SUPPLY CHAIN COMPLEXITY: WHY IT MATTERS AND HOW TO SOLVE

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SCHNEIDER IS A TRANSPORTATION AND LOGISTICS LEADER WITH A BROAD PORTFOLIO OF SERVICES

INTERMODAL
- Bulk Express Services
- North America Cross-Border
- Regional Transcontinental

TRUCKLOAD
- Bulk Dedicated
- Final Mile
- Long-Haul
- North America Cross-Border
- Regional
- Team Expedited

LOGISTICS
- Cross-Dock Logistics
- Port Dray
- Supply Chain Management
- Transloading and Distribution
- Brokerage
- Warehousing

APPROXIMATELY 10,700 TRACTORS
APPROXIMATELY 2,800 OWNER-OPERATOR BUSINESS RELATIONSHIPS
APPROXIMATELY 56,000 TRAILERS & CONTAINERS
APPROXIMATELY 20,000 QUALIFIED CARRIER RELATIONSHIPS
APPROXIMATELY 19,600 ASSOCIATES WORLDWIDE

OPERATIONS IN U.S.: 1935
OPERATIONS IN CANADA: 1989
OPERATIONS IN MEXICO: 1992
OPERATIONS IN CHINA: 2005
PROVEN FOR MILES

SAFETY FIRST AND ALWAYS

THAT'S WHY WE HAVE: 5,383 DRIVERS WHO'VE DRIVEN OVER ONE MILLION CONSECUTIVE MILES SAFELY

1,271 CURRENT

EVERY DAY

MOVE OVER 930,000 FREIGHT MILES LOADED PER DAY
(Truckload, Intermodal, Brokerage)

AND

SCHNEIDER LOADS CIRCLE THE GLOBE APPROXIMATELY 375 TIMES PER DAY

LOGISTICS MANAGES APPROXIMATELY $2.1 BILLION IN THIRD-PARTY FREIGHT PER YEAR

WHICH COULDN'T BE DONE WITHOUT

APPROXIMATELY 19,600 ASSOCIATES WORLDWIDE

APPROXIMATELY 10,700 TRACTORS

APPROXIMATELY 38,000 COMPANY-OWNED TRAILERS

APPROXIMATELY 18,000 COMPANY-OWNED INTERMODAL CONTAINERS

APPROXIMATELY 15,700 COMPANY-OWNED CONTAINER CHASSIS

APPROXIMATELY 26,000 QUALIFIED CARRIER RELATIONSHIPS

APPROXIMATELY 2,800 OWNER-OPERATOR BUSINESS RELATIONSHIPS

OVER 7 MILLION SQUARE FEET WAREHOUSE/TRANSLOAD/CROSS-DOCK DOCK SPACE

YEARS IN BUSINESS: 80+ est. 1935

COMPANY DRIVERS HIRED WITH MILITARY EXPERIENCE: 22%

ANNUAL REVENUES: $4.4 BILLION
TODAY’S TALK

Intent

• Introduce Schneider and Engineering @ Schneider
• Demonstrate how Schneider Engineering solves supply chain complexity – and you can too!

Supply Chain

A supply chain is a network between a company and its suppliers to produce and distribute a specific product, and the supply chain represents the steps it takes to get the product or service to the customer.

A supply chain is a system of organizations, people, technologies, activities, information and resources involved in moving materials, products and services all the way through the manufacturing process, from the original supplier of materials supplier to the end customer.
SCHNEIDER ENGINEERING DELIVERS CUSTOM, INNOVATIVE, IMPLEMENTABLE OPTIMIZATION SOLUTIONS

Our Team
Over 30 Engineers
Proven Methodology

Industry Experience & Process
Over 100 Network Designs
2006 INFORMS Winner
20+ Modeling & Simulation Tools

Proven Results
Over $100M in Savings
Improved Service Levels

DEEP TRANSPORTATION KNOWLEDGE WITH ACCESS TO ROBUST MARKET RATES

- TRANSPORTATION EXPERTISE
- CARRIER RATES
- TRANSPORTATION DATA INSIGHTS
- WORLD CLASS ENGINEERING
- IMPLEMENTATION PLAN AND SUPPORT
- SUPPLY CHAIN DESIGN AND OPTIMIZATION
WE HAVE A RICH HISTORY OF DECISION ENGINEERING AT SCHNEIDER

- Industry pioneer in electronic data interchange (EDI)
- Co-developed trailer-tracking technology
- Patented carrier and customer purchase order management technology
- Partnership with Oracle to develop next generation asset-based TMS technology
- Dynamic data-driven decision-making and big data analytics

SUPPLY CHAIN COMPLEXITY COSTS YOU MONEY

• AT Kearney (2007) estimates 3-5% point or $32B EBIT impact due to supply chain complexity

• Gartner has identified supply chain complexity as top concern of CEOs and CSCO
  – 63% supply chain leaders (2016) report increasing supply chain complexity as highest risk to business continuity
  – SC Network complexity is # 4 in list of obstacles to achieving SC goals (2016)
  – Complexity is the top threat identified by high tech company CSCO (2016)
  – Operational efficiency identified as top 3 priority in 2015 survey
WHAT CAUSES SUPPLY CHAIN COMPLEXITY?

• Growth in new countries, regions, markets
  – Cross-border shipments, long lead time, storage &
    distribution

• Focus on customer needs and service
  – Single Channel → Multi Channel → Omni Channel retail;
    white glove delivery
  – Legacy systems competing with Amazon.com

• SKU proliferation: 20% SKUs cost 80% to manage
  – Smaller orders, higher inventory, reduced productivity

• Rapid growth: M&A, new product launches, etc.
WHAT DO COMPLEX SUPPLY CHAINS LOOK LIKE?

Ecommerce Foundation, https://www.ecommercewiki.org/Slide:20151019-Supply_Chain_omni_channel
WHAT DO COMPLEX SUPPLY CHAINS LOOK LIKE?

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Solution Method</th>
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<tbody>
<tr>
<td>Hidden money</td>
<td>Descriptive Analytics</td>
</tr>
<tr>
<td>Unknown root cause</td>
<td>Identify restrictive bus rules &amp; non compliance</td>
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<tr>
<td>Lots of product touches</td>
<td></td>
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<tr>
<td>Growth by mergers &amp; acquisitions</td>
<td>Prescriptive Analytics</td>
</tr>
<tr>
<td>Large transfer spend</td>
<td>With an A-B-C inventory classification &amp; placement</td>
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<tr>
<td>Inventory not in right location</td>
<td></td>
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<tr>
<td>Non-standard work processes</td>
<td>Predictive Analytics</td>
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<tr>
<td>Rework &amp; custom work</td>
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</tr>
<tr>
<td>Hard to focus on logistics</td>
<td>Outsource Logistics Management</td>
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<tr>
<td>No visibility, reporting or continuous improvement</td>
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SOLUTION CUSTOMIZED FOR EACH CUSTOMER

### Descriptive Analytics

- Strategic supply chain design: 60-80% of supply chain cost impacted!

### Prescriptive Analytics

- Tactical transportation design: 10-20% of supply chain cost impacted!

### Predictive Analytics

- SKU Rationalization

- Insights & good practices
- Business case
- Optimization opportunities

http://analyze10k.com/wp-content/uploads/2016/05/graphics.jpg

http://buyersmeetingpoint.com/images/easyblog_images/72/forecasting.jpg

Strategic supply chain design: 60-80% of supply chain cost impacted!

Tactical transportation design: 10-20% of supply chain cost impacted!

SKU Rationalization
Network & Transportation Redesign

Implementation

Business growth & changes

Year 1: Transportation Optimization

Implementation

Business growth & changes

Year 2: Transportation Optimization

Implementation

Business growth & changes
SUPPLY CHAIN BASELINE TO DISCOVER HOW TO SIMPLIFY A COMPLEX SUPPLY CHAIN

Background
• Complex inbound transportation network that had grown inefficient over time
• 1000s of SKUs, multiple cross docking, long transit times, inefficient use of fleet, and operational silos

Solution
• “As-is” view of network to identify quick win opportunities
• Recommended how to reduce double and triple handling of products by optimizing cross dock usage and supplier assignment
• Identified opportunities to improve supplier compliance

Value
• Over $1M reduction in transportation cost
• Customer well positioned for growth
CREATE REPLENISHMENT SCHEDULES AND ROUTES TO LEVEL LOAD DISTRIBUTION AND POSITION CUSTOMER FOR GROWTH

Background
• Brewing company changed region footprint by mergers and organic growth
• Uneven shipment volumes across week
• 60% of wholesalers shipped less than 75% truckloads in freshness cycle
• Peak months responsible for 45% of annual volume

Solution
• Create outbound shipping strategy to balance weekly volume and maximize consolidation opportunity
• Improve utilization by recommending holding freight to minimum of full truck utilization or met freshness cycle

Value
• 4-7% reduction in transportation cost and 10% increase in truck utilization
• Operational efficiencies by better week over week balance
NEW NORMAL: WE ARE EXPERIENCING IT ALREADY.

- 100,000 connected mobile devices in the Schneider network
- 50,000 gallons fuel/day managed through automated fuel monitoring
- 50,000 engine messages processed every day and 40,000 driver work assignments dispatched
- 100,000 connected mobile devices
- 3.4 million unique visitors through our enterprise portals
- 500,000 gallons fuel/day managed through automated fuel monitoring
- Predictive and preventive analytics based on telematics and driver data
- 50% of SchneiderJobs.com visits accessed via mobile devices
- 130,000 driver log updates per day relayed by satellite
- Critical Events for:
  - Hard breaking
  - Stability control
  - Collision mitigation alerts
  - Excessive over speed
- 3.4 million unique visitors through our enterprise portals
- Driver & owner-operator mobile applications
  - Work assignment
  - Compensation
- Over 17,000 analytics dashboard pages executed daily