Case Study: MRP & Lean in NetSuite

Introducing DDMRP to Lightspeed Technologies

Julie Rockford
Director of Manufacturing Operations
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Learning Points for Today

- A brief overview of Lightspeed Technologies
- Inventory Challenges
- Discovering DDMRP
- Introduction to DDMRP
- Early results of first NetSuite DDMRP implementation
Why we exist – To make a difference

• The standard classroom is like teaching on a noisy street corner (60dB)

• 70% of children with mild hearing loss will fall behind in at least one subject

• Our systems can help children hear 15,000 words instead of 10,000 EVERY DAY!

• Teachers get critical insights into individual progress for real-time assessments
What we do – Product profile

- 400 total SKUs – 85% outsourced, 15% simple assemblies
- 5 day leadtime from sales order to ship
- Highly configurable product – system, microphones, speakers, accessories
- Seasonal fluctuations that follow the school calendar
- 120 day leadtime from offshore supply partner for majority of parts
How we do it – Material planning

- Monthly spreadsheet based MRP tool for planning material requirements
- Monthly demand forecast based on NetSuite Opportunities and marketing projections.
- Material kanbans with visual triggers backed up by NetSuite reorder point
Big supply chain challenge!

• Maintain high customer service while aligning materials to true market demand

• Planning based on forecast that is inaccurate at the product mix level

• Difficult to adjust to actual demand changes using monthly MRP

• Need for improved visibility across the supply chain
Will I have the RIGHT inventory??
Changing our view

To make a difference in the classroom...

We had to make a difference in ourselves
Introduction to Demand Driven MRP

• Attended Chad Smith’s DDMRP overview at SuiteWorld 2013

• Identified DDMRP as a methodology that could address our critical supply chain issues

• Decided to embark on a program to implement DDMRP in Fall 2013

• The following is a brief summary of our journey and the results thus far
How do we think differently?
Change **AND** improve Customer Service

- The core assumption in DDMRP is to ensure that materials are always available.

- DDMRP provides clear visible signals based on **actual demand** (*not forecast*) which drive supply planning and material acquisition to ensure material availability.

- The buffers are resilient and ensure availability while dynamically adjusting to changing demand patterns.
DDMRP buffer simulations

Running historical simulations increased confidence to move forward!
Managing long lead time materials

• DDMRP buffers generate more frequent ordering in smaller volumes of long lead time items
  • Minimum order quantities are maintained
  • Consider freight implications & adjust volumes where required

• Long lead time items have an inbound pipeline of materials which ensure stock availability
  • Enables lower on hand balances as fresh supply will arrive in frequent intervals

• DDMRP Planned Adjustment Factors used to flex buffers and address seasonal demand and product transitions
Planned Adjustments

• Starting to use Planned Adjustment Factors (PAF) to address seasonal fluctuations

• Creating PAF values has been a learning process
  • Using simulator to become more proficient in determining PAF values
  • Long lead times for our items complicates the process

• Key learning point: Using a longer ADU horizon makes establishing the PAF values more intuitive
  • Provides a more consistent base value to flex up and down for seasonal swings
Managing product transitions

• Frequent product transitions as we develop technologies for our customers
  • Challenging to effectively manage the sunset of the old product with the introduction of the new version.

• Using a linking feature in Replenishment + NS for new product transition
  • Couples the ADU of the current and new items
  • ADU of the new item is based on the sum of both items

• Beginning to use Manual ADU Override to set initial buffer zones for brand new products
Current Progress with DDMRP

- Planning process is easier to execute and more repeatable
- Significantly reduced reliance on Monthly MRP spreadsheet & using R+ data to challenge forecast assumptions
- On hand alerts and days covered have been critical in making air ship decisions during the West Coast Labor Dispute
- Introduction of PAF to address seasonal fluctuations is providing next big step to reduce reliance on Monthly MRP
Buffer Trend Reporting – Big picture

- On hand inventory moved closer to target inventory value
- Service levels continue at a high level
Part Buffer Trend – Item detail

Visual indicators help quickly discern status
• On hand line demonstrating demand pull behavior
• On hand inventory moved closer to target value
• Periodic resupply based on true buffer consumption
• Peak summer demand really stands out vs. much less volatile target inventory
Bridging the Gap

• More effective supply chain with improved visibility
• Handing a wide-array of long lead time products
• More effective management of seasonal trends & new product introduction
• Able to execute faster with more accurate information
Bonus Impact…

Satisfied Supply Chain team!
Any questions??
Contact for follow-up

- Intuitflow Contact
  - Erik Bush or John Ogle
  - info@intuitflow.com

- Lightspeed Contact
  - Julie Rockford
  - julie.rockford@lightspeed-tek.com

- Learn more about NetSuite
  - info@netsuite.com