One Size Fits All – Myth or Reality

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Director Product Marketing

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TECSYS®
Scalability Myths and Reality

- What has driven the scalability need?
- How does size impact WMS choice?
- Why is it difficult for a WMS to truly scale?
- Will one size WMS fit YOU?
- What are your options?
- What should you look for?
Point-to-Point

Limited Size Variation
One Size
... Fits All

... when only one size!
Hub and Spoke

Large Size Variations
Large Fits All?

One Size….

… Sub Optimize
Multi-Channel Specialization

1. Supplier
2. Retail Warehouse
3. eCom Warehouse
4. Store
5. Retailer
6. Shopper

Specialization
Specialized Fits All?

Within Limits…
Omni Channel

Unlimited Sizes / Complexity
Assorted Size Fits All?

Depends on the assortment…
## Size Drives WMS Needs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Manual</th>
<th>Directed</th>
<th>Optimized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Putaway</strong></td>
<td>Manual</td>
<td>Directed</td>
<td>Optimized</td>
</tr>
<tr>
<td><strong>Picking</strong></td>
<td>Paper</td>
<td>Paper/RF</td>
<td>RF/Automated</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>1+ Bin/SKU</td>
<td>2+ Bins/SKU</td>
<td>3+ Bins/SKU</td>
</tr>
<tr>
<td><strong>Order Release</strong></td>
<td>None</td>
<td>Manual Waves</td>
<td>Automated Waves</td>
</tr>
<tr>
<td><strong>Order Pick Methods</strong></td>
<td>Single Order</td>
<td>Order/Zone</td>
<td>Wave/Cluster/Batch</td>
</tr>
<tr>
<td><strong>Consolidation</strong></td>
<td>None</td>
<td>Manual</td>
<td>System Directed</td>
</tr>
<tr>
<td><strong>Replenishment</strong></td>
<td>None/Manual</td>
<td>Manual/Directed</td>
<td>Directed/Automated</td>
</tr>
</tbody>
</table>
# Size Drives WMS Needs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Manual</th>
<th>Directed</th>
<th>Interleaved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle Counting</td>
<td>Manual</td>
<td>Directed</td>
<td>Interleaved</td>
</tr>
<tr>
<td>Operator Knowledge</td>
<td>Tribal</td>
<td>Moderate</td>
<td>Limited</td>
</tr>
<tr>
<td>Operator Tasks</td>
<td>All Tasks</td>
<td>Multiple Tasks</td>
<td>Specialized</td>
</tr>
<tr>
<td>Task Assignments</td>
<td>None / Manual</td>
<td>Directed / Split</td>
<td>Split / Interleaved</td>
</tr>
<tr>
<td>Inventory Control</td>
<td>Simple</td>
<td>Lot / Expiry / Serial</td>
<td>Full traceability</td>
</tr>
<tr>
<td>Dock Control</td>
<td>None / Required</td>
<td>Manual / Limited</td>
<td>Limited / Advanced</td>
</tr>
<tr>
<td>Labor Management</td>
<td>None</td>
<td>Report to Standard</td>
<td>Advanced Standard</td>
</tr>
<tr>
<td>Automation</td>
<td>None</td>
<td>Limited</td>
<td>Highly integrated</td>
</tr>
</tbody>
</table>
Available WMS Options

- Tier 3 WMS
- Tier 2 WMS
- Tier 1 WMS

WMS Depth / Breadth vs Warehouse Level

- Low
- Medium
- High
Challenges Scaling *Up*

**Technology**
- Low cost based on shared versions or old technology
- Not built for expansion / adaption
- Not automation friendly

**Functionality**
- Lacks task segregation / optimization features
- Limited breadth / flexibility in core features
- Unable to simultaneously optimize various methods
Challenges Scaling Down

• Technology
  – Too heavy/costly for small and micro sites
  – Required infrastructure (e.g. RF, etc)
  – Required technical/super user skills at all sites

• Functionality
  – Optimized for complexity vs. simplicity
  – Forced features (e.g. license plating, TMS steps)
  – Hard to execute in more ‘manual’ modes
Historical Solution

Large Direct ROI Sites Only
Historical Impacts

• Rollouts
  – Efficient large sites early
  – Rollout halted based on hard savings

• Non-Implemented Sites
  – High labor work-arounds
  – Higher error rates
  – Low visibility / reporting
The New Normal

True Scalability
## Benefit vs. Potential Obstacle

<table>
<thead>
<tr>
<th></th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Interleaving</td>
<td>✗</td>
<td>❓</td>
<td>✗</td>
</tr>
<tr>
<td>Advanced automation integration</td>
<td>✗</td>
<td>❓</td>
<td>✗</td>
</tr>
<tr>
<td>Wave release optimization</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Advanced labor standards</td>
<td>✗</td>
<td>❓</td>
<td>✓</td>
</tr>
<tr>
<td>Sophisticated slotting analysis/control</td>
<td>✗</td>
<td>❓</td>
<td>✓</td>
</tr>
<tr>
<td>Dynamic cycle counting</td>
<td>❓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Paper based operations</td>
<td>✓</td>
<td>❓</td>
<td>✗</td>
</tr>
<tr>
<td>Manual directed task options</td>
<td>✓</td>
<td>❓</td>
<td>✗</td>
</tr>
<tr>
<td>Non-volumetric operations</td>
<td>✓</td>
<td>❓</td>
<td>✗</td>
</tr>
</tbody>
</table>
Will One Size Fit You?
One Size Easily Fits…..

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variations in size / operations</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Rate of growth</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Industry instability</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Acquisition strategy</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Government regulatory requirements</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Number of distribution channels</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>High to low season volume changes</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>Disruptive competition</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
<tr>
<td>SKU variability (lot, serial, etc)</td>
<td>✔</td>
<td>?</td>
<td>✗</td>
</tr>
</tbody>
</table>
Strategies to Start Wisely

• Build future risk / dynamics matrix
  – Assess level of market dynamics
  – Identify potential for regulatory changes
  – Consider business strategy – stable vs. growth
  – Project evolving channels

• Assign WMS impact risk – low, med, high
  – Size / complexity variations
  – Technology advancement needs
Strategies to Start Wisely

- Build ROI on overall savings
  - Hard savings at largest sites
  - Indirect / soft savings at very small sites

- Plan rollout strategy
  - Rollout strategy to gain benefits early
  - Complete rollout to eliminate duplicate costs
  - Continuous improvement process
Which WMS Strategy Fits You?

1. Single size with limited variability
2. Major pain only (partial rollout)
3. Medium / long term extended scalability
Best Fit, Upper Scale

Warehouse Level

WMS Depth / Breadth

Best Fit Tier 1 or 2 WMS

High

Medium

Low
“Biggest and Best”

Potential Impact – Limited Rollout
• Complexity makes small sites impractical

Why?
• Too many operational steps
• Advanced super-user knowledge
• Costly – equipment / implementation / operation
Best Fit, Lower Scale

- Best Fit Tier 2 or 3 WMS
- Warehouse Level
- WMS Depth / Breadth

- High
- Medium
- Low
“Adequate and Low Cost”

Potential Impact – Limited Useful Life
- Business changes alter original criteria
- Risk of early replacement

Why?
- Industry demands require additional capabilities
- Hitting the wall as volume increases
Limited Rollout, Single WMS

Warehouse Level

ERP Only

Low

Medium

High

WMS Depth / Breadth

Best Fit Tier 1 or 2 WMS

Tier 1 or 2 WMS
Full Rollout, Dual WMS

- **Best Fit Tier 2 or 3 WMS**
  - Low
  - Medium

- **Best Fit Tier 1 or 2 WMS**
  - Medium
  - High

**Warehouse Level**

**WMS Depth / Breadth**
“Multiple Solutions”

Potential Impact – Limited Savings / High Cost
- Increased IT cost / expertise
- Reduced sharing of operational learnings

Why?
- Multiple technologies, differing features
- Difficulty in consolidated visibility / reporting
Scalable, Future Expandable

Fully Scalable WMS

Warehouse Level

WMS Depth / Breadth

High

Medium

Low
“Fully Scalable Solution”

Potential Benefit – Longer life, Increased ROI
- Standardization provides additional savings
- Eliminates future replacement costs

Why?
- Scalable / flexible as business changes
- Avoids cost of “shelf-ware” and future-only features
Finding a Scalable Solution
Bidirectional Scaling Factors

• Latest technology
  – Extreme focus on user experience – adaptable, visual
  – Single point of user / workflow personalization
  – Personalization without technical knowledge
  – Easy/flexible integration layer – ERP, automation
  – Flexible for on-premise, hosted or cloud operations
  – SOA architecture
  – Zero footprint user interface
  – Mashable WMS, TMS and ERP info on any screen
Bidirectional Scaling Factors

• Large site features – *when needed*
  – Flexible, advanced picking methods and technologies
  – Containerization – pick to final container
  – Task interleaving
  – Embedded TMS
  – Sophisticated volumetrics
  – Advanced labor management
  – Extended SKU characteristics (lot, expiry, serial)
  – Automation friendly
Bidirectional Scaling Factors

• Small site features – *when needed*
  – Paper only option
  – Support for manually directed operations
  – Minimal setup / start-up requirements
  – Fast training for new operators
  – Easy / fast to rollout new sites
  – Ability to evolve to Tier 2 and Tier 1 operations
Final Due Diligence

• Final Checklist
  – Ensure completeness of vendor’s future vision
  – Adaptable trumps “five more features”
  – Confirm vendor’s partnering mentality
  – Strategy in place for feature use “as needed”
  – “Shelf-ware” only provides emotional value
  – Validate full range of scalability with references
One-Size-Fits-All is Possible

Assess *your* long term variability / risks.

Find solutions with *bidirectional* scalability.

Plan and execute to the *end.*
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