Relationships with Local Territories (CSR, Sustainability).

Course: Production Management and Logistic Systems [10592713]

Economia e management (Latina Campus)

AA 2024-2025 | Prof. Alessandro Pietrogiacomi

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Learning Objectives

1. Explain the role of Corporate Social Responsibility (CSR) and Sustainability in production and logistics.

2. Evaluate the impact of production/logistics operations on local communities and environments.

3. Analyze real-world examples of CSR programs in industrial supply chains.

4. Identify strategies for integrating sustainability and stakeholder relationships into supply chain decisions.

Territorial Impact of Production and Logistics

Understanding Territorial Impact

Territorial impact refers to the direct and indirect effects that production and logistics operations have on the geographic, environmental, social, and economic fabric of the areas in which they operate. This includes both positive contributions and negative externalities.

Positive impact of Production and Logistics

Type	Examples
Economic	Job creation, local sourcing, tax revenue, infrastructure development
Social	Collaboration with schools and universities, local hiring policies, vocational training
Infrastructure	Improved roads, broadband access, utility upgrades as part of industrial expansion
Knowledge Transfer	Partnerships with technical institutes, knowledge spillovers to local SMEs

Case Example: A logistics firm in northern Italy partners with a local high school to train students in warehouse automation, improving both employment and local education standards.

Negative Externalities of Production and Logistics

Type	Examples
Environmental	Air and water pollution, noise, CO_2 emissions, land consumption, habitat loss
Social	Gentrification, displacement of small farms or local businesses, increased traffic and accidents
Public Health	Exposure to pollutants, disruption to sleep due to nighttime deliveries, water contamination
Resource Competition	High water/electricity use by large plants affecting availability for local communities

Real-World Case: A bottling plant in India was shut down after protests from local farmers, who accused the company of excessive groundwater extraction during drought period

Balancing Efficiency and Responsibility

- Companies may seek logistical efficiency (e.g., building near highways or ports), but these choices often intersect with community concerns about environmental and social stress.
- The challenge is to balance operational goals with local well-being.

Measurement Tools and Frameworks

- **Environmental Impact Assessments (EIA**): Legally required in many jurisdictions before major facilities are built.
- **Stakeholder Mapping**: Identifying and analyzing all local groups affected by the project (residents, schools, NGOs, local government).
- **Cost-Benefit Analysis:** Including externalities in project evaluation.
- **Sustainability Reports**: Should include local-level metrics (emissions per facility, local employment rate, complaints resolution time)..

Special Focus: Logistics Centers and Warehousing

Modern logistics hubs may:

- Increase heavy truck traffic on local roads
- Create jobs, but often low-wage or short-term contracts
- Raise land and housing prices due to sudden influx of workers
- Require integration with urban and regional planning

- **Example:** The opening of a major e-commerce fulfillment center outside a mid-sized European city led to a rise in warehouse-related congestion and protests over working conditions.

Territorial Engagement Best Practices

Early Community Involvement: Participatory planning workshops, town hall meetings

Community Benefit Agreements (CBAs): Formal contracts ensuring local hiring, environmental standards, or community investment

Transparency Platforms: Dashboards showing local environmental impact and response actions

"Local First" Procurement: Giving preference to regional suppliers to strengthen the territorial economy

Introduction to CSR and Sustainability

Definitions:

- **CSR:** Voluntary integration of social and environmental concerns into business operations and stakeholder interactions.

- **Sustainability**: Development that meets present needs without compromising the ability of future generations to meet their own.

- **The Triple Bottom Line** (People, Planet, Profit)

- **Stakeholders in local territories**: residents, municipalities, NGOs, suppliers, employees.

Corporate Social Responsibility (CSR) Definitions and Core Concepts

Corporate Social Responsibility (CSR): CSR refers to a company's voluntary efforts to operate in a way that is ethically responsible, socially beneficial, and environmentally sound.

Key dimensions:

- Ethical labor practices
- Fair treatment of suppliers and workers
- Engagement with local communities
- Environmental stewardship

Formal Definition (European Commission):"CSR is the responsibility of enterprises for their impacts on society."

Sustainability in Operations

Sustainability in operations means developing and managing systems that meet current needs without compromising the ability of future generations to meet theirs**.** Often expressed through the Triple Bottom Line (TBL):.

Dimension	Focus	Examples
People	Social equity and stakeholder well-being	Fair wages, health & safety, community support
Planet	Environmental stewardship	CO_2 reduction, waste minimization, water conservation
Profit	Economic viability and value creation	Long-term profitability, innovation, cost control

CSR and Sustainability in Supply Chains

Supply chains can cause both:

- **Global impacts** (e.g., emissions from global transport, rare earth mining)
- **Local impacts** (e.g., congestion, noise, employment in specific communities)

Production and logistics play a key role in:

- Choosing energy-efficient technologies
- Optimizing material use
- Managing relationships with local communities and stakeholders

Key Insight: Operations managers and supply chain professionals directly influence a firm’s environmental and social footprint through design, sourcing, routing, and process decisions.

CSR vs. Greenwashing

It’s important to differentiate:

Authentic CSR: Integrated into business strategy, with measurable goals and stakeholder dialogue.

Greenwashing: Superficial marketing tactics without real impact (e.g., eco-friendly packaging on a polluting supply chain).

Example: A company that offsets carbon while continuing to use outdated, high-emission vehicles may be engaging in reputational management, not transformation..

CSR and Sustainability as Strategic Tools

Why companies embrace CSR and Sustainability:Risk management (avoid reputational and regulatory risks)

Competitive advantage (brand differentiation, customer loyalty)

Operational efficiency (e.g., waste reduction = cost savings)Access to capital (ESG scoring influences investment decisions)

Fact: Over 80% of Fortune 500 companies now publish annual sustainability reports...

Evolution and Global Frameworks

Framework	Description
ISO 26000	International guidance on social responsibility
UN Sustainable Development Goals (SDGs)	17 goals adopted globally, several tied to production/logistics (e.g., Responsible Consumption, Climate Action)
Global Reporting Initiative (GRI)	Widely used standard for CSR reporting
ESG (Environmental, Social, Governance)	Criteria used by investors to evaluate corporate behavior

Sustainability Guidelines and Standards

The UN Global Compact: Businesses should…

Human Rights

- Protect human rights
- Avoid human rights abuse

Labour

- Allow collective bargaining membership
- Prohibit forced and compulsory labour
- Not support or use child labour
- Not discriminate in employment or occupation

Environment

- Protect the environment
- Promote environmental responsibility
- Encourage environmentally friendly technology

Anti-Corruption

- Prohibit corruption like bribery or extortion.

Sustainability Guidelines and Standards

OECD Guidelines for Multinational Enterprises

Goals:

- Ensure enterprises' operations align with government policies.
- Reinforce trust and confidence between enterprises and communities.
- Strengthen foreign investment climate and augment enterprises' sustainable development contributions.

Sustainability Guidelines and Standards

GRI Reporting Framework and Standards

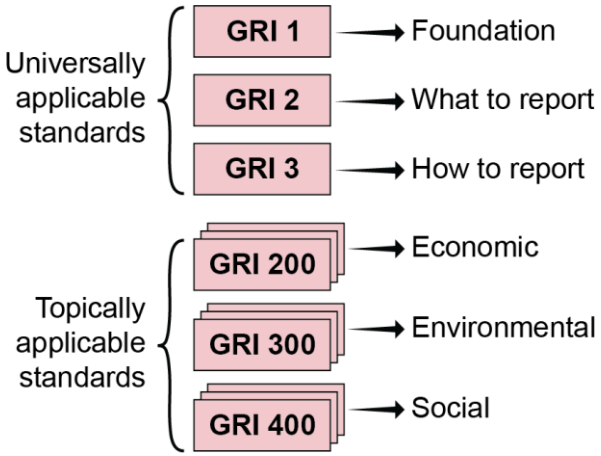
Principles for defining report content:

- Stakeholder inclusiveness
- Sustainability context
- Materiality
- Completeness

Report quality principles:

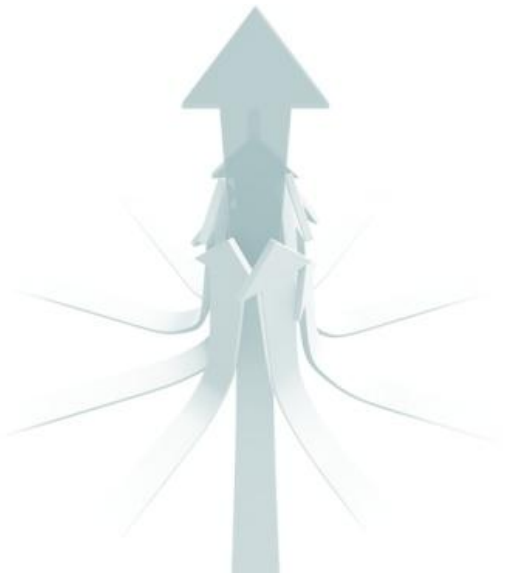
- Accuracy
- Balance
- Clarity
- Comparability
- Reliability
- Timeliness

GRI standards areas



Sustainability Guidelines and Standards

The ISO (International Organization for Standardization)

Features	Standardize for operations excellence	Benefits
• Generic management system standards • Voluntary • Market-driven • Consensus-driven • Expected in RFPs/ITTs • Registration • 3-year renewal		• Improved efficiency, productivity, bottom line • Fair trade • Reduced environmental impacts • Legislation • Best practices

Sustainability Guidelines and Standards

ISO 9000 Series Standards

ISO 9000 Series Standards

- Quality management
- Quality system elements
- Not industry specific
- Most popular ISO standards
- ISO 9000: Definitions
- ISO 9001: Requirements
- ISO 9004: Continuous improvement

ISO 9001

- Framework for quality processes
- Consistently provide products that meet customer and regulatory requirements
- Enhance customer satisfaction
- Top management commitment to quality
- Process-centered approach
- Continual improvement

Sustainability Guidelines and Standards

ISO 14000 Series Standards (Environmental)

Environmental Management System	ISO 14001	ISO 14004
• Identify and control impact of activities, products, and services. • Enhance environmental performance regularly. • Systematic objectives and measurement methods.	• Framework for strategic, holistic approach to environmental policy, plans, and actions • Generic EMS requirements	• Specific guidelines of EMS • Implementation guide • Assurance and proof

Sustainability Guidelines and Standards

ISO 26000:2010—Guidance for Social Responsibility

- Recognize social responsibility within company's sphere of influence
- Identify and engage stakeholders
- Address the areas of guidance in the standard:
  - Organizational governance
  - Human rights
  - Labor practices
  - Environment
  - Fair operating practices
  - Consumer issues
  - Community involvement/ development

Sustainability Guidelines and Standards

SA8000 (Certify each location separately.)

- Neither support nor use child labor or forced labor.
- Provide safe and healthy workplace.
- Respect union formation.
- Don’t discriminate.
- Avoid harsh discipline.
- Comply with working hour laws and agreements.
- Pay a living wage and overtime.
- Show SA8000 support.

Sustainability Guidelines and Standards

ANSI Z.10 for Occupational Health and Safety

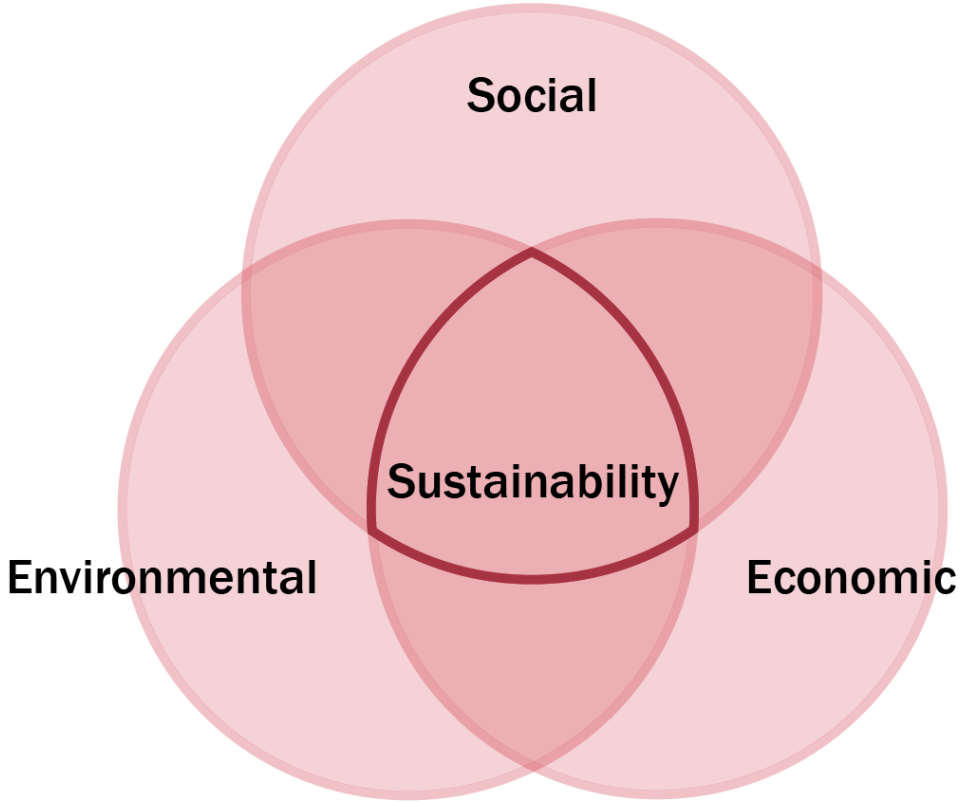
Integrating CSR in Operations Management

- Sustainable site selection (transport access, local employment)
- Local sourcing and supply chain shortening
- Circular economy and waste reduction in local context
- Measuring and reporting local impact: ISO 26000, GRI Standards

Sustainability in the Logistics Chain

- Green transport modes and route optimization
- Sustainable packaging and reverse logistics
- Carbon footprint reduction: CO_2 tracking, offsetting programs
- Collaboration with local authorities for urban logistics

The Triple Bottom Line



Balancing Short- and Long-Term Performance

Design goals and incentives so that short- and long-term economics are considered.

Short-Term Economics

- Weekly, monthly, quarterly
- Promotions to meet monthly sales goals
- Seasonal event stock buildup

Long-Term Economics

- Annually, 5+ year strategic horizon
- Incentives on profit margins
- Different supply chains for short vs. long cycle time items

Environmental Performance

Environmentally…

- Responsible business: Minimize impacts to society.
- Responsible manufacturing: Design product, facility, manufacturing, logistics, and supply to reduce waste.
- Sensitive engineering: Product and package design.

- Sustainable and safe products, services, packaging
- Responsible procurement, manufacturing, warehousing, transportation, and reverse logistics
- Public opinion and consumer choice
- Competitive advantage?

Social Performance

Corporate social responsibility (CSR) commitments for organization (may extend to supply chain partners):

- Needs and rights of employees, communities, and indigenous peoples
- Nondiscriminatory hiring and labor management
- Living wage by region
- Local worker and local business investments
- Charity to local causes

Sustainable Supply Chains and Compliance

Voluntary

- Reuse, recycling, recovery of industrial materials/end-of-life products.
- Material content reporting.
- Measured, cost-effective.
- Increased disclosure may increase scrutiny.

Mandatory

- EU Restriction of Hazardous Substances (RoHs).
- Noncompliance risks generally outweigh cost considerations.
- Could avoid doing business in country.

Organization-specific

- For example, U.S. Timberland “EcoMetrics” on shoes made:
  - Energy used
  - Global warming contribution
  - Material efficiency
  - Use of renewable energy

Government and Regulatory Compliance

Material content reporting	• Reuse, recycling, recovery
Dangerous/ hazardous goods	• Transportation risk; U.S. DOT codes • IMDG Code: Packaging, container traffic, stowage, segregation
EU efforts	• Disclosure, reuse; WEEE directive

Other Compliance Issues

Conflict Minerals

- Armed conflict regions
- U.S. Dodd-Frank Act
  - Tantalum, tin, gold, or tungsten
  - Democratic Republic of Congo and area
  - Disclose
  - Reasonable country of origin inquiry

Sustainability Risks from Packaging: Solutions

- Heat/chemical treatments for wood pallets (ISPM15)
- Reusing/repairing pallets
- Grinding up pallets
- Pallets or slip sheets from plastic or corrugated cardboard

Wrap Up

- Use triple bottom line (TBL).
- Follow United Nations (UN) Global Compact guidelines.
- Use Global Reporting Initiative (GRI) Standards.
- Develop sustainability metrics.
- Adhere to social, environmental, safety, and quality accreditations and certifications.