Can DDMRP be a Game-Changer for Supply Chain Planning?

**Motivation / Background**

<table>
<thead>
<tr>
<th>1965</th>
<th>Today</th>
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<tbody>
<tr>
<td>Supply chain Complexity</td>
<td>Low</td>
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<tr>
<td>Product Life Cycles</td>
<td>Long</td>
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<tr>
<td>Customer Tolerance Times</td>
<td>Long</td>
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<tr>
<td>Long Lead Time Parts</td>
<td>Few</td>
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<tr>
<td>Forecast Accuracy</td>
<td>High</td>
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This ‘New Normal’ challenges conventional planning systems, which can lead to **high inventory** and **poor service level**. Can DDMRP bring a solution to handle the increased complexity?

**Key Question / Hypothesis**

Understanding the potential added value of DDMRP in planning under uncertainty at finite capacity

- 11% service level
- -31% inventory
- -22% leadtime reduction

Can these numbers be achieved in all industries?

**Relevant Literature**

- Current literature available

**Methodology**

- Interviews
- Survey
- Simulation Model
- Results

**Expected Results**

- Interviews: A few companies, in-depth investigation
- Survey: Many companies, targeted questions
- Simulation: Comparing APS and DDMRP in a controlled environment

**Expected Contribution**

- Identifying possible **benefits** of DDMRP
- Identifying possible **limitations** of DDMRP
- Comparing performances of DDMRP and Advanced Planning Systems with the main planning KPI and ROI
- Recommending the planning method to use for different constraints and viable ways to combine the two methods

**Results**

- Inventory turn
- Service Level

**The Problem & Solution - Inventory**

- Bimodal inventory distribution
- DDMRP
- Optimal inventory distribution

- Too little, Warning, Optimal Range, Warning, Too much
- Too little, Warning, Optimal Range, Warning, Too much

**Capacity Constraint**

DDMRP creates a more stable and suitable environment for MRP. What if APS is a better fit?