



THE UNIVERSITY OF HULL

Future Supply Chains

Green Supply Chains : Issues, Challenges and Strategies

Professor Chandra S Lalwani

29.06.2009



Definition : Future Supply Chains/Networks

On the continuous requirement to transform raw materials into parts/components used to form finished products/services, the Future Supply Chain is the **global, coordinated system of parties, activities, information and resources able to address the needs of the global market** through advanced information systems to improve productivity, quality and competitiveness and to facilitate knowledge diffusion and innovation.



Theme 1: Green Supply Chains

Progress

Literature Review

Contacts with industry

Identify main issues and challenges

Dissemination at International Symposium in
Logistics , Istanbul, 5th July 2009



Future Supply Chain Issues ?

Methodology adopted to identify:

- Literature Review
- Three workshops with industry participation in UK (36 delegates), India (40 delegates), and Thailand (40 delegates)
- Follow-up Questionnaire Survey



Top Six ISSUES

- Environmental issues and Green Supply Chains
- People Skills/ HRM / Talent Management
- Security and Risk Management (including Trust, Volatility)
- Digital Capabilities / Role of IT
- Supply Chain Configurations, Capacity, Cost management and optimisation
- Supply Chain Performance (Matching Supply with Demand Management)



Industry Contacts



MultiServ





Additional Possibilities



"Copyright UPM Kymenne"



HUMBER TRADE ZONE
WORLD CLASS OPPORTUNITIES





Hull & Other Projects linked to Green SCs

- Research Council UK Programme on Low Carbon Shipping (Submitted with Hull as partner)
- Yorkshire Forward Programme on Low Carbon Future (Hull is a partner in this programme)
- RCUK INTRACT with India on Digital Economy and Next Generation SCs in Manufacturing (Hull leading)



Dissemination

- International Symposium in Logistics (ISL) in July 2009 at Istanbul
 - Workshop on Future Supply Chains
- International Conference on Responsive Manufacturing (ICRM) in January 2010 at Ningbo in China
 - Session on Global Green Supply Chains



Thank you for your attention



Research Project Proposal

Main objectives

- Identify and prioritise green supply chain measures with respect to potential environmental and economic impacts
- Review methodologies currently being used and develop a toolkit for green supply chain research
- Develop a framework for managers and policy makers to assist them in auditing their SCs and enhance the greenness
- Engage stakeholders to join green supply chain initiative



Green Supply Chains

Green Levers:

- Value density
- Modal split
- Average handing factor along supply chain
- Average length of haul
- Average load per laden journey
- Empty running
- Fuel efficiency
- Emissions per litre of fuel
- Other external factors per km travelled



Approach

Using Case Studies (initially with partners)

- Map case company supply chains
- Identify relationship between economic activities and the environment
- Understand the major uncertainties attached with supply chains (operational, social and environmental costs)
- Analyse the impact of localisation of supply



Focus on

- Global supply chains
- FMCG sector/link with sectors in other themes in JRC Taskforce research themes in FSCs
- Planning, operations, and management
- Strong interaction with
 - Ports & capacity theme with global SCs
 - Security & Risk Issues theme on operational aspects of green SCs



Output

- Green supply chain measures
- Green supply chain audit tools
- Framework to enhance environmental performance of global supply chains



Meeting Selection Criteria

- Collaboration (Hull, RMIT, URI)
- External funding (RCUK, YF, EU)
- Papers planned in IJLM, IJPE, IJPDLM
- IPR possible on framework
- Industry partners in retail and manufacturing sector
- Possibilities with DfT and Defra in the UK



Meeting Selection Criteria

- Research Group Size at Hull six core academics, ten affiliated academics, twelve doctoral students
- One PhD student already working on this research and would recruit one additional PhD
- Long term sustainability through external funding