

Eastern Border Transportation Coalition: Montreal, QC - September 26, 2017

Where Do We Go From Here? The Next Chapter in Canada - U.S. Border Collaboration: A Supply & Value Chain Perspective

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Logistics

The work required to move and geographically position inventory

Supply Chain Management

Consists of firms collaborating to leverage strategic positioning and to improve operating efficiency

Supply Chain Strategy

Is a channel and business organizational arrangement based on acknowledge dependency and collaboration



The integrated value-creation process must be managed across firms from end to end

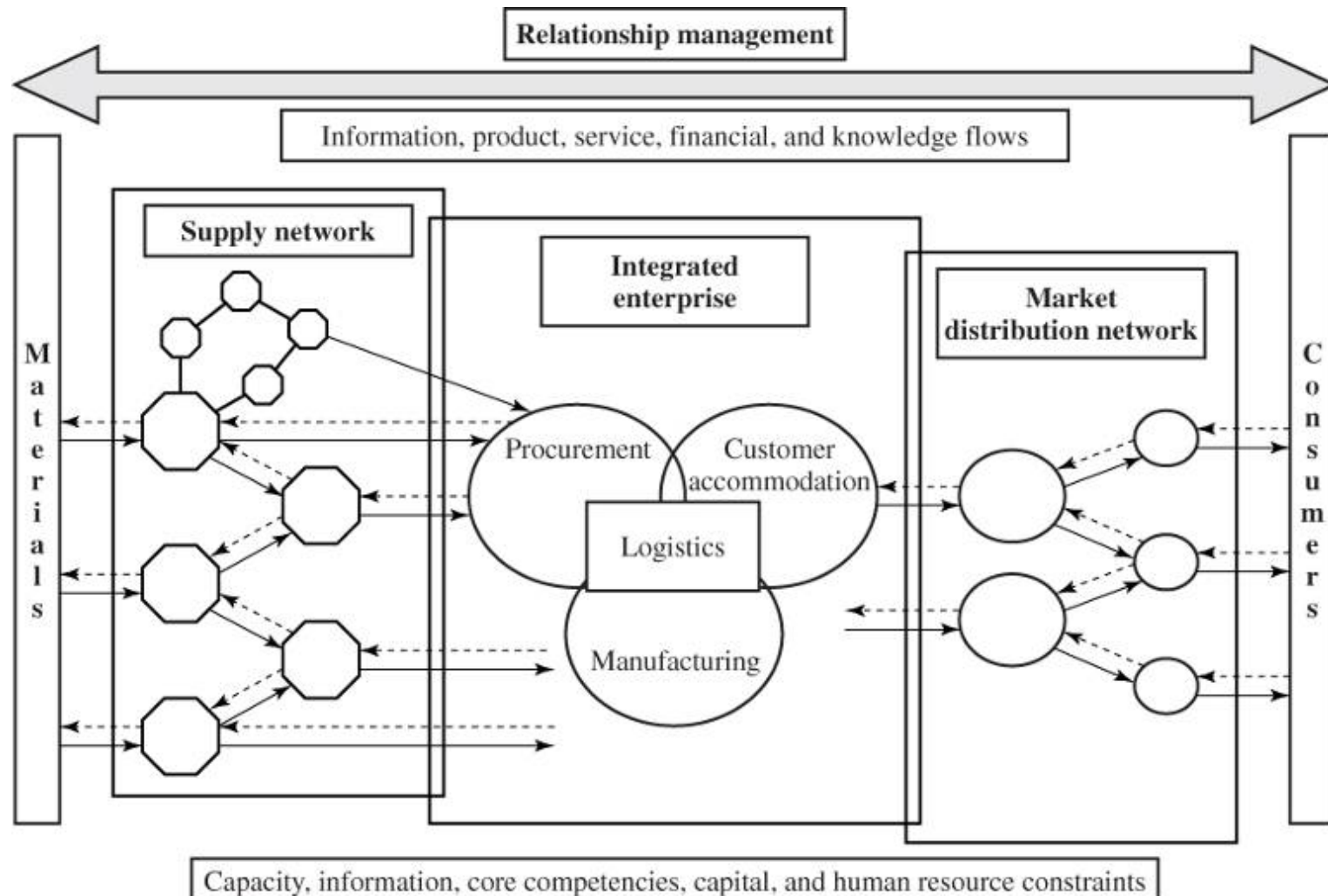


Figure 1.1 The Integrated Supply Chain Framework s

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Supply Chain Trends



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Supply Chain & Transportation Trends:

- Intermodal freight volume is up 0.6% in 2016
- Rail prices seem to be flat, as are revenues
- Motor carrier prices seem to be decreasing, and revenue is flat.
- Air is up 2.9% in 2016, Water: deep-sea is flat, but Great Lakes-St. Lawrence Seaway prices are up 2.9%!
- Natural Gas Pipeline profits up 13%, despite revenues down by 1.7% in 2016.
- Oil pipelines saw profits as a percent of revenue decline by 30% in 2016.
- Inventory carrying costs are up by 7% due to higher costs of taxes, insurance, obsolescence and depreciation. An important factor in considering location, mode choice and transit times!
- Driver shortages! & Supply chain talent issues!
- Sustainability is ever more important!
- Uncertain global economic, political, tech trends? Dollar? China? 3D printing?
- Natural disasters and climate change impacts?
- Terrorism & risk mitigation effects the supply chain!

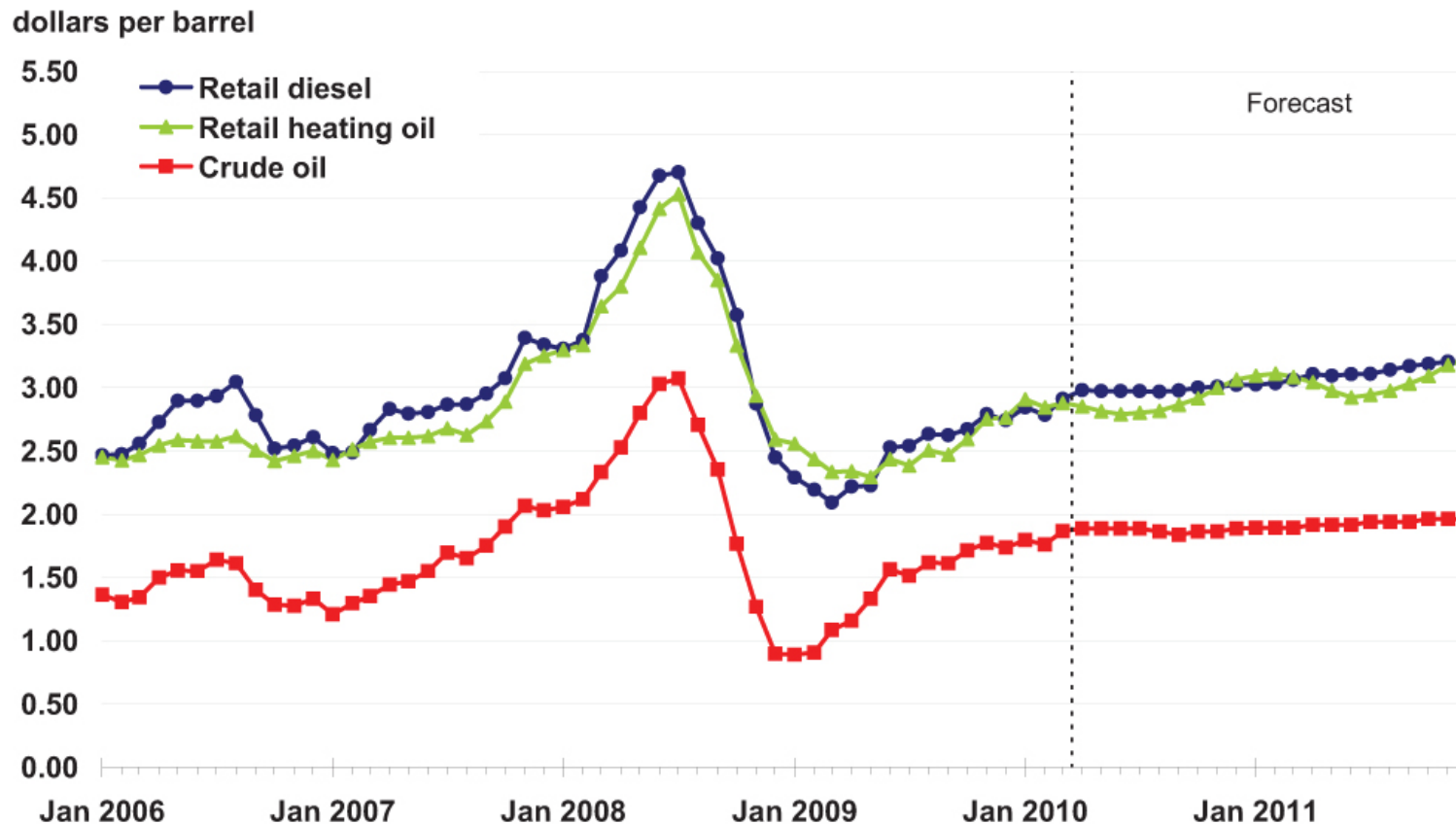
Volatile Diesel Fuel Prices

April 2011 = \$4.47 In CA
July 2012 = \$3.87 In CA
Sept. 2013 = \$4.22 in CA
Oct. 2014 = \$3.87 in CA

Vancouver Gas price \$1.17 liter (\$4.43 gal)

Oct. 2015 = \$2.75 in CA
Oct. 2016 = \$2.45 in CA
Aug. 2017 = \$2.94 in CA

U.S. Diesel Fuel and Crude Oil Prices



KEY LOGISTICS & SUPPLY CHAIN TRENDS:

(The Logistics Bureau))

AUTONOMOUS TRANSPORTATION: Anheuser-Busch recently hauled a load of beer autonomously. In Australia the mining industry has been using autonomous trucks four years. DHL believes that autonomous driving could lower costs by 40% per kilometer for freight.

ROBOTICS IN WAREHOUSES: automation is a continuing trend in many DC's. The McKinsey group estimate is that automated labor compared to human labor has fallen by 50% since 1990.

THE IMPORTANCE OF IT AND A VIRTUAL WORK FORCE: many companies are looking at the benefits of having employees work remotely. Therefore saving office space etc!

OMNI-CHANNEL FULFILLMENT & LAST MILE EFFICIENCY: as online shopping continues to grow the push to be more efficient in the last mile has become critical. Many retailers are offering online shopping/pick up Services. This trend is turning some retail space into essentially warehouse storage and pick/pack areas.

SUSTAINABILITY: Corporate social responsibility CSR, is becoming an ever increasing trend in supply chain, e.g., Carbon footprint reduction etc. A CSR study indicated that 80% of surveyed consumers take CSR into account in deciding what and where to buy.

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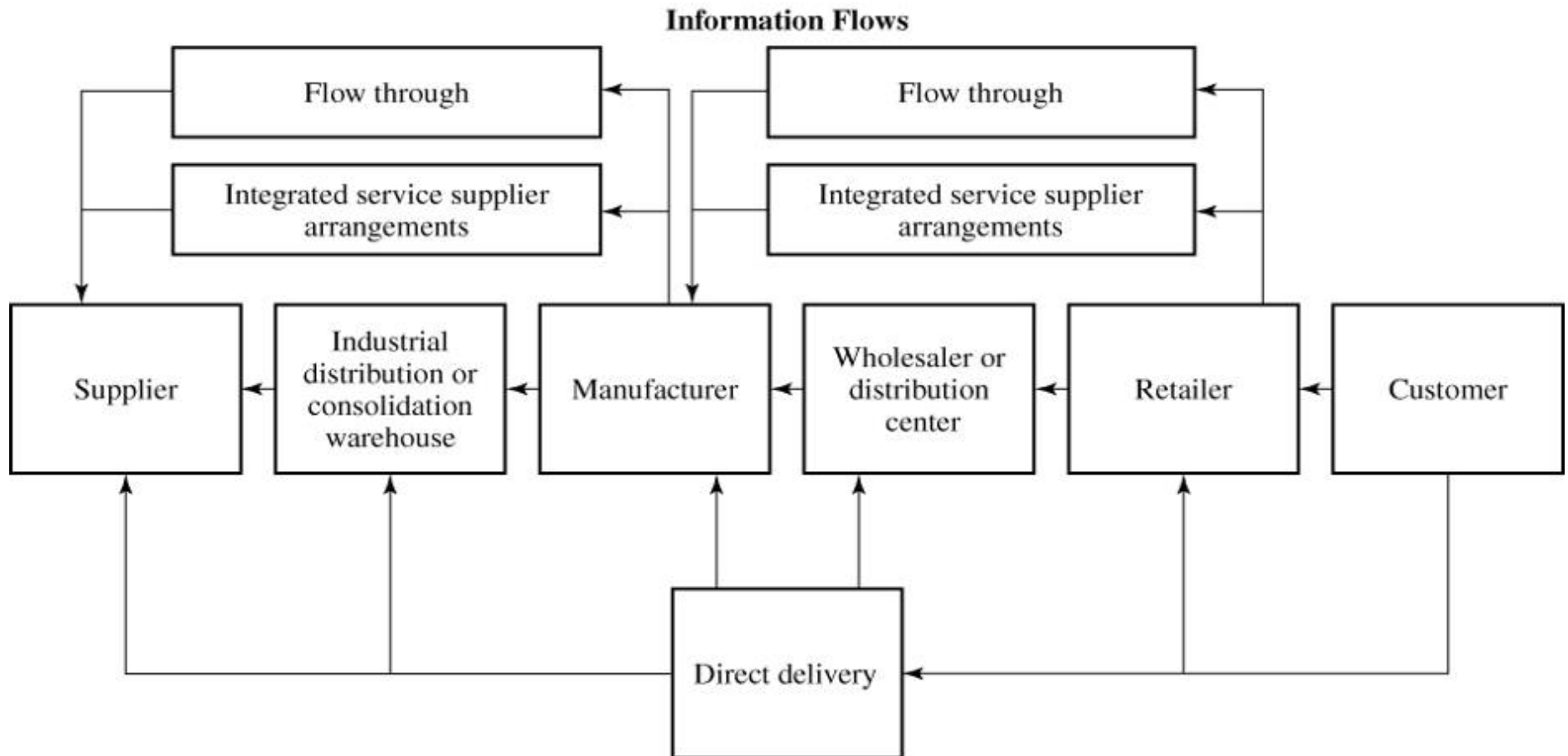
The truck that can drive itself: Mercedes shows off self driving system for freight vehicles. TESLA is developing long-haul electric trucks that “platoon”



- Radar that scans the road 250 meters ahead
- 'Highway drive' system can be controlled from a tablet computer

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Flexible echeloned and direct delivery



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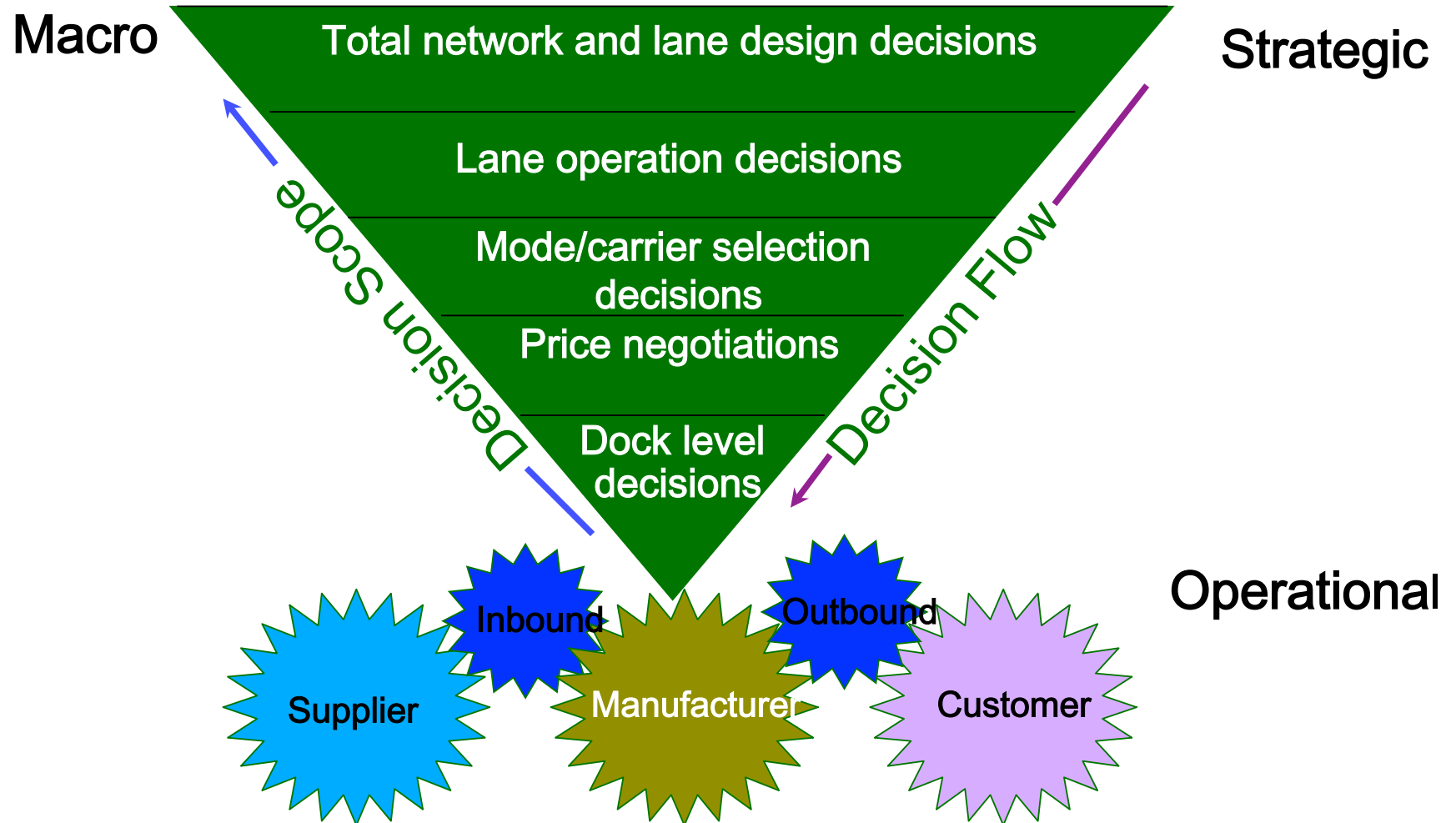
Freight Transport Energy Consumption

The sustainability question...are you?

Transportation Mode	Fuel Consumption	Fuel Consumption
	BTU per ton mile	kJ per tonne kilometer
Class 1 Railroads	341	246
Domestic Water	510	370
Heavy Truck	3,357	2,426
Air Freight (apx.)	9,600	6,900

Source: : US Transportation Energy Book

A 5 Step Integrated Transportation Decision Making Framework: ITDM



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Mode/Carrier Selection Factors:

The External Challenge, A Customer View

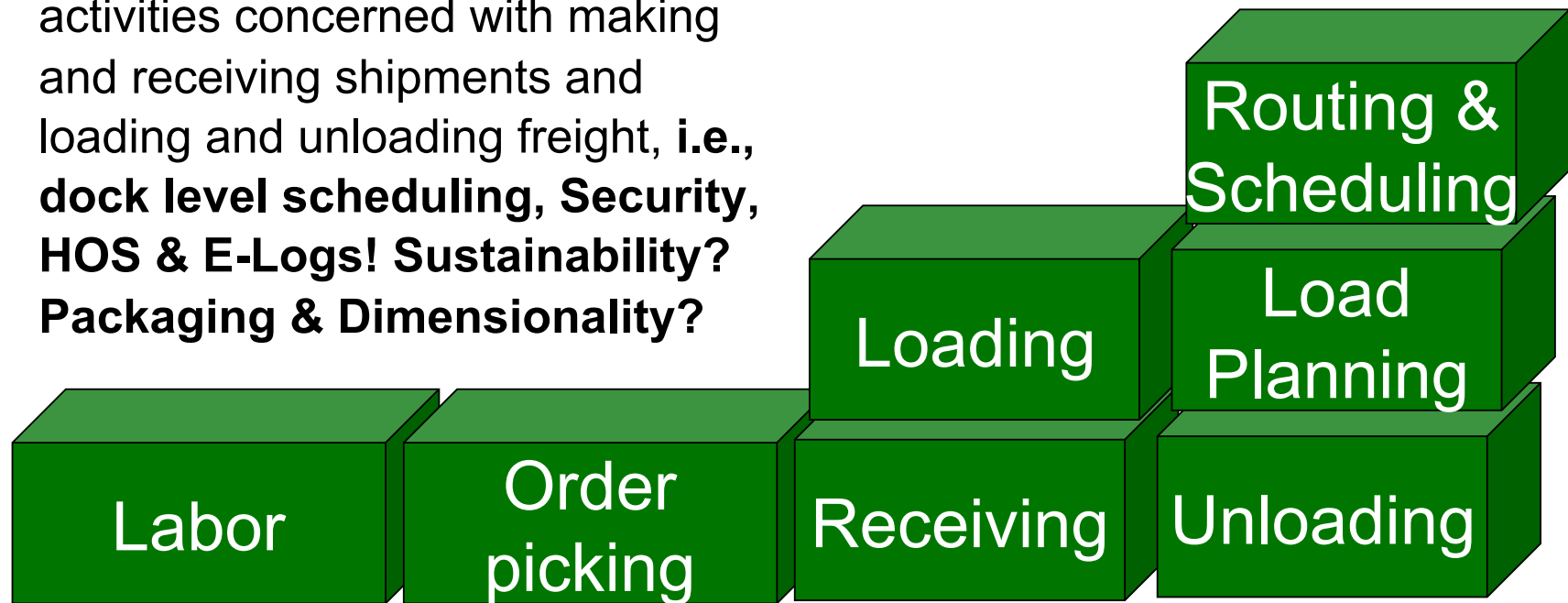
- **Customer service issues, e.g.:**
- **Reliable and consistent transit times!**
- **On-time pick-ups and deliveries**
- **Prompt delivery status**
- Accurate billing/invoicing
- Prompt action on service complaints
- Prompt response to damage and claims
- Quality of dispatch personnel
- Quality of drivers
- Competitive rates
- **Security procedures?**
- E-commerce and/or Electronic Data Interchange (EDI)
- Customs capabilities for international shipments
- **Future Partnership/Alliance potential?**

Logistical Dock Level Decisions: ITDM Step 5

The Internal Challenge, An Operational View

Operational planning and control:

activities concerned with making and receiving shipments and loading and unloading freight, i.e., **dock level scheduling, Security, HOS & E-Logs! Sustainability? Packaging & Dimensionality?**

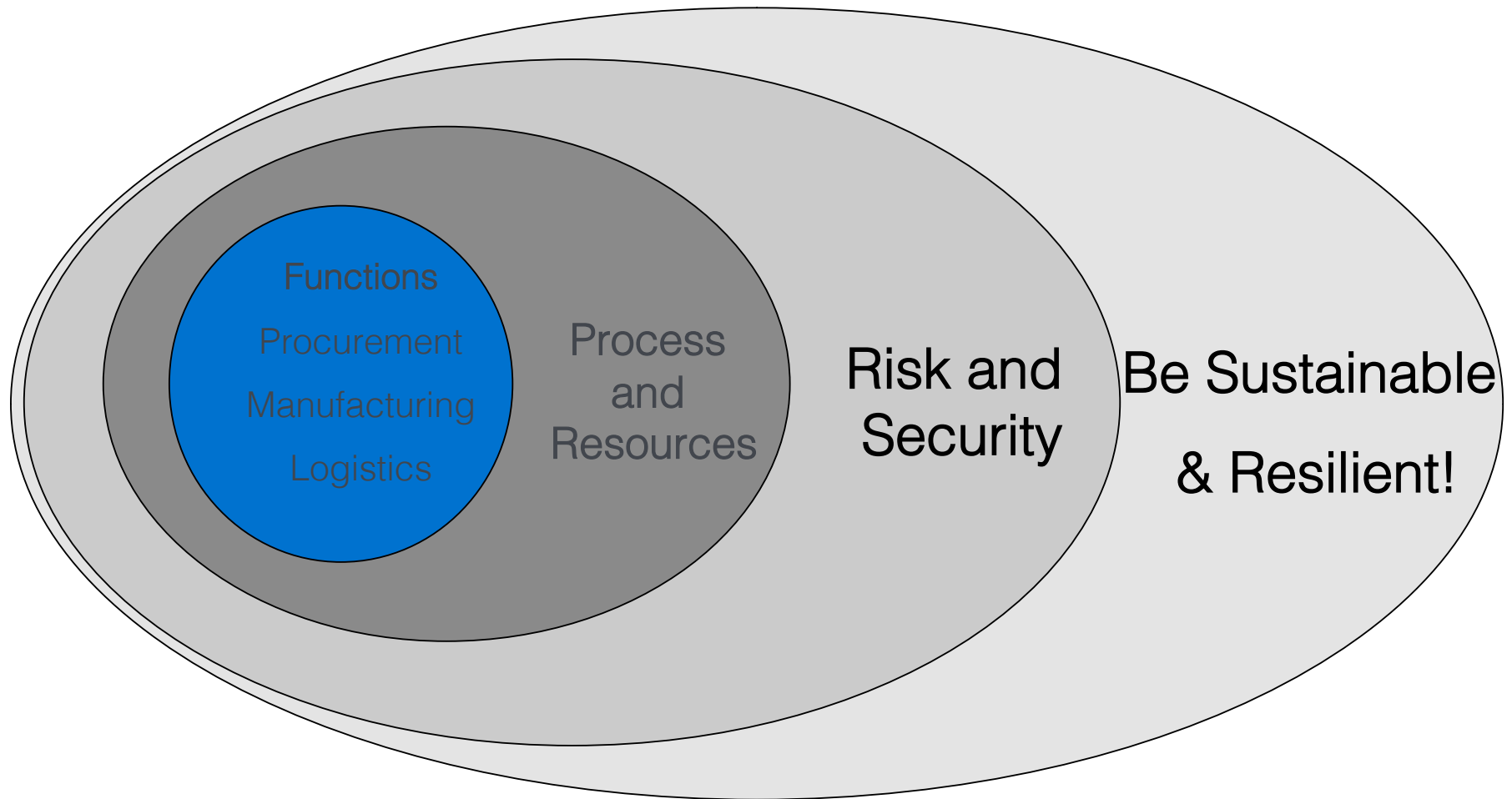


Benefits include:

- *Greater vehicle utilization*
- *Improved and more responsive customer service*
- *Reduced transportation expenses*
- *Reduced capital investment in equipment*
- *Reduced warehousing expenses*

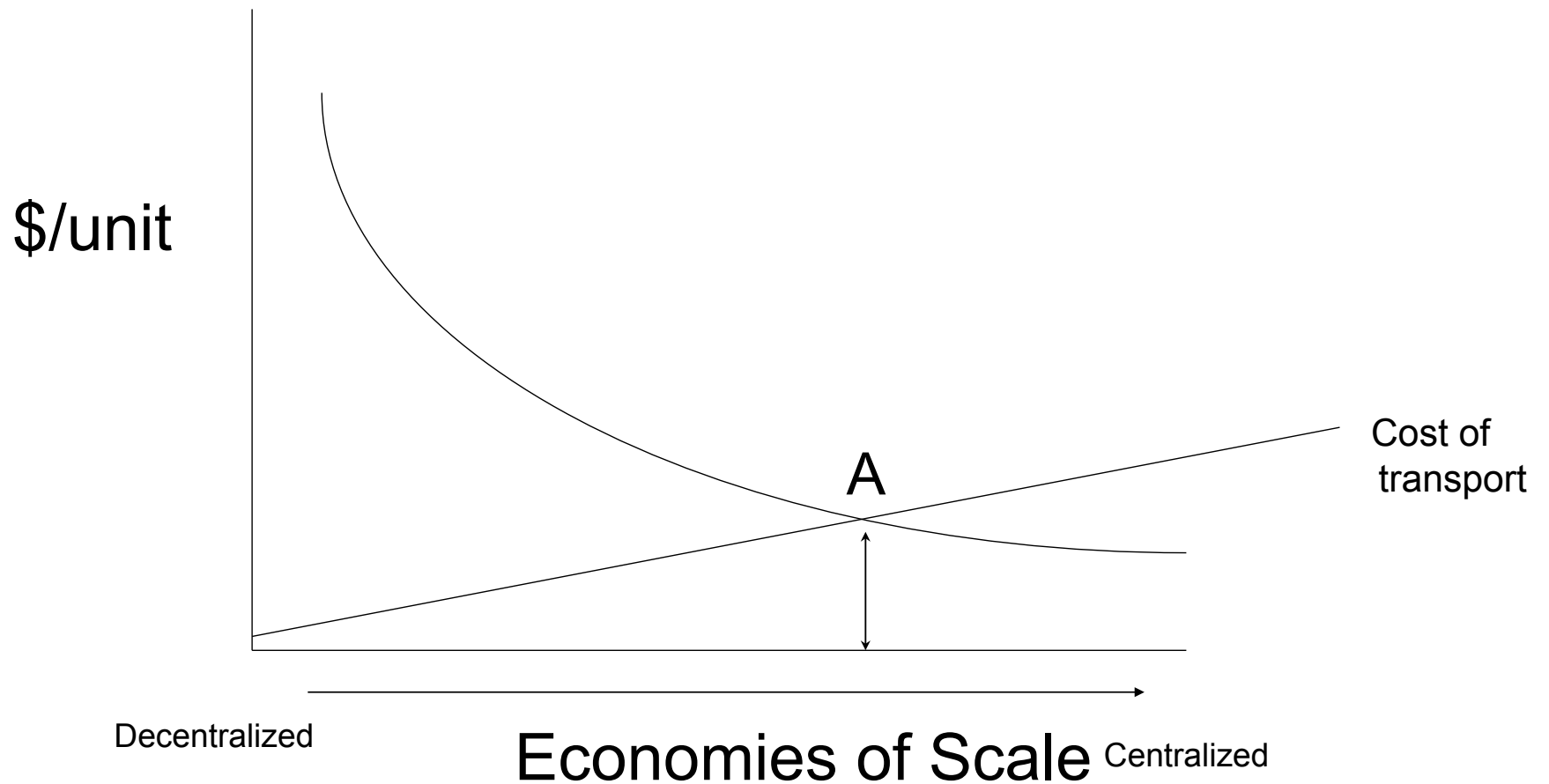
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Evolving SCM Responsibilities!



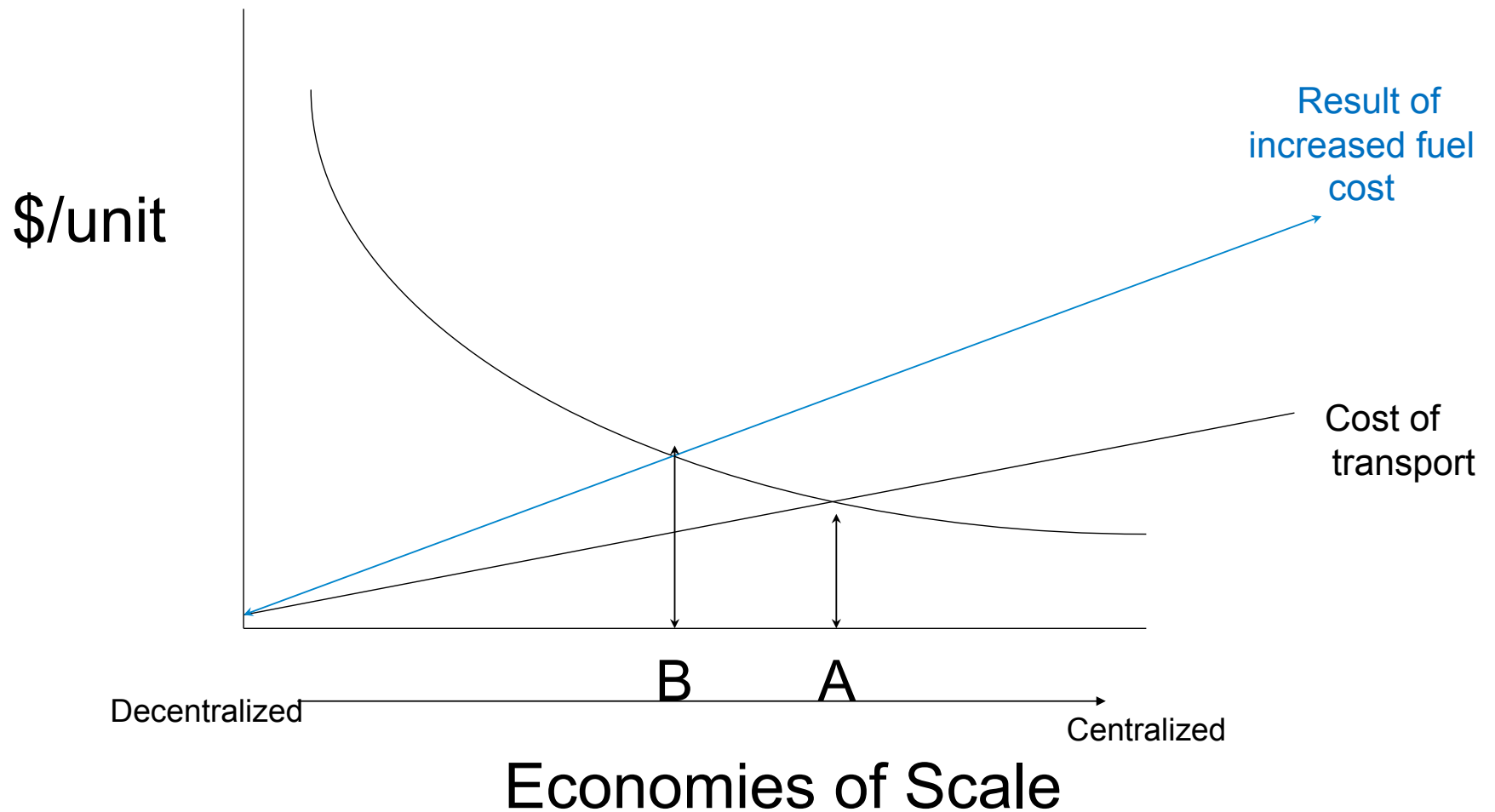
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Changing Dynamics of Supply Chain Design



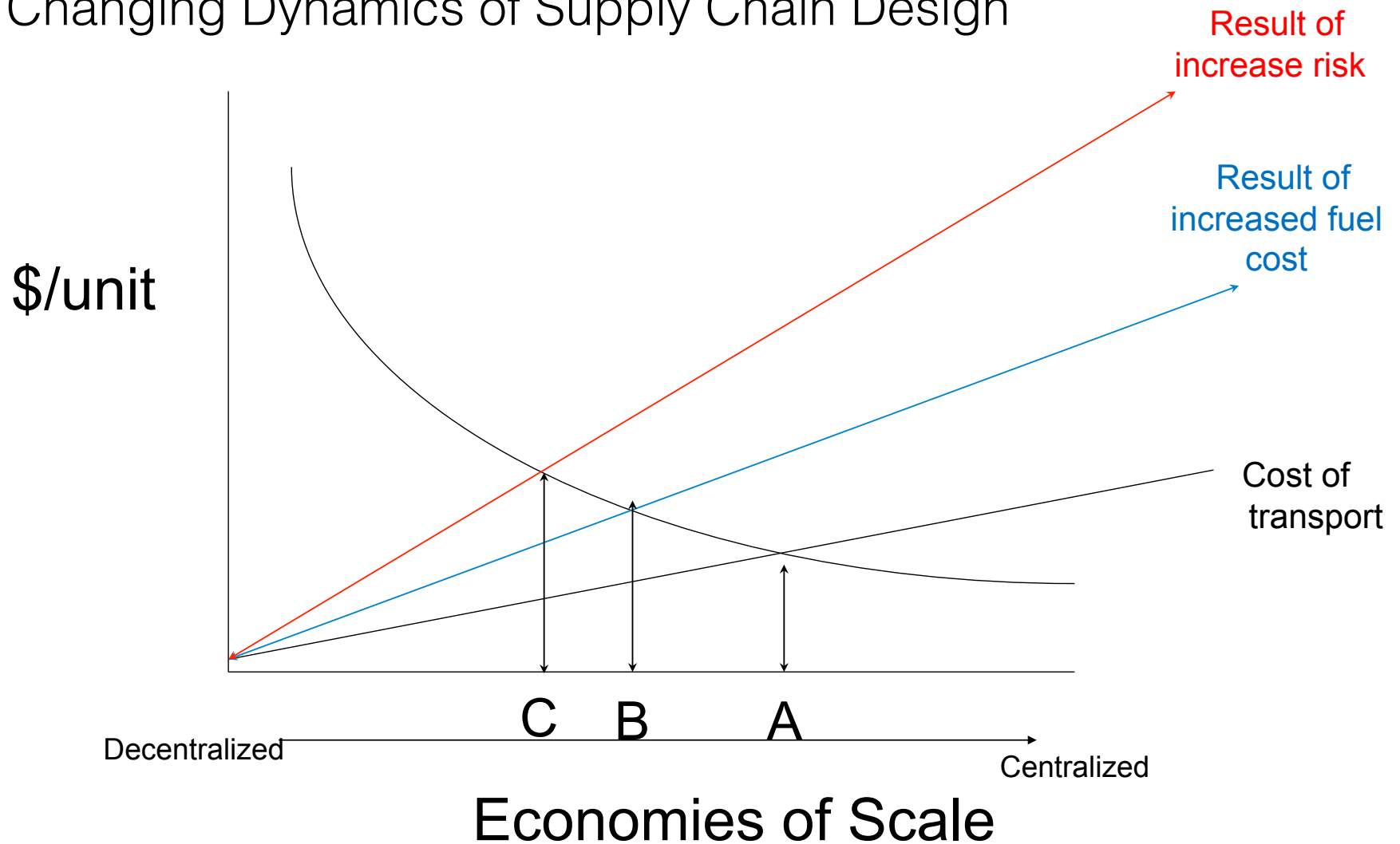
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Changing Dynamics of Supply Chain Design



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Changing Dynamics of Supply Chain Design



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Supply & Value Chain Managements Strategic Focus Is To:

- Lower Costs
- Reduce Time
- Be Sustainable & Resilient
- and now...Remove Risk???

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Supply & Value Chain Challenges! (9/24/17)

- “YET ANOTHER QUAKE PILES ON DAMAGE IN MEXICO”
- “70K EVACUATED IN PORTO RICO AMID THREAT OF DAM”
- “N. KOREAN QUAKE RULED NATRURAL, NOT NUKE TEST”
- “WORK SHUTS BUSIEST MEXICO BORDER CROSSING”



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Risks, e.g., Natural Disasters

In 2011 Japan suffered an earthquake and tsunami.

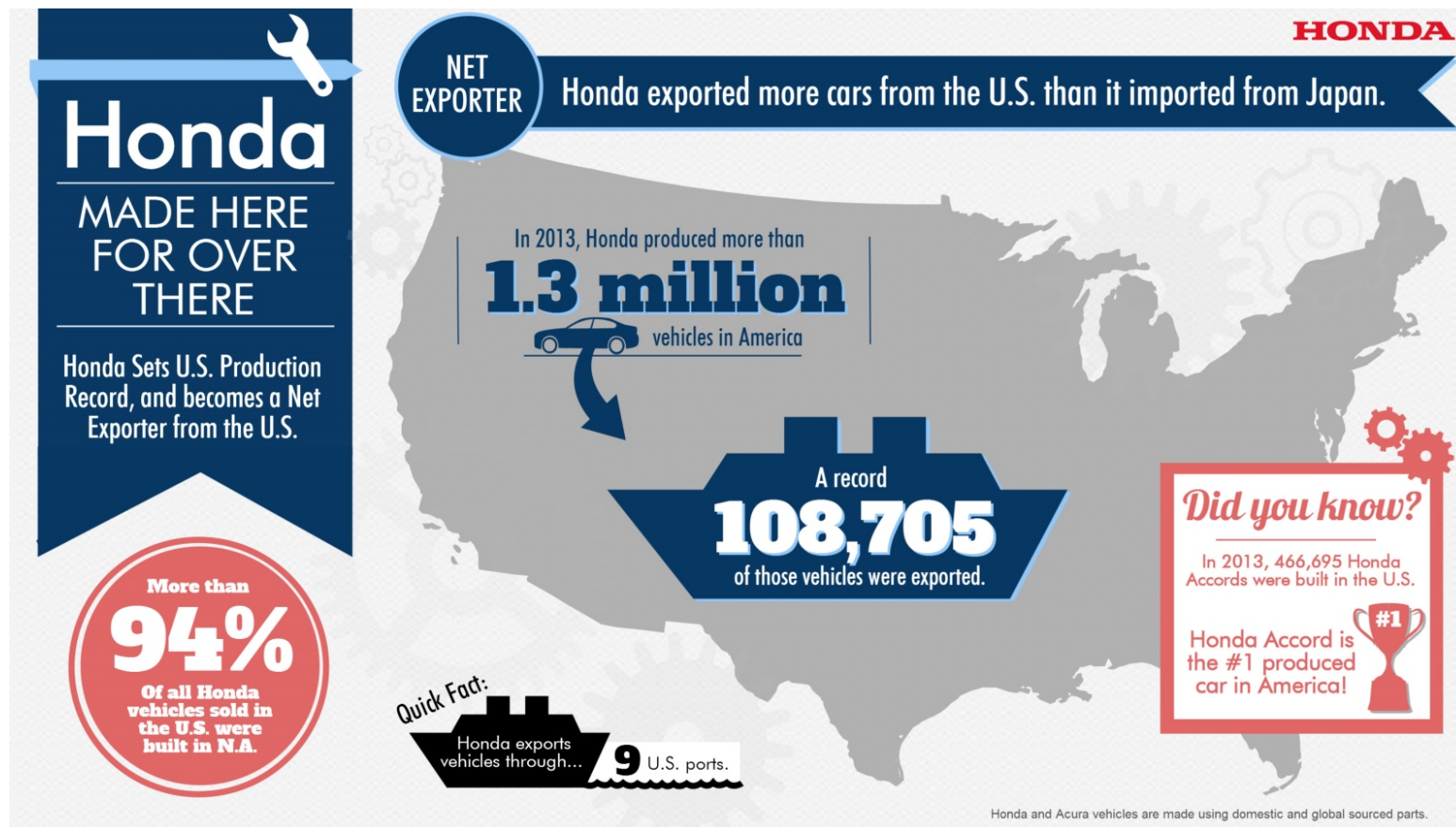
A number of manufactures were forced to shut down.

Japan based Toyota was forced to reduce production by half.

How do we / you reduce supply chain risk???

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“NEAR SHORING” The ever evolving role of SCM:
Reducing risk and enhancing sustainability!



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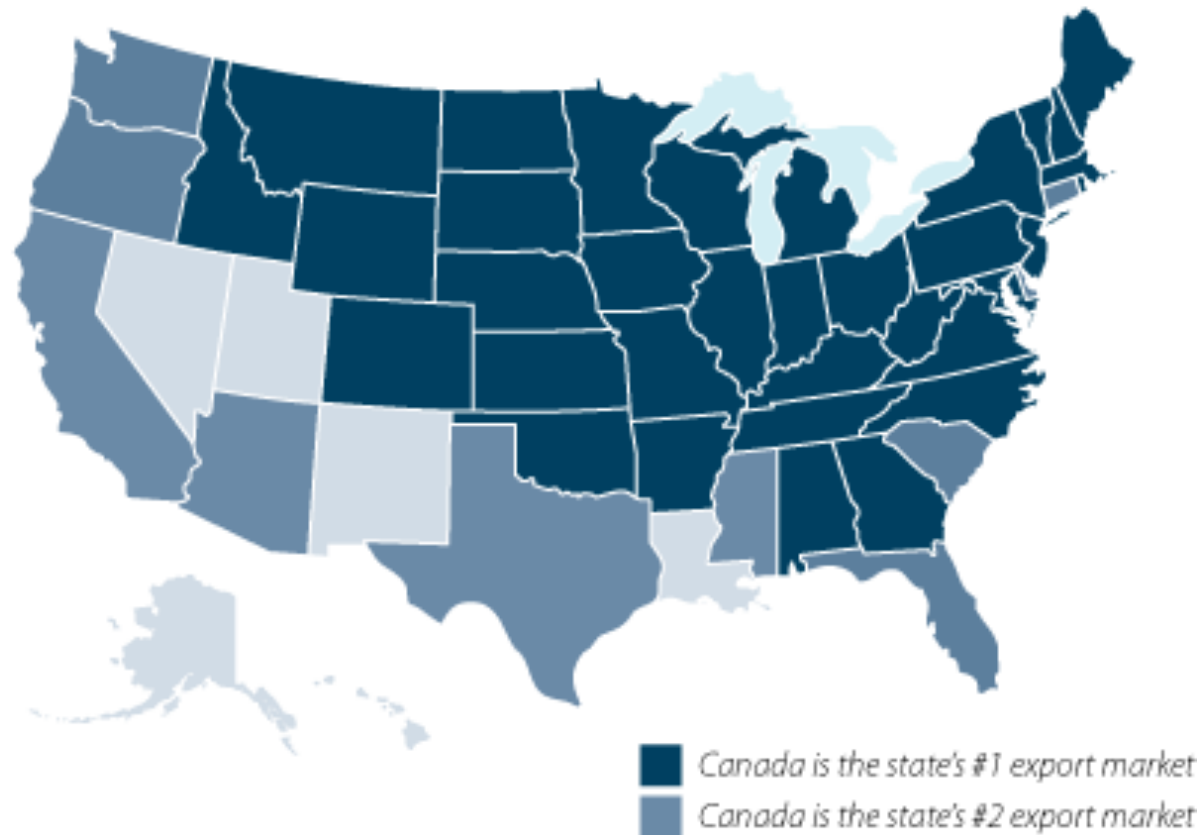
US - Canadian Export Particulars

Canada is the United States' largest export partner:

- US exports to Canada represented 19% of all US exports, in 2013.
- Almost 1 dollar of every 5 that the US exports goes to Canada.
- US exports to Canada are up 77% since 2003 and 319% since 1993!

Source: Office of the United States Trade Representative

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TOP STATE - CANADA TRADING PARTNERS

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The Canada - United States Trade Relationship?

Looking at all modes of transportation:

\$870 billion of goods and services crossed the Canadian-U.S. border in 2015. How much is that?

\$72.5 Billion per month

\$2.38 Billion per day

\$99.3 Million per hour

\$1.65 Million per minute

\$27,583 per second!

Source: Government of Canada-Global Affairs Canada- North American Transborder Freight Data

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City shuts down more streets
under bridge following inspection
Windsor Star-10/14/15

Rising cost of crossing border yet another
competitive disadvantage for Windsor
Windsor Star – 7/24/15



Bridge traffic clogs Huron Church Road
Windsor Star-3/15/16

BORDER DELAYS = 🖐 COSTS =
🖐 CANADA – U.S. COMPETITIVENESS ☹

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Cost of Border Delay\$

U.S. and Canadian border crossings costs Canada between \$15 and \$30 billion every year or about 1.4% of GDP

Custom rules and border delays can add an extra \$800 - \$1500 to the production costs of an automobile

It's estimated that \$7 billion (U.S.) per year in potential tourist receipts were lost for the Canadian economy

The Gordie Howe International Bridge Project (WDBA): "Will help spur economic activity in Ontario and Michigan. The new bridge will accelerate the flow of goods and services and provide a much needed crossing alternative at the busiest Canada-U.S. commercial border crossing, creating thousands of jobs and opportunities on both sides of the border." YOUR INPUT = EMAIL ME @ Drdanmt@me.com

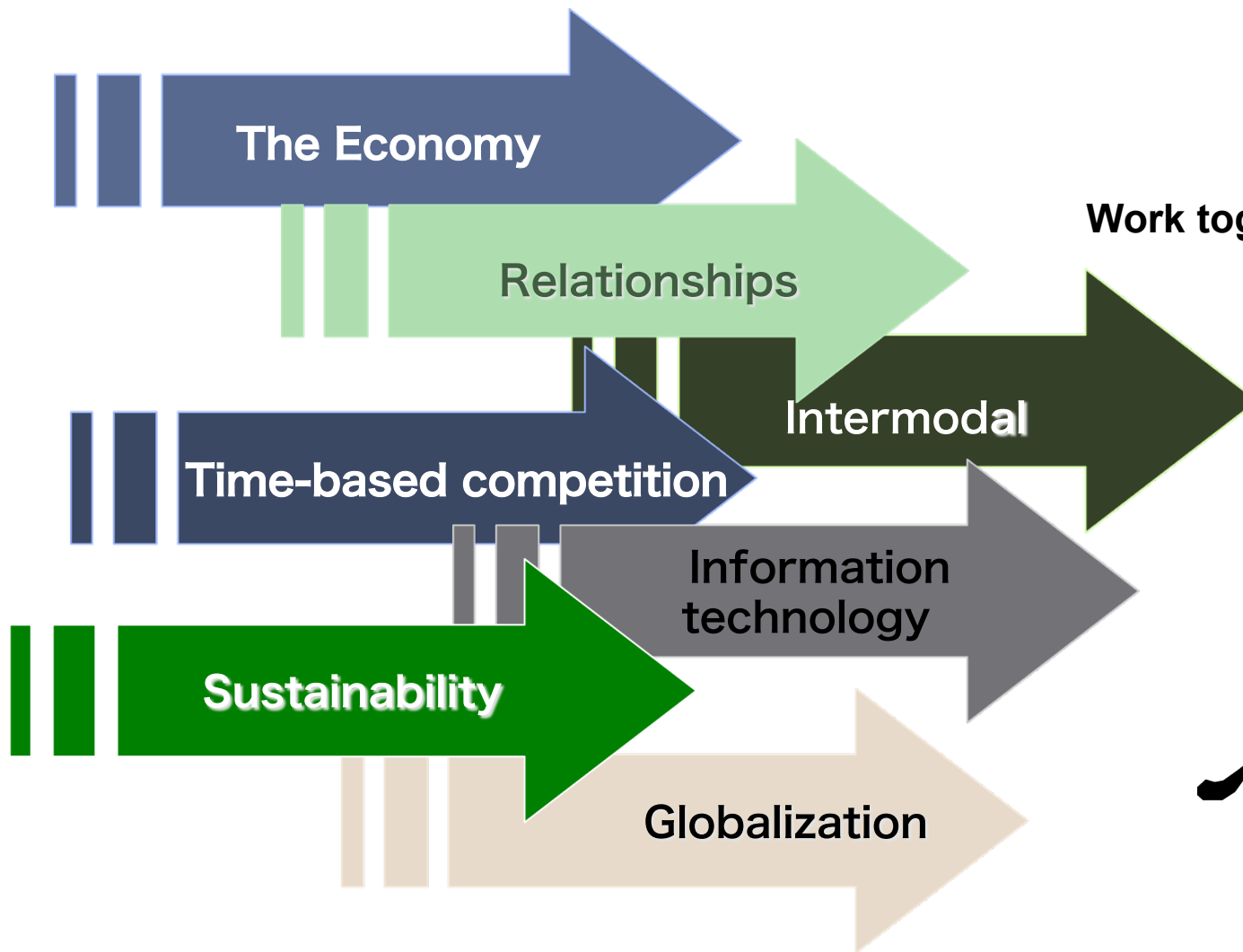
The Turbulent Supply Chain Environment!

So, what can you do?

Run away?

Or

Work together...Collaboration!



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Four Tips on Innovation...or “Where Do We Go From Here?” Canada-U.S. Border Collaboration

Question: Don't just ask the obvious questions. *Look deeper and don't be afraid to rethink basic fundamentals about your business and products.* (“Think around the corner...the next best thing?”)

Care: Caring doesn't just mean giving great customer service. *Get to know your customers as intimately as possible, even your customers - customer!*

Connect: Find ways to bring together concepts, people, and products. *Many great breakthroughs are “mash-ups” of existing ideas.*
e.g., Satellite TV and 10 cents! 😊

Commit: *Give form to your idea as quickly as possible: create a prototype and begin testing it right away.* “This is the only way to know if you've touched on something truly promising.”

Adapted From ["The Four Phases of Design Thinking" by Warren Berger.](#)

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“There is an old Wayne Gretzky quote that I love! ‘I skate to where where the puck is going to be, not where it has been.’ And we’ve always tried to do that at Apple.”

Steve Jobs

Or...

“If you don't know where you are going, you might wind up someplace else.” Yogi Berra

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THANK YOU!

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