Supply Chain Alignment
Mission Critical
Getting the Results You Want Series

Mastermind Group, LLC
Competitive Advantage in Supply Chain & Business Management

Webinar
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Who Is Bob Forshay?

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Takeaways Today

• Alignment supporting supply chain strategy
• Metrics & Performance
• S&OP is the Process & the Yardstick
• Understanding the Trade-offs
• Managing the Balance
• Standard Process Wins
Goal of a Supply Chain

Max Revenue @ Min Cost
Goal – Max Revenue @ Min Cost

• Maximize Service (revenue) and minimize Cost

• Alignment in a supply chain includes several aspects;
  • What is the demand plan for our business?
  • Can the supply plan meet the demand plan?
  • What does a balanced plan look like?
  • How is a balanced plan developed and executed?
  • What is cost effective and how do we achieve that?
  • Stopping the money leaks, maximizing revenue!
  • Optimizing our resources effectively and proactively.
  • Sustaining the process.
Sample Benefits

1. Improve service
2. Increase revenue
3. Reduce rework
4. Reduce overtime
5. Increase capacity
6. Cut inventory
7. Reduce lead time
8. Reduce costs
The World Class Imperative

Supply Chain Capabilities

Market Leadership

Profit Advantage

Business Strategy

Total Supply Chain Management Cost

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<th>Industry</th>
<th>Best</th>
<th>Avg</th>
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*Supply Chain Management Review, Survey of 110 companies in five sectors

75% Higher Profits *
Aligning on Strategic Objectives
Defining Business Strategies?

How will you compete?

- Differentiation
- Cost Leadership
- Market Focus

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Lowest Cost Provider

Is

• Higher Volume – lower margin
• Efficiencies
• Scalability
• Few product or service iterations
• Focused tightly on certain price points
• Mass appeal to majority of larger market

Is Not

• Aiming at highest quality
• Providing customization
• Providing it “Your Way” make to order
• Short Lead Time to the shelf
• Flexible in changing features offered

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Which is low cost provider?

Techivorm Moccamaster 10 cup - $309.99

Black & Decker, 5 cup - $14.99
## Differentiation Provider

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<thead>
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<th><strong>Is</strong></th>
<th><strong>Is Not</strong></th>
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<tr>
<td>• Few product or service iterations</td>
<td>• Aiming at entire market</td>
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<tr>
<td>• Often classified “Premium”</td>
<td>• Lowest price</td>
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<tr>
<td>• Focused tightly on certain market segments</td>
<td>• Providing it “Your Way” make to order</td>
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<td>• Mass appeal to specific segment of specific market</td>
<td>• Available in all markets/stores</td>
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<td>• Flexible in features offered</td>
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</table>
Why Differentiation provider?

Six pk 12 oz bottles $6.99

Warsteiner Six pk 12 oz bottles $9.99
# Market Focused (Niche) Provider

**Is**

- Often Engineered or Made to Order
- Often classified as “Customized”
- Focused only on certain market segments
- Typically higher priced
- Typically longer lead time

**Is Not**

- General market need
- Lowest price
- Providing it “off the shelf”
- Widely Available, must special order
- Standardized in features offered
Why Niche provider?

Wisdom Carnival Ride Maker

Rubadue Wire – Just Wire Products
Supply Chain Design to Align on Each Area

- Growth Strategies
- Value Proposition
- Competitive Strategy
- Market Segments
- Revenue Model
- Value Chain Structure
Strategic Alignment...Or Not?

Strategy Objective = Market Focus

Sourcing Focus = Least Cost

Production Focus = MTO, Make To Order

Distribution Focus = Volume Discounter

Sales Focus = Offer Customization

Provide Cray Computers

Purchase parts only Full Truck Loads – Buy to annual forecast for vol disc.

Job Shop W/O’s of Qty = ONE with min. 28 week lead time

Distribution to area warehouses for Walmart Retail Network

Sales Model to quote any request at “Standard” lead time
If we aren’t aligned

• Recent survey showed 62% of C level said they believed their organization understood and could effectively implement the strategic plan.

• Same survey showed 17% of middle management agreed.

• Besides demonstrating the huge gap in ability to execute on strategy,

• This could be described as - 38% of the staff is “driving the bus” in the wrong direction, spending money, time and energy on the WRONG things that will not help improve profitability.
Conflicting Objectives
Traditional Planning
**Business Challenges**

- Decentralized & Non Formal S & OP
- Non-Integration of Info
- Inconsistent Forecasting
- Lack of Forecast Ownership
- Intuitive Forecasting
- Lack of Visibility
- Non-Timely Forecast Communication
- No Bottom Up Forecasting
Traditional Planning Process

Sales Group

Sales $ we Think we’ll sell

Demand is collectively compiled from various sources, people and processes.

Sales rolls up into single forecast, usually dollars of sales, with some attention to product lines, or channels if distribution.
Traditional Planning Process

Sales Group

- Sales talks to customers
- Sales considers what they can sell best
- Develops sales plans based on commissions? Quotas?

- **Departmental Goals** – Rewards drive performance

- Limited input from;
  - Marketing, Product Life Cycle Planning?
  - Engineering product development team?
  - Operations. Purchasing and Suppliers?
Finance is the guardian of cash flow. Planning processes seldom reflect impacts from schedules, suppliers, quality issues, product changes etc. until after the fact.

Capacity changes are usually not modeled within the near-term budgeting unless change to head count in advance or large Capex.
Traditional Planning Process

- Finance revises forecast based on costs or budgeting.
- Operational challenges, capacity or supply changes, lead time not obvious.
- **GOAL = Volume & Cost Reduction.**
Linear planning, “forecast tossed over the wall”. Very reactive in nature. Results = larger inventory compared to plan, late delivery, high expediting and transportation cost, overtime, frequent uncontrolled plan changes.
Traditional Planning Process

- Operations owns inventory position based on previous forecast - not always what customers or sales want.
- Supply and Capacity become out of balance with Demand.
- Operations becomes REACTIONARY, inefficient, higher cost.

GOALs = Utilization and Cost reduction.
Traditional Planning Process

Operations instructed to keep costs low, wants to keep machines running and
Purchasing knows from experience, Never run out of material!
Traditional Planning Process

- Mandate = Don’t Run Out!
- GOAL = lowest cost, positive PPV.
- Sourcing offshore for Lowest Unit Cost?
- Longer lead time?
- More inventory and risk?
- Slower to adjust as needed?
Traditional Planning Process

- Disconnected departmental plans
- Little Collaboration or Alignment

Sales
Sales $ we Think

Finance
$ Quota We Need

Operations
Units we Plan

Purchasing
Units We Want

Internal Production

External Purchasing

Linear Flow of Information
Traditional Supply Chain View

Silo Orientation

Suppliers

Purchasing
- Lowest Unit Price
- Inventory to buffer variation

Production
- High Utilization
- Fewest Changeovers
- Lowest Unit Price

Distribution
- FTL Qtys
- Best Rates
- Safety Stock

Retailer

Consumer
Traditional Approach
Demand fluctuates... Cost, Missed Revenue

EXCESS INVENTORY!

WASTE

Missed Revenue

EVERYTHING MUST GO
SALE
Departmental or Silo Planning =

Not One Plan of Record =
NO agreement on current status
NO agreement on direction to take
NO chance of successful performance
Better = A Single Coordinated Plan
What is Sales & Operations Planning?
S&OP Explained

A process to strategically direct an organization to competitive advantage through effective management of demand and supply.
Survey S&OP – Road to Improvement

- 15,000 firms surveyed recently
- 46% not yet attained desired performance
- 36% still encountering obstacles to performance
- Areas to overcome include;
  - Full comparison of **total demand & supply, units & $**
  - **Alignment across ALL functional** departments is vital
  - **Clarity on corporate strategies** & objectives, clear path to execution
  - Ability to **proactively identify risks** and **adjust** accordingly
  - **Fair and reliable measurements** plus auditable, accountable
  - **Exec level champion** who assures a process and removes obstacles
  - Team members able to leverage “**Soft Skills**” on communication
Common Challenges

- Lack of strategic coordination among departments: 58%
- Insufficient interaction and involvement (silos) among groups: 58%
- Lack of common vision or purpose: 51%
- Lack of commitment from top management: 49%
- Lack of technology and belief in existing software or systems: 42%
- Inadequate communication and soft skills: 37%
- Insufficient training or skill in data analysis: 33%

Source: APICS & IBF
Where are We on Aligning Supply to Demand?

![Diagram of Product Lifecycle Management]

- **ETO**
- **MTO**
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**Sales Volume**

**Time**

**Profitability**
S&OP is a Process
Hierarchical Planning Process Elements

- Business Strategy - Plan
  - Demand Planning
  - Sales & Operations Planning
    - Master Scheduling
      - Detailed Planning
      - Sales Plan
      - Supply Plan
      - Inventory Plan *
      - Finance Plan
  - Resource Planning

* Inventory from FG or Backlog from Make To Order or Services
S&OP = Demand & Supply Plans

S&OP is a formal process with transparency and accountability. More than a series of meetings.
Flow of Activities

1) Collect Sales/Market Input
2) Develop Demand Plan
3) Demand consensus refinement
4) Shape demand based on “what if” analysis from Supply
5) Develop Constrained Supply Plan
6) “What if analysis on demand opportunities
7) Prepare Alternatives for Exec S&OP Review
8) Review, Gain Consensus @ Exec S&OP mtg
9) Publish and Measure Performance

Continuously Measure, Communicate and Improve Process

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Demand Planning by Consensus

Customer

Sales

New Products

Top Management

Purchasing

Forecast Consensus

Marketing

Demand Management

Operations
Focus Points

• Incorporate Marketing plans, promotions in Forecast
• Consider “Range” forecasting to size the impact and costs of supporting each scenario
• Bottom up included in forecasting process
• Managing and documenting all Assumptions
• Include New Product Planning – Innovation in the process
• Regular review of product and customer profitability
• Long term risk issues, changes to business environment
• Accountability to meeting numbers monthly
  • Sales on Demand plan
  • Production for Supply plan
• Understand and manage supply risks as team
S&OP – Pre Executive Agreement

• To satisfy customer demand by ensuring the availability of the required or expected resources:
  • material
  • capacity
• Identify Issues, Risks
• Mitigation plans considered
# Alignment of Supply to Demand

## Chase or Match

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Balancing Plan Proactively

- Demand Ramp up - down
- New Product Launch – End of Life
- New Customer – Product Mix
- Supplier Change – Risk Management
- Market Change
- Capacity Changes Needed
- Technology Changes
- Reduction of Lead Time
- Process Changes

- Not waiting for the next monthly finance reports 60 days later!
Executive S&OP – Final Approval

- Demand Changes
- Supply Changes
- New Products
- Financial Assessment

Approved Plan
Managing Tradeoffs
Alignment of Supply to Demand?

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• IF Demand Falls short of plan –

• Revenue is DOWN. Unsold Inventory is UP, Cost is Up!

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Alignment of Supply to Demand?

### Supply vs. Demand

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- **IF Supply Falls short of plan** –
- Revenue is delayed, missed sales, Cost is Up from expediting!

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### Example by week per product family

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| 2% | 3% | 4% | 5% | 5% | 5% | 6% | 6% | 8% | 11% | 34% | 100% |

### Production

| Planned Production, Units | 23 | 1 | 80 | 100 | 105 | 105 | 110 | 107 | 107 | 107 | 107 | 107 | 107 | 116 | 1282 |
| Production Actual | 24 | 21 | 3 | 6 | 25 | 37 | 32 | 24 | 0 | 0 | 0 | 0 | 0 | 172 |

### Proj End Invty@Plan

| Plan, Plan Prod less Revenue | 23 | 0 | 44 | 96 | 141 | 186 | 236 | 282 | 317 | 352 | 387 | 398 | 373 | 80 |
| Actual Invty, Actl Prod less Ships | 47 | -7 | 15 | 85 | 141 | 186 | 236 | 282 | 317 | 352 | 387 | 398 | 373 |

$ Invty @ Q102 | 8 | ($0.00) | $1.00 | $2.19 | $3.22 | $4.24 | $5.39 | $6.46 | $7.26 | $8.05 | $8.85 | $9.10 | $8.52 | $1.83 |

### Demand Issues and Assumptions
Meeting Strategic Objectives
S&OP = Senior Management Tool

- Assess risks in planning proactively and routinely
- Cross-functional consensus for “What If” scenarios
- Strategies and tactics as standard responses to risks
- Execute to single plan of record cohesively
- Hold each other accountable for both Plan and Execution
- Function as a single team in stead of Siloes
Benefits of Achieving Competitive Advantage

• Improved OTD, On Time Delivery
• Improved Customer Satisfaction
• Increased market share
• Gross Margin gains of 25% to 35%
• Savings from product/customer rationalization
• Customer retention gains of 10%+
• Order fulfillment improvements 20% to 40%
• New product introduction success proportional to S&OP
• Agility Gains from proactive approach.
Benefits Realized

![Bar chart showing improvements in different metrics over the past 2 years. The chart includes metrics such as Customer Retention, Finished goods days of inventory, Complete Order Fill Rate, Average Forecast Accuracy at the Product Family Level, Gross Margin (% of revenue), and Logistics costs as a % of sales. The chart compares improvements for All Others and Best-in-Class categories.](image-url)
Six Interdependent Elements of Sales & Operations Planning Capability

- Business Strategies & Policies
  - Mission, Vision, Goals and Objectives
  - Channels and Customers
  - S&OP Process Goals and Strategies
  - S&OP Information and IT Strategy
  - Organization Strategies

- Business Processes
  - Process Design
  - Innovations Planning
  - Demand Planning
  - Supply Planning
  - Financial Planning
  - Demand/Supply Integration
  - Shared Risk Management
  - Scenario Planning

- Organization & People
  - Skills and Competencies
  - Training and Development
  - Roles and Responsibilities
  - Organization Design
  - Corporate Culture
  - Joint Ownership of Risk Management Strategies

- Management Reports
  - Revenue
  - Fulfillment
  - Time to Market
  - Inventory
  - Capacity
  - Product Cost
  - Supplier/Supply
  - Plan vs. Actual
  - Efficiency
  - Forecast
  - Risk Profile
  - Utilization

- Models & Methodologies
  - Customer Intelligence and Forecasting
  - Capability Analysis (ATP, CTP, etc.)
  - Capacity Planning
  - Order Promising
  - Distribution Control
  - Risk Models
  - Scenario Plans

- Systems & Data
  - CRM
  - ERP
  - RCCP
  - APS
  - Strategic Sourcing
  - eProcurement
  - DRP
  - WMS
  - Plan Modeling
  - Master Data
  - Data Integrity

There is a risk if any Infrastructure Component is deficient.

- Business processes do not achieve strategy.
- People are unable to manage and execute necessary processes adequately.
- Current reports do not provide information for effective management.
- Management’s methodologies do not adequately analyze relevant information.
- Reliable, relevant and timely business information is not available for analysis and reporting.
Pitfalls…

• Lack of senior leadership ownership and commitment
  • Not a project to delegate

• Trying to do it all at once
  • Data and process can be overwhelming – test on a small scale to start

• Trying to everything in a spreadsheet
  • Typically product costing and scenario planning make spreadsheets complex and subject to errors, high maintenance, low share-ability

• Implementing without Finance included from the start
  • Cost of Production, product mix analysis is hard to do if you start with schedules and forecasts alone

• Not appointing a neutral sponsor
  • Functional departments can still have differing goals influencing planning. Setting up the process requires neutral leadership
Case Studies - Ugly

• Medical Device Manufacturer
  • No new product of innovation coordination with manufacturing or suppliers
  • Each new program required engineering support on manufacturing floor to make shipment – unscheduled resources
  • No material risk analysis around planned demand
  • No reconciliation with capacity requirements
  • No accountability around products plan vs. what sales sold – lack balance
  • Marketing & Sales not present in forecasting or process
  • No proactive rationalization on products or customers
  • No effort to focus on continuous improvement

• Company went out of business after 11 years as growth overwhelmed it, could not control inventory or labor.
Case Studies - Bad

- Fabricated products company
  - 50% MTO, 50% MTS
  - Company business environment changed, losing higher volume customers that had been subsidizing make-to-order business.
  - Resource load to support increased % of MTO, low volume - high mix business dramatically increased but capacity and skills did not.
  - No reconciliation on Capacity to Sales $ forecasts. Eye ball forecasting for lack of comprehensive model tied to capacity model.
  - No cross-functional buy-in supporting continuous process improvement on planning processes
  - High Variability, No accountability on meeting monthly objectives
    - Sales
    - Production Schedule
    - Quality
Case Studies - Good

• Steel Fabricated Measurement products company
  • 10% YoY growth for 10-+ years
  • Reduced LT from multi weeks to less than 1 week
  • Improved Inventory Turns from 1.3 to high 20’s
  • Improved OTD from 55% on Promise date to 98% on Request date
  • Introduced 2 new products lines on time
  • Re-planned quickly when earthquake leveled key supplier

• High Tech Electronics OEM supplier
  • 2 HW and 2 SW releases each year
  • Frequent Engineering Changes on product
  • Increased quarterly revenue realization by $15M + by having better control on constrained capacity – better material positioning based on managed risks
Tradeoff Strategies – managed real time

- If outputs are unpredictable or lead time longer than customer willing to wait...Additional FG (safety stocks) may be needed.
- Or may need to apply more flexible capacity.

- If customers are unpredictable and FG (safety stocks) are too costly, then the production strategy changes to Make-To-Order, with longer lead times.

- Not competitive.
- Need proactive planning and more accountable execution to plan, coupled with continuous improvement.
Review - Silo Approach, Supply - Demand

• Multiple different plans from departmental silo agendas
• Competing or conflicting objectives
• Lack of coordination, timing, scheduling, quality
• Not able to take advantage of core competencies

• Ineffective at Best.
• Unprofitable at Worst.
• Unable to realize competitive advantage.
Summary

• Alignment supporting company strategy
• Metrics & Performance
• S&OP is the Process & the Yardstick
• Understanding the Trade-offs
• Managing the Balance
• Standard Process Wins