Procurement Management at High Mix Low Volume EMS Industry

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Challenges of High Mix Low Volume Procurement Management

Define

Analyze

Strategy

Plan

Control

Demand and Supply Model

Strategic Procurement

Procurement Planning

Supplier Management

Procurement Management at High Mix Low Volume EMS Industry
Challenges of High Mix Low Volume Procurement Management

1. STRATEGY Gate
   - Low interests from suppliers;
   - Low volume Vs. High Quality Requirement;
   - NRE Cost Vs Procurement Value;
   - Customer Contracted Vs. EMS Contracted;
   - Customer Preferred Vs. EMS Preferred;
   - Possible bigger supplier base and numbers of specific components

2. TACTICS Gate
   - Demand Changes and Forecast Fluctuation;
   - MOQ, MPQ leads to inventory excess and obsolete;
   - Difficult to automate procurement, and items sleeping in system
   - First time buy is last time buy?
   - Quote in Model A, Plan in Model B, Result in Model C;

3. COMMITMENT Gate
   - High supplier DPPM
   - Not cooperate from suppliers
   - Different understanding on quality requirements
   - Hard to proceed quality claim
Challenges of High Mix Low Volume Procurement Management

Cost Reduction & Supply Availability

Strategic Procurement

Operational Procurement

Supplier Management

Price

Cost

TCO

Procurement Management

Focus:
- Right Supplier Base
- Cost Competitiveness
- Supply Capability
- Logistic Model

- Supply Availability
- Supply Cycle
- Inventory Management
- Sub-Supplier Management

- Product Quality
- On Time Delivery
- Soft Competence

Levers:
- Human Resource
  - Product Knowledge
  - Marketer
  - Location
  - Experience
- Supplier Resource
  - Willingness with same roadmap?
  - Right price and time?
  - Find Service Provider?
  - Local or localization?
  - Life Cycle Model?
  - Standard Supplier Verification Process
  - Modeling and Simulating
  - Supplier Integration

- Customer Forecast Accuracy
- Procurement Planning?
- Supply Model Ready
  - SMI, SMC, DFF
  - Risk Management
  - Supplier Integration
- Procurement Parameter
- Inventory Management
  - DOS Setup
  - Agreed Buffer Stock
  - Safety Stock

- Product Quality Criteria
- SPE/SPR in place?
- Stop problem at supplier site?
- Constant supplier process audit and verification?
- Financial Data Analysis?
Challenges of High Mix Low Volume Procurement Management

Demand and Supply Model

Strategic Procurement

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Supplier Management

- Business Case Analysis
- Demand and Supply Modelling
- Forecasting Your Future

Procurement Management at High Mix Low Volume EMS Industry
Important Elements of Demand Models

- MOQ
- Supplier Base
- Through Put Time
- Customer Requests
- MOQ
- Supplier Base
- Through Put Time
- Customer Requests

Business Case Analysis

Basic Element

- Cash to Cash
- MOQ
- Supplier Base
- Supplier Lead Time
- BOM Cost
- Demand Model
- Logistic
- EBIT
- Product Mixture
- Through Put Time
- Customer Requests

Supply Models

Volume

EBIT
Business Case Analysis

Basic Analysis

- Demand Model
  - Payment Request
  - Delivery Term Request
  - Logistic Model
  - Consolidation of spend
  - Purchasing power
  - Agreement structure
  - Supply Model
  - Product Structure
  - Manufacturing Process & Through Put Time

- Supply Model
  - Supply Base Understanding
  - Supplier Relationship
  - Components Analysis
    - Critical, Specific, Single
    - Longest Lead Time
  - Procurement Model
    - Lead Time Procurement
    - SMI, SMC, JMC
  - Inventory Analysis
    - ABC Analysis
    - MOQ/MPQ; MOQ/EAU
    - DOS Plan
    - Risk Simulation

- Logistic Model
  - AP AR Analysis
  - Inventory Analysis
    - FG and Semi
    - WIP
    - Components
    - Best Possible DOS
    - Full Volume Simulation
  - Short Volume Simulation
  - Duties and CCC Control
  - RMA Cycle Time
  - Inbound and Outbound
  - Boned Manual
  - Test Equipment Handling
  - Transfer Management

Modelling can point out which improvements would have the biggest effect.
Demand and Supply Modeling

1. Find out (and challenge!)

CUSTOMER'S RESPONSE TIME REQUIREMENT FROM ORDER

2. Choose the model

- Customer Forecast / Inventory level driven
- Replenish-To-Order
- Ship-To-Order
- Assembly-To-Order
- Make-To-Order
- Procure-To-Order / Buy-To-Order
- Engineer-To-Order

3. Understand the capabilities

(Component LT’s & flexibility, Through Put Time, Delivery Options etc.)

PLAN

- SOURCE
  Supplier Integration Team
- MAKE
  Manufacturing
- DELIVER
  Logistics team

CUSTOMER

Location of strategic buffer

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Forecasting Your Future

Material Cost Forecast
- Price Tracking System
- Components price forecasting and market intelligence
- Define ‘Quoted’, ‘Average’ and ‘Latest’ prices
- Price coverage
- BOM Deviation
- Purchase Price Variation
- Materials Cost Forecast
- Material Margin Forecast

Material Supply Forecast
- Supply Market Intelligence
- Supply Risk Prevision
- Supply Base Analysis
- Procurement Planning

HMLV increases the complexity. Serving HMLV is all about complexity reduction through structures?
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Factors of Strategic Procurement in High Mix Low Volume Industry EMS

- **Human Resource**: On Track
- **Labor Cost and OH**: On Track
- **Raw Material**: Negative
- **For-ex**: Negative
- **Competition**: Negative
- **Willingness**: Excellent
- **Technology**: On Track
- **Life Cycle Care**: Excellent
- **QMS**: Negative
- **Financial Status**: Excellent
- **Logistic Capability**: Negative
- **Order Fulfillment**: On Track

Legend:
- **Negative**: Sustained Negative Influence
- **Warning**: Negative Trend Indicated
- **On Track**: Positive Trend Indicated
- **Optimized**: Valid Positive
- **Excellent**: Sustained Positive
Challenges of High Mix Low Volume Procurement Management

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Customer Demand Analysis
Material Procurement Plan and Inventory Management
Materials and Product Cost Management
Increase and Decrease, Which One is Devil?
OBS and Excess, whose mistake?
20 Must-Know Questions to Your Material Procurement Plan
Procurement Planning

Customer Demand Analysis
- Forecast accuracy Vs Supplier OTD;
- Demand fluctuation cycle Vs Longest Lead Time;

Materials Procurement Plan and Inventory Management
- Plan what customer demand does not cover;
- Optimize procurement parameter;
- Risk Prevision Model;
- Set target for major action and measurement;
- MRP...
Procurement Planning

Material and Product Cost Management
- Monthly Material Cost and Material Margin Forecast;
- Proactive action in sourcing and procurement;
- Plan cost reduction plan based on forecast;

Increase and Decrease, which one is devil?
- No accurate forecast…;
- Align with your supplier to reduce the risk from demand changes;
- Always benefit from common components and right suppliers;
- Always prepare on specific components;

OBS and Excess, whose mistake?
- Wrong supplier from beginning;
- Wrong MOQ from beginning;
- Wrong demand running in system;
20 Must-Know Questions to Material Procurement Plan

1. ABC Setup rightly?
2. Timely check settled buffer and safety stock?
3. Is your total inventory forecasted and planed monthly?
4. How is your demand fluctuation cycle and rescheduling frequency?
5. Items ITO lower than 3, improvement plan?
6. What is the current supplier SMI and SMC value, and what can be the max.? How to achieve?
7. How do you want to plan your common parts inside SMI and SMC agreement?
8. Strategic and critical Components Control shall be in place. (Long lead time, single source...)
9. Demand decrease simulation model need to be in place
10. Demand increase simulation model need to be in place
20 Must-Know Questions to Material Procurement Plan

11. Lead time change management.
12. What is your procurement proposal before Chinese New year, Summer Holiday, and Peak Season?
13. How about the total buffer and safety stock settled level, timely reviewed?
14. What is your targeted or planed components stock DOS?
15. How about your current MOQ/MPQ, MOQ Vs. 90 days demand/3?
16. PO 30, 45, 60 days value Vs. demand 30, 45, 60 days value;
17. Open purchase order without demand;
18. Stock value without demand;
19. Sleeping components in your system.
20. Half year No-Demand from customer side.
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Procurement Management at High Mix Low Volume EMS Industry

- Supplier Performance Evaluation
- Supplier Integration and Relationship Management
Supplier Management

Supplier Performance Evaluation

- Do not only focus on Top value suppliers;
- Many specific and small value suppliers are also important;
- Classify suppliers and schedule SPE;
- Use data more than feeling;
- Lead and drive other functions contributing for supplier performance evaluation;
- Manufacturers’ process quality management and audit program shall be in place;
- Supplier On-Time-Delivery, measure what you need;
- Do not despite the single area Non-compliance;
- Suppliers’ focus on Environmental and Social issues.
Supplier Management

Supplier Integration and Relationship Management

- **Supplier Relationship Management**
  - Motivate suppliers to consider you as preferred or strategic customer;
  - Develop with plan and target;
  - Well communication on a win-win roadmap;
  - Find the ones who can grow with you in same way;
  - Partnering better than a constant competition;
  - Partnering the one who is partnering you...;
  - Manage the difference in different regions;
  - Global management of suppliers;
  - Proactive in keeping number of suppliers low;
  - Build escalation system with your suppliers

- **Supplier Changes and Integration**
  - Change suppliers ONLY by a good reason;
  - Change suppliers with a good plan;
  - Develop supplier more than changes;
  - Integrate always start from common and overlap;
  - Lean your supplier base then lean your org.;
  - Integration shall create more efficient competition, not lose it.

- **Localization**
  - Not all the local suppliers are best contributors;
  - Centralize and decentralize both needed;
Thank You