Evolving Supply Chains

APRIL 24, 2007

Presented by:
Transport Institute

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3rd Annual Supply Chain Connections Conference

Evolving Supply Chains

PROCEEDINGS

Winnipeg, MB
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Session One
- Normal supply chain management (SCM) framework
- Bottom section is SCM
- Top section is the other level who is involved in policy and regulation functions
- All parties have important roles
- Not-for-profit SCM framework
- There are different types of customers in this situation
### The Four Quadrants

<table>
<thead>
<tr>
<th>Sector</th>
<th>Environment</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Uninterrupted</strong></td>
<td><strong>Interrupted</strong></td>
<td></td>
</tr>
<tr>
<td>For-profit</td>
<td>Q1</td>
<td>Q2</td>
<td></td>
</tr>
<tr>
<td>Not-for-profit</td>
<td>Q3</td>
<td>Q4</td>
<td></td>
</tr>
</tbody>
</table>

- Q1 – Example: Walmart
- Q2 – Example: Pandemic
- Q3 – Example: Winnipeg Harvest
- Q4 – Example: Humanitarian relief network
<table>
<thead>
<tr>
<th>Implementation Characteristics</th>
<th>Mean*</th>
<th>t**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy (1) vs. Difficult (7)</td>
<td>4.99</td>
<td>7.93</td>
</tr>
<tr>
<td>Narrow (1) vs. Broad (7) in scope</td>
<td>4.86</td>
<td>5.29</td>
</tr>
<tr>
<td>Inexpensive (1) vs. Expensive (7)</td>
<td>4.81</td>
<td>6.05</td>
</tr>
<tr>
<td>Fast (1) vs. Slow (7)</td>
<td>4.79</td>
<td>5.26</td>
</tr>
</tbody>
</table>

* “Compared to your objectives or expectations, SCM implementation was (4 = as expected):”
** One-sample t-test (Ho: mean = 4)

- This was a question posed to supply chain executives
- Question: If you are engaged in implementing SCM, how is it going?
<table>
<thead>
<tr>
<th>Eight Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Resistance</td>
</tr>
<tr>
<td>• Process</td>
</tr>
<tr>
<td>• Information</td>
</tr>
<tr>
<td>• Green</td>
</tr>
<tr>
<td>• Risk</td>
</tr>
<tr>
<td>• People</td>
</tr>
<tr>
<td>• Inventory</td>
</tr>
<tr>
<td>• Global</td>
</tr>
</tbody>
</table>
The main resistance to the supply chain is internal.
It is difficult to sell the SCM concept within the firm.
**Implementation Barriers**

<table>
<thead>
<tr>
<th></th>
<th>Mean*</th>
<th>t**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional silos</td>
<td>3.76</td>
<td>6.36</td>
</tr>
<tr>
<td>Incompatible technology/systems</td>
<td>3.51</td>
<td>4.53</td>
</tr>
<tr>
<td>Lack of a common SCM perspective</td>
<td>3.25</td>
<td>1.86</td>
</tr>
<tr>
<td>Conflict among supply chain members</td>
<td>3.23</td>
<td>1.87</td>
</tr>
<tr>
<td>Inadequate employee skills</td>
<td>3.19</td>
<td>1.69</td>
</tr>
<tr>
<td>Complexity of SCM</td>
<td>3.17</td>
<td>1.49</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>3.17</td>
<td>1.39</td>
</tr>
<tr>
<td>Internal resistance</td>
<td>3.09</td>
<td>0.76</td>
</tr>
<tr>
<td>Cost of implementation</td>
<td>2.98</td>
<td>-0.20</td>
</tr>
<tr>
<td>Lack of electronic connectivity</td>
<td>2.60</td>
<td>-3.33</td>
</tr>
<tr>
<td>Unwillingness to share information</td>
<td>2.50</td>
<td>-3.96</td>
</tr>
<tr>
<td>Customer resistance</td>
<td>2.07</td>
<td>-7.85</td>
</tr>
<tr>
<td>Supplier resistance</td>
<td>1.86</td>
<td>-9.53</td>
</tr>
</tbody>
</table>

* "Please rate the impact of each of the following as barriers to implementing SCM at your organization." (0 = none; 1 = very low; 5 = very high)

** One-sample t-test (Ho: mean = 3)

- Question: What are the main barriers to implementing SCM?
**Process Management**

- Improve service quality
- Improve productivity
- Reduce total costs

- SCM is about process management
- It is realigning the process within and across organizations
**Process Management Tools**

“these techniques remain a collection of independent process management tools. Little or no work has been done to integrate these tools into a comprehensive management system.”


- Process Management Tools, Examples: ISO 9000, TQM, ERP
- Within the firm, logistics group needs to have an initiative
- Problem: different departments within firm are using different processes and not telling each other
### Process Management Implementation Steps

<table>
<thead>
<tr>
<th>ISO 9000</th>
<th>Activity-Based Costing</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Documentation</td>
<td>3. Link resources to activities</td>
</tr>
<tr>
<td>4. Performance</td>
<td>4. Link activities to entities</td>
</tr>
<tr>
<td>5. Assessment (audit)</td>
<td>5. Assessment (accounting)</td>
</tr>
<tr>
<td>6. Continuous improvement</td>
<td>6. Continuous improvement</td>
</tr>
</tbody>
</table>

- Internal resistance occurs because two groups within the firm are using these different processes without consulting each other.
- (CARD) is an ISO document
- This an example of process improvement (bringing everything together)
- All the main players are involved
Information Sharing

“The sharing of information ... is a fundamental requirement for effective supply chain management.”

Handfield and Nichols (1999)

- If we are going to work together, we need to share information
Two Levels of Information Sharing

1. **Purchasing information sharing** – the supplier only receives purchase orders from the buyer.
   - tactical

2. **Supply chain information sharing** – the supplier receives or has access to the buyer’s inventory levels, sales forecasts, production schedules, promotion plans, etc.
   - tactical
   - strategic

- Purchasing information sharing: Upstream, tactical only, no attempt to strategically implement supply chain
- Supply chain information sharing: Evolution of partnership, both tactical and strategic
• This is what information sharing is supposed to create
You’ve got mail!

“People are spending as much as 20 percent of their workday reading and responding to e-mail.”

Unnecessary Interruptions

• 28 percent of knowledge worker’s day
• 28 billion lost hours to American companies
• $588 billion annual cost of interruptions


• Information sharing is important, but we have to define exactly what we need
Interruptions fall into two categories:

- Good interruptions (When I interrupt you)
- Bad interruptions (When you interrupt me)
**Green—why not?**

- Employee Satisfaction
- Environmental Sustainability
- Community Quality of Life
- Government Regulatory Policy
- Economic Success?

- The top four bullets are the evidence we have for going green
- The last bullet asks: Does going green enhance our economic success?
Most environmental impacts caused by material transformation processes

Economic inputs → Process → Economic outputs

Natural resources → Process → Environmental impacts
How to generate win-win scenarios?

It is hard to imagine producing much and actually having a positive impact on the environment. The key is to minimize environmental impacts while still having a strong economic performance.
Lean and Green

“In 2007, $92 billion computer maker Hewlett-Packard reports it will eliminate 30,000 cubic feet of polystyrene computer packaging and more than 6 million pounds of PVC packaging from its inkjet printer business. The company will also reduce its carbon footprint by 20% by 2010.”


- There are a lot of initiatives working on “going green”
- These initiatives are on the table, should be on the table, and there will be more on the table in the future
Risk Management

- Maintain customer service
- Maintain employee morale
- Maintain shareholder value

- In light of interruptions, risk management attempts to maintain these things
Types of Risk

- Matching supply and demand
  - Stock-outs
  - Delayed shipments

- Interruptions
  - Earthquakes
  - Hurricanes
  - Tsunamis
  - Pandemics
  - Labour strikes
  - Terrorist attacks

- Two major types of risks
- There are tools to guide us for matching supply and demand, an example is safety stock
- However, you cannot predict when interruptions will occur
Risk Management vs. Crisis Management

- Example: United States government is taking a proactive approach to security issues in light of September 11, 2001. So far the next big event has not occurred. But, we can say that these measures have helped to avoid another incident, or, we can add up the billions of dollars spent and disruptions in the flow of trade and state that having a proactive approach is actually costing more.
- In crisis management there is no planning, you manage the interruption when it occurs.
People vs. Technology

- Relationships
- Communication
- People first, then technology

- People, with the desire and will to manage the supply chain, need to come first, then you can look for the proper tools to facilitate SCM.
<table>
<thead>
<tr>
<th>Facilitator</th>
<th>Mean*</th>
<th>t**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top management support</td>
<td>3.85</td>
<td>7.66</td>
</tr>
<tr>
<td>Customer relationships</td>
<td>3.47</td>
<td>4.66</td>
</tr>
<tr>
<td>Organizational re-structuring</td>
<td>3.41</td>
<td>3.60</td>
</tr>
<tr>
<td>Integrated Logistics Management</td>
<td>3.26</td>
<td>2.26</td>
</tr>
<tr>
<td>Electronic data interchange (EDI)</td>
<td>3.13</td>
<td>1.10</td>
</tr>
<tr>
<td>Internet technology</td>
<td>3.11</td>
<td>0.97</td>
</tr>
<tr>
<td>Employee training</td>
<td>3.05</td>
<td>0.38</td>
</tr>
<tr>
<td>Enterprise resource planning (ERP)</td>
<td>2.95</td>
<td>-0.46</td>
</tr>
<tr>
<td>Hardware (computer equipment)</td>
<td>2.81</td>
<td>-1.66</td>
</tr>
<tr>
<td>Supply chain software</td>
<td>2.72</td>
<td>-2.11</td>
</tr>
<tr>
<td>Supplier involvement</td>
<td>2.65</td>
<td>-2.98</td>
</tr>
<tr>
<td>Third-party logistics (3PL) providers</td>
<td>2.43</td>
<td>-4.11</td>
</tr>
<tr>
<td>Consultants</td>
<td>2.11</td>
<td>-6.32</td>
</tr>
<tr>
<td>SCOR Model</td>
<td>1.91</td>
<td>-7.78</td>
</tr>
<tr>
<td>Fourth-party logistics (4PL) firms</td>
<td>1.79</td>
<td>-8.22</td>
</tr>
</tbody>
</table>

- Question to supply chain professionals: What is facilitating SCM in the firm?
- The main facilitators are relational (directly involving people)
Inventory

- Purchasing buys it
- Operations transforms it
- Logistics moves it
- Marketing sells it

- Inventory remains at the core of SCM
- All the key players in supply chain are involved
Inventory in the Supply Chain

- Where to keep it?
- When to move it?
- Who should hold it?
- How much to move and hold?

- Key questions and/or issues
If SCM fails to unite marketing & logistics, then it has truly failed!

- SCM theoretically speaks to this statement
- There is no point to SCM if this is not happening
Globalization

- Opportunities
- Threats
- Industry-specific analysis

- Evolving supply chain issue
Canadian Exports: Textiles & Textile Articles

Year

All Nations

$4,000,000,000
$4,500,000,000
$5,000,000,000
$5,500,000,000
$6,000,000,000
Canadian Exports: Textiles & Textile Articles

- 80% of exports are headed to US
- While exports to the US are increasing, all other exports are decreasing
The two graphs seem to be quite similar
Canadian Exports: Textiles & Textile Articles

- There is a lot going on besides trade with China and the rest of the world
- Basically, every $0.10 swing in the exchange rate has a $400 million impact on the textile industry

\[
\text{Ex} = -979,388,277 + 4,054,101,149 * R
\]

China’s share of the U.S. import market in apparel categories released from quota on January 1, 2002 jumped from less than 10 percent to more than 70 percent in less than three years.

According to Chinese Customs data, China's exports to the United States in the most sensitive apparel categories are up 349 percent for the first two months of this year while prices are down 31 percent.
CANtex was initially a three-year, $26.7 million initiative introduced by the Government of Canada in 2004 to help Canadian textile manufacturing firms become more competitive and ready to take advantage of new opportunities. Additional funding of $50 million was announced in December 2004. This brings total funding to $76.7 million and extends the program to March 31, 2010.
Session Two
Outline

- Supply chains and Supply chain management
- What is a gateway
- Economics of gateways
- Gateways and productivity
- The bottom line
- Some research questions

• Supply chain management: Logistics within firms and between firms
• Gateways: What are the vertical and horizontal boundaries?
If you think of supply chains as systems, then government policy has to be systematic. There needs to be a labour strategy, immigration strategy, and transportation strategy, and so on.
- All of these aspects are growing between 7-8%/year, yet big focus is on containers. Why? It is not clear if this is the right strategy
Is this the Correct View?

Transportation Costs as a Percentage of Key Export Commodities

- Is it about factor prices or business models and business processes?

Fundamental Question

- How are gateways and corridors enabling the integration of Canada in global trade and financial networks and how can we improve these?

- Which raises the question:
  If gateways are sources of competitive advantage, what are the underlying economics of gateways?
Supply Chain Management

• “systematic strategic coordination of business functions and tactics within and between economic agents within supply chain for purpose of improving long term performance of individual agents as well as supply chain itself”
• Key: coordination of product flows to create rents for agents and for the supply chain

- Agents within the supply chain have to become more efficient and productive
- As well, the supply chain itself needs to become more efficient and productive
- Co-opetition: There are times in which you need to cooperate and times were you need to compete
What are Gateways?

• Gateways are:
  – *Nationally significant network including ports of entry/exit for the delivery of goods and/or people.*

• Four main elements:
  – Nationally significant
  – Network/area
  – Ports of entry/exit
  – Delivery of goods and people

• Nationally significant: Focused on Canada
• Network/Area: There needs to coordination and connectivity
• Ports of entry/exit: Two-way street, if you facilitate gateways, you facilitate exports and imports
The Elements

- Mainports (YVR, Port of Vancouver) transship and transport
- Connections of ‘mainports’ create/add value

- *gateway* is an area through which the distribution of significant incoming and outgoing transport flows take place by means of transfer and transhipment, and in which added value can be obtained by entering new regions/markets with the help of direct investments

- Gateways should create value
Key features of gateways

- Strategic nodal and multi-modal centers in a network
- Provide bridging strategies vertically and horizontally between agents [in supply chain]
- Gateway strategies tend to bring economic benefits to firms, cities, regions or countries.
  
  *This is because public authorities can, for example, exploit the location, traffic and communication connections and infrastructure (Santalainen, 1995)*

- Vertical: Upstream and downstream
- Horizontal: Firms in similar SIC codes
- (Final Bullet) Government is important here because they have the power to set laws and rules of access to markets
Economics of Gateways

• Gateways are alliances
  – Alliances are vertical and horizontal
• Gateways internalize externalities
  – Upstream and downstream agents recognize mutual benefit
  – provide platform for cooperation and competition
• Gateways provide agglomeration effects
• Gateways integrate infrastructure, service, information and human capital

- Alliances: Example is JIT, it is series of alliances
- Internalize externalities: Make people aware that they have an influence on each other
- Agglomeration: Size matters, by working together you get significant benefits
Economics of Gateways

- Demand side forces favouring gateways
  - Accessibility/wide geographic scope/interconnectivity/intermodal access
  - Reliability/connecting capacity/Delivery speed
  - Allocating risk
  - Network externalities
- Supply side forces
  - Reduce transactions cost – limit horizontal and vertical boundaries
  - Reduce logistics costs
  - Economics of scale, scope and density
  - Internalize externalities-alliances

- If the economics do not lead to the creation of gateways, governments should not artificially create them
Gateways and productivity

- Productivity drives real income and economic welfare
- Profit = revenue – costs
- Gateways and revenue
  - Increases ‘willingness to pay’ with value adding services
    - Reliability & consistent service (risk reduction)
- Gateways and costs
  - Enabler like technology (not just another factor input)
    - Service accountability & transparency
    - Benchmark – measure & monitor
    - New practice
    - Invest in network

Bottom Line-Gateways are Systems

- Gateways are a facilitator in the global supply chain
- Gateways increase productivity by expanding markets, moving down the cost function and lowering costs, shifting down the cost function
- Gateways increase productivity by internalizing externalities of upstream and downstream agents
- Gateways increase productivity by allocating risk optimally
Some Research Questions

1. How do gateways affect trade costs and hence trade flows?
2. What is the optimal size gateway?
   - Horizontal boundaries
   - Vertical boundaries
3. What is the optimal mix of public and private investment-optimal risk sharing with specific assets?
4. What is the optimal governance structure?
5. What should the supply chain contracts look like?
   1. Cooperate to create rent
   2. Compete for share of the rent – market structure implications
6. Does upstream and downstream market structure matter and if so how?
7. Are the impacts of gateways symmetric on import and export trade performance?

- 1. Example: Efficiency? Reliability? What is the driver?
- 2. Economics of gateways will determine this
- 4. Gateways have local impacts, but national significance. At what point do we allow local influences to override National welfare?
Supply Chains with Shared Objectives

• Some supply chains have primarily social, rather than economic, objectives.

• These supply chains usually consist of some not-for-profit organizations.

• Winnipeg Harvest

Session Three

Mr. David Northcott
Winnipeg Harvest


**Our Mission**

- Provide food to people who struggle to feed themselves and their families.
- Maximize public awareness of hunger while working towards long-term solutions to hunger and poverty.

- Tension between social (not for profit) and economic (profit) engine.
About us

- Winnipeg Harvest is a not-for-profit charity dedicated to collecting and sharing surplus food with people who are hungry.

- Each month, almost 40,000 people receive emergency food assistance from Winnipeg Harvest.

- Team of approximately 15 staff and over 240,000 volunteer hours

- 25% of food grown in America is surplus food
- Volunteer hours equivalent to 120 full time people/day
- Most volunteers are clients as well.
I think it's stress.
Who provides food to Winnipeg Harvest?

- Individuals, families
- Food producers
- Wholesalers
- Grocery stores
- Commercial food processors
- Corporations
- Farmers, gardeners
- Food drives, special events

- Most of food provided based on relationships
- Unions and management come together in some cases, for charitably good donations.
Winnipeg Harvest supports

- 170 Neighborhood food banks
- Meal/snack programs
  - Community (81)
  - School (27)
- 13 Soup kitchens
- 29 Child day care centers
- 9 Group homes
- 9 Community kitchens
- Rural Food Programs

- Neighbourhood level support is needed, very difficult to change on provincial or national level
- 2800 hot meals/day provided at soup kitchens.
What is Food Security?

“Food Security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”

The Food and Agriculture Organization of the United Nations (FAO) 1996 World Food Summit

- Pushing the concept that all people have entitlement to food.
Five Modules of Food Security:

- **Acceptability**: access to culturally diverse food, which is produced and acquired in ways that do not compromise people's dignity, self-respect or human rights
- **Availability**: enough food for each person at all times
- **Accessibility**: physical and financial access to food for all, at all times
- **Adequacy**: access to food that is nutritious and protected and produced in environmentally sustainable ways
- **Agency**: the policies and processes that enable the achievement of food security

2006 Ryerson University and the Centre for Studies in Food Security.

We work with:

A) Canadian Association of Food Banks (CAFB)
   - Voice of all food banks in Canada.
   - Represents, links all food banks in Canada.
   - Provides public, media and governments with information on poverty and hunger.
   - Conducts Hunger Count, an annual survey which represents the struggle of food banks to keep up with the increasing demand across Canada.

B) Manitoba Association of Food Banks
2.1-2.2 million Canadians eat at a food bank every year.
Highest numbers in Ontario and Quebec
High numbers in BC, where there is a growing separation between rich and poor.
Manitoba by the Numbers

- Food Bank use: 44,461
- Number of Child Food Bank recipients: 20,503
- Most Common Family Type: Single person 35.5 %
- Percentage of Recipients with Jobs or E.I. Support: Over 20 %

- March 2006 number for food bank use: 44,461
- Children are twice as likely to use a food bank compared to adults.
• Principle source of Income: 
social assistance (53.5%)
• Poverty Ranking: 2nd 
  highest (3.78%), 1st 
  among food banks in which 
  (46.4%) of the clients are 
  children.
• We must remember that 
hungry children come from 
hungry families.

Source: HungerCount 2006 
Canadian Association of Food Banks, Toronto.
- Black shading is federal funding, white shading is provincial funding.
- In the past 20 years, welfare has gone down in every province except Newfoundland.
- Rent money assistance has been frozen for 15 years at $284/month.
The journey continues, households served in Manitoba

Number Of Children We Serve

Source: Hunger Count; years ending March 31
- Illustrates where people come from when they enter the food bank.
- 70% of LICO people don’t use food bank.
- Challenge: How do you get food to people?
- Last year had just over 8.4 million lbs of food
- Require 12 million lbs of food
• The food chain from Harvest’s perspective.
• Most important thing to ensure supply of food is developing relationships.
• Important to learn the right language that allows you to “beg”.
Co-operatives in Canada’s Arctic: Getting the Product to the Co-ops

Session Four

Mr. Lloyd Hillier
&
Mr. Jim Huggard
Arctic Co-operatives Limited
Biggest question they receive is, “Do you get as far north as Churchill?
Churchill is one of the southernmost destinations.
Many logistics challenges in the vast north.
Arctic Co-op owned by Inuit Deni in NWT.
33 Co-operatives, $120 million in north.
3 entry points for north, Val D’or, Churchill, Yellowknife
Transportation Challenges
Ship – Barge - Winter Road
Arctic Co-ops a joint owner in NSSI, 70% owner.
- Carry freight in Kitimik and Baffin regions.
- GM reviews resupply catalog and inventory in January and makes orders.
- Cargo shipped by aircraft or ship.
- 1st ship departs St. Catherine’s on June 29.
- August 1 arrives at Sanikiluaq, bottom of Hudson’s Bay.
- Out of Montreal, ship 300 containers, 1000 crates.
Unloading operations in Iqaluit

Camilla Desgagnés in Iqaluit

4 barges along side the ship in Iqaluit
The beginning of the unloading operations

The Anna Desgagnés in Cape Dyer
Unloading operations in Iqaluit
A nice day in Ekalugad Fjord –
Decontaminated Soils Project

Late in the season in Pond Inlet
The shore operations in Kimmirut

The Camilla on a mirror
Qikiqtarjuaq under the snow in October
The Kaliutik in Chesterfield Inlet

An unloading technique
Sometimes it can be «really tough» for the ship

for the tug boat …
and also for the team on shore!

Anna Desgagnés anchored in Ekalugad Fjord
If that wasn’t enough, the FOG…
Two sisters together, Cécilia and Mathilda

- 4 different ships sail to the Arctic each year.

Camilla in the ice – Wakeham Bay (Nunavik)
A beach well organized, Pond Inlet

A break between two tides
Bio Fuel Project on the Anna Desgagnés

A quiet morning
Kaliutik on its way to Baker Lake

A smooth entrance in Coral Harbour
A perfect evening to unload
Anna and Camilla in Ste-Catherine, both back to reload

- Last ship arrives in St. Catherine on November 20.
- Extra time element in business, for example, a bicycle arriving in Calgary won’t be sold for another year.
- Dangerous goods are moved by ship, aircraft cannot carry them.
• 70% of product is carried weekly by air.
- Winnipeg-Churchill, Gardewine is used to ship product.
- Shipped to Thompson by truck, then rail to Churchill.
- It is more economically viable to ship to Montreal by truck, followed by marine to Churchill, then it is to ship to Churchill via Thompson
• Mainly servicing Baffin community.
• Contract for 5 years, 250,000 lbs/week out of Val D’or.
• Equivalent to 6 to 7 full jets/week.
• Last mile sometimes the hardest mile to ship product.
• Some product is lost on the tarmac.
• Roughly 10% of product is lost enroute to its destination.
• Hercules aircraft used to transport large vehicles, building materials, etc.
- Fly out of Edmonton.
- 1 day small freight, 1 day big freight.
- Not equipped to handle cargo.
• Robinson Trucking, out of Yellowknife.
• Have been hauling from Edmonton to Yellowknife for 42 years.
• 150,000 lbs of cargo/week.
- Freeze up and break up occurs twice a year for approximately 4 weeks each, where trucks cannot drive over winter roads and ships cannot go through the ice.
- Used in the summer months, to haul from Winnipeg to Montreal, from which it is loaded on to ships.
Calm Air

- Hauling cargo for 20 years.
- 12,500 lbs of capacity per aircraft.
- Food mail is subsidized by Indian and Northern Affairs.
- All items must be properly labeled.
Supply Chain Cost and Agility:

Do You Measure Up?

David Long, President
Supply Chain & Logistics Association Canada

Philippe Richer, Manager Supply Chain and Logistics Research
Industry Canada

Winnipeg, April 24, 2007

Luncheon Speaker
Agenda

- SCL Background Information
- Research Overview
- Supply chain agility
- Logistics cost
- Innovation and Investment
- Next Steps
SCL Background Information

• Supply Chain & Logistics Canada (SCL) is a non-profit organization of business professionals interested in improving their logistics and supply chain management skills through a comprehensive program of education, research and networking opportunities.

• SCL also serves companies wishing to gain strengthened awareness of government activity affecting their supply chain operations; access to training and education opportunities; and, information on global trends in logistics.

• Active and growing chapters across the country form our foundation. Focusing on particular regional issues and professional development, seminars and other events allow the Association to serve members' specific needs.
SCL Chapters

- Chapters are formed by groups of local logisticians, who form committees to bring further industry education to their peers.

- SCL Chapters:
  - British Columbia
  - Calgary
  - Edmonton
  - Saskatchewan
  - Manitoba
  - Toronto
  - Ottawa
  - Quebec
  - Atlantic
SCL Focus

**Networking and professional development**
- Annual conference and regional symposia
- Executive Program
- Facility tours
- Awards of Excellence

**Information**
- Supply Chain & Logistics Journal, semi-annual magazine
- Monthly newsletters
- On-line membership listings

**Focused research initiatives**
- Identifying trends
- Benchmarking performance
- Investigating contemporary issues
Industry Canada and SCL Partnership Background


- The Strategic Human Resources Study of the Supply Chain Sector (2004-2005)
- The Canadian Supply Chain Efficiency Smart Border Study (2004)
- Radio Frequency Identification (RFID) Beyond Customer Mandate
- Logistics and Supply Chain Management (SCM) Key Performance Indicators (KPI) Analysis (2005-2006)
Logistics and SCM KPI Research Overview

- Logistics and Supply Chain Management (SCM) is expected to contribute dramatically to productivity growth of Canadian firms in the next few years.

- Canadian firms have used logistics performance indicators internally for decades.

- Since 1982, the CLM (CSCMP) has produced a state of logistics report in the U.S.

- There has never been any tool for Canadian firms to benchmark themselves to their supply chain partners, competitors and sectors.
Supply chain metrics and benchmarking standards is the key priority for Global 1,000 Logistics Executives

Top 10 things that logistics execs want to know about:

1- Supply chain metrics and benchmarking standards
2- Supply chain real-time visibility best practices and standards
3- The effect of supply chain software on creating strategic value
4- Best practices in distribution
5- The impact of supply chain optimisation on business
6- Tracking and exception management technology
7- Enhancing leadership skills for supply chain executives
8- Demand planning, capturing and using demand signals.
9- Benchmarking high performance companies
10- Forecasting and strategic planning to enable the agile supply chain

(The Arc Advisory Group, 2006)
Carriers and shippers need quality information on logistics and SCM costs as well as performance indicators in order to provide best practices and benchmarks to monitor industry performance.

SCL Research Committee has partnered with Industry Canada to launch a national supply chain management performance indicators initiative.

Supply chain specific analysis: Manufacturing, Pharmaceutical, Automotive, Aerospace, Retail and Consumer Product Goods, Macro level.

Sector coverage: 250 manufacturing, 30 wholesale and 70 retail sectors.
Research Overview

1. Supply chain agility and Just-In-Time (JIT) key performance indicator (KPI)

2. Logistics and SCM cost KPI:
   I. Internal logistics cost
   II. Outsourced logistics cost
   III. Inventory carrying cost

3. Logistics and SCM Innovation and Investment
The two most preferred Lean Manufacturing KPI measures in North America (NA) are Logistics and SCM JIT related.

- Logistics indicators outperform traditional floor plant measures by 45 to 250%.
- On-time delivery KPI allow firms to evaluate their level of quality in lean processes.
- Inventory turns is the KPI that provides the most tangible information in JIT.
Logistics and SCM Corporate Wide Measurement

Value Added Performance Advantage from Logistics and SCM KPI Measurement

% NA Firms Achieving >15% improvement (2 year period)

- Total landed cost: 5.75 X
- Shipment Delays: 5.1 X
- Documentation Issues: 3.1 X

% NA Firms Achieving 15% improvement (2 year period)

- Total landed cost: %
- Shipment Delays: %
- Documentation Issues: %

Legend:
- Corporate wide measurement
- Measured locally
- Not measured consistently
Canada has a Productivity Gap of 35% in Terms of Inbound Inventory Management.

Canada's 2005 Inbound Inventory Turns Ratio was still Below the U.S. Level of 1992.
The Retail Sector Inventory Turns Remained Level but Canada was Behind the U.S. in a Proportion of 30% to 40%

- The Wholesale sector was also level for the same period
- The Manufacturing increase in JIT productivity was not based on inventory movement to wholesale and retail sectors
Increase in JIT Productivity is Driven by Logistics and SCM Mandates

Alumina and aluminium sector is being integrated into automotive supply chain

Consumer Product Goods Manufacturers are being more integrated with large retailer Collaborative, Planning, Forecasting and Replenishment (CPFR) initiatives
Supply Chain Analysis – The Manufacturing Furniture
CPG Sector is Moving into JIT and Mass Customisation

Canadian CPG Furniture Supply Chain JIT Indicator

Inventory Turns

Furniture and related product manuf-raw
Furniture and related product manuf-fin.
Home Furnishings Wholesalers
Furnishing and Home Furnishings Stores

Sub Sectors  Sector Average
Supply Chain Analysis – The Food CPG Sector
Hardwood Veneer & Plywood Mills, and Pulp Mills Enjoyed a High Increase in Agility and Flexibility Since 1992

Wood Products Sector Comparison - INBOUND

Inventory Turns per Year

<table>
<thead>
<tr>
<th>Industry</th>
<th>Inventory Turns '05</th>
<th>% Growth '92-'05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sawmills</td>
<td>8%</td>
<td>-20%</td>
</tr>
<tr>
<td>Hardwood veneer &amp; plywood mills</td>
<td>14%</td>
<td>-10%</td>
</tr>
<tr>
<td>Softwood veneer &amp; plywood mills</td>
<td>26%</td>
<td>0%</td>
</tr>
<tr>
<td>Structural wood product &amp; fibreboard mills</td>
<td>37%</td>
<td>10%</td>
</tr>
<tr>
<td>Particleboard mills</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Waferboard mills</td>
<td>51%</td>
<td>30%</td>
</tr>
<tr>
<td>Pulp mills</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

*Inventory Turns per Year*
On the outbound side, it appears that waferboard mills increased their inventory turns by 91%.

Hardwood veneer & plywood mills, and Structural wood product manufacturing saw their inventory turns cut in half since 1992.
Companies that use best practices in inventory management technology achieved significantly better JIT KPI results than their peers

- Increased Perfect Order % to Customers: 2.5 times more NA firms achieved at least 15% improvement
- Reduced ICC: 2.4 times more NA firms achieved at least 15% improvement
Most Innovation is Done in Manufacturing Methods and not in Logistic Processes

Manufacturing Logistics and SCM innovation in the West Provinces

<table>
<thead>
<tr>
<th>Industry</th>
<th>Manufacturing average</th>
<th>Wood</th>
<th>Paper</th>
<th>Aerospace</th>
<th>Petroleum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics innovation</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

0% of plants

22
Canadian Manufacturing and Retail Annual Investments in Warehousing and Freight Terminals Increased by More than 200% from 2001 to 2003

Logistics Warehousing and Freight Terminal Investment in Canada

- 2001
- 2002
- 2003

Manufacturing
Wholesale trade
Retail trade

(M$)
Logistics Cost Mix Differs Widely by Sector and by Country

In all sectors the U.S. has a larger logistics outsourcing costs share than Canada.

Canada has a larger internal costs share in Manufacturing and Wholesale.
In nominal terms, the U.S. has larger total logistics costs than Canada in all sectors.

The difference being highest for Wholesale (22%) and lowest for Manufacturing (2%)
Logistics Costs Differ Widely by Sector

- As an average, the Food manufacturing sector has larger logistics costs (in terms of sales) than the manufacturing average, with larger internal and logistics outsourcing costs.
- Within Food Manufacturing, Diary product is the sub-sector with the largest logistics costs, and also with the largest logistics outsourcing costs.
There is a lot of Variability with Respect to Logistics Costs within Food Manufacturing Sub-Sectors

<table>
<thead>
<tr>
<th>Food Manufacturing Logistics Costs as % of Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
</tr>
<tr>
<td>5%</td>
</tr>
<tr>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th>Internal cost</th>
<th>Outsourcing</th>
<th>Inventory carrying cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Manufacturing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood product preparation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and packaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy product</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat product</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit and vegetable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar and confectionery</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Product categories include:
- Manufacturing
- Food
- Seafood
- Dairy
- Meat
- Fruit and vegetable
- Sugar and confectionery

10% represents the highest logistics costs as % of sales, while 0% represents the lowest.

Colors indicate internal cost (red), outsourcing (green), and inventory carrying cost (white).
Next Steps

- Development of a Logistics Cost and Agility Assessment tool for the Industry with a Virtual Case Study

- Research Initiative on Low Cost Country Sourcing and Supply Chain Agility

Reports available on the Web at:

http://strategis.ic.gc.ca/logistics
Managing the Evolving Metals Supply Chain

Brian Rodger  B. Comm. M.B.A.
General Manager, Winnipeg Region
Ryerson Canada Inc.

Session Five
Three Main Metals Supply Chain

1) Steel
2) Stainless Steel
3) Aluminum

- These 3 metals are used the most throughout the world
The Commodity goes to the mill where the various metals are made.

Some metals will go directly to the manufacturers, while the rest will go to the metal service center.

The metal service center plays a large role in the supply chain, as the development of low cost milling in the 1970’s focuses on low unit costs, and does not include value added services. This strategy has created a healthy market.
Three main commodities

<table>
<thead>
<tr>
<th>Iron</th>
<th>Not traded on markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
</tr>
</tbody>
</table>

- Iron is the makeup of steel and stainless steel.
- Stainless steel uses a large component of nickel (and chromium).
The price of nickel reached a high in 1989. Recent price spikes in the last 2 years have increased the price of stainless steel due to low worldwide inventories.
Ten years ago, the stainless steel industry began adding a surcharge to offset the cost component of nickel. This is similar to the fuel surcharges used by airlines and transport companies. A large percentage of the overall price of stainless steel is based on the cost of nickel. For every $3 of stainless steel, the nickel expense accounts for $2.
Nickel Drivers

The Drivers Behind Higher Prices

- Very simply
  - Global demand (1.4 million MT) outstrips supply of nickel
  - Chinese demand alone is expected to top 303,000 MT in 2007 as they have surpassed Japan as the world’s largest producer of stainless steel
  - In 2006, Nickel market was in a 50,000 MT deficit
  - Lack of rainfall in Indonesia is limiting power supply, thus reducing nickel output
  - Limited new supply expected before late 2009 & 2009
  - Supply & demand may remain unbalanced until 2010

- MT= Metric Tonnes
- Indonesia is one of the largest world suppliers of raw nickel
Due to a lack of supply of nickel, the price of stainless steel will be high for the next 5-6 years.
The initial Aluminum price high was in 1989 with a spike in 1995. Since then, the industry has experienced recent record highs.
Aluminum History

Midwest Aluminum Ingot Trends

Source: Alcoa
Due to limited investment in the 1980’s and 90’s, the mining capacity of aluminum is somewhat limited.

### Aluminum Drivers

**The Drivers Behind Higher Prices**

- Shortages of alumina through much of 2006
- Shortages of aluminum scrap
- Rising energy prices, which account for 1/3 of aluminum production costs, led to numerous smelter shutdowns
- High freight costs to move metal from surplus to deficit regions
- Primary demand has grown to 28.2 million MT annually
- Prices may fall in 2007 as alumina prices are falling, smelters are being brought back online & stocks levels should stabilize
In 2007, as alumina prices fall some smelters may begin to reopen. However, an energy spike might may reduce or shut down the output of smelters. This has happened in China, where the government has limited the production of aluminum to provide electricity for other operations. Countries where energy is plentiful may become major producers of aluminum.
Consumption & Exchange Rates
- Raw Material Tighter Supply
  - Energy: Coke, Electricity
  - Scrap, Iron Ore, Freights

China Expansion
- Migration of manufacturing
- Pulling raw materials
- Migration of Scrap

Consolidation of the Industry

- Consumption & Exchange rates are increasing. Mills, distributors, and manufacturers appear to be absorbing these costs, however it is not known how long this may last.
- China is growing at a rate of 10% per year, using raw and scrap materials.
- Consolidation between companies is increasing.
China has developed from a customer of stainless steel to become a supplier.
In February ‘07, China began producing aluminum at high enough levels to begin exporting.
• China- Between 2004-05 a new steel mill was opened each month.
• Canada- There are only 4 major steel mills, the last of which opened in the 1960’s.
In 2001 prices were depressed due to years of over capacity.

More than 40% of the sheet producers are either in bankruptcy or serious financial difficulty.
Mill Consolidation

2004 U.S. Steel Sheet Producers

Mill consolidation has resulted in a healthier industry

Mill Consolidation

2005 Stainless Sheet Mills

Import 20.1%
Mexinox 8.6%
AK 7.2%
NAS 39.6%
Allegheny Ludlum 24.5%
There is an obvious correlation between the US exchange rate and the price of steel due to steel being a world commodity.
Steel Prices and Exchange Rates

The value of the dollar is inversely related to international scrap prices. As the dollar weakens, scrap prices rise.
### Implications of this mill market:

1. Fewer mills to choose from
2. Smaller buyers will be squeezed out
3. Stable prices
4. More global sourcing

- Fewer mills results in reduced buying power by smaller manufacturers, these buyers must either operate by the mills rules or use a distributor.
- Mills will be able to predict supply & demand and adjust for it. This hasn’t been proven. Mills have been closed when there is an over capacity, but mills haven’t opened when there is a lack of supply, resulting in an increase in price.
- Global sources include Europe and Asia
Service Center

Level

The steel service center industry is fragmented, but consolidating

$50 billion industry → 750 – 1000 participants → Top 5 competitors had 29% market share

2005
Since 2005, Reliance has continued to consolidate and has become the industry leader.

Very recently, Ryerson has been purchased by another company.
Mills only want to deal with large buyers (e.g. auto manufacturers Ford & GM). This has transitioned to the distributors who only want to deal with larger customers (first tiers). Other distributors will sell to smaller customers (second tier).

- Buyers are beginning to partner with each other and with large buyers to improve buying power/clout and control 1st and 2nd tier producers.

Implications of this service center market:

1) Still fragmented, but fewer centers to choose from
2) Stronger first tier – larger second tier
3) Partner with the bigger ones
Questions

Q: Is it impractical to consider recycling nickel?
A: 90% of nickel goes into stainless steel. Due to this high demand, the recycling of both stainless steel products and nickel has become a growing industry. This has even led to the growing black market in stolen goods for recycling.

Q: Are third world countries (e.g. India, Brazil) becoming the dominant world mine owners and producers?
A: This appears to be a developing trend. This is due to the continuing globalization of the industry.

Q: What are the supply chain implications regarding the transition towards the “Mini-Mill” model?
A: The mini-mills tend to create specific products. The mini-mills focus on creating niche products at a high cost, while the remaining industry produces high output/high quality products at low cost.
Session Six

Mr. Gavin Rich
“Heyday of Winnipeg Garment Years”
Winnipeg has a long history in clothing manufacturing, beginning in the late 1920's.
• “Heyday of Winnipeg Garment Years”
• “Heyday of Winnipeg Garment Years”
• Initially, Richlu based most of its production on Eaton’s Winnipeg demand.
Year: 1942  Hudson Bay Co.

Year: 1915  Decoration Day Parade on Main St. at Broadway with Empire Hotel in background.
- 1970’s Garment Catalogs
• Eaton’s Catalog:
• Richlu “Hydro Parkas”, initially used by Hydro workers who used the jacket’s deep pockets to hold tools while working on hydro lines.
- Eaton’s Catalog: Richlu “Hydro Parkas”
Shipping of outgoing garments in New York. Because it was destined for local destinations, garments could be left exposed, unlike today where garments are shipped around the world.
• Adverts in the Exchange District where most of the Winnipeg garment industry was based.
- Richlu competitors based in Winnipeg.
- Winnipeg is a thriving garment center which continues to grow.
- Winnipeg is one of the top three clothing manufacturing centres in Canada.
- Proud Canadian Company founded in 1939
- Started by Abraham Rich
- David Rich joins company in 1966, current CEO
- Gavin Rich joins in September of 1995
Richlu employs 200 people (which includes warehouse and service staff).

In today’s industry, it is rare for clothing to be manufactured in North America (Domestically).
Distribution Summary

- Gomez – 130,000 sq. ft.
- Adelaide – 110,000 sq. ft.
- Inkster – 89,500 sq. ft. “New”
- Annabella – 50,400 sq. ft.

- Winnipeg based Richlu facilities
Richlu Brands

- Tough Duck- Premium brand of work wear
- Work King- Value brand of work wear
- Work King Casual- Value brand, casual garments
- Richlu- Fashion brand exported to Europe and Japan
“Adelaide” – 110,000 sq.ft.
Head Office - Primary Manufacturing Location
Secondary Shipping & Receiving
Quick Response Pick & Pack Stations

- Head Office
- Manufacturing
- Quality Control
- Quick response “Pick & Pack”
- Hanging leather garments
“Gomez” – 130,000 sq.ft.
Primary Shipping & Receiving
Primary Pick & Pack or Distribution Center
Secondary Storage Facility

Hanging Inventory - Gomez Warehouse
“Annabella” – 50,400 sq.ft.
Dedicated Stock DC

- Hanging stock warehouse.
- While an eight floor facility may be considered inefficient, it is used only by one customer for pre-packs, and is operated by 2 people creating a low cost operation.
“Inkster”

89,500 sq. ft. of storage & 6,400 sq. ft. of office space

- New facility.
- Used primarily for distribution.
Back-up Stock - Inkster Warehouse

Back-up Stock - Inkster Warehouse
• Hanging inventory allows for catalogue distribution to retailers and customers.
• Richlu’s response rate is approximately 2-3 days.
Richlu Products
Orange garments were produced in Winnipeg, while the camouflaged garments were produced overseas.
Richlu Products
Leathers

Great Value.

NOW $129.99

SAVE $30

$99.99

“We don’t have time for high maintenance fabrics. Whatever you wear is machine washable.”

● Richlu Products
Richlu European Products
Made in Winnipeg based on European trends.
Richlu Hydro Parka reinvented as a retail product (selling for $400, CDN).
European Fashion

- Richlu European Products
- Advertisement
- Japan - Fasteners
- India, Pakistan, Italy - Fabrics
- Halifax is used as it is quicker to send shipments to Winnipeg over land.
Flow Chart: Distribution of Finished Goods to Customers

Complete Flow Chart

★ Raw Materials
★ Factories
★ Distribution
★ Customers
Peak supply matches peak demand periods.
During these peak supply and demand periods, distribution centres can sometimes become congested and slow/stop operations due to incoming and outgoing shipments.
Challenges and Trends in the Apparel Industry Supply Chain

- North American Raw Material and production moving to Asia, so we are dependant on the International Supply Chain putting pressure on lead times.

- Average lead time from concept to delivery is 4-6 months.

- Customers no longer order their annual needs in January for October shipping. It is imperative the suppliers need to be in stock and ship quickly.

- Previously, Richlu could predict seasonal order demand with an 80-90% certainty due to initial orders by customers.

- This ability has been lost due to the shift towards JIT supply and delivery.

- Customers require Richlu to maintain adequate inventories based on limited market intelligence.
Challenges and Trends in the Apparel Industry Supply Chain

- Our company’s long-term goals are 8 hours from customer order to shipping. In peak season, (early-mid November), we still get backlogged

- The barrier to entry in the garment business has been reduced, i.e. large capital expenditure not required to “order” ready-made product from an overseas factory, so our customers become our competitor

- Expertise now needs to be in design, technology, branding, marketing, distribution, planning and execution

Challenges and Trends in the Apparel Industry Supply Chain

- In the current retail environment, our competition is not other apparel companies but every commodity that can deliver better Sales per square foot

- Quality of products is now assumed, so differentiation of products is much more important
How Richlu is striving to deal with “The New World”

- A commitment to inventory, so we can “afford” a delay or a strike
- Maintain our domestic factory to “blend” domestic and imported products for good delivery
- Investing in better distribution systems
- Taking advantage of the Winnipeg location—backhaul to eastern locations

- Based on certain conditions (e.g. snowstorm), a customers inventory can clear in a day, requiring rapid supply.
How Richlu is striving to deal with “The New World”

- Become better distributors than our competitors and customers
- Trying to do as much as possible in overseas factories—i.e. ship from Asia directly to store locations in North America
- We have developed a “piece work” shipping wage system, so our distribution staff is on incentive
- Our Customs compliance department, IT department, design department our fastest growing departments

- Customers are asking to quote Freight On Board (FOB).
- Richlu is focusing on developing cost effectiveness.
- An increasing level of production is being done overseas with direct transportation to North American stores.
How Richlu is striving to deal with “The New World”

- Investing in our brands—in Europe, almost 15% of total sales is invested in marketing
- Our major customers no longer want us to be “order takers”—we have to be strategic, and become experts in the retail trade
- There are some awe inspiring technologies our customers are using—one customer went from a “ARS” (automatic replenishing system) to a sophisticated system that does more than replenish—it takes hundred of pieces of data including historical sales, weather patterns and forecasts to predict needs

A Case Study

- We are a major supplier to a prominent retailer in Canada with over 350 stores. In the past, we would have a 21 day order cycle timeline:
  - Receive the order
  - Pick and pack the order (1 week in the old warehouse)
  - Call for “slow boat” truck pick-up
  - 10-14 day transit time to customer East and West DC’s
  - From Customer’s DC cross-docked to stores
- TOTAL TIME: 25-30 days from order to store

- DC= Distribution Centre
New Solution

- Receive orders every Friday
- Turn around 2-3 days in new Inkster facility
- Use Fed-Ex Ground service direct to stores
- Order received on Friday in store the following Friday (Ontario can be two days by truck)

- Richlu worked with FedEx in 2006 to establish a shipping partnership to improve efficiency.
Questions

Q: What are the reverse logistics considerations specific to Richlu?
A: Reverse logistics that allow for the garment to be resold can be costly, although it averages out with the selling price of the garment.

Q: How does European clothing differ from North American?
A: The level of quality is the same. However, the fabric and sizing used in Europe is different from that in Canada.

Q: Where do the savings emerge while using a more expensive transportation service (FedEx)?
A: FedEx is used during the peak season. The work apparel industry operates predominantly in the fourth quarter. In a hundred day selling season, being in stock for an extra day will increase your sales by 1%. The nominal cost for the ground service is traded off with the inventory costs. As well, Richlu maintains inventory levels to be available for retailers. The fast turn around times provided by FedEx are beneficial and help lower the costs of these safety stocks.

Q: How much marketing is done to emphasize the production that takes place in Winnipeg?
A: “Made in Canada” appears to be important to domestic customers. As well, Canadian made goods are very popular right now in Europe.
Session 7

Mr. Ravee Navaretnam
Vansco Electronics LP
- Product life cycle and the impact on the supply chain
Discussion- Expediting the profit

- Early supplier involvement.
- New component technology.
- Do we need to build capabilities.
- Shorter lead times.
• How do you manage product life cycle?
• How to stay in the market longer and how will the supply chain help this.
• Important to plan to expedite profits.
Discussion - Accelerating The Introduction

- Inventory management.
- Reserve capacity.
- New product introduction process
- Change management capabilities.
- Lead time should only be the time it takes you to ask
- Inventory management structure is very important
Supply Chain Influence

• Expedite opportunity to make profit by involvement in design phase.
• Expedite time to market by well defined new production introduction process, change management process and collaboration with suppliers.
• Extend time in market by managing total cost.

Discussion – Extending The Time

• Focus on re-engineering, alternative parts
• Offshore - labor
• Most opportunity in component offshore
• Manage end of life part
Speaker Bios
Supply Chain Connections Conference

Dr. Barry E. Prentice
Professor, Dept. of Supply Chain Management
I.H. Asper School of Business
University of Manitoba

Barry E. Prentice was the Director of the Transport Institute from 1996 to 2005 and is currently a Professor in the Department of Supply Chain Management in the I.H. Asper School of Business. His major research and teaching interests are logistics, transportation economics, urban transportation, economic development and trade policy.

Dr. Prentice has authored or co-authored more than 150 research reports, journal articles and contributions to books. His scholarly work has been recognized for excellence in national paper competitions and awards. In 1999, National Transportation Week named him Manitoba Transportation Person of the Year.

Dr. Paul D. Larson,
Director, Transport Institute
Head, Department of Supply Chain Management
University of Manitoba

Paul D. Larson, Ph.D. is Head of the SCM Department and Director of the Transport Institute at the University of Manitoba. He earned a MBA degree at the University of Minnesota and a Ph.D. at the University of Oklahoma. Dr. Larson has consulted and conducted executive seminars, in Scandinavia, North and South America, the Caribbean and China, on logistics, purchasing and SCM.

Dr. David Gillen
Director, Centre for Transportation Studies
Sauder School of Business, UBC

Dr. Gillen graduated in 1975 from the University of Toronto with a Ph.D in Economics. He joined University of British Columbia in 2005 and currently holds
the positions of YVR Professor of Transportation Policy in the Sauder School of Business and is Director, Centre for Transportation Studies, University of British Columbia. He is also Research Economist at the Institute of Transportation Studies at the University of California, Berkeley where he taught from 1990 to 1998.

He has published over 100 articles and books dealing with a variety of topics in transportation economics and business. His current research includes evaluating investment in Intelligent Transportation Systems, pricing and auction mechanisms for roadways and runways, measuring performance of transportation infrastructure, examining the role of transportation in the supply chain, evolving strategies and business models in airlines and airports and studying the linkages between transportation and the economy.

He is Associate Editor of Transportation Research and on the Editorial Boards of the Journal of Transport Economics and Policy and Journal of Transportation Statistics. He is also a current member of the Greater Vancouver Gateway Council and is on the Reason Foundation, Los Angeles Advisory Board to Mobility Project to the Transportation Community.

Mr. David Northcott
Executive Coordinator
Winnipeg Harvest

David Northcott is Executive Coordinator of Winnipeg Harvest and has been for most of his career. Prior to joining Winnipeg Harvest, David was a Community Development Worker for Winnipeg’s Inner City at the Broadway Action Steering Committee. Also, David spent six years employed with a Trust company working in areas of savings, lending, pensions, and trust services.

Currently, David’s community involvement includes serving as a board member on the Vanier Institute of the Family, Canadian Association of Food Banks, Manitoba Chamber of Commerce, Just Income Coalition, Youth Employment Services and he is the chair of Celebrate Canada (Manitoba committee).

He has previously served as Chair of the Canadian Association of Food Banks; Chair of the Wolseley Residents’ Association; and member of the National Anti-Poverty Organization and the National Council of Welfare. He was also a
member of the Board for Big Brothers and Big Sisters, Western Canadian Aviation Museum and Volunteer Manitoba.

David Northcott has an active and passionate commitment to food security issues and human rights. David was an NGO member of Canada’s delegation to the UN’s Second World Food Summit.

David is married with three daughters.

Mr. Lloyd Hillier  
Manager, Customer Service Department  
Arctic Co-operatives Limited  

Lloyd Hillier graduated from Memorial High School in Sydney Mines, NS, and has worked in the retail sector for the past 25 years. He has managed retail stores for 19 years and is currently Customer Service and Logistics Manager at Arctic Co-operative Limited. Lloyd has held this position for 6 years and is married.

Mr. Jim Huggard  
Manager, Merchandising Division  
Arctic Co-operatives Limited  

Jim Huggard graduated from Queens University in Kingston Ontario and has worked in the Co-op Retailing System for 28 years. He has managed retail stores and worked with Federated Co-op on the wholesale side of the business. Jim is presently the Merchandise Division Manager at Arctic Co-operatives and has held that position for 5 years.

Jim is married with two children and has been a grandfather for 2 ½ years.

Mr. David Long  
President  
Supply Chain Logistics Association (SCL) Canada  

David Long started his formal working career as a Distribution Analyst for Imperial Oil Ltd. in Toronto. From there, he served as a transportation economist for the then Ontario Ministry of Transportation and Communications which culminated in his appointment to the role of Director of Communication Policy
representing Ontario interests in all Broadcast and Telecommunication issues before the CRTC. He then accepted an appointment as President of the Canadian Industrial Transportation League representing Canadian shippers on complex transportation and distribution issues. In this role, significant federal government deregulation actions were taken resulting in a new National Transportation Act in the 1980s. Mr. Long also has served as President/CEO of the following organizations: Canadian Information Processing Society, Canadian Bus Association, and the Canadian Association of Movers.

Mr. Long is proud to have served in his current role as President of Supply Chain & Logistics Association Canada – a position he has held for 15 years. He also currently serves as the Program Director for the Schulich (York University) Executive Education Centre and oversees all content for the Supply Chain and Logistics programs (4) conducted there.

Additional Achievements:

- Chairman of a Federal Committee (Transport Canada) which developed non-regulated service improvement guidelines for bus travelers with disabilities
- Co-chaired Federal Committee (HRDC) which resulted in improved occupational standards for bus employees
- Served as “industry champion” on the successful “Lean Logistics Technology Road Map” initiative with Industry Canada which has lead to several successful corollary projects including the current Supply Chain Performance Metrics Exercise.

Mr. Phillipe Richer
Logistics and Supply Chain Management
Service Industries Branch
Industry Canada

Philippe Richer is managing the logistics and supply chain management research initiatives at Industry Canada since May 2002. In that function, he was responsible to develop and coordinate the Lean Logistics Technology Roadmap, the Canadian Supply Chain Efficiency Smart Border Study, the Strategic Human Resources Study of the Supply Chain Sector, the Radio Frequency Identification (RFID) Beyond Customer Mandate initiatives and the Logistics and Supply Chain Management Key Performance Indicators Analysis. Prior to joining
Industry Canada, Philippe held different supply chain analytical functions at Michelin in France as well at Nortel Networks and Plats du Chef in Canada and in Europe. He holds a bachelor degree in Operation and Production Management as well as an International MBA.


Dr. Matthew Morris  
Professor, Dept. of Supply Chain Management  
I.H. Asper School of Business  
University of Manitoba

Matthew Morris is an Assistant Professor in the Department of Supply Chain Management. He completed his Ph.D. in business logistics at the University of Maryland. Matthew’s home town is Norfolk, Virginia. His current focus of research is international buyer-supplier relationships, and he is instructing courses in global supply chains business and supply chain management.

Mr. Brian Rodger  
General Manager  
Ryerson Canada Inc.

Brian was born in Val d’Or, Quebec and raised in Montreal. Brian has a lovely wife Lesley and a daughter Maggie and is looking forward to raising Maggie in Winnipeg.
Brian moved to Ottawa in 1995 to take Ideal Metal’s Non-resident Representative position. In 1999, Brian accepted the position of Corporate Marketing Analyst and moved to Toronto. In 2000, Brian became a Special Projects Manager in Winnipeg and in 2001 became the General Manager for Ryerson Canada’s Winnipeg Region.

In 1992, Brian graduated with a Bachelor of Commerce degree, with a major in Marketing, at Concordia University. In 2004, Brian and his wife both completed their M.B.A. degrees at the I.H. Asper School of Business. When in Ottawa, Brian completed college diplomas in Psychology and Crisis Intervention and volunteered as a counselor for four years at the Ottawa YMCA. Brian is a Six Sigma Green Belt with six projects under his belt and is currently a mentor for over a dozen yellow belts.

**Mr. Gavin Rich**  
President  
Richlu Manufacturing

Gavin was born and raised in Winnipeg. He started working in his family clothing company, Richlu Manufacturing, at age four counting buttons and hangers, and continued there throughout his youth working summers and weekends.

After graduating from the University of Manitoba in 1989 with a BA (Adv), Gavin worked in the broadcast and TV industry, producing and directing national TV commercials and specials. He conceived and produced the award winning CBC-TV series “Open Wide” in the early 1990’s.

Gavin re-joined Richlu Manufacturing in 1995 to work with his father, Richlu CEO David Rich. The company has enjoyed double-digit growth and has become a market leader in the work, fashion and casual apparel markets it competes in, supplying retail and distributors in Canada, United States, Europe and Japan. Richlu manufacturers garments in Bangladesh, China, and in downtown Winnipeg.

Gavin is on the Board of Directors of Prairie Theatre Exchange, Chair of “Team Winnipeg” for The JCC North American Maccabi Games, and loves to play Ice Hockey as often possible. Gavin is an active member of The Manitoba Quality
Network and The Young Presidents Organization. He is married to Avery, a lawyer. They have three children, all of whom can count buttons and hangers better than Gavin ever could.

Mr. Ravee Navaretnam
Senior Vice President Supply Chain, IT & Quality
Vansco Electronics LP

Ravee Navaretnam has been working for Vansco Electronics LP as Senior Vice President responsible for Supply Chain, Information Technology and Quality since September 2002. Vansco is a leading Electronics component and system supplier for construction, agriculture, truck and bus industry.

Prior to that he was with multinational companies like Omron and Rockwell Automation serving Automotive and Industrial Automation Customers.

Ravee, has over 20 years experience in managing various operations. He holds a B.Sc. in engineering from University of East London, England and a MBA from Queens University. In addition he is a certified professional purchaser (CPP), certified production and inventory controller (CPIM) and certified in integrated resource management (CPIM).
Supply Chain Connections Conference III

Evolving Supply Chains

Participants List

Speakers

(in order of appearance)

Dr. Barry Prentice  Department of Supply Chain Management
Dr. Paul Larson  Transport Institute
Dr. David Gillen  Sauder School of Business, UBC
David Northcott  Winnipeg Harvest
Lloyd Hillier  Arctic Co-operatives Limited
Jim Huggard  Arctic Co-operatives Limited
David Long  SCL Canada
Phillipe Richer  Industry Canada
Dr. Matthew Morris  I.H. Asper School of Business
Brian Rodger  Ryerson Canada Inc.
Gavin Rich  Richlu Manufacturing
Ravee Navaretnam  Vansco Electronics LP

PARTICIPANTS

(alphabetical)

Dr. Suresh Bhatt  Department of Supply Chain Management
Bev Bolton  Department of Supply Chain Management
Brian Brockman  Palliser Furniture Ltd.
Laurel Bruce  Cascades Boxboard Group Winnipeg
Darcy Calder  Geo. H. Young & Company Ltd.
Dwayne Dueck  Vita Health Products
Ricky Duong  Richlu Manufacturing
Dr. Paul Earl  Department of Supply Chain Management
Kim Ferguson  Palliser Furniture Ltd.
Dr. Cyril Foropon  Department of Supply Chain Management
Leslie Gavin  Winnipeg Airports Authority
Vic Gerden  Manitoba Aerospace Association
William Glanville
International Institute for Sustainable Development

Kathryn Graham
Meyers Norris Penny

Myrna Grahn
Manitoba Agriculture, Food & Rural Initiatives

Ken Hunter
Richlu Manufacturing

Juanita Jones
Standard Aero

Melanie Krause
MLCC

Lucille McLaughlin
Manitoba Infrastructure and Transportation

Brian Morris
Canadian Wheat Board

David Nyznyk
Grupo Canada Ltd.

Graeme Ross
Richlu Manufacturing

Jim Scully
Palliser Furniture Ltd.

Blair Sherwood
FWS Industrial Projects Ltd.

Roman Shevchuk
Delmar International Inc.

Christy Sokol
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Ernie Szabo
Princess Auto Ltd.

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Erica Vido
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Transport Institute
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