Achieving Results through Supply Chain Planning

Supply-Chain World Europe 2001

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Content

Approach to achieve business results with Supply Chain Planning

How to accelerate Supply Chain planning results achievement

Impact of Supply Chain Planning system on processes and organisation

Case study: Supply Chain Planning in the Telecom industry

Lessons learned from Supply Chain Planning software implementation projects
A global management consultancy to technology-driven business

25-Year Track Record
Founded in 1976 with a unique focus
- Technology-based companies
- Over 5,000 successful implementation projects

Results Focus
Operationalizing Strategies
- “Results, not reports”
- 90% level of repeat business

Technical Competence
450 consultants
- Technical backgrounds with practical experience, and MBAs from top schools
- Low staff/director ratio ensures significant director involvement in all projects

Global Footprint

Preeminent Reputation in the Technology Sector

More than 1,200 technology sector clients

Breakthrough Results

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Approach to achieve business results with Supply Chain Planning
There are four key characteristics of next generation supply chain excellence

**Transparent**
*Driven by process technology change*
Supply chain-wide visibility of customers and suppliers to each other

**Flexible**
*Driven by competitive pressure*
Ongoing alignment and adjustment of web-enabled customer-facing supply chains to unique customer requirements and characteristics

**Simultaneous**
*Driven by process technology change*
Intelligent, real-time reactions to changes and challenges across the supply chain

**Extended**
*Driven by competitive pressure*
Practical collaboration with partners internal and external to the global enterprise
Plan Supply Chain practices are assessed using the “Stages of Capability” model

- **Stage 1: Functional Focus**
  - Discrete Supply Chain processes and data flows well documented and understood
  - Demand/supply information flows internally with no integrated processes across plants

- **Stage 2: Internal Integration**
  - Demand and supply planning processes are being aggregated across the firm with functional accountability
  - Improvements are made by comparison to historical performance
  - Informal supplier relationships exist

- **Stage 3: External Integration**
  - Strategic partnerships are fostered with suppliers and customers using direct, collaborative, electronic data exchange
  - Supply-chain integration service agreements define specific roles and responsibilities in the planning process

- **Stage 4: Cross-Enterprise Collaboration**
  - Companies consistently see effective planning as a competitive weapon
  - Decision-making bodies are able to leverage and share information across the global supply chain
  - Demand/supply decision-making meetings accommodate varied business approaches, including net markets
According to supply chain planning software vendors, supply chain planning is influencing three key drivers:

<table>
<thead>
<tr>
<th>Typical results from supply chain planning software implementation</th>
<th>Considerations for effects of supply chain planning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reduced assets</strong></td>
<td><strong>Reduced assets</strong></td>
</tr>
<tr>
<td>◆ Reduced inventory days of supply</td>
<td>◆ Impact of planning alone is mininmal</td>
</tr>
<tr>
<td><strong>Reduced supply chain management costs</strong></td>
<td><strong>Reduced supply chain management costs</strong></td>
</tr>
<tr>
<td>◆ Reduced planning costs</td>
<td>◆ Planning costs are very low</td>
</tr>
<tr>
<td>◆ Reduced scheduling costs</td>
<td>◆ Scheduling costs are not identified</td>
</tr>
<tr>
<td><strong>Increased turnover</strong></td>
<td><strong>Increased turnover</strong></td>
</tr>
<tr>
<td>◆ Higher turnover based on better utilization of the supply chain</td>
<td>◆ Turnover increase only possible if higher sales possible</td>
</tr>
</tbody>
</table>
Key supply chain metrics have been analyzed to analyze impact of supply chain planning

**Forecast Accuracy**

- **BIC '97**: 88.0%
- **BIC '00**: 95.7%
- **Average '97**: 75.0%
- **Average '00**: 85.1%

- 9% improvement
- 13% improvement

**Supply Chain Response Time**

- **Telecom 2000**
  - **BIC**: 77.6
  - **Average**: 214.3
  - 3% improvement

- **CEE 2000**
  - **BIC**: 76.8
  - **Average**: 191.9
  - 19% improvement

**Inventory Days of Supply – Computers & Electronic Equipment**

- **BIC '97**: 38.8
- **BIC '00**: 37.7
- **Average '97**: 92.9
- **Average '00**: 75.5

- 3% improvement
- 19% improvement

Results from PMG Benchmarking studies
Correlation analysis on Supply Chain Benchmarking data describes the influence of key metrics on Days of Supply

We correlated the inventory levels of individual organizations in the population against the drivers:

<table>
<thead>
<tr>
<th>Driver</th>
<th>Movement</th>
<th>Inventory Days of Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecast Accuracy</td>
<td>↑</td>
<td>←</td>
</tr>
<tr>
<td>Supply Chain Response Time</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Upside Production Flexibility</td>
<td>↑</td>
<td>↓</td>
</tr>
</tbody>
</table>

- Highly accurate forecasts do not necessarily ensure lower inventory, as forecasts are dependent on factors beyond an organization’s control.
- As the Supply Chain Response Time decreased, the Inventory Days of Supply decreased accordingly.
- As the Upside Production Flexibility increased, Inventory Days of Supply decreased.
Impact of Supply Chain Planning system on processes and organisation
Supply Chain planning requires integrated processes, organization, and system architecture

1. Planning tools overcome complexity to enable effective decision making
   - All sources of demand data are easily aggregated and viewed in a single data model
   - Planning tools provide visibility to critical information to all supply chain participants

2. High speed Supply Chain planning processes are enabled by a focus on critical requirements
   - Planning organization is structured to support rapid decision making with clear roles and responsibilities
   - Exceptions are flagged for immediate attention
   - Changes in plans are shared in real-time across the extended supply chain

3. Demand Supply Planning reconciles different objectives into one consensus supply plan
   - DS balancing committee drives consensus on one supply plan
   - Decisions are made to optimize overall business objectives (service, cost, assets)

4. Integration of process and tools enables collaborative Demand Supply Planning
   - Disparate applications are integrated using shared work-flows and data models
   - Supply chain partners are selectively integrated with shared processes, common metrics and governance structures
Organisations objectives need to be focused to realize benefits of new technology

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Objectives</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Customer Service</td>
</tr>
<tr>
<td>Sales and Marketing</td>
<td>◆ Small quantities</td>
<td><img src="%E2%86%91" alt="Up" /></td>
</tr>
<tr>
<td></td>
<td>◆ Short lead-times</td>
<td><img src="%E2%86%91" alt="Up" /></td>
</tr>
<tr>
<td></td>
<td>◆ Variety/flexibility</td>
<td><img src="%E2%86%91" alt="Up" /></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>◆ Long runs</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Long lead-times</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Stable schedules</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td>Distribution</td>
<td>◆ Full truck loads</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Large orders</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Rigid schedules</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td>Finance</td>
<td>◆ Low inventory</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Low capital investment</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td>Procurement</td>
<td>◆ Price reduction</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Volume buys</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td></td>
<td>◆ Visibility</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td>Operations</td>
<td>◆ Low operating cost</td>
<td><img src="%E2%86%93" alt="Down" /></td>
</tr>
<tr>
<td>Overall</td>
<td>◆ Best customer service</td>
<td><img src="%E2%86%91" alt="Up" /></td>
</tr>
<tr>
<td></td>
<td>◆ Lowest cost</td>
<td><img src="%E2%86%91" alt="Up" /></td>
</tr>
</tbody>
</table>
Supply Chain Planning is made up of three Demand Supply Planning activities

**Demand Planning**
- Collect and analyze demand from sales, marketing and key accounts based on a structured work-flow and standard planning calendars
- Collaborate and develop consensus demand plan
- Publish demand plan for real-time visibility

**Demand Supply Balancing**
- Balance supply and demand based on business objectives
- Define and agree on actions to address current and future constraints

**Supply Planning**
- Proactively identify constraints that inhibit capability to meet demand plan
- Make inventory investment decisions

**Cross Functional Collaboration**
- Demand
- Supply
- Supply Chain Resources
- Demand Supply Balancing
- Supply Planning
Rapid scenario iterations allows planning to drive a feasible and optimized plan based on business objectives.
Effective Supply Chain Planning challenges whether previous decisions are really achieving targeted business objectives.

Set new performance objectives based on this period’s DSB.

Last period’s performance

Develop supply plan
- Were previous objectives achieved—Why not?

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Effective Supply Chain Planning integrates strategy, planning and operation.
How to accelerate Supply Chain planning results achievement
When Implemented Properly Supply Chain Planning Tools are Speeding Time to Value

<table>
<thead>
<tr>
<th>Measurable Results Through Focused Implementations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical modular solutions</td>
</tr>
<tr>
<td>Measurable results with each module implemented</td>
</tr>
<tr>
<td>Clear <em>migration path</em> for additional software system functionality</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value Delivered Supports the Business Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement more than IT systems - ensure results</td>
</tr>
<tr>
<td>Realize results before system is fully implemented is preferred</td>
</tr>
</tbody>
</table>
Unlike ERP systems, Supply Chain Planning Systems can be implemented in incremental process steps.

Supply Chain Planning Performance

Stage 0 Functional
- SC Mgmt Cost 9.6%

Stage 1 Functional
- SC Mgmt Cost 4.2%

Stage 2 Advanced Planning
- SC Mgmt Cost 3.2%

Stage 3 External Integration
- SC Mgmt Cost 2.8%

Stage 4 eClass
- SC Mgmt Cost 2.4%

Supply Chain modeling
- Internet enabled Vendor Managed Inventory
- Single/Multi tier collaborative planning
- Available and capable to promise
- Multi-site planning
- Demand/Supply Planning and Balancing
- Demand Planning and Forecasting
- Capacity Planning

Supply Chain Planning Capabilities

Source: PMG 2000 Study - Electronic Equipment
Key issue: How far will the current Supply-Chain Planning Strategy take you towards a Best Practice—eClass Model?
Case study:
Supply Chain Planning
Key planning issues

Planning Constraints
- There are multiple production resources for the same products
- Multiple geographies with different planning requirements
- Different IT systems and numbering systems based on company history and prior decentralized decisions

Demand Planning
- The European Sales Forecast is a simple consolidation of country level forecasts without validation
- Different sophistication by product line (some products without forecasts)

Demand / Supply balancing
- No process to balance demand/supply
- Multiple tools poorly are interfaced, mostly Excel based

Production Planning
- Production plan is set on a yearly basis

Distribution Planning
- Distribution of goods between central and local warehouses unclear
- Central Logistics department had no visibility to local inventory
What we did

Supply Chain Strategy
- Production approach
- Centralization/ decentralization approach

Performance Management
- Implemented metrics
- Implemented short term visibility into inventory

Planning process, systems, and organizational changes

<table>
<thead>
<tr>
<th>Process Element</th>
<th>Planning Software and IT</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development / implementation of new planning process</td>
<td>Facilitation of selection process and tools</td>
<td>Definition of new SC organization concept</td>
</tr>
<tr>
<td>Definition of interfaces between entities</td>
<td>Development of IT implementation strategy</td>
<td>Preparation and implementation of new organization</td>
</tr>
<tr>
<td>Alignment between business process and IT system</td>
<td>Definition of IT requirements</td>
<td></td>
</tr>
</tbody>
</table>

Program Management
- Overall program coordination
- Project Management
- Training development
- Steering group and team facilitation

Change Management
- Support all involved parties
- Harmonized approaches across multiple countries
PRTM led a significant effort aimed at designing and implementing a new SC Planning Organization

We helped to harmonize the supply chain planning processes
- Common demand planning information
- Supply/demand balancing approach

We helped our client develop the organization concept
- Competence model
- Job descriptions
- Organization structure and chart

We facilitated the preparation of the transition to the target organization
- Resources assessment and mutation plans
- Launch strategy
- Operating modes definition during transition
- Communication plans
... but PRTM also changed the supply chain execution processes to reduce the need for planning

Direct delivery concept and eliminating local warehouses
- A standard numbering system was implemented
- A central warehouse concept was implemented in six key countries

Order fulfilment lead-time reduction approach
- Streamlining the processes for order-taking and processing

Kanban replenishment of regional produced goods
- Short replenishment time and easy control to reduce overall inventory

Reducing the complexity of the supply chain reduced the need for a supply chain planning solution, so an existing tool was adapted to support the supply chain planning decision making
### Benefits targeted

<table>
<thead>
<tr>
<th></th>
<th>0% - 20% Major Opportunity</th>
<th>20% - 40% Disadvantage</th>
<th>40% - 60% Average</th>
<th>60% - 80% Advantage</th>
<th>80% - 100% Best-in-Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Time Delivery (request date)</td>
<td>⭐</td>
<td>⭐</td>
<td>⭐</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Order Fulfillment Lead Time</td>
<td>⭐</td>
<td>⭐</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
<tr>
<td>Fill Rate</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production Flexibility</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Supply Chain Costs</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventory Days of Supply</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash-to-cash Cycle Time</td>
<td>⬤</td>
<td>⬤</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Initial situation**

**Target**
Lessons learned from Supply Chain Planning software implementation projects
We have entered an era of fast clockspeed and continuous change.

- MRP and MRP II
- Just-in-Time (JIT)
- ERP* Batch Process
- Planning Automation

Failed Projects; Expected Benefits Not Achieved

Process Complexity Limited Technology

Process Complexity Technology Complexity

Business Ready, Technology Not Capable

Technology Ready, Business Not Capable

* Enterprise Resource Planning
Now leading companies will build competitive advantage through new supply chain planning solutions.
Many companies have seen a poor ROI on their Supply Chain Planning investments

Planning-centric vision

ERP-inspired implementation approaches

Overly complex models
To obtain real business results, e-enablement is not enough...

... the supply-chain solution must be supported by a solid supply-chain strategy, simplified processes, organisation and skills realignment and the right amount of technology.
There are several critical implementation success factors

- **Relentless Focus on Value Creation**
  - A value thread assures all project activities are based on and managed against measurable targets

- **Drive Speed to Value**
  - Speed to value is not a function of implementing software, but the extent of support for business problems

- **Minimize Risk**
  - Start with a pilot, demonstrate results in limited scope before changing the whole company