Become Demand Driven

From “Push and Promote” to “Position and Pull”

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– Assistant Professor at the University of Applied Sciences in Munich
– Instructor for
  • APICS CPIM, CSCP
  • ISCEA CDDP
  • The Fresh Connection
– More than 15 years of experience in IT & SCM in various industries
## Our Strength lies in our Valued Partnerships and Network

<table>
<thead>
<tr>
<th>APICS</th>
<th>ISM®</th>
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<tbody>
<tr>
<td>Channel Partner</td>
<td>Institute for supply management</td>
</tr>
<tr>
<td>Supply Chain Strategy, Production / Operations Management and Inventory Control</td>
<td>Supplier Relationship Management, Commodity Management, Risk and Compliance Issues</td>
</tr>
<tr>
<td>Demand Driven Planning and Operations</td>
<td>Logistical Operations</td>
</tr>
<tr>
<td>Lean for Certification Lean Administration Lean Production</td>
<td>Supply Chain Simulation Platform for Experiential Learning</td>
</tr>
<tr>
<td>Operations analytics to determine the most competitive operations strategies and tactics</td>
<td>Supply Chain Finance Simulation Platform for Experiential Learning</td>
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Why Becoming DEMAND DRIVEN?
Old Rules, Old Tools, New Pressures

- Forecast error is on the rise
- Supply Chain Complexity and Volatility is increasing (Complex Adaptive Systems - CAS)
- Legacy planning tactics and tools are breaking down
  - Inside most modern ERP systems is MRP
  - 79% of ERP Buyers implement MRP
  - Conceived in the 1950’s
  - Codified in the 1960’s
  - Commercialized in the 1970’s and...
  - …it hasn't changed
The “New Normal”

Long lead time parts & components → Global sourcing and demand

Worldwide there are more complex planning and supply scenarios than ever – the past is NO LONGER a predictor for the future

Pressure for leaner inventories → More product complexity and/or customization
"All Benefits" Encompass:

- **Service** is consistent and reliable when a system flows well.
- **Revenue** is maximized and protected.
- **Inventories** are minimized.
- **Expenses** ancillary and/or unnecessary are minimized.
- **Cash flow** follows the rate of product flow to market demand.

Protect and Promote FLOW = ROI Maximization
FLOW is the intersection of prevailing improvement methods

Lean
Primary Objective: Reduce Waste

Six-Sigma
Primary Objective: Reduce Variability

Theory of Constraints
Primary Objective: Improve Throughput
Today’s Dilemma 1: Committing to the Wrong Demand Signal

- Forecasts are often converted to Planned Orders
- Three Universal Truths about Forecasts
  - They start out wrong
  - The more remote in time they are the more wrong they are
  - The more detailed we make them the more wrong the are
- When Planned Orders are wrong:
  - We commit capacity, materials, space, time, etc. to the wrong thing
  - We often have to spend more to get the right thing within a short window of time or…we risk service
Today’s Dilemma 2: MRP is Designed for Nervousness
Today’s Dilemma 3:
Two Universal Points of Inventory

Note: “Optimal” is from an on-hand perspective
The MRP “Bi-Modal” Distribution

Too Much

Too Little

Warning

Optimal Range

Warning

Too Much

# of parts or SKU

0
Three Simultaneous Effects:
1. Persistently High Inventories
2. Chronic and Frequent Shortages
3. High Expedite and Waste Related Expenses
How to become DEMAND DRIVEN?
A Blue Print for Change – Mitigating the Effect of Variability on Flow

1. Use only ACTUAL DEMAND
2. Establish DECOUPLING POINTS
3. Establish CONTROL POINTS
4. Buffer Both DECOUPLING and CONTROL POINTS
5. Measure
I – Use only Actual Demand

**Forecast**

- Planned orders create supply orders in anticipation of need.
- Forecast error associated with planned orders results in inventory misalignments and expedite expenses.

**Sales Orders**

- Only qualified sales orders within a short range horizon qualify as demand allocations.
- Sales orders give a near perfect demand signal in terms of what will be sold and when it will be sold.
2 – Establish Decoupling Points

The only way to stop **Nervousness** and the **Bull Whip Effect** is to stop variation from being passed between the parts of the system.
3 – Establish Control Points

Places to transfer, impose, and amplify control through a defined area.

When set as a specific resource they are often called a “Drum” or a “Pacesetter”

Selection Criteria:

• Points of Scarce Capacity determine the total system output potential.
• Exit and Entry Points are the boundaries of your effective control.
• Common Points are points where one place controls many things.
• Points that Have Notorious Process Instability can be planned for and controlled better when visibility and focus is placed on the resource and its variability.

Source: Fololia.com
4 – Buffer Both - Decoupling and Control Points

Stock

Time

Capacity
# 5 – Measure

Three Tactical Metric Objectives for Flow

<table>
<thead>
<tr>
<th>Metric Objectives</th>
<th>The Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) System Reliability</td>
<td>Execute to the plan / schedule / market expectation</td>
</tr>
<tr>
<td>b) System Stability</td>
<td>Pass on as little variation as possible</td>
</tr>
<tr>
<td>c) System Speed / Velocity</td>
<td>Pass the right work on as fast as possible</td>
</tr>
</tbody>
</table>
a) System Reliability: Execute to the Plan/Schedule/Market Expectation

**Monitor** on-hand and available stock statuses at decoupling points

**Monitor**, release, sequence and on-time status of work at control points

<table>
<thead>
<tr>
<th>Part</th>
<th>Open Supply</th>
<th>On-hand</th>
<th>Demand</th>
<th>Available Stock</th>
<th>Recommended Supply Qty</th>
<th>Action</th>
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<tr>
<td>B897</td>
<td>16359</td>
<td>12000</td>
<td>8000</td>
<td>20359 (22%)</td>
<td>14743</td>
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<td>H275</td>
<td>900</td>
<td>5532</td>
<td>960</td>
<td>5472 (42%)</td>
<td>2128</td>
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<tr>
<td>C283</td>
<td>1530</td>
<td>3721</td>
<td>713</td>
<td>4538 (48%)</td>
<td>1594</td>
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<tr>
<td>P100</td>
<td>1200</td>
<td>1350</td>
<td>870</td>
<td>1280 (58%)</td>
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<table>
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<tr>
<th>Start</th>
<th>Full Duration</th>
<th>End</th>
<th>Sales Order</th>
<th>Work Order</th>
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<th>Sales Order Qty</th>
<th>Work Order Qty</th>
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b) System Stability: Pass on as Little Variation as Possible

Monitor capacity buffers in non-control point resources looking for potential overloads

Monitor penetrations to time buffers focusing on red and late zones

Monitor on-hand, available stock and projected on-hand at decoupling points

Work Order

Capacity

Yet to Be Received

Received

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c) System Speed Velocity: Pass the Right Work on as Fast as Possible

Monitor Over the Top of Green (OTOG) at decoupling points

Monitor backlog status and dispatch list sequence of control points

Monitor early buffer entry at time buffers
The Demand Driven MRP (DDMRP) Pyramid

Better Alignment of resources to actual demand retains flexibility, promotes velocity with fewer course corrections.

New emphasis on relevant operational components for FLOW.

Fundamental planning equation based on sales order demand against dynamically managed decoupling points.

Fundamental Principal

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Where to Find out More?

• Books:

• Online:
  – [www.demanddrivenmrp.com](http://www.demanddrivenmrp.com) (free downloads and podcasts)
  – [www.demanddrivenworld.com](http://www.demanddrivenworld.com) (free downloads of company presentations from the Demand Driven World Conference)
  – Official DDMRP LinkedIn group:

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