



# Sustainability Supply Chain Analysis

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# What is SSC?

Sustainability is a global goal, encompassing several different areas:

- Environment Protection
- Climate Change
- Social Inequality
- Human Rights
- Poverty & Nutrition

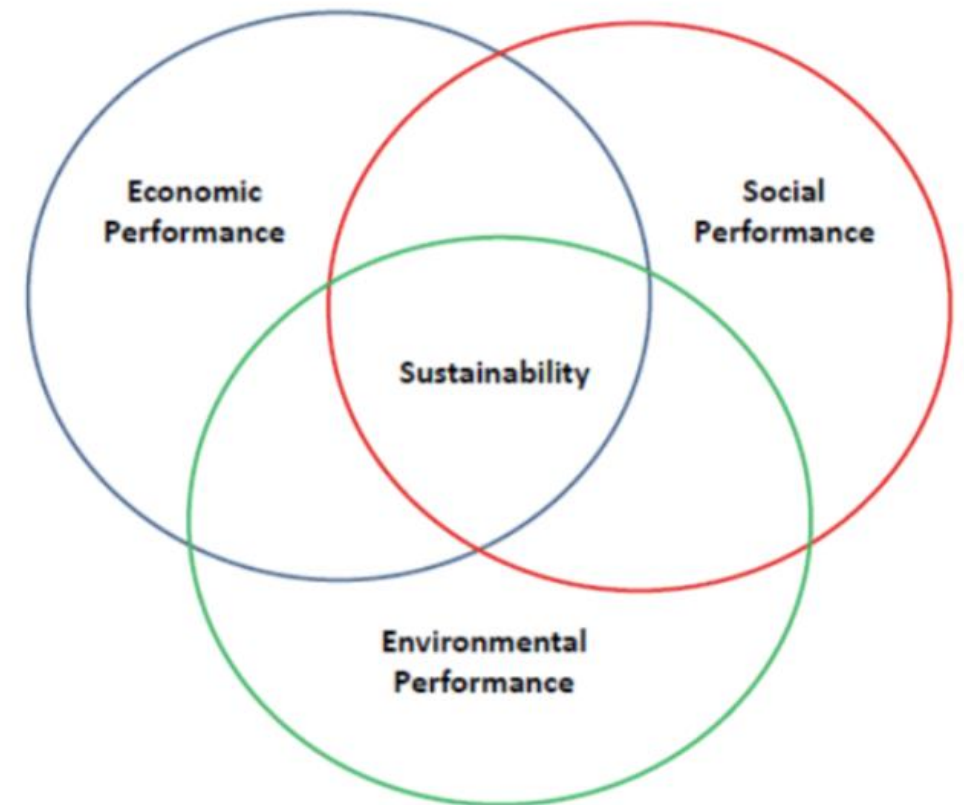


Fig. 1. Sustainability as the intersection of 3BL performance

# 9 Types of SSC

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01.

Social  
Accountability

02.

Environmental  
Management

03.

Energy  
Efficiency

04.

Waste  
Management

05.

Air  
Emissions

06.

Water  
Management

07.

Chemical  
Management

08.

Raw Material  
Management

09.

Transportation  
Management



# How SSC Becomes Important?





# Three Stages Management

## Supplier Activities

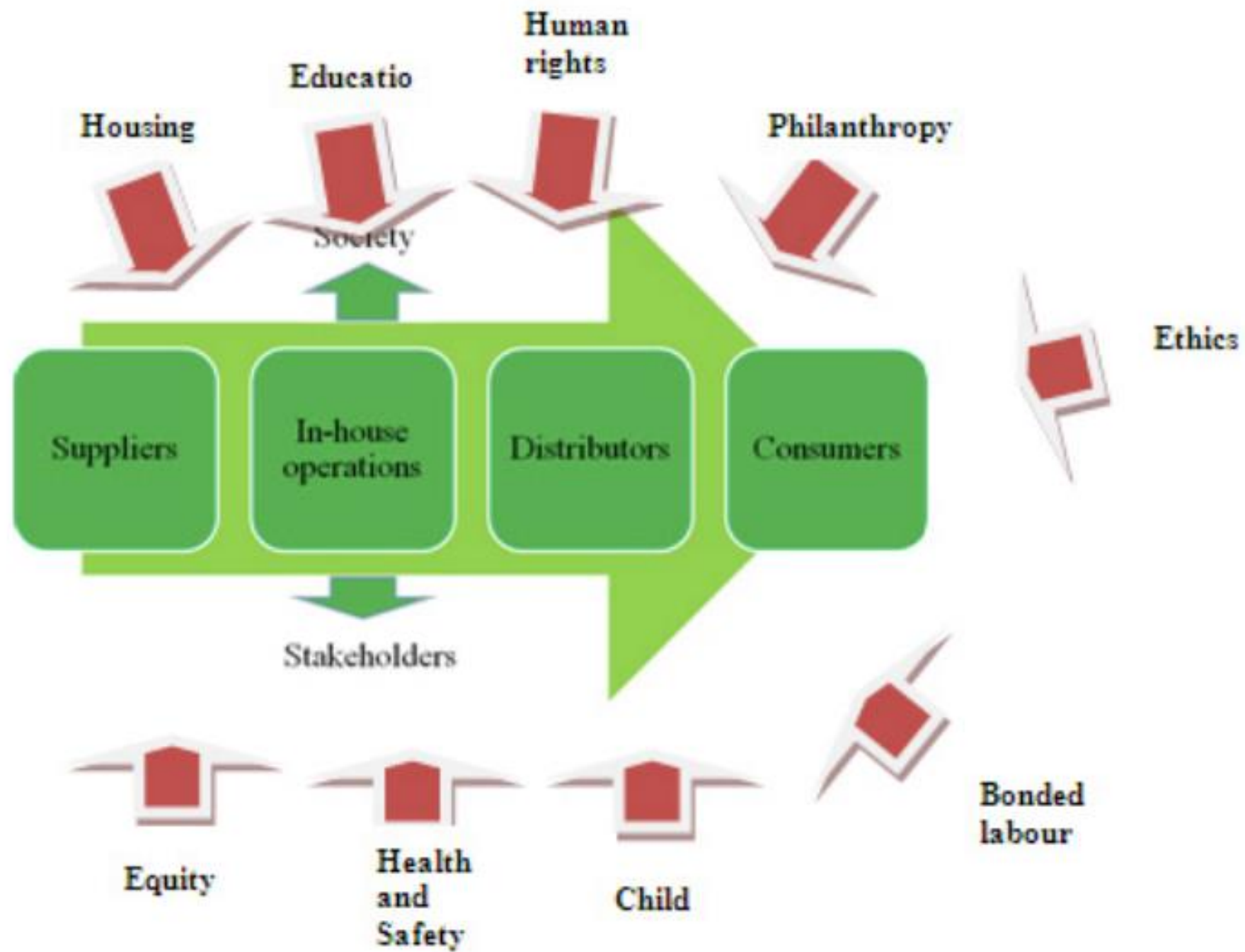
- Timely Payment
- Supplier Training
- Feedback
- Auditing System

## In House Operations

- Child Labor
- Gender Discrimination
- Ethics Initiative
- Social Issues

## Customer Protocol

- Product Responsibility
- Product Availability
- Product Information
- Customer Feedbacks



# Social Sustainability in Supply Chain

## Retail Industry

- Initiative roots from social related issues
- Solutions are managed by company or external collaborative players

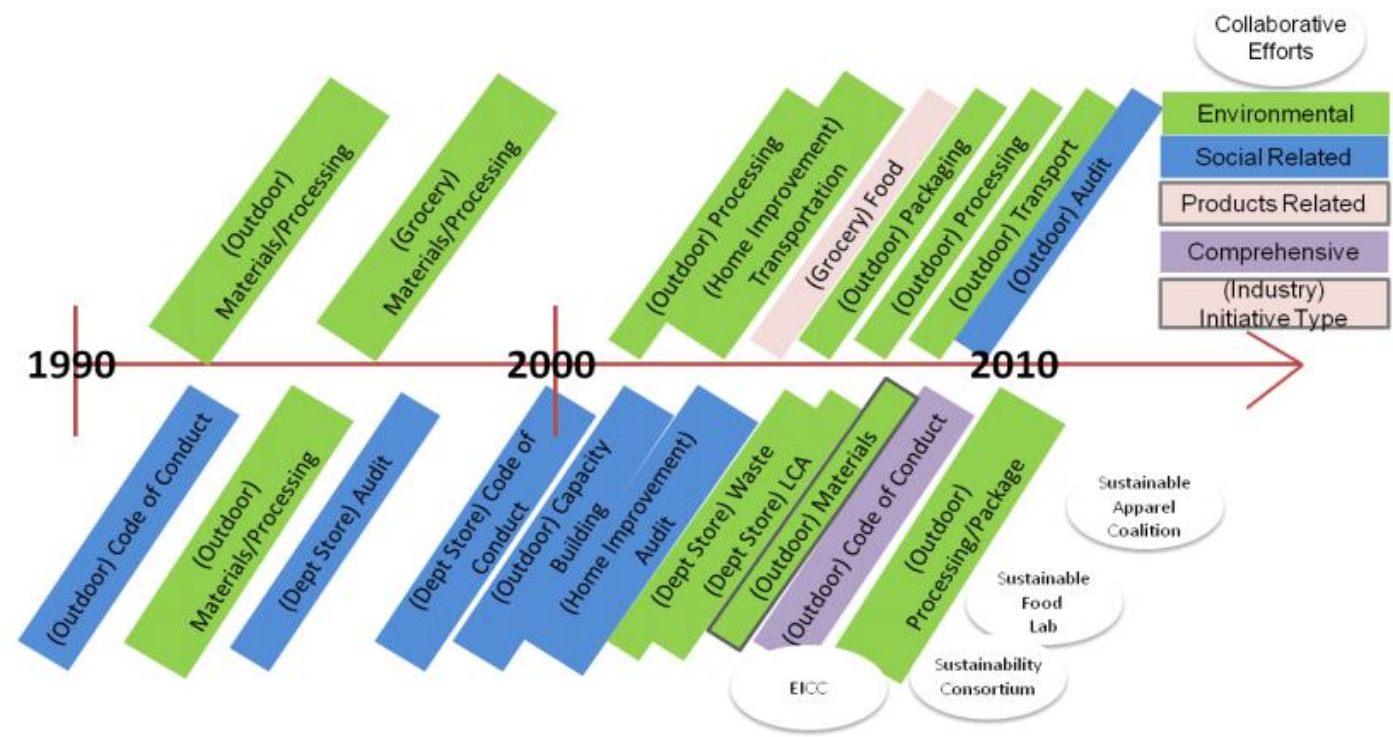


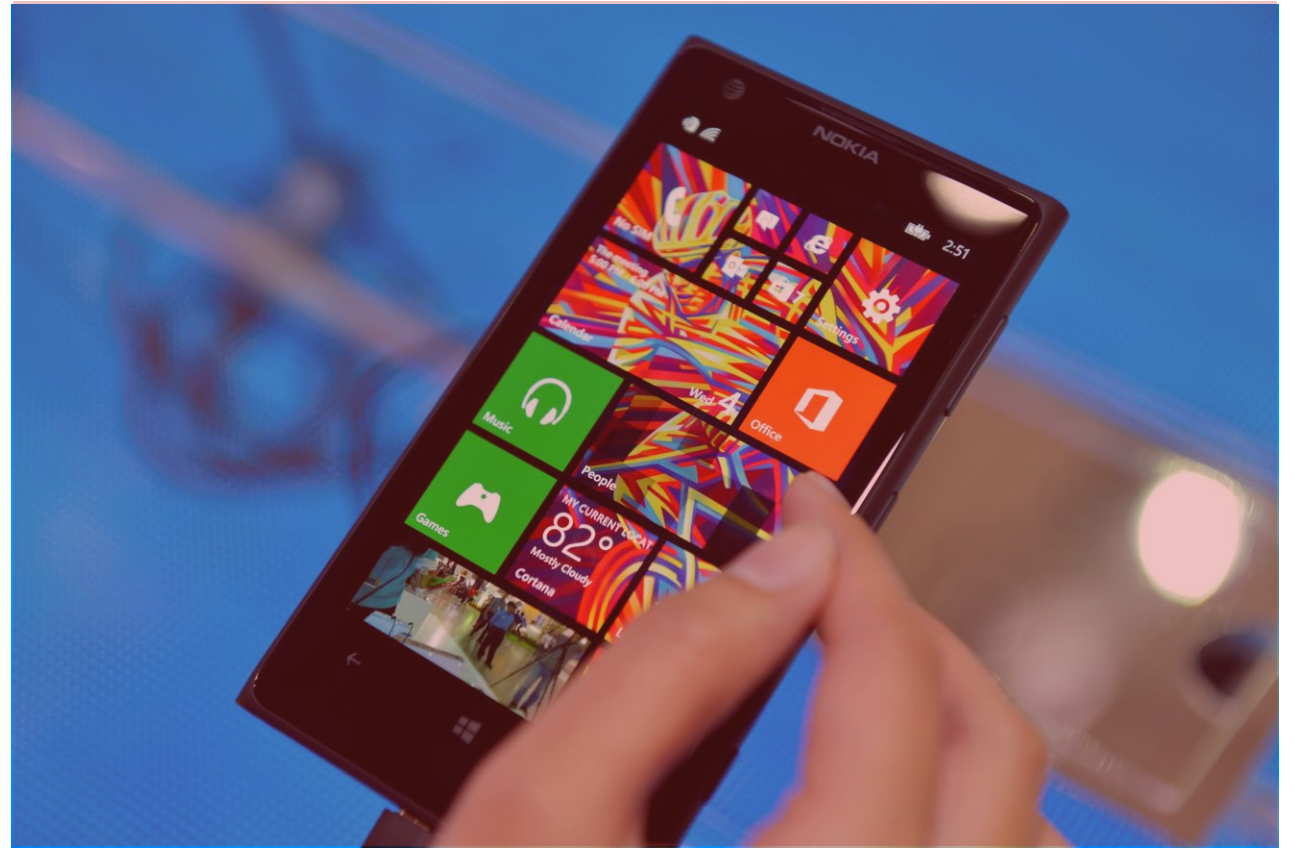
Figure 1. Timeline of Sustainable Activities



# Environmental Sustainability in Supply Chain

## Electronics Industry

- Add sustainability as part of the strategic planning process
- Report about operations
- Eco-friendly product

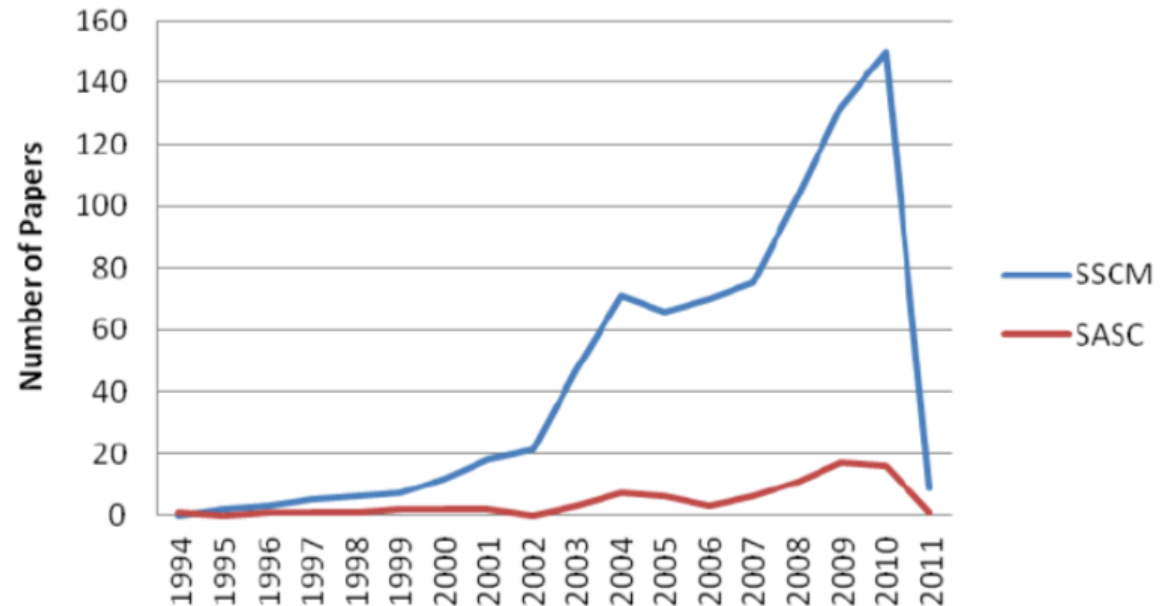


# Economic Sustainability in Supply Chain

## Governance

- Overall increase till 2010
- SASC faced only a moderate increase in comparison to SSCM
- Profit margin double from 3%-5%

**Figure 2. The evolution of contribution in SSCM and SASC**



Note:

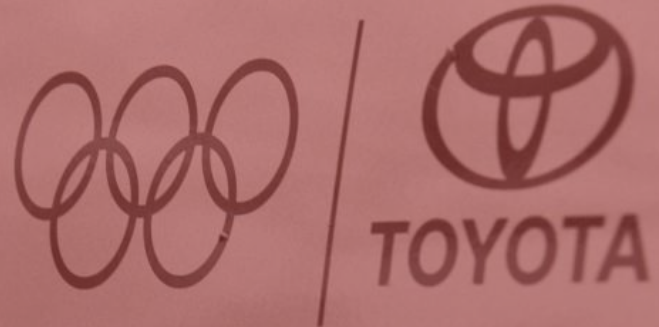
1. SSCM = Sustainable Supply Chain Management
  2. SASC = Sustainable Agricultural Supply Chain
- As per February 20<sup>th</sup> 2011



## Case Study: Toyota Motors SSC

# Society

Hyundai



TOYOTA

Worldwide Olympic Partner

Toyota has become a Worldwide Olympic Partner in the category of vehicles, mobility services and mobility solutions



Upstream Suppliers

Toyota Supplier CSR  
Guidelines

Downstream Dealers

Toyota National Dealers  
Advisors Council



Human  
Rights



## Low Carbon

Reduce Global Average CO2 Emission through Prius PHV

## Recycling

Toyota Water Environment Policy; End of Life Vehicles Proper Treatment

## Nature

Toyota Green Wave Project

## Environmental Management

Excellent Prize and the Global Warming Countermeasure





# Governance

Corporate Governance

Risk Management

## Strengthening Local Collaboration and Support in Preparation for Natural Disasters

If the Nankai Trough Massive Earthquake strikes, it could cause tremendous damage. Therefore, Toyota, which owns the Tahara Plant, one of the largest plants in Japan, in Tahara City, Aichi Prefecture, concluded a disaster support agreement with Tahara City in March 2015.

Since the signing of the agreement, Toyota and Tahara City have been conducting joint drills in order to strengthen their ability to carry out actual disaster relief operations. In August 2016, during the Tahara City Comprehensive Disaster Drill, Toyota employees operated forklifts to move cargo at the relief supply receiving facility, confirming with the local officials how to carry out actual operations.

In the Tahara Coastal Corporate Forum, comprised of the local government and companies in the area, Toyota Tahara Plant is assuming part of the role of collecting the damage status information from various companies and exchanging information with the city's disaster relief headquarters. The Tahara Plant has also been implementing disaster-related measures together with the local community, for example, conducting tsunami and earthquake disaster prevention communication drills. Through these partnerships, Toyota is proceeding with what it can do as a corporation and is also



Toyota employee operating a forklift during relief supply operation training during the Tahara City Comprehensive Disaster Drill



# Industry Comparison on Sustainability in Supply Chain





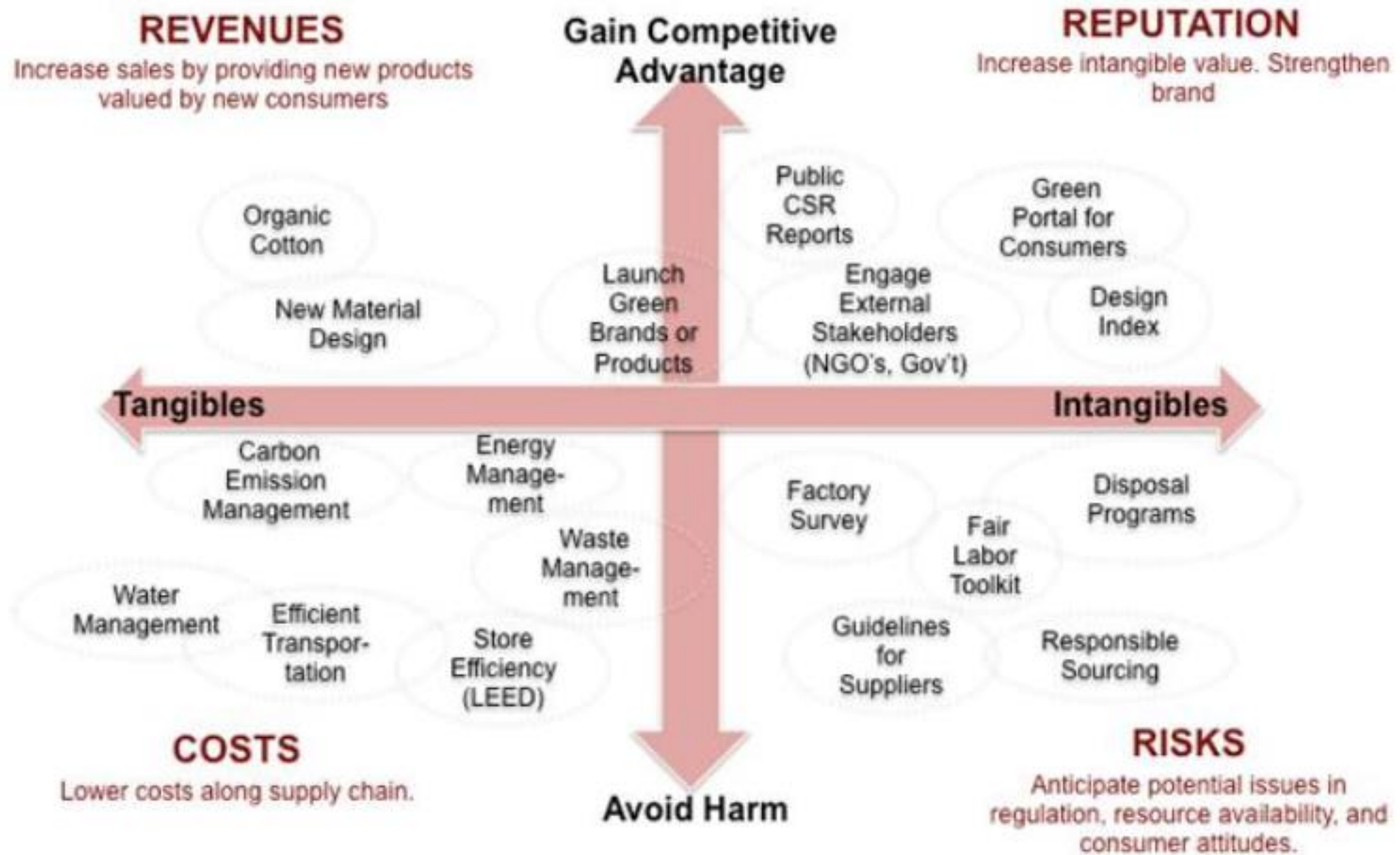
Drivers

Benefit

Goal

Execution

# Similarity



**Figure 4.** Motivation matrix for sustainable supply chain initiatives<sup>3</sup>





# Difference

Mission & Situation

Industry Characteristics

Stage of SC

Geography & Social System

Economics & Environmental



# Challenges & Solutions on Sustainability in Supply Chain

# Lack of Visibility to Downstream Customers

- Issues are less likely to solve within the product life cycle
- Start from private brands of retailer
- For changes need longer period of time

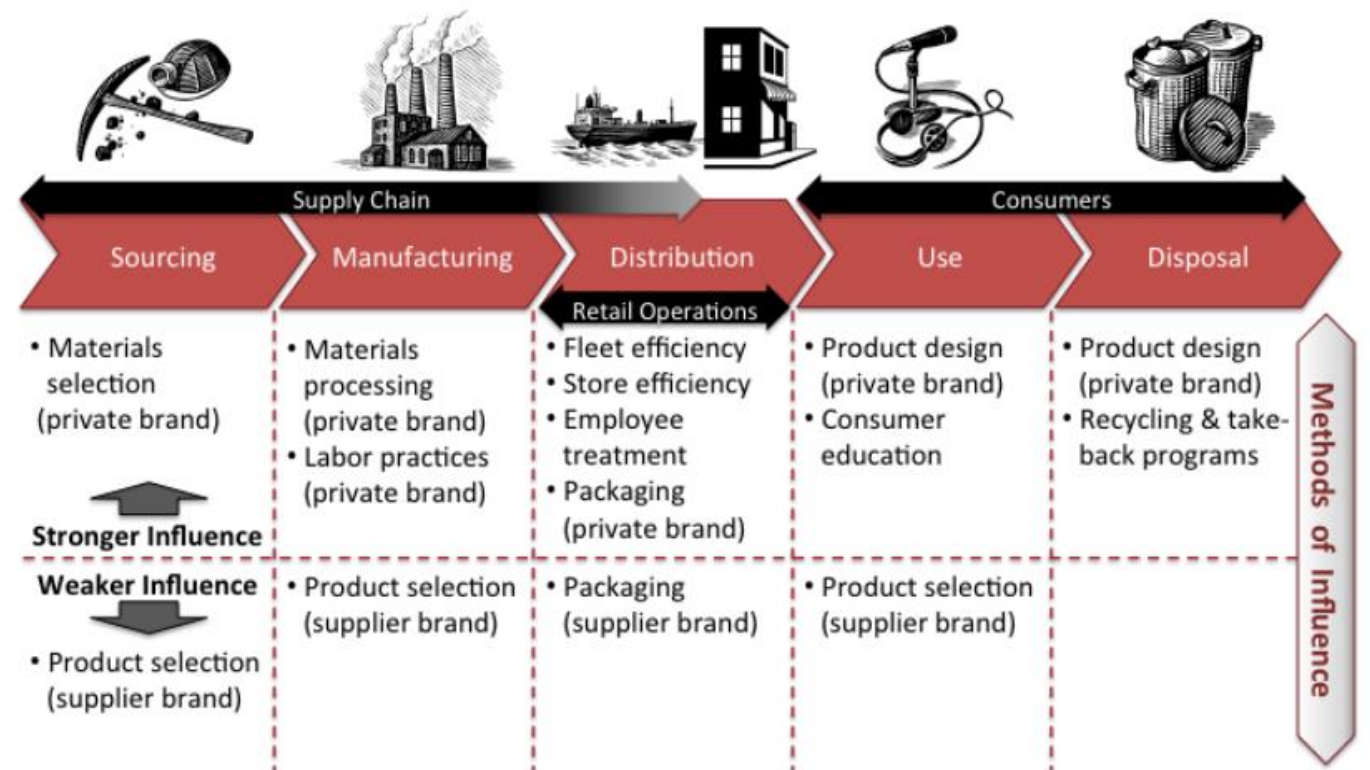


Figure 5. Methods of influencing sustainability-related issues throughout a product's life cycle

# Lack of Transparency Lead to Criticism

- Report that addresses environmental concerns
- Consumer labeling
- Recycling program



# Lack of Uniform Guidelines or Standards

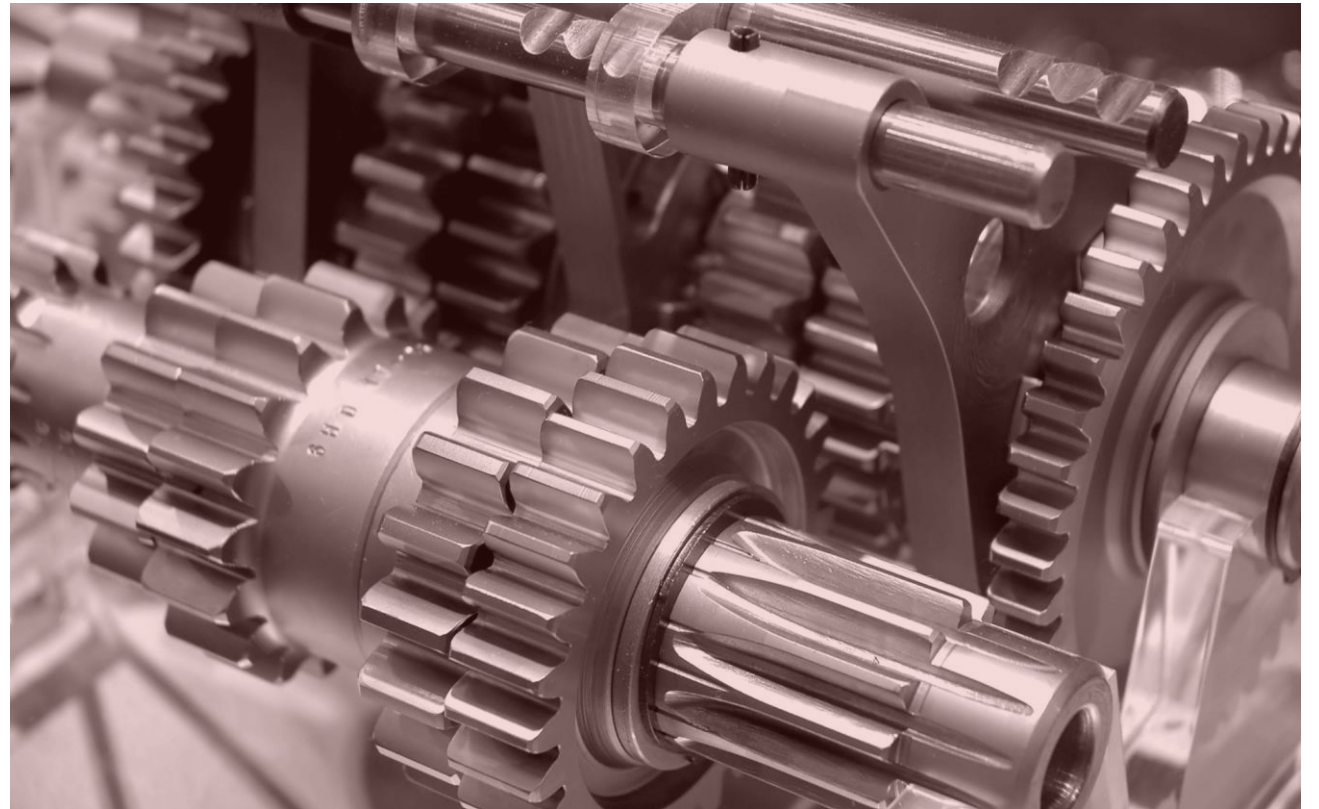
- Company quantify the sustainability
- Company join forces and form / acquire non-profit organization
- Collaborate within the industry sector and with government





# Problem of Balancing

- Disregard the sustainable performances of their supply chain (3<sup>rd</sup> tier suppliers)
- Importance of holistic sustainable supply chain management



A photograph of a row of cars parked in a lot, viewed from a low angle. The image is overlaid with a semi-transparent red filter. The text "Q & A" is centered in white, serif font.

Q & A

- [https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?\\_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284\\_07e21116d60659af7c605ea78a9fc693](https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284_07e21116d60659af7c605ea78a9fc693)
- <https://search-proquest-com.proxy2.library.illinois.edu/docview/216866240/fulltextPDF/50C3EE5F327D4681PQ/1?accountid=14553>
- <https://www.triplepundit.com/2010/11/sustainable-supply-chains-sustainable-supply-networks/>
- [https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?\\_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284\\_07e21116d60659af7c605ea78a9fc693](https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284_07e21116d60659af7c605ea78a9fc693)
- [https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?\\_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284\\_07e21116d60659af7c605ea78a9fc693](https://ac.els-cdn.com/S1877042815020121/1-s2.0-S1877042815020121-main.pdf?_tid=3c376ed7-86af-482a-956c-23a19bc9bbee&acdnat=1524952284_07e21116d60659af7c605ea78a9fc693)
- [https://www.researchgate.net/publication/228312046\\_Sustainable\\_Supply\\_Chain\\_Management\\_in\\_the\\_Agricultural\\_Sector\\_A\\_Literature\\_Review](https://www.researchgate.net/publication/228312046_Sustainable_Supply_Chain_Management_in_the_Agricultural_Sector_A_Literature_Review)

## References