



PROMAT

2015

McCormick Place South | Chicago

March 23-26, 2015

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***Metrics Suck...
Converting the
Warehouse from a
Cost Center to Profit
Center***

Presented by:

Robert

Jones

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Most DC's Are Faced With:

- Growing SKU Counts With Less Space
- Smaller, More Frequent Orders
- Reducing Labor Costs
- Providing Value Added Services

**FIND WHAT'S
NEXT.**



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Doubling Productivity is NOT enough!

Most DC's Are Faced With:

- Increasing Compliance Of Processes
- Free Shipping
- Same/Next Day Delivery
- Low Price Provider
- Customer Service



THE INDUSTRY THAT MAKES SUPPLY CHAINS WORK™



Most Important FACTS

- Simple small productivity gains are not enough!
- A DC can no longer be a cost center, must generate profit
- Your competition is more automated, lean, and aggressive
- Re-engineer to increase throughput while **REDUCING** labor and space
- Optimize every inch of space



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**The Golden Rule
Sales Gets The Customer...
Operations Keeps The Customer!**

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FIND WHAT'S NEXT.

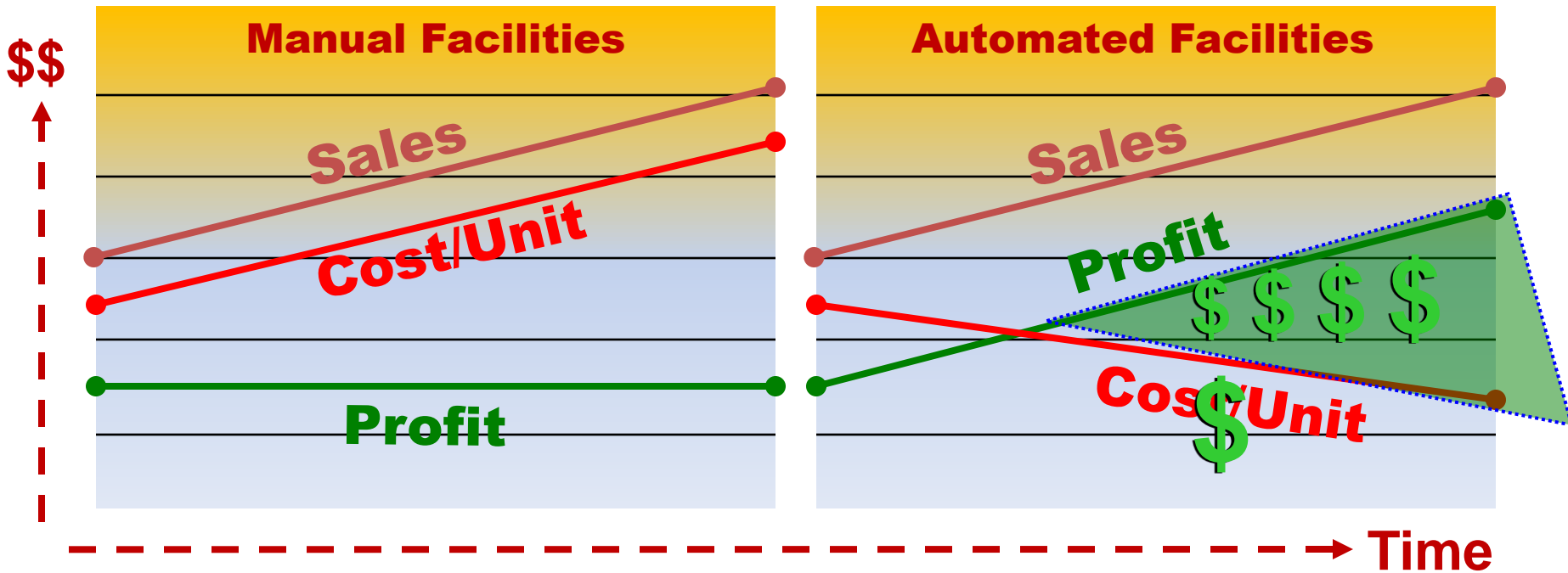


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The Path is Lined with Profit





Can a Warehouse Make Profit?

- Definition of increased profit
 - “retaining more money than we have previously”
- Savings go directly to the bottom line
- The mindset of “ that’s the way it should have worked” is emotional
- Every dollar saved is an increase of profit, just as an increase of margin
- Use customized documents/offers and promotions to generate revenue



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Accuracy & Profits The Real Costs

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Key Metrics – Every Operations Needs these 5

- Order Accuracy - Line level & order level
- Inventory Accuracy - Financial & operational accuracy
- Cost per line processed
- Order Fill Rate - Line & Order level
- Out the door service level



Customer Service Index

- Measured at order level
- Fill Rate Issues = 8%
- Warehouse Error rate = 2%
- Customer Service / Sales Errors = 4%
- Time in Transit Issues = 5%
- Damaged Product = 2%
- Pricing Issues = 4%
- Total = 25%
- Service Index Number = 75%



Customer Service Index – Order Level

- Any one of the previous components present - the entire order is discounted!
- Could be as low as 40%
- Use as a yard-stick
- World Class at 95% Plus



Order Accuracy – beyond %'s

- First Point of increasing profits
- The Magic 99%
 - Good enough?
 - The fallacy of percentage measurements
 - Do you really know this number?



The 99% example

- Example of actual company
- 3,750,000 Lines / Year (3000 Orders * 5 Lines per Day)
- 99% Order accuracy to the Customer
- Executives very satisfied with performance
- Some complaints from Customers & Sales Force (dismissed as whining)



The REAL story

- Lets do the math
 - $3,750,000 * 1\% =$
 - 37,500 line errors per year
 - Cost to fix an error (hard costs)
 - Range from \$50 to \$300 per incident
 - Using the \$50 number, what is the cost to fix a 1% error rate?
 - **\$1,875,000!**



What makes up the Error Cost?

- Time to field complaint and document issue
- Issue Call Tags /schedule freight company for pick-up
- Cost of return freight
- Inbound processing of incorrect item, item prep, labeling, and put-away
- Order for correct item
- Picking, packaging, and manifesting correct item
- Cost of shipping (possibly expedited)
- Cycle Counts / Inventory Validation



The Real Impact!

- Company is \$500M in sales
- Net Profit is 3%
 - 3% of \$500,000,000 =
 - \$15,000,000
 - \$1,875,000 is what percent of \$15M?
 - 12.5% of the profit
 - How many sales \$ would be required to gain \$1,875,000 in net profit
 - \$62,500,000!



Other Costs

- Company had 8 checkers performing 100% QC on all outbound orders
 - Average wage = \$14.00 + 40% Load = 19.60
 - $19.60 \times 2080 = 40,768$ per Inspector
 - $\$40,768 * 8 = \$326,144$ / year
- Accuracy rate at 97.8% to the inspectors
 - Incorrect Product had to be researched and cycled back into inventory
 - Items had to be re-picked and rushed forward
 - Estimate 1/4 cost of outbound error



Possible Causes of Errors

1. Too much manual labor... use automation to reduce workforce and increase quality of workforce
2. No real-time validation of picks (Item / Qty)
3. Poor product location
4. Compromised receiving / put-away
5. Confusing location schemes
6. Poor shelf labeling
7. Products not prepped for picking
8. Too many variables during pick process
9. Too many touch points on an order



Order Accuracy Improvements

- Bring product to the operator (goods to man)
- Validate location and/or product by lights, scanning, or voice
- DO NOT MIX UOM's
- Clearly marked shelves in manual areas
- Products "prepped" for picking
- 3 hour training rule in effect / entry level
- Smaller, more well trained, well compensated work force



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Labor & Profits The Real Costs

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Labor

- Single greatest cost in a Warehouse or Distribution Center
- Average non-union cost is \$10.00 per hour plus an additional 40% load (taxes and benefits) = \$14.00 per hour (29K / Year) – w/ no OT
- Highest turnover rate
- Highest absenteeism rate
- Highest injury & workers comp rates



Two Labor Types

Productive

- Pickers
- Receivers
- Replenishment /
Overstock

Non-Productive

- Inspectors
- Packaging / Shipping*
- Supervision



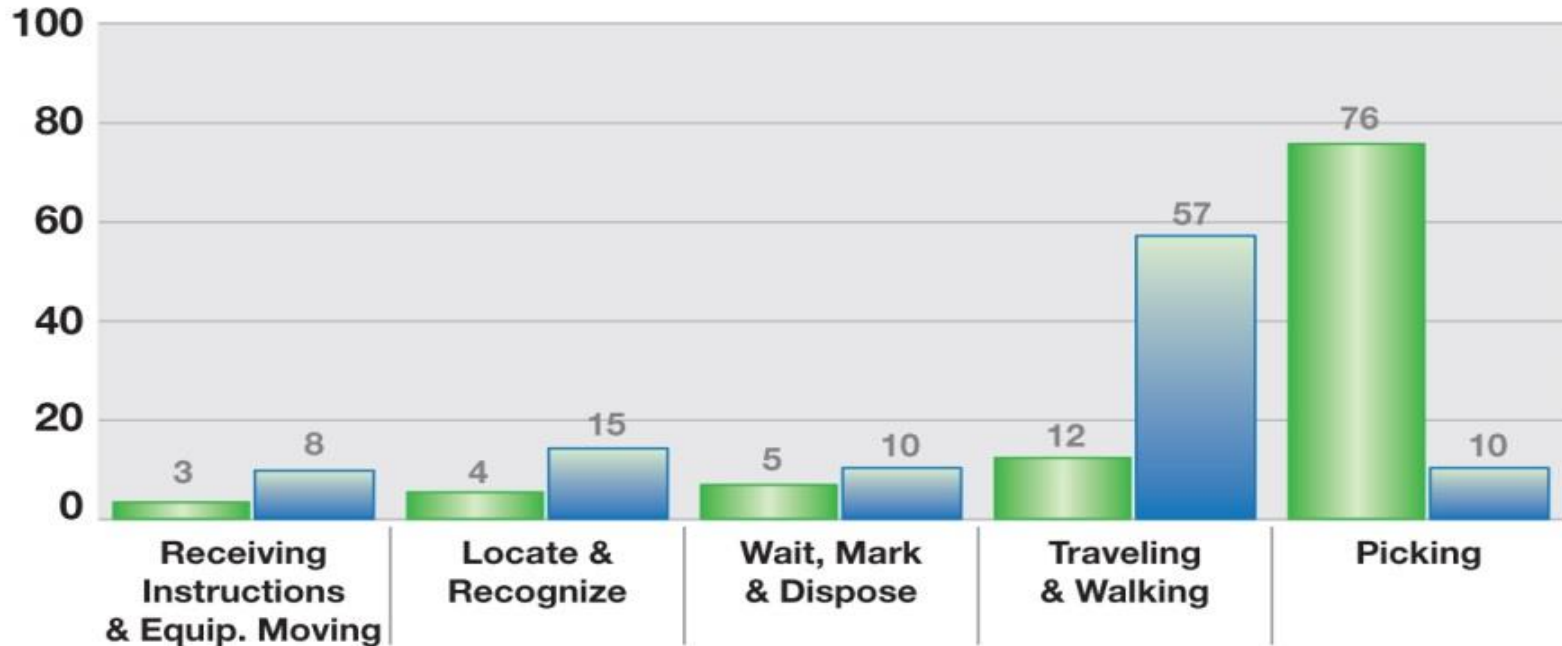
Minimize Labor \$'s

- Most pick time is travel and location (up to 90%)
 - Use goods to man systems where possible
 - Inventory modeling and layout is key
 - Incorporate volumetrics when possible
 - Pick to belt for large scale case picking
 - Look at packaging as part of the order process (not an afterthought)
 - Automate simple functions like manifesting NOW
 - Prep items for shipping in advance when possible (take the hit in receiving / put-away)
 - Automate value added services for your clients
 - Limit Supervision by Using System Enforced Rules



Order Picking Labor Costs

Order Picking Time Usage Manual vs. Automation





Order Processing Costs

- What is your labor cost per line/order?
- Calculate cost per orders & lines processed
 - use total operational wages divided by orders & lines
- Standards are predicated on business type
 - use as a trend figure
 - establish goals
- Use departmental breakdowns to zero in



Minimize Labor \$'s

- REDUCE TRAVEL AND LOCATION TIME
 - Goods to man
 - Visually Direct operator to pick goods
 - Strong visual cues EXACTLY where to pick from



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**Identify & Fix
The Problems**

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Step One - The Control System

- The single most important Item!
- Central Nervous System
- First item to evaluate
- Three items a system MUST do
 - Direct and enforce rules as defined by mgt.
 - Validate process (REAL TIME)
 - Maintain audit trail
- Paperless as possible
- If you are looking at implementing a WMS or a WCS, define your process map BEFORE looking at them



Warehouse Space - It's There!

- Define the problem
- Evaluate excess / obsolete inventory
 - Calculate value at 20% - 25% of cost per year!
- Most facilities are less than 60% utilized when they purchase additional space
 - Vertical Cube – VLMs / Carousels / Mezzanines
 - Air Space - Define product load heights / shelves
 - Dead Space - Shipping & receiving docks/ offices
 - Wrong Shelving / rack - Correct type based on need
 - No System Control - Product directed by rules logic



When do I need more Space?

- It is not when you hit 100% of usable space or locations!!!!!!!!!!!!!!!!!!!!!!
- For DC's or Warehouses with Advanced WMS or automated put-away logic
 - 80 - 85% of space utilized on average
- For small environments or where product location is not critical
 - 87 - 90% of space utilized on average



Is Automation For You?

- Do you want to increase your pick rates by 4-6 times?
- Do you want a smaller, more well trained workforce?
- Do you need to recover valuable space to store and pick product from, both sq footage and vertical cube?
- Do you need to be able get more orders through your environment within the same time window?
- Do you want to eliminate redundant inspections to ensure your customers get accurate shipments?



What does Automation Offer

- Can pick at up to 6X the rate of manual systems
 - Example – 70 LPH on a manual pick RF system in shelving can increase to 500+ LPH on a system with goods to man principles.
- Reclaim Vast Amounts Warehouse Space
- Increase processing capacity
- Helps to enforce correct order processing, put-away, an stock rotation
- Helps reduce “shrinkage”
- Can reduce or eliminate non-productive labor

Getting The Most From Automation

- Understand that automation is based around your specific inventory and order models
 - Do a very thorough analysis of your inventory, in terms of picks (velocity), sales, and cube
 - Complete the same level of analysis of your order profile as well
- Develop your entire warehouse concept and “phase” in strategic modules
- Pay close attention to the packing and dock areas in terms of throughput and bottlenecks



In Closing

- Simply ramping up productivity is not enough
- Strive for remarkable results
- Think in terms of “what profit has the DC operations added”.
- Understand what is truly possible with systems and processes
- Don’t get complacent and let simple productivity gains give you false security – remember :
- Doubling Your Productivity Will Get You Fired Every time!

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For More Information:

Speaker email: bjones@isddd.com

Website: www.isddd.com

Or visit ProMat 2015 Booth# 3572