

# E-Commerce Impact on Warehouses and Distribution Centers

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Presented by:

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Director, Business  
Development & Marketing

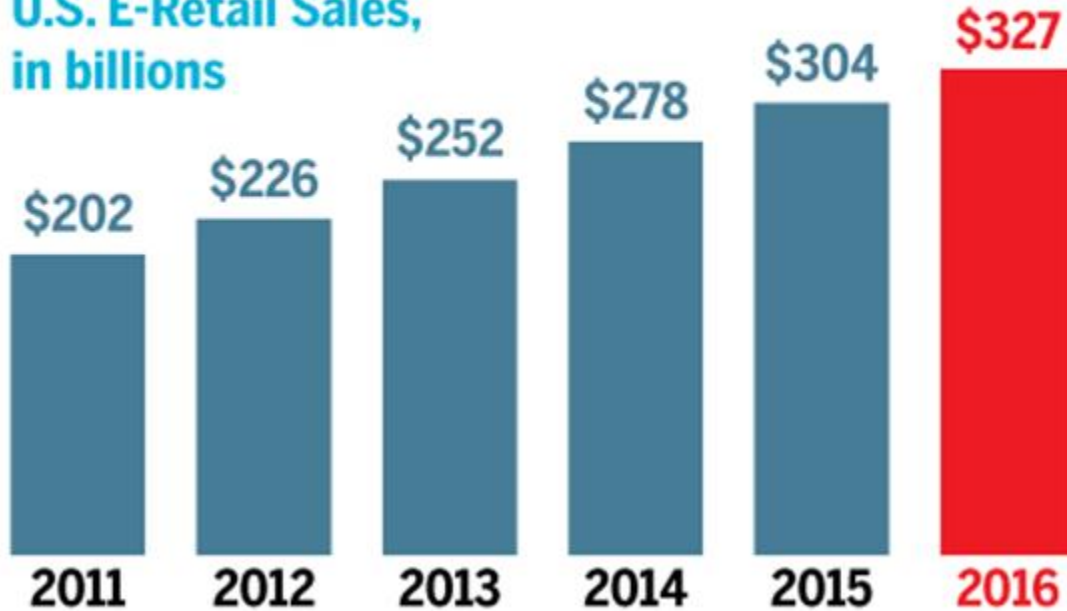


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**swisslog**

# Terrific Growth Projected to Continue

U.S. E-Retail Sales,  
in billions



## U.S. E-commerce Sales: 2011-2016

Online consumers will increase their spending 62% by 2016, according to Forrester Inc.

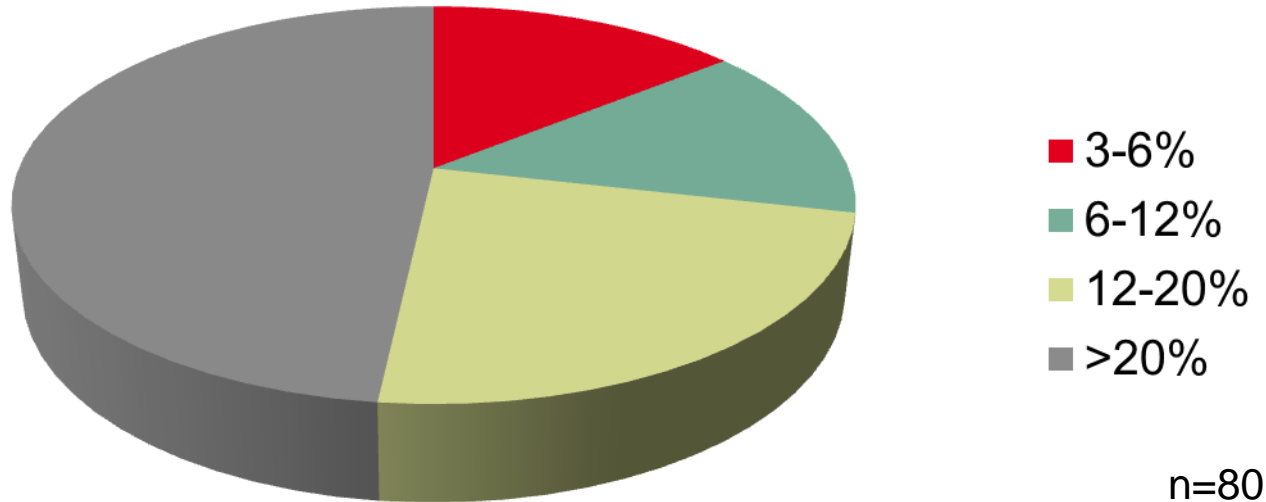
Source: Forrester Inc.

Year on Year: 12% 11.5% 10% 9.5% 7.5%

Profits more of a challenge (Amazon net income = 1.3% of sales)

# Survey of 2012 Shop.org Attendees

## Revenue Growth 2013/2012



Using 20% for ‘>20%’ response, results in an **overall 15% forecast**

# For consumers – its all about **SPEED**

➤ Historical Perspective – 1847

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"Everything comes if a man will only wait."

- Benjamin Disraeli



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## ➤ Today

# For consumers – its all about SPEED

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## ➤ Today

"Click on it, and get it now"

- Any consumer



# For consumers – its all about SPEED

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## ➤ Today

"Click on it, and get it now"

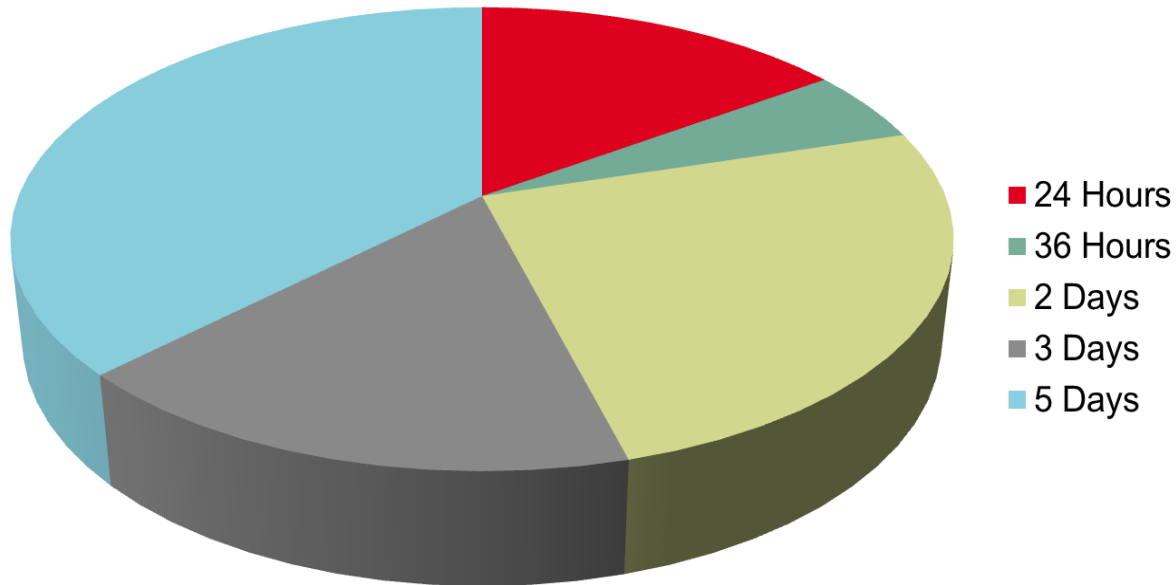
- Any Consumer  
- With a credit card  
+ internet access





# Delivery Requirements

Max allowable:



All shipping – free, standard, expedited, etc

n=80

# Shipping Costs - Ground Freight Delivery

6-7 Days	4-5 Days	3-4 Days	2-3 Days	1-2 Days	Time
+ 45%	+ 31%	+ 23%	+ 18%	\$4.48	Cost



# Further Transportation Challenges

## ➤ Policies influence the DC!!

*“ A little known aspect of the home furnishings business: a lot of internet orders for our >\$1,000 sofas also have our cheapest toilet brush added to them in order to take advantage of the free shipping”*

E-Commerce DC Manager  
Global Home Furnishings Firm  
June 2012



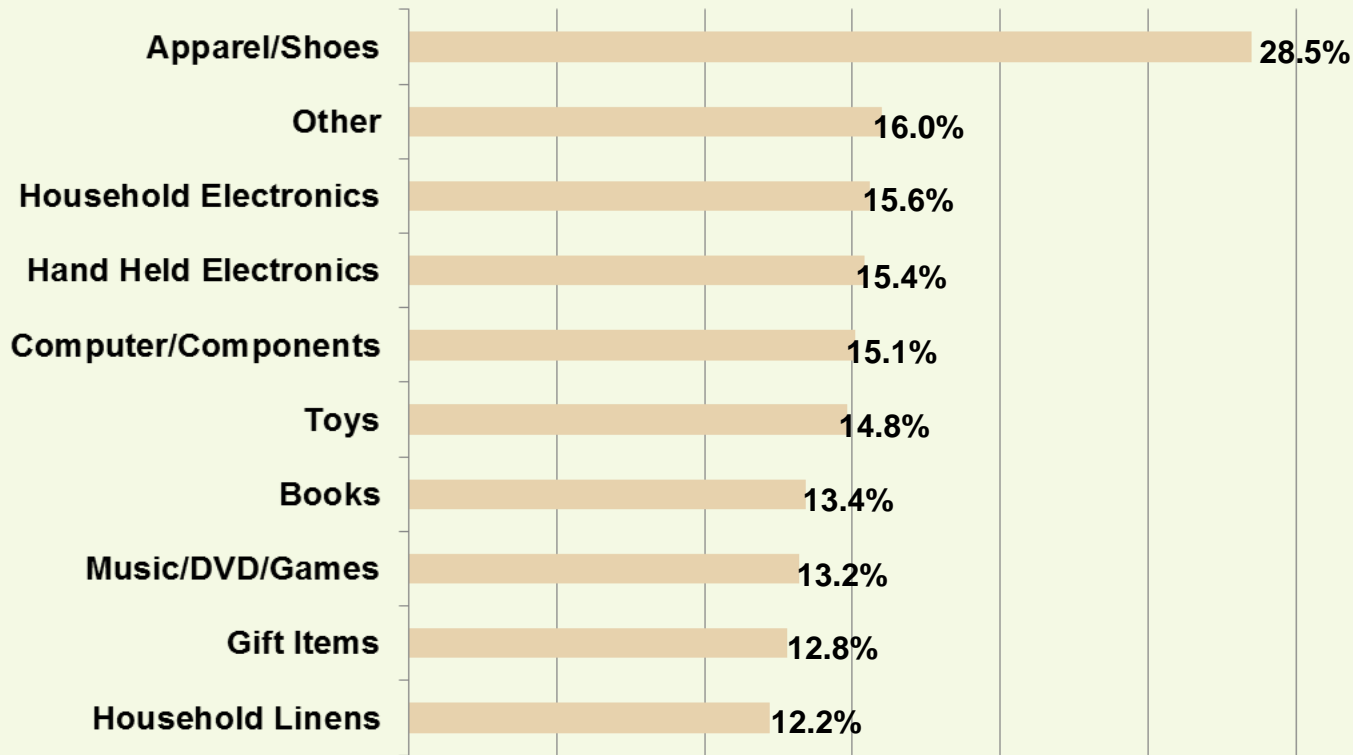
**DAGSTORP** Loveseat and chaise lounge  
**\$1,199.00**



**BOLMEN**  
Toilet brush/holder  
**\$0.99**

height: 14 3/8 "  
width: 36.5 cm

# Return Rates by Product Line



Source: Internet World Business 20/10

# Returns as a Strategy?

## Mini-Case Study

- Fantastic Growth following 2008 Launch
- About 100,000 items from 1,300 brands
  - Shoes, clothing and other fashion lifestyle products
  - "Shout for joy - or send it back"
- Returns on some products >50%
  - Target 'Break-Even Point' = 45%!
- Marketing Strategy = DC Consequence!

zalando



# Speed, Visibility & Connection to Customers



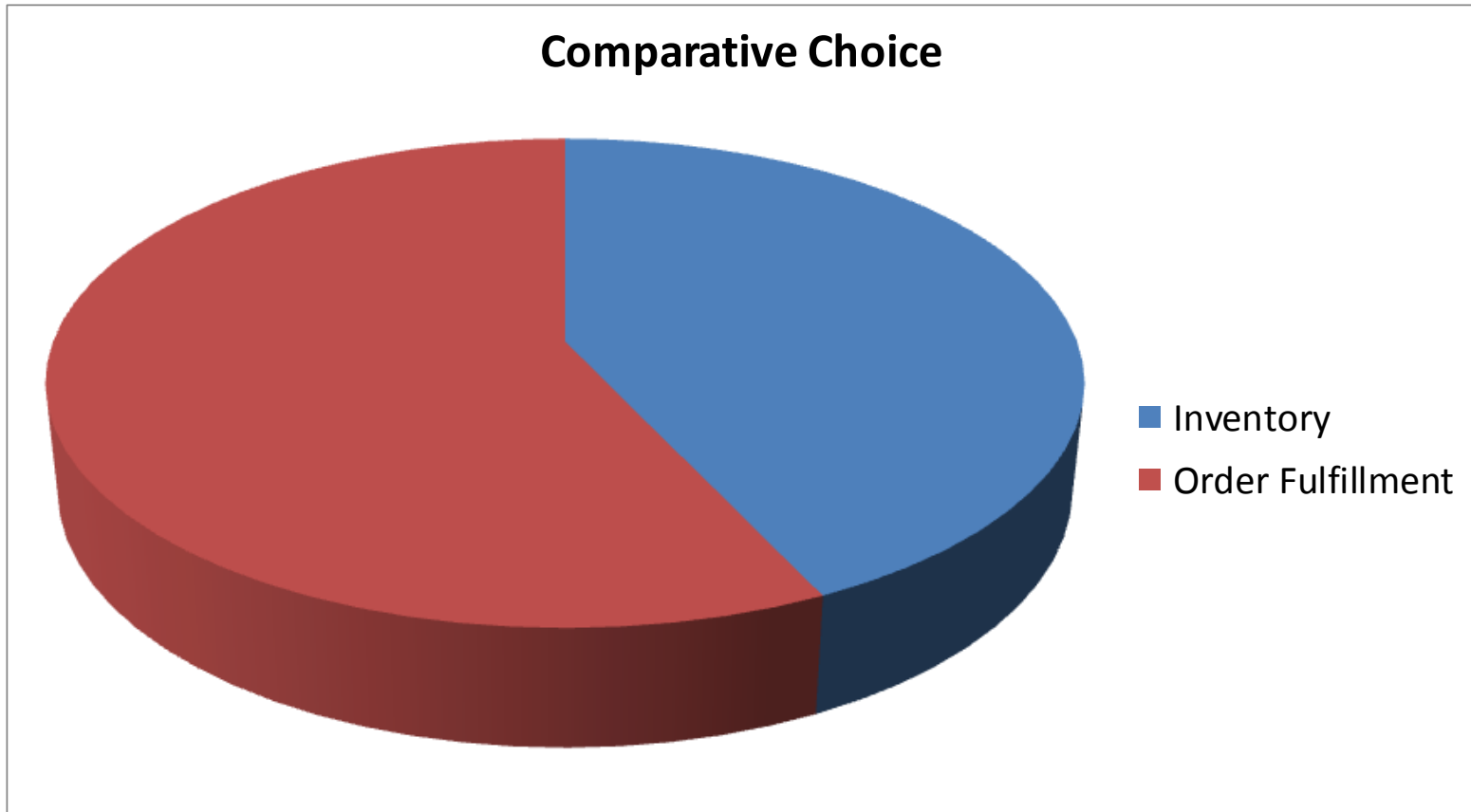
- 'Mobile' shopping a hot topic with E-Commerce Retailers
  - ✓ 55% of SHOP.org survey respondents – driving consumer demands
  - ✓ Real time & accurate inventory status a must
  - ✓ Connection to customer insures 'capturing-the-sale'
    - Stay connected for the entire fulfillment/delivery cycle!
    - Order acknowledgment, picking, packing, shipment

# Overall E-Commerce Impact Drivers

<b>Convenience of Shopping</b>	Retrieve information or order products at any time from any location.
<b>More Information</b>	Find information on products, prices, services, quality, etc. and directly compare them.
<b>Wider Range of Products</b>	The number of providers and the range of online retailers far surpasses those of the bricks-and-mortar retail trade.
<b>Speed</b>	Quickly retrieve information or place an order.
<b>Social Media</b>	Via social media platforms recommendations spread quickly. The users trust the feedback of your friends.



# Greater Internal Cost Concern



External Costs = Product Sourcing & Transportation

Source - Shop.org survey n=80



# Multi-Channel Becomes the Industry Norm

➤ Half of the top 20 E-Commerce Retailers are traditional Bricks & Mortar stores:

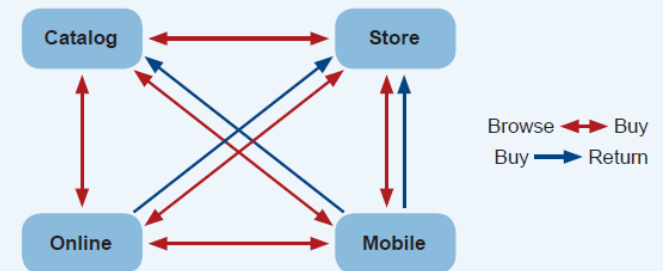
- Staples                      Walmart
- Office Depot              Sears
- Best Buy                    Office Max
- Target                      Macy's
- Costco                      JC Penny

➤ All over \$1.5Bio annual E-Commerce

➤ 170 E-Commerce retailers >\$100mio revenue in 2011



## Multi-channel Retail Strategy



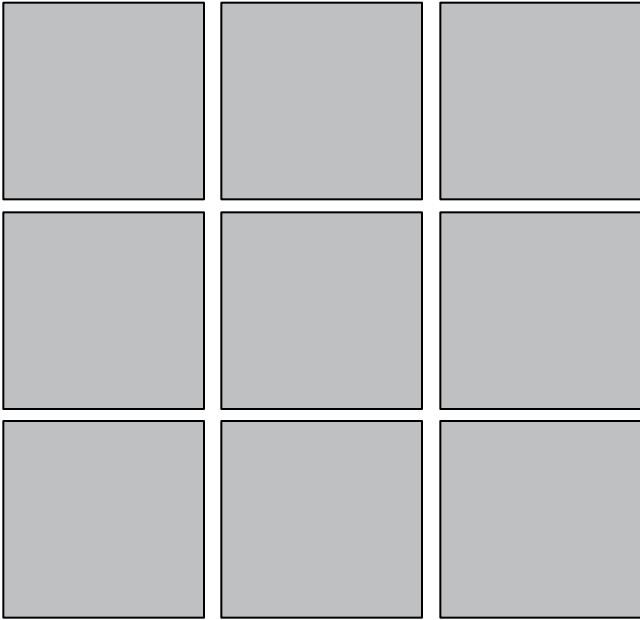
Source: Ovum Research, IMAP

# Comparative Challenges for DC Operations

## Retail:

Fewer orders  
bundled in large  
quantities per order

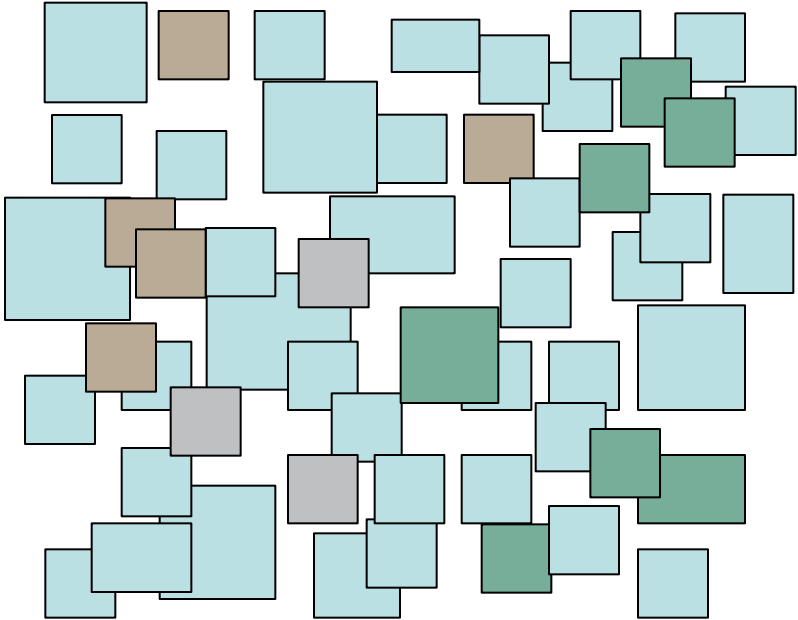
Pallets / Cases



## E-Commerce:

Many individual orders  
with few items per order

Parcels

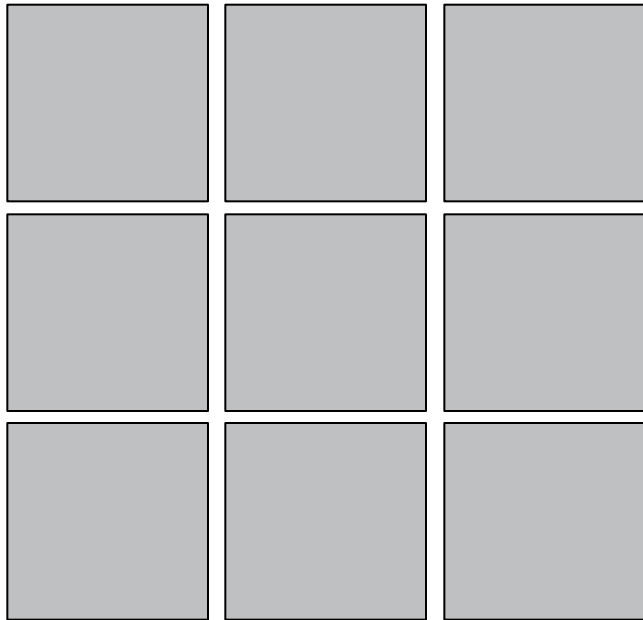


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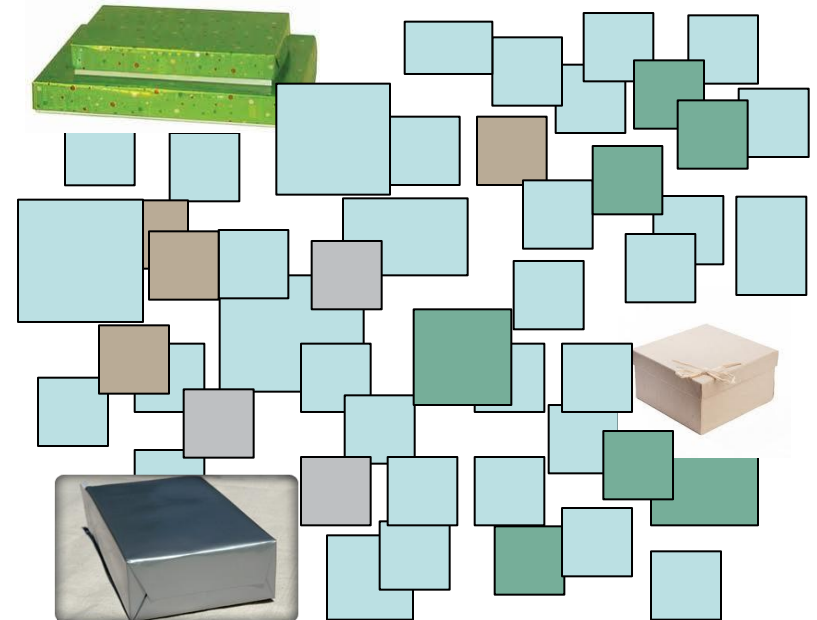
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## E-Commerce:

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## Packaging

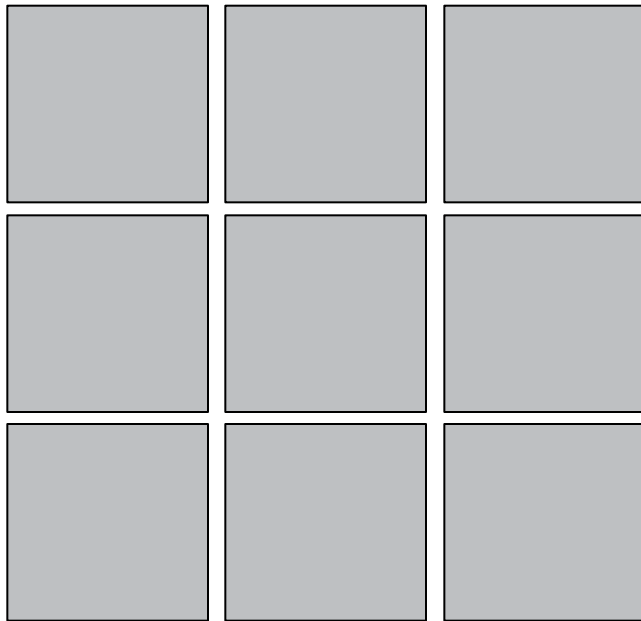


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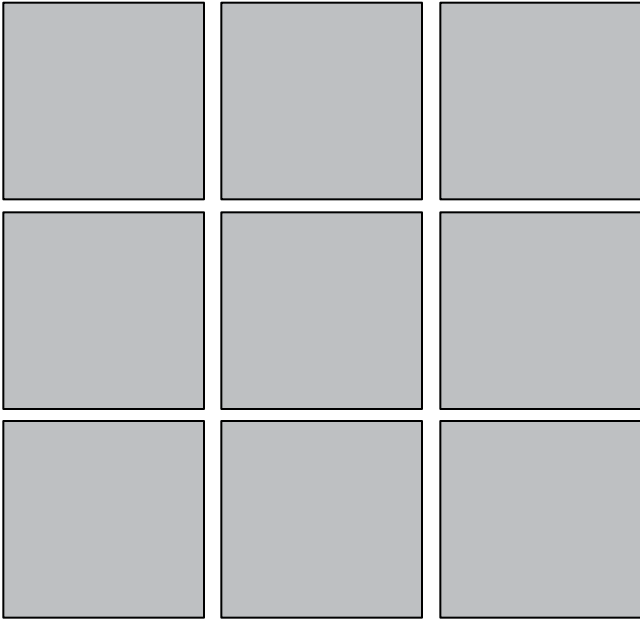
## Gift Wrapping



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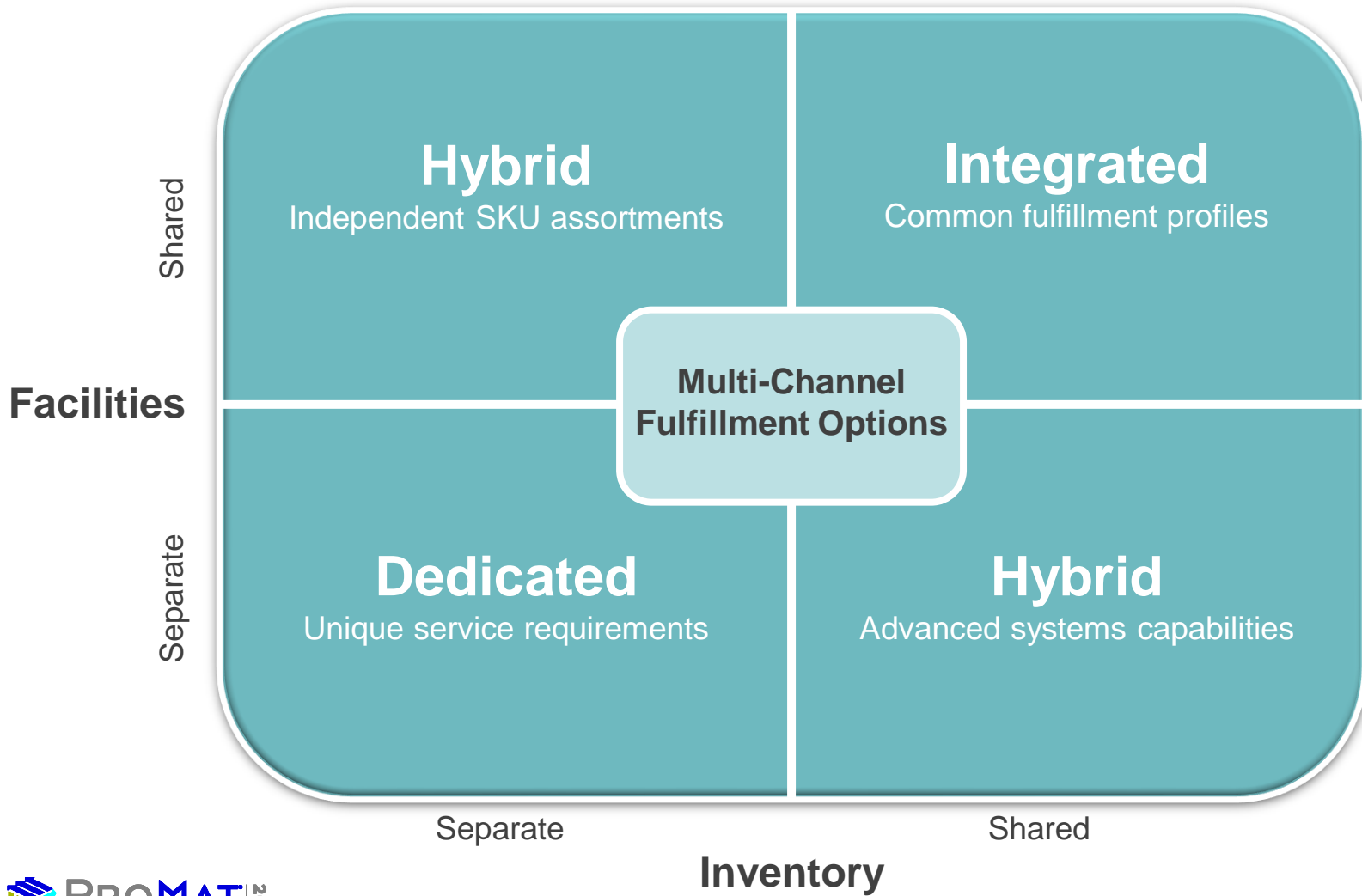
## Personalization



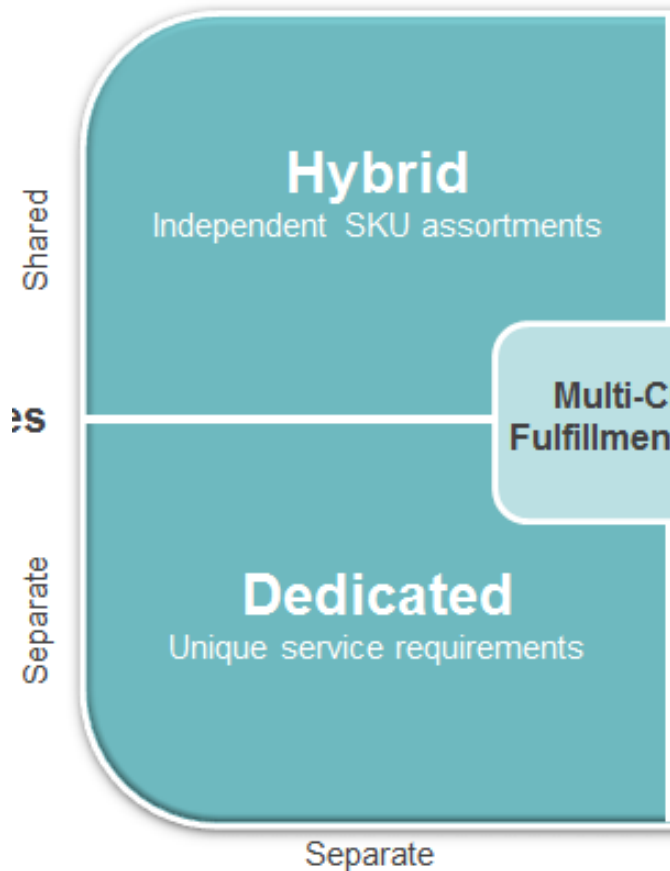
# Comparative Challenges for DC Operations

	 <b>Increasing Cost Pressure</b>	 <b>SKUs Ever Increasing</b>	 <b>Increasing Return rate</b>	 <b>Short Delivery Times</b>	 <b>Store Friendly or VAS Needs</b>	 <b>High Fluctuations</b>
<b>Retail</b>						
<b>E-Com</b>						

# Multi-Channel Retail Impact on Distribution Center Requirements



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## ➤ Dedicated

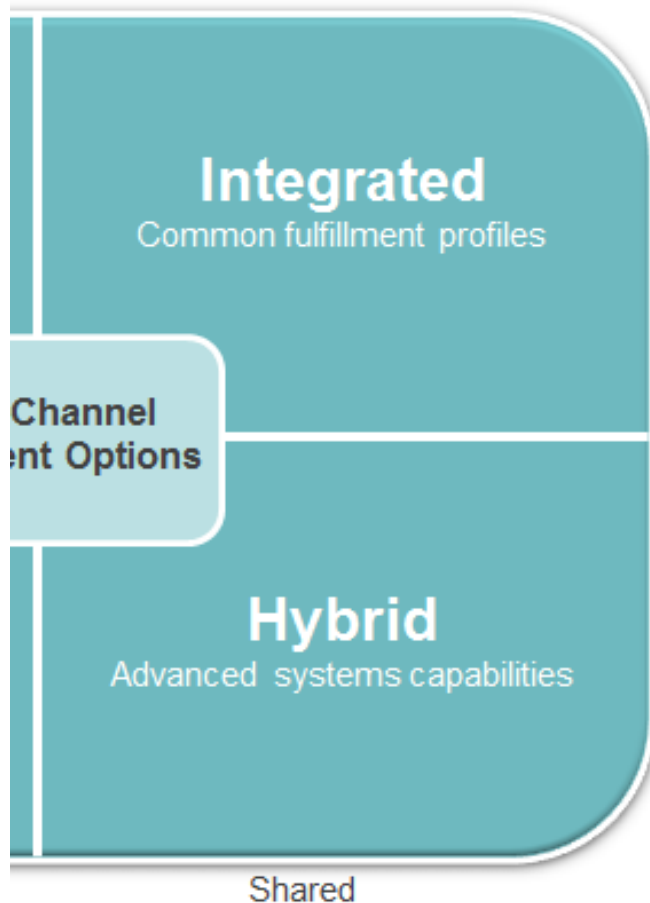
- + No Product Commonality
- + No Service Commonality
- + Legacy Facilities
- + Huge Scale
- Inventory Investment
- Redundant Overheads

## ➤ Hybrid (Separate Inventory)

- + Sufficient Facility Size
- + Shared labor capabilities
- + Cross Dock Potential
- Inventory Investment



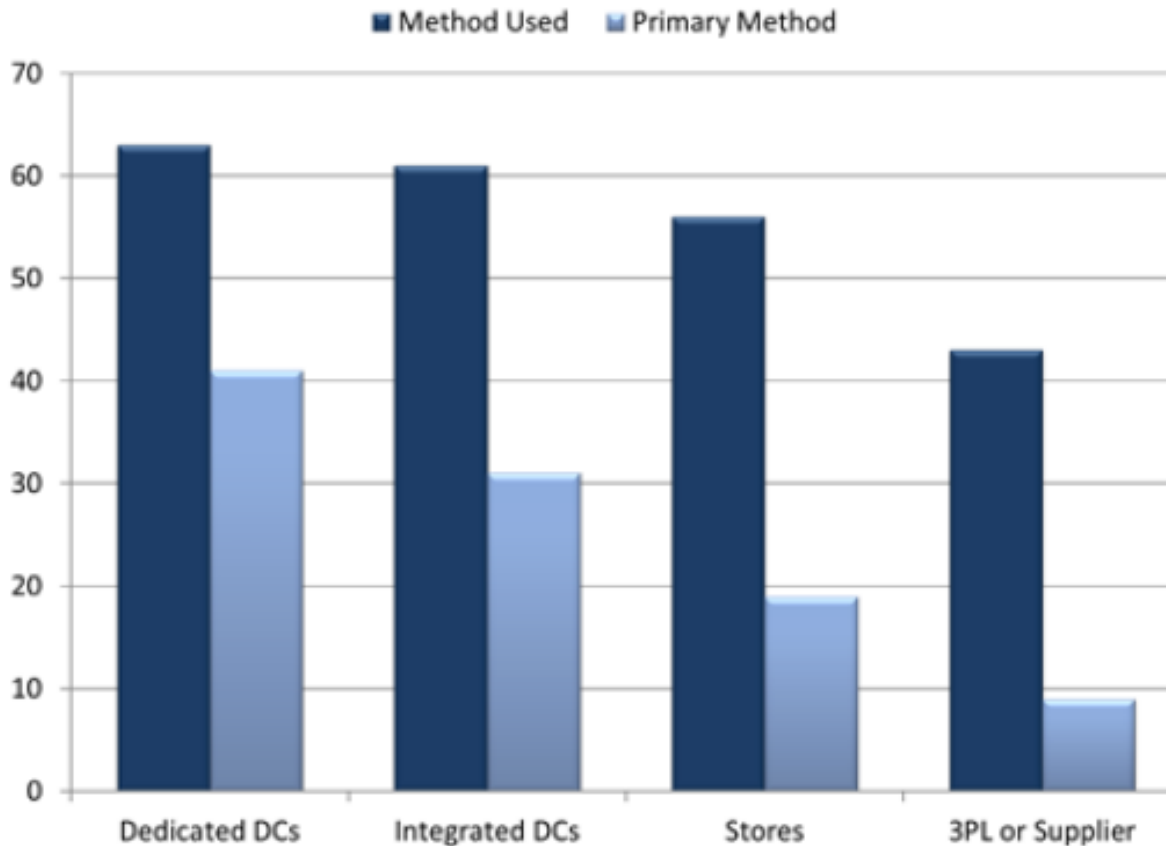
# Multi-Channel Retail Impact on Distribution Center Requirements



- Hybrid (Shared Inventory)
  - + Vast difference in order profile
- Integrated
  - + Similar order profiles
  - + Variable Scheduling capabilities
  - + Lowest Inventory investment
  - + Service Levels (Response Time)
  - Capital Investment Infrastructure

# Order Fulfillment Strategies

## Dedicated, Integrated, Dispersed or Outsourced



- ✓ Legacy
- ✓ Life Cycle
- ✓ Accounting Metrics
- ✓ Planning Horizon
- ✓ Risk/Reward

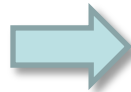
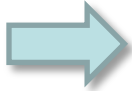
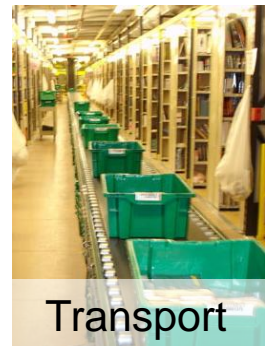
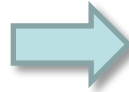
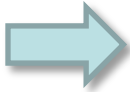
Source - THE STATE OF THE RETAIL SUPPLY CHAIN 2012

# Overall Challenges

- The challenges in an E-Commerce DC are difficult:
  - Large SKU counts with a long, slow-moving tail
  - High and difficult to predict growth
  - High penalty for poor performance (Brand damage)
  - Uncertain business terrain that demands flexible and adaptive solutions
  - Demand for real-time and accurate inventory visibility
  - Small number of orderlines per order
  - High returns from end customer
  - Extreme peak season volumes



# E-Commerce Typical DC Process



- Receipt of many SKUs with low-volume/SKU
- Manual putaway labor intensive and prone to error
- Large walk distances add no value
- Large facilities with fragmented operations due to growth add further inefficiencies

# E-Commerce Typical DC Process

- Opportunities in the Status Quo
  - Many non-value added steps in the process, even in facilities that have automated sortation and/or intra-DC transport.
  - Picking, especially of slow-movers, requires Selectors to travel miles and miles in a single day.
  - There are many touches from Receipt to Shipping. A single item could be touched over 9 times before finally leaving the DC!
  - Each touch increased chance of error and costs.
  - Functions are often in different areas of the warehouse, requiring additional transport, adding valuable time to order cycles.
  - Large areas required because different functional areas need a lot of space to be effective.



# Technology Trends in E-Commerce Distribution



Demand for automation to ensure accuracy, speed, while minimizing operating costs.



Highly flexible and scalable systems which respond quickly to changing demands.



Energy efficient systems in order to reduce impact of ever increasing energy costs.

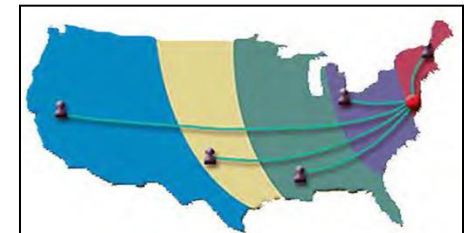


Requirement for high density storage to better utilize space and lower building costs.







More Electronic Data Interchange (EDI) within the supply chain.

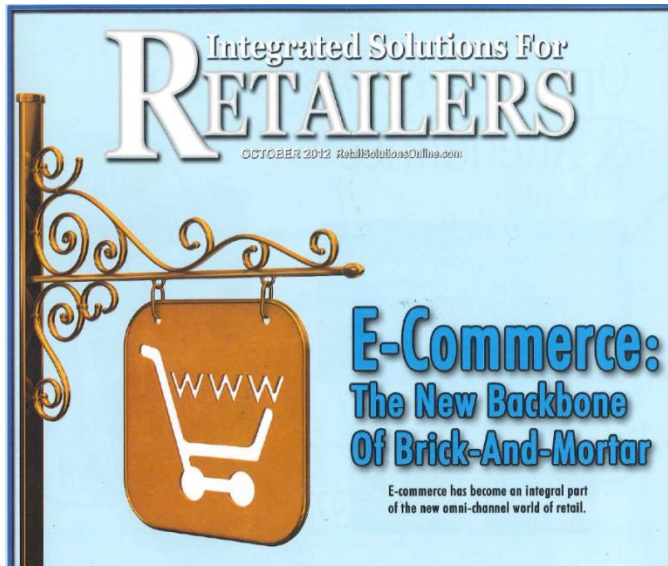
Regionalization – driven by delivery cost competition, will drive DC scale smaller, limiting initial investment flexibility.



# Picking Technologies

Principle	Person to	Zone to Zone	Goods to	Fully Automatic
				
Personnel Expenses	●	●	●	●
Investment	●	●	●	●
Flexibility	●	●	●	●
Storage Density	●	●	●	●
Throughput	●	●	●	●
Price / Pick	●	●	●	●

# Technology Trends in E-Commerce Distribution



## Retail Warehouse Technology: The Gulf Grows Between The “Haves” And The “Have-Nots”

By Bob Heaney - October 2012 Issue

*“All retailers must examine whether their current systems provide the level of visibility and event-driven capability needed operate in today’s mobile, interactive warehouse”.*

Bob Heaney, Lead Research Analyst  
Aberdeen Group



***For More Information:***

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