

Business Operations

10 Key Elements to Save Money from Purchasing to Delivery

For



**The Association for the
paper, packaging and supplies
distribution channel**



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Our Presentation

This presentation on Business Operations includes . . .

- Business operations perspective
- 10 key elements to save money on warehousing operations from purchasing to delivery
- Examples based on case studies
- Direct applications to your business
- Questions and open dialogue.

Business Operations Perspective

*10 Key changes can and will impact your business bottom line,
in terms of:*

- Costs of operations
- Levels of service to customers
- Business working capital.

Business Operations Perspective

Operations management must focus on the entire supply chain, especially the linkages between vendors, internal business operations, and customers – Historically the focus has been on . . .

- Departmental management
- Functional management
 - Operations
 - Cost
- Process management – Internal
- Today - Integrated supply chain management.

Business Operations Perspective

Key Performance Indicators - KPIs focus on three areas:

- **Service levels to customers**
 - Order fill
 - Delivery timing
- **Costs of operating the supply chain**
 - From vendor receipt
 - Through customer delivery
- **Inventory levels based on last cost in terms of:**
 - Total value of working capital
 - Inventory turns
 - Days of sales on hand.

Business Operations Perspective

Levels of customer service can vary by:

- Type of product
- Type of customer
- Geography.

What do you tell them when there is a problem?

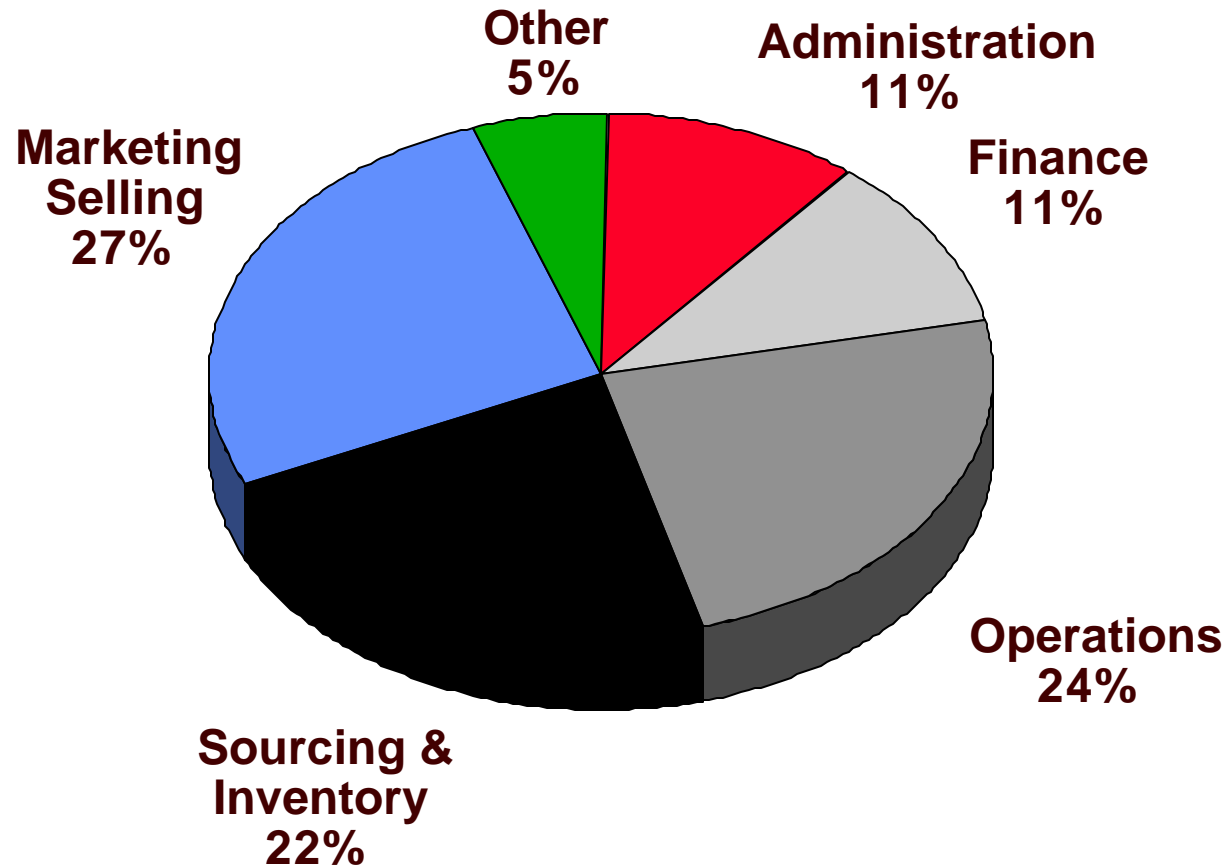
Focus for Today's Discussion

*Cost and service impact of key components of operations and
the impact on the business . . .*

- Cost of operational activities
- Levels of customer service
- Business capital deployed to support sales and operations
- Impact on the business *bottom-line*.

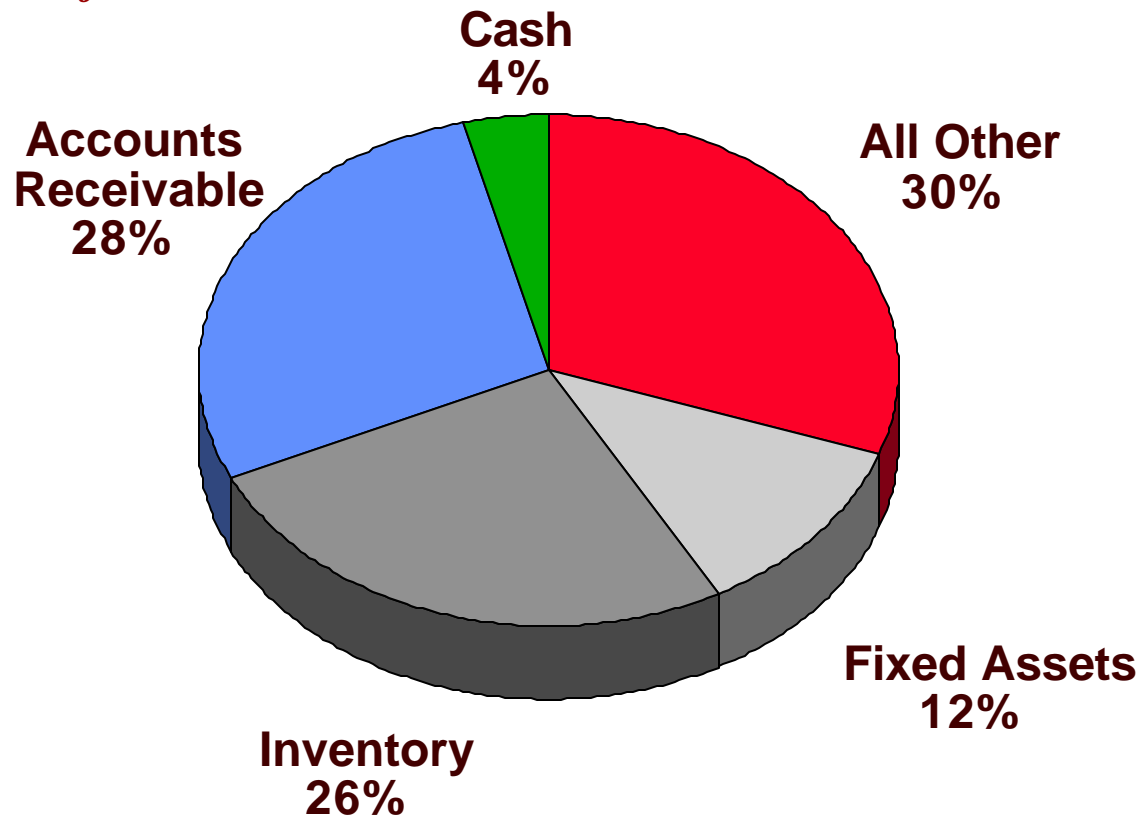
Costs of Business Operations

Operations consume almost one-half of the total business costs . . .



Business Working Capital

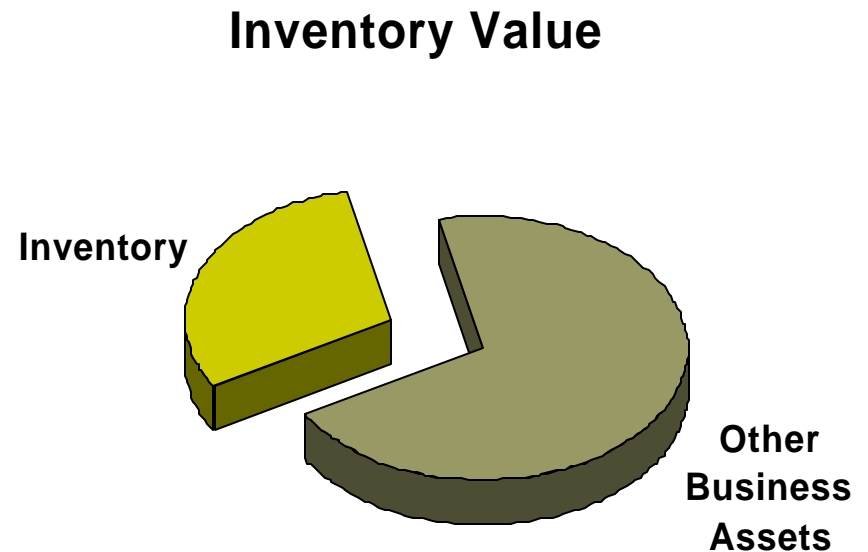
Over one-third of the business working capital is tied up in product inventory and support facilities . . .



Inventory Management

Effective inventory management is a critical element of business operations management . . .

- Inventory represents 25-35% of business assets
- Carrying cost of inventory represents over 20% of operating costs
- Order costs for processing customer orders range from \$50-\$150 per order
- Stock out costs ????





10 Key Elements

**to Save Money
from
Purchasing to Delivery**

1. Sourcing and Purchasing

- A new way to look at purchasing to leverage buying.
- *“You can make more money buying than selling.”*

Sourcing and Purchasing

It is said that a business can make more money buying than selling. A key focus of operations excellence should be . . .

- Vendor identification and sourcing:
 - Vendor sourcing – direct purchase, via distributors, other channels
 - Vendors locations – single, multiple, local, US, offshore?
 - Vendor segmentation
 - High volume vendors – 20%
 - Low volume vendors – 50%
 - Sourcing the same items from multiple vendors
 - Transportation costs can be buried in the product costs
 - Arrangement and payment for transportation costs
 - Pickup allowances
 - Vendor partnershiping – linkages and information sharing
 - Vendor visitations – their sites and yours
 - Discussion of problems
 - Resolution of issues.

Sourcing and Purchasing

Purchasing transactions can be the source of significant costs reduction opportunities for both purchasing and warehousing . . .

- Purchasing of products from vendors:
 - Vendor purchases should be based on best price and minimum quantity – lowest stock levels to support service levels
 - Use of contract buys and releases against contracts for large purchase volumes over time
 - Use of buying cooperatives can usually improve pricing
 - Vendor lead time is critical to stocking levels in terms of both length and consistency
 - New items should be purchased to include return options for less than expected sales
 - Vendors should negotiate return of dead stocks
 - Rules should be established and analytical tools used to evaluate discounts, special price offerings, closeouts, etc.

Sourcing and Purchasing

In addition, purchasing transactions can show significant costs reduction opportunities in terms of . . .

- Purchasing of products from vendors - continued:
 - Routine buying should be scheduled to support both buying and warehouse receiving productivity
 - High volume vendors – weekly
 - Medium volume vendors – bi-weekly
 - Low volume vendors – monthly
 - Use of ASNs will greatly improve receiving productivity and timing
 - Use of Activity Based Costing can focus cost and productivity improvement in terms of:
 - Understanding costs of transactions
 - Evaluating vendor cost effectiveness
 - Knowing the true cost of goods used to price products for sales and margin
- Vendor rationalization, in terms of volume and duplication.

2. Managing Inventories

- How to truly manage inventories aimed at reducing on hand and improving turns.
- *“You really can reduce inventories by 20% or more.”*

Managing Inventories

Management of inventories is one of the keys to effective operations management . . .

- Management of inventory begins with determining stocking policies:
 - Products to be shipped direct to customers – X warehouse
 - Products that can be cross-docked on receipt at the warehouse
 - Products that are to be stocked in the warehouse
- An inventory committee should be used to set and manage stocking policies
 - Determine items to be stocked versus cross-docked or direct shipped
 - Monitor, manage, and guide disposition of dead stocks
- Control of inventories should be based on segmentation:
 - High volume/frequently purchased items should have minimum levels
 - Medium volume/less frequently purchased items should have higher levels
 - Low volume/infrequently purchased items should be managed to min/max levels.

Managing Inventories

In addition, inventory management should consider . . .

- Vendor managed inventory used as an effective tool to manage inventory levels and replenishment cycles
- Cycle counting to maintain accurate levels of inventory – 98+%
 - High volumes counted – counted monthly
 - Medium volume items – counted quarterly
 - Low volume items – counted yearly
- Reduction and/or consistency in vendor lead time that can significantly reduce on hand inventory in terms of a:
 - Decrease in cycle stock
 - Decrease in safety stock.

Managing Inventories

In addition, inventory management should consider . . .

- Potential inventory reductions in terms of:
 - Onetime capital cost reduction that flows directly to the bottom line
 - Ongoing costs of carrying inventory that can vary from 20 to 50% of:
 - Inventory value
 - Based on the last cost of purchase
- Measures of performance, including:
 - Total investment in inventory – valued at last cost of purchase
 - Average versus peak inventory levels
 - Cycle versus safety, and surplus stocks
 - Inventory turns – based on latest annualized volume
 - Days of sales on hand.

3. Stock and SKU Rationalization

- Stock the products that best support your business.
- *“Twenty percent of your items represent 80% of your sales, and*
- *Fifty percent of your products represent 5% of your sales.”*

Stock and SKU Rationalization

Stocking and inventory levels must correspond to required levels of customer service in order to support the sales and marketing of the business . . .

- Elimination of duplicate items, including:
 - Basically the same item with different SKU numbers
 - Same item sourced from two different suppliers
 - Similar items sold to meet the same customer demand
- Segmentation of SKUs:
 - 20% of the SKUs generate 80% of business sales – “A” items
 - 30% of the SKUs generate 15% of business sales – “B” items
 - 50% of the SKUs generate 5% of business sales – “C” items
 - Note: 5% of the “A” items normally generate 50% of the sales – “Super As”
- Bottom up product rationalization.

Stock and SKU Rationalization

In addition, SKU rationalization should consider . . .

- Bottom up SKU or item rationalization:
 - Prepare an SKU ranking of all items according to reverse volume
 - Sequence the report in reverse order – lowest volume first
 - Evaluate and rationalize each of the items according to:
 - Uniqueness of the item
 - Potential similar product substitution
 - Particular customer requirements
 - Contribution to the business - margin generated by its sales
- SKU rationalization is a process – not a single event
 - Should be performed at least once per year – preferably twice
 - Should be the joint responsibility of sales and operations.

4. Dead Stocks

- Get rid of obsolete and dead stocks from your warehouse.
- *“Dead stocks take up valuable space within your warehouse. You can’t afford it.”*
- *“Cut your loses, add warehouse space, and reduce inventory carrying costs.”*

Dead Stocks

Dead and obsolete stocks are a product of company purchasing policies, sales programs, etc., there is no one person or group to blame, you must deal with it and develop a process to manage it . . .

- Define what dead stock is in your organization, e.g.
 - Any SKU that has had on sales for the past 12 months
 - Any SKU that has had sales of \$500 or less for the past 12 months
- Prevent dead stock
 - Develop a stocking policy
 - Manage new items
 - Prevent sales personnel from directing purchasing how much to buy
- Manage dead and obsolete products
 - Maintain a report with quantity on hand, purchase price and carrying cost
 - Based on your definition identify dead and dying items
 - Separate these items from the rest of the inventory so they are visible use of outside storage
 - Eliminate purchasing of these items in your purchasing system.

Dead Stocks

In addition, a process to manage dead and obsolete inventory should . . .

- Coordinate purchasing of new items
 - Between sales and purchasing
 - Use of stocking and special order policy
- Get it out of the warehouse – dispose of the items
 - If you have more than one location transfer items to a location that needs them
 - Make use of the selling power of the internet. Some sites include:
 - www.commoditysurplus.com
 - www.liquidation.com
 - www.freemarkets.com
 - www.TradeOut.com
 - www.ebay.com.

Dead Stocks

In addition, a process to manage dead and obsolete inventory should . . .

- Dispose of these items by:
 - Returning it to the vendor
 - Having sales sell it at a deep discount to your customers
 - Donating the material to a nonprofit organization and take a tax deduction
 - Giving it away or sell it at a deep discount to employees and gain a tax write-off and employee good will.
 - Some organizations accept donations of old inventory. Often, you can write off the inventory at full market value with the net effect on your P&L being near zero. An example is the National Association for the Exchange of Industrial Resources (www.naeir.com).
 - In most industries, brokers will buy inventory at deep (but higher than scrap value) discounts. Write off the difference between sell price and inventory value.
 - Selling it for scrap
 - As a last resort “throwing it away.”

Dead Stocks

Finally, a process to manage dead and obsolete inventory should . . .

- Create the position of Inventory or Dead Stock Manager or Team
 - Responsibility of this position is all of the above but must importantly to make “Dead Stock” disappear
 - Position responsibility as high in the organization as possible
 - Work from a “dead stock inventory list”
 - Job is to negotiate sale, cut losses, make warehouse space and reduce inventory carrying costs
- Finally it is important to remember that the removal of dead stock is a *process* not a project – it should be continuous.

5. Warehouse Receiving

- Quickly and accurately receive products into your warehouse.
- *“You need to make products available for customer orders as soon as they are received.”*
- *“Dock space is the warehouses production space – use it effectively.”*

Warehouse Receiving

Managing of dock space is one of the keys to effective warehouse operations . . .

- Management of dock space starts with a plan for managing space, traffic flow, labor, and scheduling
 - Get ASN from vendors – what’s coming in – how much space and labor are needed to handle it
 - When it’s arriving and where it’s going in the warehouse
 - Plan traffic flows to and from docks
 - Stage outbound loads directly across from doors to be used
 - Schedule inbound loads with carriers – stick to your schedule
 - Truckload specific date and time
 - LTL windows of time.

Warehouse Receiving

In addition, managing of dock should include . . .

- ❑ Flexibility – exceptions always happen
- ❑ Communication with key vendors – 80% of your product comes from 20% of your vendors
- ❑ New Hours Of Service - HOS rules – don't keep carriers waiting.

Some general opportunities to increase productivity at shipping and receiving docks include . . .

- ❑ Cube utilization: Rack over dock doors to accommodate pallets
- ❑ Space efficiency: Do not store overflow inventories, used equipment, unresolved returns, recalls, defective goods, promotional materials, etc. in dock areas.

Warehouse Receiving

In addition, general opportunities to increase productivity at shipping and receiving docks include . . .

- ❑ Adequate lighting: Use dock lights to ensure accuracy and improve productivity
- ❑ Efficient layout: Locate storage areas perpendicular to docks to minimize bottlenecks
- ❑ Restrict dock access to authorized personnel
- ❑ Use bar code scanning for shipping and receiving, posting, and check-in
- ❑ Train all dock employees to include equipment, safety, and emergency procedures is required by OSHA and improves productivity
- ❑ Equipment: Have the correct material handling equipment for the job - essential to improving productivity on the dock.

6. Warehouse Organization

- Organize your warehouse to improve flow, increase productivity, and maximize space utilization.
- *“Do you need to expand or just use what you have more effectively?”*

Warehouse Organization

Develop a roadmap for storage and movement of product throughout your warehouse . . .

- Align inventory movement with warehouse position
 - Rapidly moving items should be located as close to the dock as possible
 - Slow moving items should be placed in the rear of the warehouse
 - Products that are ordered together should be located together – family grouping
 - Items that have not moved within the past year should be removed from the warehouse.

Warehouse Organization

Establish proper slot assignments for all active products . . .

- Warehouse slotting assignments should match the way product is purchased
 - Bulk slots for items purchased and sold in multi-pallet quantities
 - Rack slots for items purchased and sold in pallet or less than pallet quantities
 - Bins for items sold and purchased in small quantities.

Warehouse Organization

Labeling and lighting throughout the warehouse is essential to inventory accuracy . . .

- Properly label racks for all items
- Make sure warehouse personnel is trained in how product is stored and how label assignments are used
- Increase lighting so that product is easier to see – reducing misspicks of product.

7. Product Shipping

- Selection and shipment of products are the key elements of all warehouse operations.
- *“You spend over one-half of your warehouse dollars on processing customer orders.”*

Product Shipping

Match orders with the optimal type of picking and packing to increase operational capacity . . .

- Picking Methods
 - **Order Picking** – Pickers pick orders 1 or 2 at a time
 - Best for large orders
 - **Batch Picking** – Pickers pick batches of items and checkers build orders
 - Best for many small orders
 - **Forward Reserve Picking** – Move product to a forward pick area
 - Best for new or batches of product to be shipped at certain times
- Picking should be from the first and second levels with reserve product stored on the third and fourth levels
- Minimize travel time by:
 - Slotting faster moving product closest to dock
 - Matching the type of order picking appropriately with the types of orders.

Product Shipping

Minimize multiple picks of the same items by a shift . . .

- Pre-pick items and place them at the dock to minimize pick time
 - Items that are picked for multiple orders in a shift
 - Items that have frequent replenishments during a pick shift
 - Items that are sold in multiple pallets over a picking shift
- Completing these steps will allow
 - Checkers or pickers to select these items as needed
 - Decrease overall picker travel time
 - Decrease to congestion that occurs when a replenisher has to fill slots during a picking shift.

Product Shipping

Standard operating procedures and training can go a long way to developing enhanced operations practices . . .

- Develop SOP's for picking, checking, and packing
 - Develops accountability and best practices
 - Decreases the need to check orders for errors
 - Increases productivity and capacity of operations.

8. Customer Deliveries

- Match customer deliveries to service demands to reduce delivery costs and improve service to customers.
- *“Give your customers the service they really need.”*

Customer Deliveries

Provide delivery services that are both cost effective and responsive to service needs within the established business strategy . . .

- Segment customers by service requirements, in terms of:
 - Costs required to provide services
 - Actual profit or margin generated by customer orders
- Measure total delivered cost per delivery
- Consider using UPS, LTL Carriers and courier services for cost effective customer deliveries, for instance:
 - Depending on volume you might be able to negotiate a discount rate from UPS for your smaller orders
 - Use LTL carriers for deliveries beyond your normal delivery area
 - Use courier services for very small orders or short notice rush orders
- Charge customers for extra delivery services, e.g., expedited service, inside delivery, UPS deliveries, etc.

Customer Deliveries

Manage your delivery service for cost and service effectiveness within your business strategy . . .

- Schedule deliveries using automated truck routing software:
 - Requires up front data base construction
 - Very good in cost effective routing and response to change
 - Useful tool for mid-to-large size fleets
- Consider leasing your delivery fleet versus owning it
 - Need to understand your total costs for operating your own trucks
 - Don't forget to include management time documenting your fleet costs
- Don't give more delivery service than a customer is willing to pay for
 - Deliver only weekly or biweekly for low profit customers
 - Charge for expedited or emergency service.

9. Customer Service

- Measure and manage service levels to your customers.
- *“You can and should offer different levels of service to different groups of customers.”*

Customer Service

Service to customers is the single most critical element of business operations today . . .

- Customer service can be segmented into:
 - Order lead time – from receipt to delivery
 - Order accuracy – item fill rate
 - Product quality – useable standard
 - Order delivery – timing and frequency
- However, service levels can vary by customer in terms of:
 - Large versus small customers – shipment size and frequency
 - New and developing customers – special terms and conditions
 - Customer profitability and pricing
 - Menu of priced services.

Customer Service

Service to customers should consider . . .

- Offering customers specific elements of service according to costs of that particular service, such as:
 - More frequent deliveries based on order size and volume
 - Order lead time response based on cost of the response
 - Specific and/or unique products based on the cost to acquire, maintain inventory, and provide service for that specific product
 - Special services based on actual costs, such as:
 - Broken case picking
 - Special labeling and packaging
 - Special loading – floor versus pallet, etc.
 - Special deliveries – time of day, side door, floor levels, etc.
 - Other unique services that require additional costs.

Customer Service

Measuring service to customers should consider . . .

- Customer order cycle time – time from order receipt to delivery
 - Note: World class companies measure original order receipt time even if changed after receipt, including order content and delivery timing.
- Order accuracy – cases and lines shipped versus ordered
 - Note: Can vary by product class – e.g. 98% on “A” items, 95% on “Bs” and 80% on “Cs”
- Product quality – refused shipments or returns based on unusable product

Bottom-line, provide the right service based on actual customer costs and profitability.

10. Measurement and Reports

- Establish key measures to use as benchmarks to measure progress directed at continuous improvement.
- *“You can’t manage what you can’t measure.”*

Measurement and Reports

In addition to the customer service measures mentioned above, a system of reports and measures should be established to monitor, evaluate, and report operations performance . . .

- Most businesses have a sound source of data contained within their current systems
- The issues becomes one of extracting the right data in a format that can be used for measurement purposes
- In addition, retaining source data over time can become an issue of storage availability
- Key Performance Indicators – KPIs should be established based on the unique characteristics of the business and selected key performance factors.

Measurement and Reports

These measures and reports should consider . . .

- KPIs based on the following categories and examples:
 - Product movement
 - Items and quantity received, selected, and shipped
 - Timing of receipt – peak and valley
 - Order velocity
 - Orders received, including timing of receipt versus required shipment
 - Line items on orders – “most commonly used measure of order volume”
 - Product storage
 - Slot profile – selection, reserve, surplus
 - Slot profile – rack versus floor
 - Product delivery
 - Profile of routes – miles run versus stop time
 - Route productivity – stops and lines delivered.

Measurement and Reports

In addition, these measures and reports should consider . . .

- KPIs continued:
 - Personnel productivity
 - Hours worked by function, including shift differential
 - Productivity in terms of units handled
 - Space and cube utilization
 - “Honeycombing”
 - Use of space- mezzanine over staging, racks over dock doors, etc.
 - Direct and indirect operating costs
 - Controllable costs relative to volume and space
 - Non-controllable cost allocations
 - Working capital costs
 - Active inventory – at last cost
 - Dead inventory – value and cost of space.

Measurement and Reports

In addition, measures and reports should consider . . .

- Timing and accuracy of information and data
- Comparison and benchmarking of measures and reports
 - Over time – daily, weekly, monthly, and annual
 - Between shifts and operating functions
 - Comparable other division, locations, and businesses
- Comparison of “apples to apples” – drivers versus selectors load
- A good reporting system - accurately measure and provide a base of benchmarks and comparisons for management monitoring and control
- Collective measures that can form the basis for benchmarking present operations against anticipated future change
- Again, **“You can’t manage what you can’t measure.”**

In Summary - Bottom Line

- ❑ *Operations management excellence can have a significant impact on the business*
- ❑ *It can provide achievable near-term results*
- ❑ *It requires detailed analysis of functions and costs*
- ❑ *It needs to be benchmarked for continuous improvement.*



Review and Discussion

- Review of what was covered
- Application to your business
- General discussion.

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