Roundtable 3e
Next Generation Analytics for Supply Chains
Who is NDCP?

Dunkin’ Brands
• Franchisor of Dunkin’ Donuts
• Responsible for quality control, marketing, R&D, etc.

Dunkin’ Donuts Franchisees
• Own and operate individual store locations
• Own the NDCP Cooperative

NDCP
• Supply chain for Dunkin’ Donuts
• Dunkin’ Brands requires franchisees to purchase exclusively from NDCP
What NDCP Does
If America runs on Dunkin, Dunkin’ runs on National DCP (NDCP)

• A $2 billion supply chain management company serving Dunkin’ franchisees
• Extensive distribution network that makes 625,000 deliveries and 73 million cases driving more than 28 million miles
• NDCP was formed in 2012 after four regional cooperatives merged as one national cooperative
• Expertise in sourcing, purchasing, distribution and business solutions
• More than 8,900 quick service restaurants in 51 countries
• Saved members $200 million over the past three years
• Winner of the 2015 Supply Chain Pioneer from Partnership Gwinnett
NDCP’s U.S. Supply Chain Network

Buildings
- 7 Centers
- 32 Logistics Hubs

Equipment
- 335 Tractors
- 405 Trailers

People
- 514 Warehouse
- 775 Transportation
- 40 Member Services
- 18 Headquarters
Supply Chain Growth & Change

- More than 7,000 US stores
- Adding over 400 new stores per year
- Individual market growth up to 36%
- Balancing customer service and operating cost in a constantly changing environment prompted partnership with Chainalytics
Key Questions

- How many distribution centers should be in the network?
- What should be the size/capacity of each?
- Where should each DC be located?
- Which facilities should support which markets?
Key Questions

- Should any existing locations be expanded, contracted, moved or closed?

- When should facility transitions be made, based on
  - Savings opportunities,
  - Growth targets,
  - Lease obligations,
  - and capacity considerations?
Project Findings

- Increase the number of DCs
  - Additional DCs in established and emerging markets

- Annual operating cost reduction %: high single digits

- Average DC to store distance decreased 10%

- Average DC volume decreases
Who is Chainalytics?

- Of Gartner’s TOP 25 supply chains
- Of the FORTUNE 500
  - TOP 10
  - TOP 10
  - TOP 10

FMIC

CAGR since 2009

13 PROS TO KNOW

Supply & Demand Chain Executive

2013 Gartner COOL in supply chain services

Amsterdam
Atlanta
Bangalore
Denver
Milan
Minneapolis
Helsinki
Singapore
Sydney

Global offices
Key Components

Creating *investment-grade* confidence

- Cross-functional team (*including Executives*)
- Proven methodologies and tools
- High-quality input data (*Historical & Design*)
- Ongoing, sustainable process
Data Requirements

Historical Data
- Access
- Acquisition
- Cleansing
- Validation
- Refresh Interval

Design Data
- Freight Markets (FMIC)
- Real Estate (CBRE)
- Labor (CBRE)
- Utilities
- Taxes, Incentives
Which costs drive a Supply Chain?

- Inbound Transport: High Tech - 41%, Regional Retailer - 63%, Consumer Fulfillment - 72%, Lighting Manufacturer - 50%, CPG Manufacturer - 24%, National Retailer - 62%, Food & Beverage - 34%
- Outbound Transport: High Tech - 5%, Regional Retailer - 14%, Consumer Fulfillment - 14%, Lighting Manufacturer - 9%, CPG Manufacturer - 12%, National Retailer - 16%, Food & Beverage - 4%
- DC Fixed2: High Tech - 14%, Regional Retailer - 19%, Consumer Fulfillment - 50%, Lighting Manufacturer - 5%, CPG Manufacturer - 12%, National Retailer - 12%, Food & Beverage - 4%
- Inventory Costs 2: High Tech - 9%, Regional Retailer - 8%, Consumer Fulfillment - 5%, Lighting Manufacturer - 3%, CPG Manufacturer - 3%, National Retailer - 23%, Food & Beverage - 6%
- DC Variable: High Tech - 6%, Regional Retailer - 5%, Consumer Fulfillment - 72%, Lighting Manufacturer - 65%, CPG Manufacturer - 77%, National Retailer - 85%, Food & Beverage - 88%

Source: Sampling of Chainalytics client project work
Rate Per Mile: Atlanta Outbound Markets

1 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
Rate Per Mile: Atlanta Outbound Markets

2 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
Rate Per Mile: Atlanta Outbound Markets

3 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
Rate Per Mile: Atlanta Outbound Markets

4 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
Rate Per Mile:
Atlanta Outbound Markets

5 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
Rate Per Mile: Atlanta Outbound Markets

6 DAY TRANSIT

>250 Miles, DRY VAN

Source: Chainalytics Freight Market Intelligence Consortium
### CURRENT STATE

<table>
<thead>
<tr>
<th>Category</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Sources</td>
<td>Custom Extraction</td>
</tr>
<tr>
<td>Analytical Capabilities</td>
<td>Non Core</td>
</tr>
<tr>
<td>One Source of Truth</td>
<td>Unreliable/Non-Existent</td>
</tr>
<tr>
<td>Analyses Executed</td>
<td>Periodic</td>
</tr>
<tr>
<td>Analytical Infrastructure</td>
<td>Disparate</td>
</tr>
<tr>
<td>Value Potential</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Knowledge Transfer</td>
<td>Inconsistent</td>
</tr>
</tbody>
</table>

- Long duration to complete analyses
- Partial analyses resulting in suboptimal results
- Missed opportunities
- Limited internal resources qualified to execute analyses
- Analyses needed never start due to lack of resources
- Invalid or inaccurate data used in analyses
- Inconsistent confirmation of results by stakeholders

### FUTURE STATE

<table>
<thead>
<tr>
<th>Category</th>
<th>Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Sources</td>
<td>Controlled Access</td>
</tr>
<tr>
<td>Analytical Capabilities</td>
<td>Core Competency</td>
</tr>
<tr>
<td>One Source of Truth</td>
<td>Always Present</td>
</tr>
<tr>
<td>Analyses Executed</td>
<td>Routine</td>
</tr>
<tr>
<td>Analytical Infrastructure</td>
<td>Centralized</td>
</tr>
<tr>
<td>Value Potential</td>
<td>Enhanced</td>
</tr>
<tr>
<td>Knowledge Transfer</td>
<td>Continuous</td>
</tr>
</tbody>
</table>

- Accelerated Time to Value
- Improved Fidelity and Objectivity of Results
- Incremental Improvement Opportunities

© 2016 Chainalytics
The work is just beginning….

Due diligence to vet the study findings

Detailed implementation plan development
- Real Estate
- Systems
- Inventory Policies
- People/Processes

Ongoing adjustments
Ongoing capability
Lessons Learned

• Attaining network design benefits is an ongoing management activity

• Establish a regular forum to discuss transformational Supply Chain activities with key executive stakeholders
  • Network Optimization Steering Committee formed
  • Portray Network Evolution for Executive Team

• Assign adequately skilled senior resources to roll-out management
THANK YOU

Gene Long
Chief Operations Officer

gene.long@natdcp.com

Steve Ellet
Vice President, Supply Chain Design

sellet@chainalytics.com

QUESTIONS & ANSWERS
Joe Dunlap
CBRE
• Context and use-case for data analytics must be defined – what are you trying to solve
• Some data sources will remain proprietary or fee-basis
• Detailed, always-on, big data is not always necessary
• UPS, long regarded as the leading provider of small package delivery, now has aggressively expanded freight and other transportation solutions through a series of strategic acquisitions. One of the latest addition to this portfolio includes LTL and truckload freight services, which complements UPS’s global capabilities to provide customers a single source for multiple modes of transportation.

• Service Coverage:
  – United States (all 50 states) and all of Canada
  – Mexico: 600 points and all major cities
  – Puerto Rico, U.S. Virgin Islands, Guam
  – More than 20,000 one- and two-day lanes

• Network Infrastructure:
  – 200-plus North American facilities
  – 22,100 trailers
  – 6,700 tractors
Optimize freight shipment’s routing from origin to destination through UPS network and where along the way it is transferred from one trailer to another for both weekly planning and near real-time dispatching.
Manish Shah
CEO

- Strategy & Analytics with Delta Air Lines and IHG
- 10+ years of Management Consulting
- Successful startup exit with Decision Street
The challenge of delivery & DATA

“Coca-Cola has the second largest fleet in the world after the US Postal Service”

Steve Saltzgiver, North America Fleet Management, Coca-Cola Enterprises

“An event left my Holiday Inn short on Coke products, but unfortunately we couldn’t get any Delivered same-day”

Karim Kassam, General Manager, Holiday Inn Albuquerque
No company has truly solved last-mile, on-demand local delivery

Problem: You accidentally took your spouse’s keys to work and they need them ASAP!

Challenge: How would you solve this?
Last minute delivery still makes you wait

<table>
<thead>
<tr>
<th>Delivery Details</th>
<th>Aug 28 - Sep 3</th>
<th>FRI 28</th>
<th>SAT 29</th>
<th>SUN 30</th>
<th>MON 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning 07:00 - 12:00</td>
<td></td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
</tr>
<tr>
<td>Afternoon 12:00 - 4:00</td>
<td></td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
</tr>
<tr>
<td>Evening 4:00 - 7:00</td>
<td></td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
<td>$69.99</td>
</tr>
</tbody>
</table>

most local deliveries hold their customers Captive
Kanga Developed THE UBER for delivery platform to manage local deliveries

HQ View
- Fleet and Driver Dispatch
- Administrative Dashboards
- Data, Analytics, and Insights

Driver App
- Driver onboarding
- Customer chat
- Geo-mapping

Customer Site & App
- Orders
- Driver chat
- Payments
Kanga realized SaaS is more valuable than Delivery-as-a-Service

White-Labeled Kanga Platform For Enterprises
Kanga’s NEXT GENERATION DATA IS MORE VALUABLE THAN ITS SOFTWARE

Deliveries Create VALUABLE Data:

- Delivery Status Changes
- Photography
- Product Placement
- Customer Demographics
- Customer Preferences
- Geo Data
- Shipment
- Sensors
- Account & Contact
- Transactions
- Activity
- Credit Card
- Returns
- Date / Time
- Crowd Sourced Behaviors
- AND MUCH MORE…

INSIGHTS DRIVE DECISIONS

CUSTOMER EXPERIENCE
CROWD-SOURCED DRIVERS
MARKETERS
SHIPPERS
CORPORATE CUSTOMERS
PARTNERS
LOCAL DELIVERY: A huge market POTENTIAL IF DATA IS HARVESTED

Local delivery, as we define it, is any item picked up & delivered within a 35 mile radius, and a less than 24 hour window.

• Growing 3.5% year over year
• Consumer demand is accelerated by new offerings
• INSIGHTS and DATA will grow the market
A CASE STUDY

Kanga enables all local orders to be delivered using Kanga’s driver network, driving down costs for Georgia Pacific and better serving their customers.

DATA INSIGHTS:
- Cost savings
- Time savings
- Efficiency
- Customer Experience
- DELIVERY PLACEMENTS – Blind Before
Thoughts on the Future

Moe Trebuchon
Executive In Residence
Georgia Institute of Technology
H. Milton Stewart School of Industrial & Systems Engineering
The Four V’s of Data

- Quality & Trust
- Speed
- Types & Sources
- Volume
- Variety
- Velocity
- Veracity
- Amount
- Quality & Trust

CONNECT  COMPETE  GROW
Exploding Varieties of Data

Suppliers & Providers

Collaborative Data

Your Enterprise Systems & Data

Collaborative Data

Customers
Analytics Informed Execution

- In Memory Data Analytics
- Cognitive Computing
# Supply Chain Impacts

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Historical Demand Forecast</td>
<td>Social Sentiment Informed Demand Signal</td>
</tr>
<tr>
<td>2. Monthly &amp; Weekly Planning Cycles</td>
<td>Event Based Response</td>
</tr>
<tr>
<td>3. Products Sold at Scale</td>
<td>Products Configured to Suit</td>
</tr>
<tr>
<td>4. Highly Specialized Supply Chains</td>
<td>Sell &amp; Fulfill From Anywhere</td>
</tr>
</tbody>
</table>
Agility Will Be Critical

• Flexible Fulfillment
• Value Added Services & Postponement
• Sense & Respond
• Intelligent & Predictive
• Transparent
2016 GEORGIA LOGISTICS SUMMIT