

# Efficient, Ethical and Sustainable Supply Chains

Emeritus Professor Martin Christopher  
Cranfield School of Management  
Cranfield University  
Cranfield  
Bedford MK43 0AL  
United Kingdom

Tel : 44 (0)1234 751122 Fax : 44 (0)1234 721225  
E-mail : [m.g.christopher@cranfield.ac.uk](mailto:m.g.christopher@cranfield.ac.uk)  
[www.martin-christopher.info](http://www.martin-christopher.info)

## The triple bottom line

- Environment
- Economy
- Society

Understanding the impact of  
supply chain decisions on each  
of these dimensions

## **Understanding the 'extended enterprise'**

Many of the drivers of the triple bottom line exist outside the immediate boundaries of the business in the upstream supply chain.

We need to look beyond immediate first tier suppliers to understand their supply chains.

## **Reputational risk and the extended enterprise – The Case of Mattel**

- In 2007 Mattel was forced for safety reasons to recall 21 million toys made in China.
- Sales were hit as shipments were disrupted and consumer confidence was eroded – sales in the US fell by 19% in a single quarter.
- Mattel were forced to make a charge of \$40m against the costs of the recall on top of an estimated \$50m lost sales.

## **The impact of sourcing decisions on the triple bottom line**

- Understand the total cost of ownership
- What is the impact on the supply chain's carbon footprint?
- Do we know what the implications of sourcing decisions are for resource usage and depletion?

## **Understanding the total costs of ownership**

Not just the purchase price, but .....

- Increased transport costs
- Increased inventory financing costs
- Increased uncertainty of supply
- Longer lead-times
- Less visibility and increased likelihood of "bullwhip" effect
- Loss of control in quality
- Longer development cycles for new products
- Increased exposure to security risks

..... etc

## **Reducing the transport intensity of the supply chain**

Transport intensity is the per unit transport element in a shipment

- Bring supply closer to demand through more 'local for local' arrangements.
- Leverage economies of scale through bigger vehicles and vessels.
- Utilise postponement techniques to enable low cost country sourcing of 'vanilla' products to be moved in bulk for local finishing.
- Explore opportunities for product and pack re-design.

## **The growing pressure on resources**

- World population is predicted to grow from its current level of 6 billion today to 9 billion by 2050
- This brings with it an increased pressure on resources – particularly water
- Supply chains and sourcing strategies will need to be 'resource-lite', suggesting a return to 'local-for-local' sourcing

## **Guidelines for action**

- Look beyond first tier suppliers to gain visibility of their supply chains
- Work with first tier suppliers to establish processes for ensuring sourcing compliance
- Focus on reducing transport intensity and improving the resource impact
- Explore the implications of a 'local-for-local' supply chain strategy