Seven Serious Sins of Warehousing

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Optimize

“to make as effective, perfect, or useful as possible”.
Effective

“producing the intended or expected result”
Operational Effectiveness

- Optimization of:
  - Space
  - People
  - Equipment
  - Systems
  - Inventory

The intended result: meet service & performance objectives at lowest possible cost!
Optimized Space

- Right-sized for the operation.
- Flexible for peaks without productivity loss.
- Consolidation for low inventory levels.
- Good utilization of existing cube.
Optimized Labor

• Each touch adds value.
• Travel time is necessary and productive.
• Do it right the first time.
• Measure performance and communicate.
• Continuous supervision and training.
Optimize Equipment

• The right tools for each task.
• The right quantity for your throughput.
• Solutions that work **AND** have a good ROI.
• Keep equipment properly maintained.
Optimize Systems

• Actively direct and control the operation.
• Integration:
  – Internal & external systems.
  – WMS system and material handling systems.
• Convert data into information.
• Get customers addicted to your technology.
Optimize Inventory

- The right mix in the right quantity.
- Superb accuracy with the strictest measures.
- Manage the obsolescence, not vice versa.
- Cutting inventory often cuts what’s needed.
- Be the documentary reporter.
The Seven Serious Sins

7. Sub-Optimization
6. Space Planning & Utilization
5. Supervision
4. Metrics
3. Productivity Drain
2. Velocity Principles
1. Real Time Information
Number Seven

Optimizing one process but sub-optimizing the operation.
Sinful Example

- Repackaging bulk-packed items on receipt.
- Concept:
  - Save manufacturing cost by packaging in bulk.
  - Complete final packaging in DC.
  - Allows final tailoring for labeling by brand.
Negative Impact

- Repackaging bottleneck.
- Delayed receiving.
- Product not on system.
- Could not ship backorders.
- Increased damage.
- Reduced productivity.
Sinful Example

- New automatic carton taping machine.
- Concept:
  - Increase productivity of packers.
  - Increase throughput, especially at peak times.
  - More consistent appearance of shipments.
  - Less damage from poorly taped cartons.
Negative Impact

- Not installed at packing.
- Bottleneck at shipping.
- Lower throughput rate.
- Lower productivity.
Other Examples

- DC rack openings too small for pallet sizes.
- Employees wait in line for stretch wrapper.
- Too many carton sizes to choose.
- IT blocked use of helpful labeling software.
- Finding errors but not reporting them.
- Putting away pallet with obvious damage.
Optimization Recommendations

- Look at the whole process, not just the task.
- Just one of certain tools can be a problem.
- "Improvements" may have just one ideal location in the process.
- Be wary of islands of automation.
Space: Improper Planning & Ineffective Utilization
Sinful Example

- “Maximum” utilization of storage space.
- Concept:
  - Use as many rack positions as possible.
  - Use very dense storage in bulk.
  - Minimize capital costs for rack.
Negative Impact

- Effectively full.
- Multiple SKUs per slot.
- Few slots for new items.
- Excessive traveling.
- Consolidation is a must.
- Lower productivity.
- Greater chance of errors.
• Piece picking from rack locations.
• Concept:
  – Set up pick locations in rack.
  – Lower beam to maximize cube utilization.
  – More pick slots per square foot of space.
Negative Impact

- Minimal height of slot.
- Remove carton to pick.
- Replace when done.
- Open flaps in the way.
- Multiple SKUs in slot.
- Lower productivity.
- Potential accuracy issues.
Receiving Dock A

- Where could you be more productive?
- Here?

Or...
Receiving Dock B

Here?
Under-Utilization

- Too much travel.
- Needs consolidation.
Space Recommendations

• Plan storage using WERC guidelines.
  – Single deep rack: 85-90%
  – Double deep rack: 70-80%
  – Bulk up to 3 deep, 3 high: 70-75%
  – Bulk more than 3 deep, 3 high: 60-70%

• Look UP for available space.

• Plan for travel aisles and good dock access.

• Consider the impact on associates.
Number Five

Supervisors Not Supervising
Are They Supervisors?

• Clerical & firefighting tasks rule the day.
• Traveling 90 MPH, getting nowhere.
• Little reinforcement of associates’ training.
• Little “on the floor” presence.
• Rarely spend “a day in the life of” associates.
• Add engineering, IT, and other staff roles.
Sinful Examples

• Too few supervisors, some non-coverage.
• Employee / supervisor ratios up to 116 : 1.
• Each employee has his/her own methods.
• Employees need RF terminals fixed.
• Many instances of lift trucks needing repair.
• 3rd shift drug, theft, & prostitution ring.
Supervisory Neglect

- Excess replenishment inventory in pick area staging.
- Lots of dust.
- Location inventory = 0
- 6’ from supervisor’s office door.
Supervisory Recommendations

• Get back on track to supervision.
• Ideal employee / supervisor ratio: 15-20 : 1.
• Get the clerical and firefighting support.
• Continuous training.
• The costs of the current model are huge.
Number Four

Metrics: Not Enough or Too Many
Sinful Examples

• Many operations without any visible metrics.
• Bulletin boards have outdated charts.
• Associates cannot understand some charts.
• Some metrics programs are too complex.
• Relevancy to associates of:
  – Dollars shipped per employee?
  – Distribution costs as a percent of sales?
  – Freight costs as a percent of sales?
Metrics Recommendations

• Keep it simple with 5-6 key metrics.
• Keep it understandable to employees.
• Realistic goals for improvement.
• Communicate progress and expectations.
• Set individual and team goals.
• Relate to performance, reward success.
Number Three

Productivity Drain
Sinful Examples

- Poor layout.
- Excessive traveling and searching.
- Non-value added touches.
- Same task, different methods.
- Lack of operational discipline.
- One order at a time.
- Rack turning aisles filled with rack.
Central Pick Area

• No picking locations for these items.
• If on an order, bring forward some for other orders too.
• No info as to what is there; must search in case it is there.
• No effort to reorganize.
• The Town Dump!
Forward Pick Slots

No picking productivity contest winner here!
“Free” Shipping Systems

The other three systems are to the left.
Productivity Recommendations

• Reduce travel and search time.
• Batch picking - even if only a few orders.
• Evaluate the value-add for all touches.
• Set up special operations with forethought.
• Establish proper procedures for tasks.
• Establish productive picking environments.
Number Two

Ignoring Velocity Principles
Sinful Examples

• Slow moving SKUs in best picking slots.
• Cycle counts based on $ value or sales $.
• Cycle count all SKUs equally as often.
• Assuming that Pareto knew warehousing.
• Investing capital to pick dead SKUs faster.
• Picking all SKUs with the same methods.
Typical Stock Velocity

Stock Velocity Profile
Units Shipped 2001

5% of SKUs are 71% of volume.
20% of SKUs are 93% of volume.
A High Velocity Item?

- Pick slot is in one of the top 10 most productive picking slots in the warehouse.
- About 1 year’s dust.
Under-Utilized Asset

- Carton flow rack offers very productive picking.
- These slots are unassigned.
Number One!

Lack of Real Time Information
Sinful Examples

- No warehouse system functionality at all.
- Multiple, non-integrated systems in use.
- Replenishment, if any, is by sight.
- 24 hours for keying receipts & shipments.
- Order allocation is based on old news.
- No productivity reporting at associate level.
- Metrics, if any, are developed manually.
More Examples

• Few receipts are preceded by ASNs.
• Few companies send ASNs to customers.
• Cycle count reconciliation can take days.
• Web-view order status for customers is rare.
• DCs struggle to ship rush orders in 4 hours.
• Operators do not know their next-best-task.
• Packers only know what the box should have.
And, Yet…

• Bar codes have been in DCs over 25 years.
• RF technology has been stable for 15 years.
• Entry-level WMS are very justifiable.
• WMS are packaged and configurable.
• More workers are comfortable using systems.
• Customers demand accuracy, or else…
• Customers demand same day, last hour ship.
Real Time Recommendations

- Evaluate WMS for your size operation.
- Cost justify by using Total Logistics Cost.
  - Space, people, equipment, inventory, & systems.
- Integrate with order management, at least.
- Phased integration with customers & vendors.
- Update processes before implementation.
Other Common Sins

- Operational & Financial Inventory Accuracy.
- Cost Justification without TLC.
- Ignoring Human Barriers to Change.
Closing Definitions
Insanity (Formal)

“extreme folly; senselessness; foolhardiness”
Insanity (In Practical Terms)

“Doing the same thing, the same way, over and over again, each time expecting the outcome to be different.”
Perseverance

“steady persistence in a course of action, a purpose, a state, etc., especially in spite of difficulties, obstacles, or discouragement “
Questions?