypothesis 5: Utilizing resources effectively and efficiently benefits the company's financial success.*

### 2.7 Resource Saving

Resource conservation highlights how customers can conserve resources (such as water and energy) while using a product. Green customer cooperation, according to Vachon and Klassen (2006), improves environmental performance. According to Geng et al. (2017), operational performance and green customer collaboration are closely related. However, businesses must spend money on training initiatives to inform customers about resource conservation. Possible consequences include declining financial performance. To show customers the advantages of resource conservation, businesses may need to invest in advertising; this could increase expenses. However, it can result in lower costs for the customer. Hence:

*Hypothesis 6: The Company's financial performance is significantly and negatively impacted by the resource savings.*

### 3. Research work and Discussion

To identify the SSCM actions that improve the financial performance of the organisation, it is necessary to do micro-level research. The following goals are the main emphasis of the current study:

1. To research how sustainable supplier chains affect Indian business performance financially.
2. To assess the actions influencing the firms' financial performance in light of the required sustainability reporting.

Figure 2 presents the earlier-discussed hypotheses.

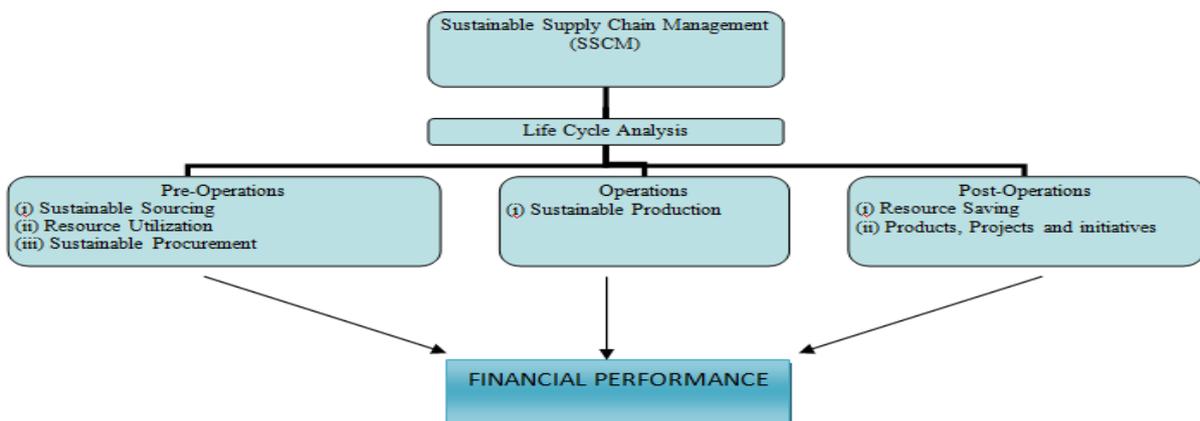


Figure 2: Sustainable Supply Chain Management and Financial Performance

#### 4. Methodology

The BRR's (Business Responsibility Report) principle of "life cycle sustainability of goods and services" has been analysed using content analysis to meet the article's goals. Multiple regression analysis has also been done to determine how SSCM operations have affected the companies' financial performance.

#### 5. Analysis and Interpretation

Sustainable sourcing and resource usage are the two main practises that help the financial success of the businesses. These two actions are a part of the SSCM's upstream activity.

#### 6. Conclusion

The study's findings have ramifications for the businesses. In order to have greater financial performance, managers of all organisations should first concentrate on sustainable activities because these practises raise the company's Tobin's q. In order to raise their company's shareholder value, businesses must get their materials from vendors that have received certification proving that they adhere to environmental norms. Third, in order to achieve greater financial performance, businesses must concentrate on reducing their use of energy, water, and raw materials. Fourth, businesses must concentrate on transporting raw materials from the closest available supplier.

#### 7. Scope for Future Research

The current study focuses on interventions that are particular to processes, including life cycle analysis. Process-specific interventions, according to Sybertz (2017), are supply chain initiatives used to improve economic, social, and environmental performance (TBL dimensions). Using issue-specific interventions, such as energy and fossil fuel use, and carbon emissions in the SSCM, more research may be done. Sybertz (2017) asserts that issue-specific solutions focus on problems that affect individual supply chains rather than significant problems that may influence many supply chain activities. Future research may be more reliable with the addition of these variables to SSCM.

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