

Emerging Trends:

Global Logistics,
Transportation,
& Distribution

What's going on out there!

Three **Key Challenges** Tonight!

- ▶ Evolve
- ▶ Integrate
- ▶ Arrive



The Brewery Story



Three **Key Challenges** Tonight!

▶ **Evolve - ALWAYS
dive, strive, thrive**

- ▶ Integrate
- ▶ Arrive

Think about your lifetime!

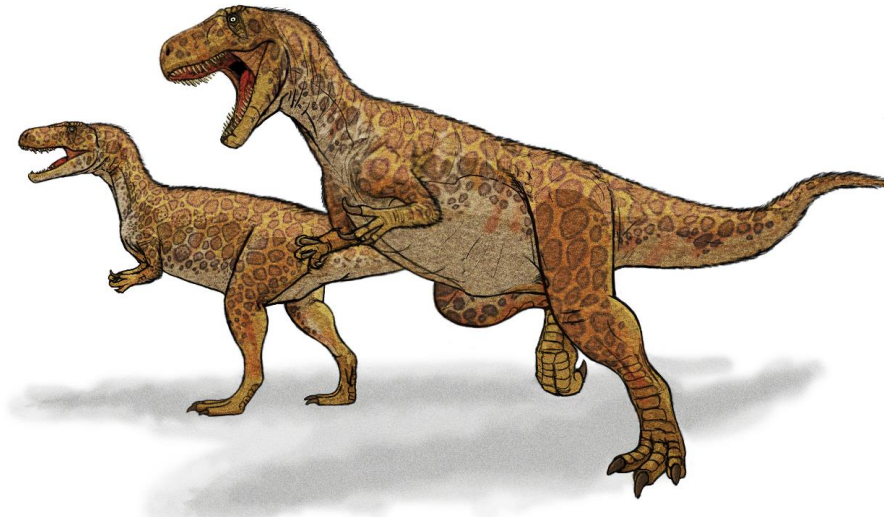


- ▶ Internet creation
 - ▶ **The newest “mode” of transportation?**
- ▶ Cellular technology
- ▶ Internet on your cellular technology
- ▶ RFID - product & information
- ▶ Robotics advancements
- ▶ Social media, YouTube,
- ▶ Tablets, e-readers, smart phones, iPods
- ▶ Cloud technology
- ▶ Gene & DNA advancements
- ▶ Privatized space exploration



What changes have you seen?

What industries and companies DON'T you see?



What happens absent evolution?

- ▶ When was the last time you saw or used a public telephone?
- ▶ Where's Blockbuster? Hollywood Video?
 - ▶ VHS/Beta to DVD to downloads
- ▶ Tower Records? MusicLand?
 - ▶ Vinyl to cassette/8-track to CD to download
- ▶ Waldenbooks? Borders Books?
 - ▶ Paper books to e-readers to smartphones
- ▶ Sports Authority, Sears, K-Mart - struggling
 - ▶ E-fulfillment competition
- ▶ **Evolvers** - JC Penney, Target, Walmart



Supply Chain Implications!

Most significant of our time is...

- ▶ Omni-channel strategies
 - ▶ E-fulfillment in concert with brick & mortar or replacing retail stores
 - ▶ Emerging - order on-line, pickup in store
- ▶ Global sourcing & mfg.
 - ▶ Lead time management
 - ▶ Inventory investment
- ▶ Drop shipping
- ▶ Open marketplaces
 - ▶ Amazon - Alibaba
- ▶ E-commerce
 - ▶ Electronic transactions
- ▶ Door-to-door tracking
 - ▶ Glass pipeline
- ▶ Home delivery networks
 - ▶ Small package evolution
 - ▶ Big box methodologies
- ▶ Returns simplicity

Supply Chain Implications!

Trade Imbalance-Too Much Inbound



Supply Chain Implications!

Port Congestion-Infrastructure Capacity



Supply Chain Implications!

Expand routes-Increase Capacity

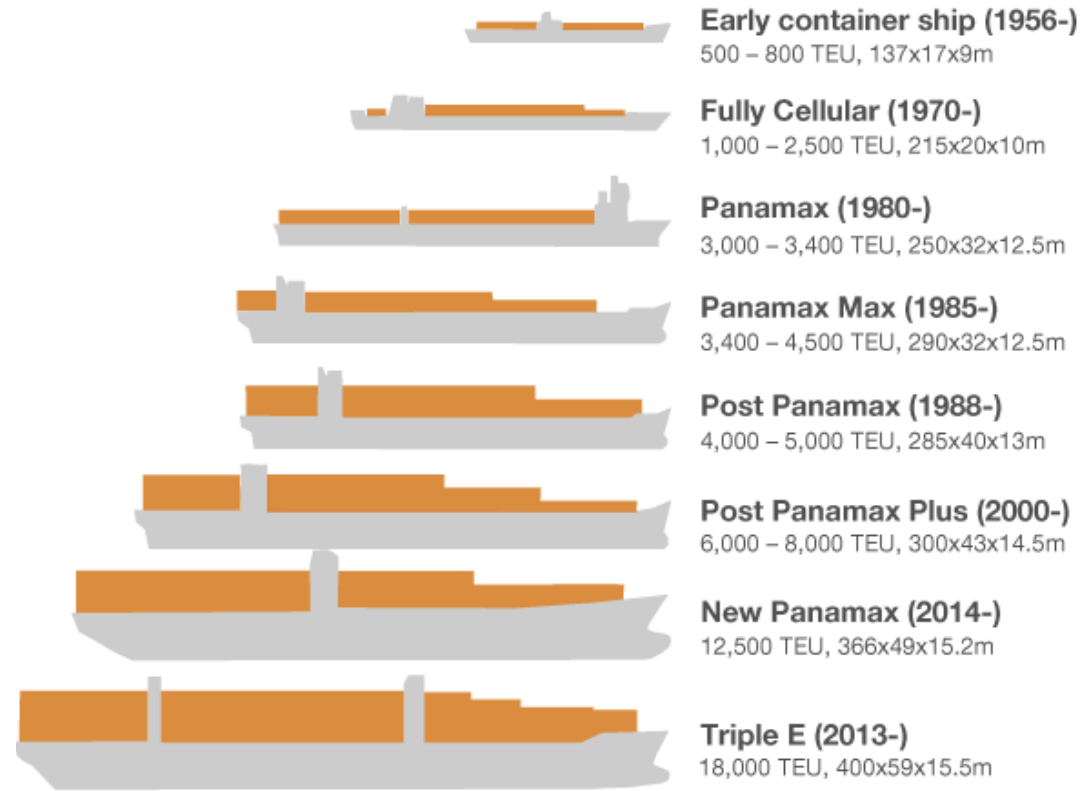
- ▶ Global sourcing
 - ▶ Port capacity issues - drayage and/or rail bottlenecks
 - ▶ Balance issues - too many containers in the wrong place
 - ▶ Vessel constraints leading to mega-ships
 - ▶ 3,000 containers in 1980's
 - ▶ 8,000 in 2000's
 - ▶ 18,000 in December 2015 hitting West US coast
- ▶ Panama Canal expansion completed - 10 years coming
- ▶ Funding issues for port expansion projects

Supply Chain Implications!

Ripple effect...

Evolution of container ships

TEU: twenty-foot equivalent units,
length x width x depth below water in metres



Supply Chain Implications!

Largest to dock in US at Port of
Long Beach on Feb 18, 2016
with 18,000 TEUs



Benjamin Franklin is longer than the Empire State Building is tall,
wider than a football field and as tall as a 20-story building.

Supply Chain Implications!

Empty container positioning over short distances



Conceptual prototype

Supply Chain Implications!

Inland Ports Officially Exist

- ▶ Direct Connect Ports
 - ▶ Chicago (largest)
 - ▶ Dallas/Ft. Worth
 - ▶ Atlanta
 - ▶ Houston
 - ▶ Inland Empire (near LA)
- ▶ Rail service direct from seaport to inland port
- ▶ Relieves pressure on seaports
- ▶ Criteria
 - ▶ Substantial volume
 - ▶ Rail/highway/inland waterway infrastructure
- ▶ Import/Export services
 - ▶ US Customs
 - ▶ Customs brokers
 - ▶ International forwarder offices

Inland Ports... But Not STL



Lincoln County Mississippi port expansion - St. Louis



Mid America Airport - St. Louis cargo expansion hopes

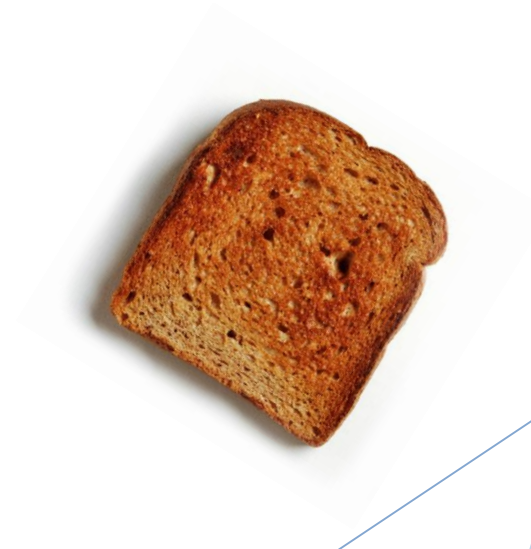


How do we capitalize and leverage the accelerating changes in the supply chain?

Yes, you personally, what action can be taken?



The Communication Story





Most entities are functionally excellent and organizationally dysfunctional

Best in class companies
are functionally integrated
where collaboration exists
across the organization -
everyone pulls in the same
direction!!!



Three **Key** Challenges Tonight!

- ▶ Evolve
- ▶ **Integrate - the ONLY way to optimize supply chain performance**
- ▶ Arrive

Communication & Teamwork are Key to Integration



- ▶ Senior management driven and endorsed
- ▶ Function teams - permanent work groups
 - ▶ Members carefully selected
- ▶ Processes to continuously review & improve
 - ▶ Landed cost routinely analyzed
 - ▶ Holistic business strategy development
- ▶ Cross-functional metrics and accountability

Integration=optimal supply chain performance

- ▶ Establish a baseline using the new integrated metrics
- ▶ Measure and report KPIs before and after
- ▶ Reward people for finding nuggets of SC gold
- ▶ Celebrate success

So critical that...

- ▶ In 2012, the CSCMS at SLU redesigned & renamed its primary certificate program
 - ▶ ~~Advanced~~  Integrated SCM

Be a Supply Chain Ambassador! You are all in the SCM business

Think about it... everyone has
their own personal supply chain

SCM & Logistics at Home

- ▶ Who decides where to buy groceries and household products at your house?
- ▶ How is weekly shopping executed?
- ▶ How are groceries and household products stored at your house?
- ▶ Is FIFO practiced?
- ▶ On what are your min/max and EOQ based?



You Drive Buying Behaviors



- ▶ 1990's - the \$299 rule (QVC)
 - ▶ Catalogues
 - ▶ Television

- ▶ 2000's - up to \$999
 - ▶ Internet



- ▶ 2015 - automobiles
 - ▶ Internet

Recent Trends

- ▶ More carriers provide home delivery than ever before
- ▶ More options:
 - ▶ Curbside
 - ▶ Inside placement
 - ▶ Two-hour window
 - ▶ 30 minute call from driver
 - ▶ Light assembly installation
 - ▶ Frozen-refrigerated options
- ▶ Returns are easy, less frequent, not challenged



Emerging Trends



*Meal planning
is a thing of
the past!*

- ▶ Not just packaged goods...
- ▶ Pizza & other meal deliveries
- ▶ Packaging changes
- ▶ Fresh groceries delivered
 - ▶ Local grocer
 - ▶ Fulfillment warehouse



*Drones don't
get a tip!*



Carbon Footprint Pressures

- ▶ Natural gas trucks
 - ▶ Freightliner (Daimler owned), Mack, and Cummins all introducing products
 - ▶ Ryder and Total Transportation Services are cycling their entire fleets, others following
 - ▶ Texas leading state legislative initiatives with incentives to convert
- ▶ California has tough emission regulations
 - ▶ Many carriers no longer serve CA, trucks non-compliant

Carbon Footprint Pressures

- ▶ Warehouse adapting new technologies
 - ▶ Low energy light systems and bulbs
 - ▶ Energy management monitoring systems
 - ▶ Solar reflector - follow sun, channel light
 - ▶ State of the art heating & cooling systems
- ▶ Material handling equipment
 - ▶ Low operating cost fork-lifts (battery & propane)
 - ▶ Improved WMS for improved equipment utilization
 - ▶ Robotics increasingly present

Robotics in Warehousing



Material handling - independent

Humanoid - interacts with people



Driver Shortage Strategies

- ▶ Driverless trucks - currently testing in Europe
 - ▶ Interstate application only
 - ▶ No short term intent for city streets
 - ▶ Reduced labor cost, reduced truck operating cost
- ▶ Longer Combination Vehicles (LCV)
 - ▶ Congress has killed every bill for a decade
 - ▶ Rail lobby effective - safety is primary scare tactic
- ▶ Currently testing driverless STEAMSHIPS - wow!
 - ▶ Rolls-Royce Holdings PLC is overseeing the research



There is currently no driver shortage - supply & demand are somewhat balanced in this economy - TL rates coming down.
It is a future problem, for sure!

Technology Pushing Forward

- ▶ RFID is still kicking - but not a revolution
- ▶ Intel's "moat" chip - product monitoring in transit
 - ▶ Low power tiny chip
 - ▶ Monitors shock, impact, G-force, climate
- ▶ Cloud technology
 - ▶ TMS and WMS systems operating in Cloud environment
- ▶ Big data - data analytics



Other Considerations

- ▶ Logistics disruptions
 - ▶ Natural disasters increasing?
- ▶ Bankruptcies - failures
 - ▶ Hanjin Lines locked up
 - ▶ \$14B of cargo
 - ▶ 18 container ships
 - ▶ 61 bulk ships
 - ▶ Samsung chartering 16 cargo planes to replenish stocks



TOP WORLDWIDE 3PLs

- | | |
|-----------------------------|-------------------------------|
| 1. DHL – Excel 32.74B | 11. UPS Supply Chain \$5.90B |
| 2. Kuehne & Nagel \$21.08B | 12. J.B. Hunt \$5.82B |
| 3. Schenker \$16.44B | 13. Sinotrans \$5.57B |
| 4. CH Robinson \$11.99B | 14. SNCF Geodis \$5.19B |
| 5. DSV \$7.57B | 15. Gefco \$4.51B |
| 6. CEVA Logistics \$6.96B | 16. Yusen Logistic \$4.01B |
| 7. Expeditors Int'l \$6.62B | 17. Agility Logistics \$3.99B |
| 8. Dachser \$6.12B | 18. Bollore \$3.83B |
| 9. Panalpina \$6.09B | 19. Toll Group \$3.72B |
| 10. XPO Logistics \$6.06B | 20. UTI \$3.60B |
| | 21. Hub Group \$3.53B |

Red=US Based Companies

TOP US 3PLs

- | | |
|---------------------------------|-------------------------------------|
| 1. CH Robinson \$13.48B | 11. DHL Supply Chain \$3.30B |
| 2. Expeditors Int'l \$6.62B | 12. FedEx \$3.18B |
| 3. UPS Supply Chain \$5.90B | 13. Panalpina USA \$2.78B |
| 4. J.B. Hunt \$5.82B | 14. DB Schenker USA \$2.69B |
| 5. XPO Logistics \$5.54B | 15. Ceva Logistics \$2.45B |
| 6. Kuehne + Nagel USA \$5.23 | 16. Ryder Supply Chain \$2.44B |
| 7. UTI \$3.70B | 17. Total Quality Logistics \$2.24B |
| 8. Hub Group \$3.53B | 18. BDP International \$1.90B |
| 9. Burris Logistics \$3.52B | 19. Landstar System \$1.76B |
| 10. Schneider Logistics \$3.48B | 20. Echo Global Logistics \$1.51B |

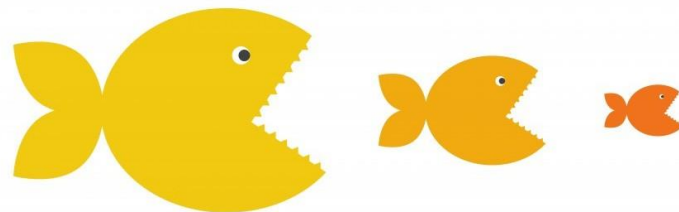
Transport Topics Top 3PL US Companies – 2015

Some US data conflicts with the worldwide data because a different entity provided the report and may have used different revenue criteria to attain total sales figures

3PL Consolidations

These are just the big players!

- ▶ Penske Logistics acquired Transfreight, March 2015
- ▶ FedEx agreed to acquire the Dutch company TNT Express, April 2015
- ▶ XPO Logistics continuing acquisitions when it started in early 2014
 - ▶ April 2015, acquired Norbert Dentressangle
 - ▶ September 2015, acquired Con-way Inc. (including all Con-way subsidiaries & Menlo)
 - ▶ November 2015, Pacer International
- ▶ UPS joined the acquisition movement, acquired Coyote Logistics, in July 2015
- ▶ Geodis SA, owned by the French national railroad, SNCF, acquired OHL, August 2015
- ▶ Danish logistics giant DSV, which has grown through the acquisition of some 30 companies over the past 10 years, acquired U.S.-based UTi
- ▶ Kintetsu World Express, a Japanese freight forwarder, acquired APL Logistics



Three **Key** Challenges Tonight!

- ▶ Evolve
- ▶ Integrate
- ▶ **Arrive - you NEVER do!!!**

Proceed directly back to EVOLVE and INTEGRATE!

Never forget WHY you exist!!!

SCM is a means to an end!

- ▶ Competitive weapon!
 - ▶ Not a necessary expense
- ▶ An enabler!
 - ▶ Supports the core purpose of the business



Never lose sight about why SCM exists

Last Story... promise

Two Salespeople in an airport...

Thank you,
good night!