3PL Helm Ships 90% of Orders Same-Day with Dynamic Waves

Presented by:

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Agenda

• Introduction
• Business Drivers & Lessons Learned
• Technology Used to Ship 90% Same Day
• Questions
MAKE YOUR BUSINESS FUTUREPROOF.

BRANDED MERCHANDISING

3RD PARTY FULFILLMENT

TECHNOLOGY SOLUTIONS

Learn more at Helm.com
Distribution Centers

- Livonia, MI
- Salt Lake City, UT
- 250,000 sq. ft.
- 30 ft. ceilings
- 80,000 SKU locations
- 6,000 overstock locations
Key Stats:
• 750,000 orders
• 8 million pieces
• Small pack, LTL, TL, container

Item Profile:
• Wide variety of item sizes
• On-demand to 40 years old
Get To Know Me

Married for 20 years

“Girl” Dad!

Over 25 years fulfillment, marketing and technology experience

Degree in Marketing/Accounting, MBA

Co-founder of two internet startups

U.S. Navy Veteran
Get To Know Me

Tough Mudder

- 13 miles
- Military style
- Cry baby obstacle
In This Presentation

- Gain insight into our **Business Drivers**
- Hear some of the **Benefits** when shipping same-day
- We will share the **Key Lesson Learned**
- You will see how **Barcode Technology, Slotting, and Dynamic Waving** where used to ship 90% same-day
- Example of a **Slotting Report** and **Heat Map**
- Tips when choosing **Handheld Devices**
Business Drivers
Business Drivers

• Changing Business Model
  – Diversified business from Automotive to include eCommerce, Retail, Nutraceuticals and Consumer Packaged Goods (CPG)
  – Same-day shipping instead of 24-48 hour shipping
  – Smaller inventory quantities from lifetime supply
Business Drivers

- Helm moved into its flagship 140,000 square-foot distribution center
  - 360,000 sq. ft. smaller than previous facility
- Issues arose with practices developed in former facility that had plenty of space:
  - Traditional order waving created replenishment timing issues with *new smaller bin sizes*
  - Resulted in stock shortages in the forward pick location, creating partial picks
Business Drivers

• Other Key Performance Concerns
  – Improve order and line per hour output
  – Increase inventory turns
  – Errors rising in areas not traditionally a problem
Business Drivers

• Benefits of Shipping 90% of Orders Same-Day
  – High degree of customer satisfaction
  – Reduce shipping cost for end user
    • Replace Next-Day and Second-Day delivery services with standard shipping for zone 1/2
    • Makes standard USPS delivery days feasible
  – Competitive Point of Difference
• Why Not 100%?
  – Pre-assembly and date-specific deliveries
Key Lesson Learned
Key Lesson Learned

There is an interdependency between three key disciplines:

- Barcode Technology
- Slotting
- Dynamic Waving
Key Lesson Learned

• **Dynamic Waving** works best when inventory is continually optimized through slotting

• **Slotting** optimizes walk efficiency, however, it will lead to an increase in picking errors in non-barcoded environments

• **Barcode Technology** enables frequent re-slotting
Barcode Technology
Barcode Technology

• Improves pick accuracy
• Enables slotting & dynamic waving
• Be creative when proliferating barcodes
  – License plates, location labels, products
  – Apply barcodes in receiving, require suppliers to apply barcodes
  – Enforce inbound compliance standards
Barcode Technology: Handheld Tips

- **Ease of use**
  - Device is extension of user
  - Screen size/resolution, button size, weight

- **Scan/Image engine**
  - Various types of scan engines
  - Find an engine that will decode as quickly as possible
  - Zero wait!

- **Scan distance**
  - Most scan within 1-2 feet, but others can scan up to 10 feet or longer
  - For example, don’t give a forklift operator a device with a short-scan distance

- **Battery life**
  - Don’t take battery life for granted – you don’t want to be charging the unit mid-day
  - Make sure backup batteries are available for quick swaps

- **Be mindful of color barcodes, especially red color spectrum**
Barcode Technology

- Validate or apply barcodes in receiving
- Barcodes on carton and products
- Carefully select barcode scanning devices
- Use directed picking technology
Slotting
Slotting

• Basic Slotting Strategy
  – Consistently reorganizing items based on velocity
  – Group items that are frequently shipped together
  – Use location and sales data to drive slotting plan
  – Avoid co-mingling clients physically and virtually
    • HighJump can virtually separate clients
  – Daily discipline
Slotting

• Benefits
  – Significant reduction in walk time
  – Can reduce repetitive motions like bending and reaching by 60%
  – Minimizes use of ladders
  – Significant increase in throughput

• For 3PF and 3PL, can be difficult to get new client data
Slotting Heat Map

Red = Fast Mover

Gray = No Mover

Blue = Slow Mover
### Slotting Recommendation Report (Quickbase.com)

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<th>Location</th>
<th># High Rack Locations</th>
<th>Year</th>
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**Fast Mover:** Move Lower  
**Slow Mover:** Move Higher
Red = Fast Mover
Blue = Slow Mover
Gray = No Mover
Blue = Slow Mover
Gray = No Mover
Red = Fast Mover

16 Feet High
Slotting Priority

- Location Frequency Data
- Sales Data
- Location Height
Slotting

- Barcode Technology
- Sales Data
- Location Frequency Data
- Heat Maps and Slotting Reports
- WMS Slotting Automation
Dynamic Waving
Traditional vs. Dynamic Waving

• Traditional
  – Intentionally accumulating orders for several hours or days to achieve walk sequence, labor and replenishment efficiency

• Dynamic
  – Consistently releasing orders to distribution center based on SLA, inventory availability and other rules to achieve same-day shipping
Dynamic Waving

Order & Payment Processing
Orders Released to WMS
Release to Floor

Available Inventory
Wave Profiling
Directed Pick
WMS Wave Profile Decision Logic

- **Expedite**
- **Same-day**
- **24 hours**
- **48 hours**
- **Delivery date**

**SLA**
- Single piece orders
- Same SKU across multiple orders

**Pieces**
- Slapper labels
- Self-pack
- Order verification
- X-dock

**Pick Profile**

**Inventory**
- Prioritize replenishments
- X-Dock
Further Optimization with Pick Profiles

Slapper Labels
- Order initiated from shipping label
- Direct to shipping container

Self-Pack
- Order initiated from pack slip
- Multi-line orders

Packing Station
- Large order
- Special packaging

2X Verification
- Packer’s aid

X-Dock
- Large quantity
- Same SKU many orders
Dynamic Waving

- SLA
- Wave Profile
- Inventory Availability
- Pick Profile
Optimize Dynamic Waving

Remember the interdependency between three key disciplines:
Questions?
For More Information...

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