U. S. Office Products
Supply Chain

ISyE 6340
March 14, 2016
What I’ll Tell You

• Define office products
• Manufacturing
• Office products sales channels
• Customers they each serve
• Channel capabilities
• Logistical challenges
• Musings on supply chains in general
• Review
• Questions
Military Presentations

– Tell them what you’ll tell them
– Tell them
– Tell them what you told them
Military Presentations
Food for Thought

“You can lead a man to Congress, but you can't make him think.”

- Milton Berle  
American comedian
“Office Products”

- Core office supplies
  - Paper, pads, envelopes, etc.
  - Writing instruments
  - Filing supplies
  - Office & desk accessories
  - Presentation and planning
- Non-computer machines
- Computer hardware & software
  - Cell phones & tablets
- Copy & print
- Furniture
- Jan/San (Janitorial / Sanitation)
- Breakroom supplies
- School supplies
- Medical supplies
Office Products

- Basic school/office supplies: 37%
- Non-computer machines: 24%
- Computers: 28%
- Office furniture: 7%
- Other: 4%

Core office supplies: 28.5%
Ink and toner: 20.9%
Business technology: 15.7%
Paper: 9.0%
Facilities & breakroom: 7.1%
Computers and mobility: 7.1%
Services: 5.8%
Office furniture: 5.8%
Services: 5.8%

Source: Staples Annual Report - 2013
U. S. Office Products Market
($ Billions)

Retail: 2.8%
Delivery: 3.4%
CAGR 2002 – 2006: 3.0%

Office Products Customers

Consumer/Home office
- Food & drug, mass retailers, super stores, specialty retailers, etc.
- National catalog or internet delivery services (superstores?)

Small business (1 – 20 people)
- Food & drug, mass retailers, super stores, specialty retailers, etc.
- National catalog or internet delivery services (superstores?)
- Local or regional independent dealer
- National independent dealer?

Medium/large businesses
- National “power channel” (super store delivery)
- Contract specialists
- Large independent dealers
U. S. Office Products
Retail Sales Channels

- Office Super Stores (Staples, Office Depot, OfficeMax)
- Mass Retailers (Wal-Mart, Target, Costco, Dollar General)
- Food/Drug (Kroger, Publix, Walgreen’s, CVS)
- Specialty retailers (Best Buy, Circuit City, CompUSA, CDW)
- College/Bookstores (GA Tech bookstore, Follett, Barnes & Noble)
- Copy/Print centers (Fedex/Kinko’s, UPS Store)
- Stationary/Gift (Hallmark)
- Institutional/School (School Specialty, Scholastic)
- Internet/Direct (Amazon, Dell, Gateway)
- Other (Ikea, The School Box, Hobby Lobby, Michaels)
U. S. Office Products
Retail Sales Channels

- Mass Retailers: 28.0%
- Specialty Retailers: 31.9%
- Food/Drug Stores: 2.6%
- College/Bookstores: 5.6%
- Office Supply Superstores: 9.2%
- Stationary/Gift: 1.6%
- Institutional/School Firms: 3.4%
- Internet/Direct Sales: 4.6%
- Copy/Print Services: 5.4%
- Other: 7.8%

Source: ShopA School and Office Products Industry Report - 2007
U. S. Office Products
Delivery Sales Channels

• Office superstore commercial/contract divisions
  (Staples Business Delivery, Office Depot Business Solutions, OfficeMax, & their on-line & phone operations)
• Independent dealers (Forms & Supply, S & T Office Products, Artlite, etc.)
• Contract specialists (Resellers of office machines, computer systems, telecommunications, copiers, etc.)
• Contract Stationers (Corporate Express)
• Other (Specialized office supplies to niche & vertical markets, furniture & value-added resellers)
Total U. S. Office Products Sales Channels

- Mass Retailers: 17.8%
- Food/Drug Stores: 1.6%
- College/Bookstores: 3.6%
- Specialty Stores: 20.3%
- Copy/Print Services: 3.4%
- Office Supply Superstores: 11.1%
- Stationary/Gift: 1.0%
- Institutional/School Firms: 2.1%
- Independent Dealers: 6.3%
- Other: 8.7%
- Internet/Direct Sales: 3.0%

Food for Thought

“Genius may have its limitations, but stupidity is not thus handicapped.”

- Elbert Hubbard
  American writer
  1856 - 1915
Office Products Manufacturers

• Some manufacturing still in the U. S.
  – Avery
  – Newell-Rubbermaid

• Many products now sourced offshore

• Most manufacturers make to forecast
Office Products Manufacturers

• Improve the sales forecast
  – Dealing with total demand for a product
  – S & OP

• Make the forecast less important
  – “Nimble manufacturing”
    • Reduce suppliers order to delivery time
    • Reduce frozen period in MRP
    • Faster changeovers; Smaller lot sizes

• Cost reductions
Office Products Manufacturers

- Avery Dennison
- Newell Rubbermaid
- SMEAD
- BIC
- HP
- Esselte
- GBC
- Pentel
- Samsill
- HON
Office Products Manufacturers

“Brand owners”
Office Products Manufacturers

Newell Rubbermaid
Brands That Matter

IRWIN TOOLS
Goody
Rubbermaid
GRACO
Sharpie
Paper Mate
LEVOLOR
Parker
Calphalon
WATERMAN
LENNOX
DYMO
Aprica
Rubbermaid
Commercial Products
Office Products Manufacturers

“Brand owners”

– Lengthening supply chain
– Make to forecast; Store inventory

Care about:

• Forecast accuracy
• Lead times
• Landed costs
Office Products Supply Chain

• Complex
• Very diverse products
• Differing customer delivery requirements
  – Office supplies
  – Furniture
  – Size/type of customer
• Multi-level
• Dual channel retailers (Staples, Office Depot) can leverage retail and contract distribution into Mega DC’s
• Delivery quality is assumed!
Food for Thought...

“There’s no limit to how complicated things can get, on account of one thing always leading to another.”

-E. B. White
“Charlotte’s Web”
Office Products Retail Supply Chain

Small Office Home Office (SOHO) → Food & Drug Store

Small Business (1 – 10) → Specialty Retail Store

Office Super-Store Retail → Retail DC

Retail DC → Retail DC

Retail DC → Retail DC

Retail DC → Branded Manufacturers & Private Label
Office Products “Private Label”

Staples

- 2003: 1,000 SKUs of Staples branded items
- 2007: 2,000 SKUs of Staples branded items
- 2010: More than 2,000 SKUs of Staples branded items
  - On average, pricing 10% to 15% below national brands
- 2012, 2013 & 2014: 28% of sales
- Sourcing office in Shenzhen
Office Products Retail Supply Chain

- Characterized by large volumes
- Frequent store deliveries
  - In-stock position at stores critical
- Scheduled deliveries
  - Overnight planning
  - Easier labor, transportation scheduling
- Few, large DC’s and cross-docks
- Economies of scale
  - Capital equipment
  - Vendors
- Focused on cost-effectiveness & accuracy
- Transportation often outsourced
Office Products Retail Supply Chain

Opportunities

• Improving sales forecasting
• Promotions management
• Forward buying
## Office Products Retail Supply Chain

### Vendors Included in Current Projections

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Projected Purchases December</th>
<th>Total Projected Purchases</th>
<th>Required Purchases For Rebate</th>
<th>Projected Rebate</th>
<th>Additional Purchases To Meet Goal</th>
<th>Additional Program Rebate $</th>
<th>Additional Incentive Rebate $</th>
<th>Total Additional Rebate</th>
<th>Additional Months</th>
<th>ROI</th>
<th>Purchase?</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVERY</td>
<td>$3,949,490</td>
<td>$40,854,188</td>
<td>$44,592,286</td>
<td>$2,452,575</td>
<td>$3,738,098</td>
<td>$1,431,221</td>
<td>$1,431,221</td>
<td>1.1</td>
<td>418%</td>
<td>Y</td>
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<tr>
<td>AVE SPR P/L</td>
<td>$252,095</td>
<td>$2,607,714</td>
<td>$2,607,714</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>DURABLE (Tema)</td>
<td>$37,815</td>
<td>$390,277</td>
<td>$700,000</td>
<td>$42,000</td>
<td>$19,729</td>
<td>$7,987</td>
<td>$7,987</td>
<td>0.3</td>
<td>1396%</td>
<td>Y</td>
<td></td>
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<tr>
<td>PYRAMID TECH</td>
<td>$45,169</td>
<td>$281,211</td>
<td>$603,205</td>
<td>$36,192</td>
<td>$2,784</td>
<td>$7,121</td>
<td>$7,121</td>
<td>0.4</td>
<td>872%</td>
<td>Y</td>
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<tr>
<td>SMIFF MFG</td>
<td>$2,532,081</td>
<td>$25,248,670</td>
<td>$32,666,613</td>
<td>$2,886,175</td>
<td>$2,783,943</td>
<td>$396,579</td>
<td>$396,579</td>
<td>1.1</td>
<td>150%</td>
<td>Y</td>
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<tr>
<td>SMIFF MFG - Next Level</td>
<td>$2,572,622</td>
<td>$27,134,432</td>
<td>$34,714,452</td>
<td>$3,471,432</td>
<td>$3,471,432</td>
<td>$347,143</td>
<td>$347,143</td>
<td>1.3</td>
<td>126%</td>
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<tr>
<td><strong>SUB TOTAL - FIRST LEVEL</strong></td>
<td>$74,008,264</td>
<td>$5,416,942</td>
<td>$6,563,554</td>
<td>$1,843,308</td>
<td>$1,843,308</td>
<td>1.1</td>
<td>317%</td>
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<tr>
<td><strong>SUB TOTAL - BOTH LEVELS</strong></td>
<td>$8,838,176</td>
<td>$2,314,740</td>
<td>$2,314,740</td>
<td>1.6</td>
<td>177%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Vendors That Represent Additional Opportunity

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Projected Purchases December</th>
<th>Total Projected Purchases</th>
<th>Required Purchases For Rebate</th>
<th>Projected Rebate</th>
<th>Additional Purchases To Meet Goal</th>
<th>Additional Program Rebate $</th>
<th>Additional Incentive Rebate $</th>
<th>Total Additional Rebate</th>
<th>Additional Months</th>
<th>ROI</th>
<th>Purchase?</th>
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<tbody>
<tr>
<td>CARDINAL BRANDS</td>
<td>$499,876</td>
<td>$6,567,498</td>
<td>$8,059,366</td>
<td>$1,491,859</td>
<td>$129,829</td>
<td>$129,829</td>
<td>2.7</td>
<td>38%</td>
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<tr>
<td>CRD SPR P/L</td>
<td>$49,438</td>
<td>$649,532</td>
<td>$649,532</td>
<td>$0</td>
<td>$0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>GBC</td>
<td>$2,165,493</td>
<td>$25,928,786</td>
<td>$26,343,636</td>
<td>$414,750</td>
<td>$109,409</td>
<td>$109,409</td>
<td>0.2</td>
<td>164%</td>
<td></td>
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<tr>
<td>GBC SPR P/L</td>
<td>$67,883</td>
<td>$312,813</td>
<td>$789,254</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>OVONICS</td>
<td>$18,102</td>
<td>$216,760</td>
<td>$216,760</td>
<td>$0</td>
<td>$0</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>EDUCATION PROD</td>
<td>$113,373</td>
<td>$136,458</td>
<td>$131,524</td>
<td>$0</td>
<td>$0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>TST IMPRESSO</td>
<td>$21,976</td>
<td>$265,700</td>
<td>$270,000</td>
<td>$4,300</td>
<td>$2,958</td>
<td>$2,958</td>
<td>0.2</td>
<td>425%</td>
<td></td>
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<tr>
<td>TST SPR P/L</td>
<td>$710,588</td>
<td>$8,591,007</td>
<td>$8,730,000</td>
<td>$1,389,994</td>
<td>$96,640</td>
<td>$96,640</td>
<td>0.2</td>
<td>425%</td>
<td></td>
<td></td>
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<tr>
<td>TST IMPRESSO - Next Level</td>
<td>$330,000</td>
<td>$3,750,000</td>
<td>$3,750,000</td>
<td>$55,000</td>
<td>0.7</td>
<td>55%</td>
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<td></td>
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<td></td>
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<tr>
<td>TST SPR P/L - Next Level</td>
<td>$10,670,001</td>
<td>$1,040,000</td>
<td>$242,500</td>
<td>$242,500</td>
<td>2.7</td>
<td>55%</td>
<td></td>
<td></td>
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<tr>
<td>LION OFFICE PROD</td>
<td>$27,885</td>
<td>$491,425</td>
<td>$583,700</td>
<td>$39,275</td>
<td>$14,142</td>
<td>$14,142</td>
<td>2.3</td>
<td>82%</td>
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<tr>
<td>PM COMPANY</td>
<td>$283,404</td>
<td>$3,233,146</td>
<td>$3,569,300</td>
<td>$336,164</td>
<td>$38,006</td>
<td>$38,006</td>
<td>1.2</td>
<td>106%</td>
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<tr>
<td>PMC SPR P/L</td>
<td>$148,156</td>
<td>$1,818,646</td>
<td>$1,930,400</td>
<td>$111,666</td>
<td>$10,770</td>
<td>$10,770</td>
<td>0.7</td>
<td>157%</td>
<td></td>
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<tr>
<td>RIVERSIDE PAPER</td>
<td>$383,537</td>
<td>$3,836,335</td>
<td>$1,046,775</td>
<td>$209,449</td>
<td>$25,105</td>
<td>$25,105</td>
<td>0.6</td>
<td>46%</td>
<td></td>
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<tr>
<td>SAMSMILL CORP</td>
<td>$92,041</td>
<td>$961,382</td>
<td>$1,209,400</td>
<td>$249,018</td>
<td>$22,016</td>
<td>$22,016</td>
<td>3.1</td>
<td>34%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CASIO</td>
<td>$60,764</td>
<td>$1,563,043</td>
<td>$2,000,000</td>
<td>$436,957</td>
<td>$28,740</td>
<td>$28,740</td>
<td>3.4</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIC CORP</td>
<td>$162,009</td>
<td>$2,133,242</td>
<td>$2,270,580</td>
<td>$137,338</td>
<td>$48,159</td>
<td>$48,159</td>
<td>0.8</td>
<td>545%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

29
Office Products Retail Supply Chain

Opportunities

- Improving sales forecasting
- Promotions management
- Forward buying
- Inventory efficiency
- Lead time reduction throughout supply chain
- Vendor compliance criteria
Food for Thought

“Forecasts are always wrong, and planners are always surprised.”

-George Plossl

Inventory management guru
The End of Retail (For Real)
%Change in Jobs Since 2001

- MUSIC STORES
- CAMERA STORES
- COMPUTER STORES
- BOOK STORES
- DEPARTMENT STORES
- HOUSEHOLD APPLIANCE
- OFFICE STORES

EMSII / The Atlantic
Retail supply chain questions or comments?
Food for Thought

“Success is the ability to go from one failure to another with no loss of enthusiasm.”

-Winston Churchill
Office Products Delivery Supply Chain

- Small Business (1 – 10)
  - Catalog & Internet delivery
  - Local independent dealers
  - Large independent dealers
  - Commercial contracts
  - Super store delivery

- Medium/Large Business

- Branded Manufacturers & Private Label
  - Office products wholesalers
Delivery Supply Chain

• Characterized by varied customer solutions
  – Next-day delivery from independent dealers
  – Desktop delivery in some cases
  – Same-day delivery in some cases
  – Varying delivery times with direct to consumer models
• Short cycle times
• High product return rate (6% to 8%)
  – Response to intense competition
• Seasonal?
Delivery Supply Chain

Average Daily Sales (Office Products)

$ Millions

Jan 2000 2001 2002 2003
Feb 2001 2002 2003
Mar 2002 2003
Apr 2003
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

$ Millions

$1 $2 $3 $4 $5 $6 $7
Delivery Supply Chain

- Characterized by varied customer solutions
  - Next-day delivery from contract dealers
  - Varying delivery times with direct to consumer models
  - Same-day delivery in some cases
  - Desktop delivery in some cases
- Short cycle times
- High product return rate (6% to 8%)
  - Response to intense competition
- Seasonal
- Widely differing organizational sizes
  - Number of items stocked tend to vary with company size
  - Smaller dealers use wholesalers more
    - Little leverage with vendors
    - Use buying groups
- Varying business strategies
- 4 to 5 lines per order, on average
- Furniture often delivered separately
- Dealers have multiple wholesaler relationships
Business Capabilities

• Office superstore commercial/contract divisions
  – Large national contracts
  – Low costs
  – Purchasing control
  – Mainly standardized service
    • Desktop delivery
    • Office Depot: “We’re not a transportation company”

• Contract specialists
  – In the company for reasons other than office products
  – Service large businesses
  – Can handle national accounts
  – Also target mid-sized businesses
  – Convenience purchases
  – Good costs
Business Capabilities

• **Medium sized independent dealers**
  – Target mid-sized to small businesses
  – Still more customized service
  – Adequate product costs
  – Can handle national accounts
    • American Office Products Distributors, Inc.
    • Wholesaler support

• **Small dealers**
  – Target small businesses
  – Niche markets
    • Local banks, lawyers, doctors
  – Highly customized service
  – Higher costs
  – May be stockless
    • Wholesaler support
Business Capabilities

• Catalog and internet fulfillment
  – Convenience
  – Price
  – SOHO market
  – Service less critical
  – May be part of a Superstore
Staples Delivery Supply Chain Goals

Support rapid growth and ensure excellent customer service.

- Inventory turn improvement
- Reduce the number of trips per order
- Leverage logistics expense
- Increase product margins by stocking more inventory in our own facilities
- Driving down shrink and damages in our network
- Greater efficiency and throughput in our fulfillment centers
- Give customers more control over how Staples services them.
Staples Delivery Supply Chain Goals

Perfect order

- Correct item(s)
- Correct quantities
- Delivered to the right place
- Delivered at the right time
- Damage free
- Right package
- Right documentation
- Correct invoice
Office Supply Superstore
U. S. and Canada DC’s

Staples:
  – Retail   -  4
  – Delivery - 61

Office Depot
  – Retail & Delivery - 78
Combined DC & Cross-dock
Combined DC & Cross-dock

- Offices
- Returns
- BSD Receiving
- BSD Shipping
- Floor Storage
- Retail Cross Dock
- Cross Dock Shipping
- Carton Induction
- Forward Pick & QA
- Deep Reserve & Furniture
- Technology Cage
- Business Solutions Delivery Fulfillment
- Cross-Dock Receiving
Retail Supply Chain
Crossdock:

- Lots of walking, walking, walking…
- Potentially slower reaction to store out-of-stocks
- Possibly better turns
- Different product than a delivery DC
- Totally different function than a delivery DC
Food for Thought

“One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man.”

- Elbert Hubbard
  American writer
  1856 - 1915
Office Products Delivery Supply Chain

Small Business (1 – 10)
- Catalog & Internet delivery
- Local independent dealers
- Large independent dealers

Medium/Large Business
- Commercial contracts
- Super store delivery

Branded Manufacturers & Private Label
- Office products wholesalers
Wholesalers

National wholesalers

- United Stationers
- S. P. Richards

Regional wholesalers

- ActionEmco
- O’Henry

Computer supplies wholesalers

- Ingram Micro
- Tech Data

Furniture wholesalers

- Furniture Wholesale Group

ESSENDANT $5.33 Bn

S. P. Richards Co. $1.80 Bn
Wholesalers

- First call / Second call wholesaler relationships
- Most orders electronic. Ex: Wholesaler’s orders -
  - 70% EDI
  - 15% remote order entry
  - 15% phone, FAX, etc.
- Immediate stock availability response to order
  - Virtually no backorders
  - Out-of-stocks represent lost sales
Wholesaler EDI

- Probably 30 years old
- Fast
- Unattended (computer to computer)
- Proprietary
- Very efficient
- Highly accurate
- Multiple linkages
  - Leased line
  - Frame relay
  - Internet
  - Dial-up
  - Remote order entry
"If the automobile had followed the same development cycle as the computer, a Rolls-Royce would today cost $100, get a million miles per gallon, and explode once a year, killing everyone inside."

-Robert X. Cringely
InfoWorld Magazine
Wholesalers

- First call / Second call wholesaler relationships
- Most orders electronic. Ex: Wholesaler’s orders -
  - 70% EDI
  - 15% remote order entry
  - 15% phone, FAX, etc.
- Immediate stock availability response to order
  - Virtually no backorders
  - Out-of-stocks represent lost sales
- Most orders prepackaged in consumer packaging (Wrap & Label)
  - From: Dealer to: Customer
  - Packages cross-docked at dealer
  - Wholesaler will drop ship direct to customers (UPS)
  - Product source transparent to consumer
- Few lines per wholesaler order (2, plus or minus)
- Furniture usually delivered with other products
O. P. Delivery Supply Chain

- Charlotte
- Atlanta

that was easy:
Wholesalers

- Shortest cycle times in the industry
- Must deliver to dealer in time for dealer to cross-dock for next morning delivery
- Use multiple facilities for fulfillment when needed
  - Atlanta
  - Birmingham
Delivery Supply Chain
Delivery Supply Chain

- Fedex Freight linehaul
  - Meet enroute or at a terminal
  - Drop pups
  - Exchange pups with other tractor & driver
  - Return to original destination
Delivery Supply Chain
Delivery Supply Chain

• Fedex Freight linehaul
  – Meet at a half-way point
  – Drop pups
  – Exchange pups with other tractor & driver
  – Return to original destination

• S. P. Richards SPRinter service
  – Meet at a half-way point
  – Exchange trucks
  – Return to original destination (driver home every night; truck “home” every other night)
Wholesalers

- Shortest cycle times in the industry
- Must deliver to dealer in time to cross-dock for next morning delivery
- Use multiple facilities for fulfillment when needed
  - Atlanta
  - Birmingham
- Orders tend to arrive late in the day for same-day shipping
  - No opportunity to pre-plan work
Wholesaler Order Lines by Time of Day

- DC 1
- DC 2
- DC 3

Midnight, 1:00 AM, 2:00 AM, 3:00 AM, 4:00 AM, 5:00 AM, 6:00 AM, 7:00 AM, 8:00 AM, 9:00 AM, 10:00 AM, Noon, 1:00 PM, 2:00 PM, 3:00 PM, 4:00 PM, 5:00 PM, 6:00 PM, 7:00 PM, 8:00 PM, 9:00 PM, 10:00 PM, 11:00 PM

Wholesalers
Wholesaler Cumulative Order Lines by Time of Day

Wholesalers

![Graph showing cumulative order lines by time of day with specific time intervals such as Midnight, 1:00 AM, 2:00 AM, etc. The graph includes percentage markers at 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100%.]
Wholesalers

- Shortest cycle times in the industry
- Must deliver to dealer in time to cross-dock for next morning delivery
- Use multiple facilities for fulfillment when needed
  - Atlanta
  - Birmingham
- Orders tend to arrive late in the day for same-day shipping
  - No opportunity to pre-plan work
- Deliveries:
  - Evening deliveries to large customers
  - Unattended night-time deliveries to smaller ones
- More variable product demand than dealer
  - Dealer out-of-stocks
  - No POS data
Wholesaler Inventory Management
Wholesaler Inventory Management

- Relatively low turns
- Stock more SKU’s than dealers
  - Items dealers don’t stock
    - The smaller the dealer, the fewer items they stock
    - Economic decision
    - Expand their selection
      - “Purple pens”
  - United – Stocks 100,000 items
  - S. P. Richards – Distributes more than 50,000 items
- Backup for customers during transitions (new catalogs)
- Backup for temporary out-of-stocks
  - Can be huge volume
  - Impossible to forecast
Wholesaler Inventory Management

- **FIFO**
  - First In First Out
- **LIFO**
  - Last In First Out
- **FISH**
  - First In Still Here
Office Products Warehouse Technology

- **Superstore delivery:**
  - Pick-to-light

- **Wholesaler:**
  - United: Bar code scanning
  - S. P. Richards: Pick-to-voice

- **Storage:** Vertical carousels
Kardex Remstar Shuttle XP: Seven features of the Shuttle XP made for excellence

1. **Automatic shutter doors**
   Provides protection of operator and stored goods with decreased noise levels. Enables pre-picking by allowing an operator to work with one tray in the access opening while the extractor prepares the next tray for delivery behind the shutter doors. To reduce wait time, trays are exchanged once the operator finishes work with the current tray.

2. **Cubestar technology**
   Automatically scans the height of the products stored on each tray to maximize storage density within the unit.

3. **Internal weight management system**
   Monitors tray and unit load via the resistance in order to prevent overloading of the individual tray or the device.

4. **Teeth belt drive**
   Provides faster travel and access times, lower noise levels, and greater longevity of your machine.

5. **Multiple capacity trays**
   Various capacity trays can be stored in the same unit, providing reduced acquisition cost and long-term flexibility.

6. **Ergonomic tray delivery**
   An ergonomic design makes it possible to adjust the tray delivery height to the requirements of the operator. Furthermore, two trays can be delivered simultaneously in one access opening. The floor-level recess allows the operator to get close to the unit and work ergonomically.

7. **Flexible and modular design**
   The height of the unit can be modified quickly and easily, and additional access openings can be retrofitted to meet future needs.
Less Critical Issues

- Transportation to dealers
  - Most deliveries on private fleets
  - Every stop every night
  - Routing software may not be beneficial
  - Pins on a map work pretty well over time when you make every stop every night
Delivery Supply Chain

The Last Mile

- Routing very important
  - Dynamic
  - Don’t go to every stop every night
- Staples
  - Company drivers & vehicles for 75% of orders
  - Deliver through crossdocks
- Office Depot:
  - “Increased the use of third party delivery services”
  - “Reduced their fleet of vehicles”
- The face of the company in the mind of the customer is the delivery person
“A man is incapable of comprehending any argument that interferes with his revenue.”

Descartes; 1650
USA Express Program

- UPS same day shipment on orders up to 3:00 p.m.
- Auto-routing by zip code
- Source Complete and Quick Ship
- Tracking
- Non UPS-able product shipping 12% flat rate-$35 minimum charge

**Benefits:**

Expanding geographic boundaries

**Offense:** Capture new business

**Defense:** Maintain current business
# UPS Pickup Times

<table>
<thead>
<tr>
<th>BRANCH</th>
<th>USA EXP</th>
<th>PREVIOUS</th>
<th>INTENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CUT-OFF</td>
<td>UPS PICK UP</td>
<td>UPS PICK UP TIMES</td>
</tr>
<tr>
<td>St. Louis</td>
<td>3:00 PM</td>
<td>3:30 PM</td>
<td>3:30/4:00 PM</td>
</tr>
<tr>
<td>Houston</td>
<td>3:00 PM</td>
<td>4:00 PM</td>
<td>5:30 PM</td>
</tr>
<tr>
<td>Austin/San Antonio</td>
<td>3:00 PM</td>
<td>4:30 PM</td>
<td>5:15/5:30 PM</td>
</tr>
<tr>
<td>Miami</td>
<td>3:00 PM</td>
<td>5:00 PM</td>
<td>5:00 PM</td>
</tr>
<tr>
<td>Boston</td>
<td>3:00 PM</td>
<td>5:00 PM</td>
<td>5:00 PM</td>
</tr>
<tr>
<td>Columbus</td>
<td>3:00 PM</td>
<td>5:30 PM</td>
<td>4:30/5:30/6:00 PM</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>3:00 PM</td>
<td>5:30 PM</td>
<td>5:30 PM</td>
</tr>
<tr>
<td>Atlanta</td>
<td>3:00 PM</td>
<td>6:00 PM</td>
<td>6:00 PM</td>
</tr>
<tr>
<td>Charlotte</td>
<td>3:00 PM</td>
<td>6:00 PM</td>
<td>2nd driver 6:15/6:30 PM</td>
</tr>
<tr>
<td>Orlando</td>
<td>3:00 PM</td>
<td>6:00 PM</td>
<td>6:15/6:30 PM</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>3:00 PM</td>
<td>6:00 PM</td>
<td>6:15/6:30 PM</td>
</tr>
<tr>
<td>Chicago</td>
<td>3:00 PM</td>
<td>6:00 PM</td>
<td>6:00 PM</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>3:00 PM</td>
<td>6:30 PM</td>
<td>6:30 PM</td>
</tr>
<tr>
<td>New York</td>
<td>3:30 PM</td>
<td>7:00 PM</td>
<td>7:30 PM</td>
</tr>
<tr>
<td>Baltimore</td>
<td>NONE</td>
<td>12:00 AM</td>
<td>OK</td>
</tr>
</tbody>
</table>
S. P. Richards
Furniture Program Capabilities

- In stock - overnight/next day
- Express - expanded offering in 7 - 10 days*
- Special Order
- Drop-ship
- National Delivery & Set-up*
- Space Planning & Design*

* not yet available in every market

Benefit: Expand your furniture sales
Wholesale Market

- Mature market
- Limited growth
- Price sensitive
- Limited customer loyalty
- No sustainable competitive advantage

Would you invest in this business?
The Retailers
Market Capitalization

<table>
<thead>
<tr>
<th></th>
<th>Billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staples</td>
<td>$6.30</td>
</tr>
<tr>
<td>Office Depot</td>
<td>$2.90</td>
</tr>
<tr>
<td>Office Max</td>
<td>(Not shown)</td>
</tr>
</tbody>
</table>

($ Billions)
The Retailers
Market Capitalization

- Staples: $10.43
- Office Depot: $5.02
- Office Max: $10.43

($ Billions)
Staples

Stock Performance Graph

The following graph compares the cumulative total stockholder return on Staples’ common stock, the Standard & Poor’s 500 Index and the Standard & Poor’s Retail Index during our 2010 through 2014 fiscal years, assuming the investment of $100.00 on January 30, 2010 with dividends being reinvested.

Total Return to Stockholders

<table>
<thead>
<tr>
<th></th>
<th>30-Jan-10</th>
<th>29-Jan-11</th>
<th>28-Jan-12</th>
<th>2-Feb-13</th>
<th>1-Feb-14</th>
<th>31-Jan-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staples, Inc.</td>
<td>$100.00</td>
<td>$96.75</td>
<td>$71.23</td>
<td>$62.18</td>
<td>$62.55</td>
<td>$84.15</td>
</tr>
<tr>
<td>S&amp;P 500 Index</td>
<td>$100.00</td>
<td>$122.19</td>
<td>$127.34</td>
<td>$148.71</td>
<td>$180.70</td>
<td>$206.41</td>
</tr>
<tr>
<td>S&amp;P Retail Index</td>
<td>$100.00</td>
<td>$130.05</td>
<td>$150.50</td>
<td>$196.11</td>
<td>$246.44</td>
<td>$297.31</td>
</tr>
</tbody>
</table>
Musings

Supply Chain:

• The network of retailers, distributors, transporters, storage facilities and suppliers that participate in the sale, delivery and production of a particular product.

• A supply chain, logistics network, or supply network is a coordinated system of entities, activities, information and resources involved in moving a product or service from supplier to customer. The entities of a supply chain typically consist of manufacturers, service providers, distributors, and retail outlets. Supply chain activities transform raw materials and components into a finished product. The primary objective of supply chain management is to fulfill customer demands through the most efficient use of resources.
Musings

Supply Chain Software:

- Manufacturing
- Customer relationship management
- Order processing
- Forecasting
- Procurement
- Inventory planning/management
- Other advanced planning
- Transportation management
- Warehouse management
Musings

Supply Chain:

• Collaborative forecasting
• Event management
• Partnering
  – Everyone is partnering with everyone
  – Manufacturer with Staples & Artlite
• End-to-end visibility
Musings

Supply Chain:

• Communications
  – Internal
  – External
  – HR issue
• Doing things you don’t want to do
  – Tracking
  – Expediting
  – You just want it correct and on time
• Managing variability
Musings

• World class is delighting the customer
• It’s often about process design and organization
• Must eliminate work
  – Lower costs
  – Reduce cycle times
World class is delighting the customer
It’s often about process design and organization
Must eliminate work
  – Lower costs
  – Reduced cycle times
Automation where it helps meet (or anticipate) customer requirements AND it is cost effective
Analyze an investment against an optimized process, not necessarily present state
Make sure the solution fits the business
If you think you’re “Top tier”, even if you are, you won’t be for long
“You have to continue to eat your own lunch, otherwise someone else will do it for you”.

- Lew Platt  
  Former Chairman  
  Hewlett-Packard
What I Told You

- Complex office products supply chain
- Very diverse products
- Differing customer delivery requirements
- Multi-level
- Mega players operate in dual channels
- Delivery quality is assumed!
- Focus your supply chain on your customer’s requirements
- It’s not always about technology and automation
- Without a satisfied customer, there is nothing!
Food for Thought

“It is difficult to get a man to understand something when his salary depends on his not understanding it.”

- Upton Sinclair
American author
Food for Thought…

The One with the Best Cash Flow Wins

Wilton Looney
- Former Chairman, Genuine Parts Company
Questions?