Ohio Conference on Freight 2009

Emerging Challenges in Supply Chain Management in Today’s Economy

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Agenda

1. What is Supply Chain Management?
2. Strategic Alignment
3. Disruption and Risk Management
4. Green Supply Chain
5. Supply Chain Management at WSU
What is a supply chain?
Global Supply Chains are Longer and More Complex

Supply Network

Distribution Network

Manufacturer

Supply Risks

Regulations

Time Lags

And Controls
What is supply chain management?

• Supply chain management - all about managing flows of resources
• Logistics is an important part of supply chain management
• Council of Supply Chain Management Professionals:
  – Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities.
  – Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers.
  – In essence, Supply Chain Management integrates supply and demand management within and across companies.
The Integrated Supply Chain

Product Flow

Supplier → IC → FAT → US DC → Seg. 1
Supplier → A&T → FAT → European DC → Seg. 2
Supplier → Software → Supplier → European DC → Seg. 3

Information Flow
Why is SCM important?

- Leverage
- Customer service
- Explosion in product variety
- Idle time
- Stock price impact
Strategic Alignment in the Supply Chain
LOW-COST AND DIFFERENTIATION CAN GENERATE HIGH MARGINS

- Hyundai Elantra
- Chevy Cavalier
- Honda Civic

* Including maintenance and other intangibles
Approaches to achieving competitive advantage

<table>
<thead>
<tr>
<th>Classic view</th>
<th>Contemporary view</th>
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<tbody>
<tr>
<td>Generic Strategy</td>
<td>RBV</td>
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<tr>
<td>Advantage rooted in attributes of product/service</td>
<td>Advantage rooted in how products/services are created or delivered</td>
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<tr>
<td>Positional, stable</td>
<td>Fluid, dynamic</td>
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<tr>
<td>Generic strategies: differentiation, low cost, focus</td>
<td>Core competency, resources, capabilities</td>
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</table>
RBV

- Firm “resources” are responsible for creating advantage
- Resources are the assets and capabilities (skills) that firms deploy
- Certain resources are “strategic”
- Opportunity: leverage for sustained competitive advantage
Supply Chain Risk & Disruption: Increasing Difficulty of Planning for Uncertainty

**Variation**
- Small influences
- Range of values for a particular activity
- Managers plan with buffers and use disciplined execution
- Can be identified
- Anticipate alternative paths to project goal
- Use risk lists and contingency planning

**Foreseeable**
- Cannot be identified during planning: "Unknown Unknowns, Unk-Unks"
- Can arise from unanticipated interactions of many events, each of which can be foreseeable.
- Inability to recognize influence variables or interactions at the outset of the project.

**Unforeseeable**
Carbon Efficient Supply Chains

- **Issue**
  - While there are numerous corporate and national initiatives to reduce carbon based energy consumption and greenhouse gas emissions, few academic institutions are addressing this problem from a supply chain perspective.

- **Initiatives**
  - Modeling and simulation of supply chains to reduce carbon emissions without comprising profitability.
  - Collaboration strategies to lower emissions throughout the supply chain.

- **Opportunity**
  - Engage modeling and simulation faculty around a critical industry problem.
  - Potential synergies with Renewable and Clean Energy Master’s Program and other Ohio Green Research Initiatives.
  - High impact on industry practice: regional logistics providers, government logistics and materials organizations, consulting services, and IT tool development.
Carbon Efficient Supply Chains

“Hate Calculus? Try Counting Cow Carbon “

Companies Are Measuring the Environmental Impact of Their Products, but the Math is Fraught With Complexity and Imprecision

WSJ 9/18/09
WSU Center for Supply Chain Transformation

- The Center offers an innovative structure for advancing supply chain knowledge, using an interdisciplinary, integrative approach.

- Faculty participants from three WSU Colleges.
  - Raj Soin Business School Faculty.
  - Department of Biomedical and Industrial Engineering.
  - Boonshoft School of Medicine NMRC faculty.

- Five key research thrusts that combine faculty skills and industry & public sector participation and support.

- Further economic development through outreach programs in research, education and executive development.
Research Initiatives

- Supply Chain & Product Development
- Supply Chain Design
- Carbon Efficient Supply Chains
- Health Care Supply Chains
- Humanitarian Logistics

Metrics and Performance Indicators
Master of Science in Logistics & Supply Chain Management
Master of Information Systems
Program Value

• Opportunity to build management expertise and your future in each field:
  – Best Practices
  – Application of those practices in your organization through the applied project.
  – Build your professional network through cohort and alumni
  – Blended learning format for the practicing professional
Program structure

• 1 Year, Cohort program:
  – You learn from each other and each other’s experiences
  – You move lockstep through the courses
  – Blended Learning Format:
    • 13 days of face-to-face learning sessions
    • On-line contact through video conferences, on-line teleconferences, chat and discussion boards
Program Background

• Programs consists of 10 courses
  – Each one lasts 5 weeks
  – Each one worth 4 quarter credit hours

• Capstone project course involving a significant financial benefit to an organization
  – Work on project throughout the year
  – 8 quarter credit hour class at the end of the program

• Both programs are AACSB accredited
Courses and Timing: MSLSCM

Session 1
- MS 788 – Basics of Supply Chain Management
- MS 790 – Demand Management & Forecasting

Session 2
- MS 793 – Supply Chain Operations
- MS 799 – Supply Chain Project Management
- MS 794 – Lean Supply Chain

Session 3
- MS 795 – IT & Supply Chain Management
- MS 798 – Supply Chain Collaboration

Session 4
- MS 796 – Strategic Sourcing
- MS 792 – Supply Chain Network Design
- MS 797 – Global Supply Chain Strategies

Session 5
- Project Presentations

Jan 2010
- 5 weeks per course – each one is taken sequentially
- Jan 2011
- MS 799
- SCM Research Project

Wright State University
Courses and Timing: MIS

Session 1
MIS 788 -- Information Systems Strategy
MIS 790 -- Technology-enabled Business & Orgs

Session 2
MIS 795 -- IS Project Management
MIS 792 – Customer Relationship Management & Business Intelligence
MIS 793 – Enterprise Application Integration

Session 3
MIS 794 – Advanced Data Management for the Supply Chain
MIS 791 – Business Process Management

Session 4
MIS 796 – Information Assurance
MIS 797 – Management of Technical Services
MIS 798 – IT Outsourcing and Partnerships

Session 5
Project Presentations

Jan 2010
5 weeks per course – each one is taken sequentially
Jan 2011

MIS 799
IS Management Research Project
Applying for the program

• Applications are available online
• Further questions:
  – We will be here after the presentations to answer your questions.

www.wright.edu/business
Moving beyond short term incremental thinking to dramatic changes in the way we design and run supply chains
Concluding Thoughts

• Leverage
• Alignment
• Risk identification
• Keep current with emerging research
• Educational opportunities

Thank You!