Sales and Operations Planning 2.0:

Mitigating volatility and uncertainty through collaboration, end-to-end visibility and integration

Abu Dhabi, 20 October 2011

*Nikita Andreev, Principal, Camelot Management Consultants Middle East JLT*
Agenda

1. Traditional S&OP in today’s volatile environment
2. Evolvement of the S&OP into S&OP 2.0
3. Segmentation, collaboration, visibility and integration are critical components
   - Handling complexity via segmentation
   - Segmentation and collaboration in Demand Management
   - Collaboration between local processes and central S&OP process
   - Enabling fast collaborative what-if simulations and scenario value planning
   - S&OP as a platform for LEAN execution
4. What does it take to get there?
5. Project examples
6. Who are Camelot Management Consultants
Complexity, volatility and lack of value-based planning squeeze margins

- Missed market opportunities due to inability to assess alternatives
- Bulky tools; poor data visibility and end-to-end synchronization of the planning levels in supply chain
- Increasing complexity of products and global supply chains
- Poor demand planning; increased volatility of demand while customers require agile response & better service
- Shorter product life cycles require faster introduction of new products
- Value based planning is not integrated into the S&OP process
- Capability gaps prevent companies from capitalizing on their investments

Traditional S&OP in today's volatile environment
Traditional concept of Sales & Operations Planning as it emerged in the 70s: Balancing supply and demand in order to meet business targets

Sales & Operations Planning

Coordination of:
- Sales and demand planning
- Material requirements and capacity planning

... in order to:
- Make best use of capacity and material available
- Reduce working capital
- Meet customer demand and sales targets
Companies following a standard S&OP process still experience a number of issues:

- Poor demand forecast accuracy; volatile demand
- Tools are quite cumbersome; poor visibility of data and poor executive visibility
- S&OP is focused on volumes; financial forecasts are made manually in a time-consuming process
- No end-to-end synchronization in supply chain; optimization is done in an iterative manner which is sub-optimal
- Missed market opportunities from not having the tools to evaluate alternatives (poor capability of what-if simulation)
- Complex translation of S&OP decisions into daily schedules; poor integration of S&OP and Master Scheduling

* Source: Aberdeen Group report July 2010; May 2011
Questions you should ask yourself:

- Do we have a clearly mapped and effective decision making process where all the issues are being resolved from the total value perspective?

- Are the business decisions taken with full account of possible alternative scenarios which are presented and discussed in the S&OP meetings?

- Do you have the capability of a quick assessment of different scenarios in an emergency situation and to simulate the financial impact and business value of them?

- Do the people involved in S&OP on all levels of the organization, have the capability and means of contributing to the creation of the optimum scenario?

- Do the production schedulers receive and use the input from the S&OP process for their daily scheduling activities; are they collaborating with the central planning functions?

- Do the KPIs cover the S&OP process reflect the alignment of the planning scenarios with the strategic goals of the company?

- Do the competences displayed by the S&OP participants meet the requirements of the process and are they sufficient to use the supporting technology effectively?

If you have your score on the left side for one or more questions you can achieve substantial gains by applying the S&OP 2.0 concept to your planning, control and execution processes.
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S&OP 2.0 answer the challenges through collaboration, visibility and full integration across all functions, time horizons and processes

- Fast what-if scenario simulation enables agility and faster response time, enables collaborative scheduling
- Executive end-to-end visibility of the SC makes value creation and problem areas visible
- Segmentation of products, customers and SC as an integrated part of the S&OP process
- Collaborative Demand Planning and advanced Demand Control based on segmentation
- Product lifecycle management integrated into S&OP process
- Value planning is integrated in scenario simulation and is a part of the supply chain visibility
- People capability assessment and management as a part of S&OP 2.0
Evolvement of the S&OP into S&OP 2.0

Higher effectiveness and efficiency comes with maturity of the S&OP process

**S&OP 2.0**
- Bases business decisions on the best simulated what-if scenario
- Manages from total business perspective
- Provides executive visibility
- Integrates tactical planning with scheduling
- Integrates PLC mgmt.
- Platform for LEAN SC parameterization
- Does planning based on total value created
- Efficient due to organizational and system/data support
- Performance orientation; detects & corrects deviations
- Brings all functions together into “ONE SET OF DATA”
- A forward looking balancing exercise
- Develops people’s capabilities

**Standard S&OP**
- Event driven supply planning
- Little cross-functional collaboration and alignment (silo thinking)

**No S&OP**
- Event driven supply planning
- Little cross-functional collaboration and alignment (silo thinking)

**Effectiveness**

**Efficiency**

**ENABLERS**
- IT support implementation
- Organization alignment
- Process re-design & implement
- Maturity assessment
S&OP 2.0 makes it possible to spend time on “HOW” rather than on wasting time on “WHAT”
There is an explicit relationship between quality of S&OP process and business performance.

Source: Aberdeen Group, Nov. 2008
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Segmentation, collaboration, visibility and integration

Make it work: apply segmentation to all functions in the supply chain process to balance requirements and capabilities

<table>
<thead>
<tr>
<th>Planning</th>
<th>Production</th>
<th>Distribution</th>
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</thead>
<tbody>
<tr>
<td>Select planning strategies</td>
<td>Select production replenishment strategy</td>
<td>Define distribution footprint</td>
</tr>
<tr>
<td>Define service levels</td>
<td>Define campaign size and frequency</td>
<td>Set replenishment patterns and frequency</td>
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<tr>
<td>Consider special requirements</td>
<td>Consider flexibility and postponement</td>
<td>Consider special solutions like VMI (Vendor Management Inventory)</td>
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<tr>
<td>(like e.g. seasonality)</td>
<td>options</td>
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<tr>
<td>Understand demand patterns</td>
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One Size Fits all → Tailored
S&OP 2.0 is like Web 2.0: It is a platform for full participation, collaboration, content creation, integration and end-to-end visibility

Non-integrated S&OP struggles to cope with today’s challenges

Aligned power, agility and visibility in collaborative global, cross-functional

Standard S&OP:
Receive input and send directives

S&OP 2.0:
Collaboration, visibility & agility

Visibility and agility
Integration and value planning
Volume Management
## Why we call it S&OP 2.0

<table>
<thead>
<tr>
<th>Web 2.0</th>
<th>S&amp;OP 2.0</th>
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<tr>
<td>Platform for participatory information sharing</td>
<td>S&amp;OP 2.0 provides a platform for sharing and real time analyzing all information required for building a single demand, supply and value plan covering all the major business functions</td>
</tr>
<tr>
<td>Users are creating content and sharing their collective intelligence</td>
<td>S&amp;OP 2.0 allows all participating users to create and adjust plans and scenarios at any time and to see the contribution of other users. Information visibility is leveraged by advanced analytics thus bringing information quality to the next level</td>
</tr>
<tr>
<td>Collaboration</td>
<td>S&amp;OP 2.0 tools and processes provide a platform for joint decision making on all levels of planning</td>
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<tr>
<td></td>
<td>▶ Process driven collaboration through the clearly structured S&amp;OP Meetings</td>
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<td>▶ Ad-hoc collaboration based on real-time high quality information in between the meetings</td>
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<tr>
<td>Interoperability and integration of different software tools and systems</td>
<td>In S&amp;OP 2.0 planning processes are directed towards the interoperability of the planning results (e.g. via collaborative scheduling by using integrated planning systems). S&amp;OP 2.0 connects LEAN with SCM, integrates Product Development and R&amp;D in SCM etc.</td>
</tr>
<tr>
<td>Virtual communities and harnessing collective intelligence</td>
<td>Brings together people from various business functions into one single planning platform</td>
</tr>
<tr>
<td>Web 2.0 refers to a web of a new quality when cumulative changes in the ways software developers and end-users use the Web result in completely new services and business models. E.g. the location – based services is a result of integrating GPS technology with the one of the Web</td>
<td>Integration of the S&amp;OP with the advanced analytics and advanced tools for LEAN SC parameterization, financial planning and quick what-if simulations enables collaborative scheduling, lifts the LEAN technics and other integrated methods to a new level of quality and effectiveness; enables their new applications</td>
</tr>
<tr>
<td>Based on the advanced enabling technologies</td>
<td>Integrated IT-systems, global planning systems and advanced reporting and monitoring tools, provide real-time transparency and build the basis for end-to-end planning. S&amp;OP Cockpit provides high quality content for decision support based on analytics, simulation and defined KPIs</td>
</tr>
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Segmentation, collaboration, visibility and integration

S&OP 2.0 - Platform

S&OP BASICS
- S&OP meetings structure and schedule
- Roles & responsibilities in S&OP process
- S&OP macro-organizational alignment
- S&OP process
- S&OP governance
- Empowerment and communication

ADVANCED ANALYTICS
- Advanced demand management
- Fast scenario simulation
- Advanced inventory management
- Advanced KPI setting
- LEAN parameterization

BUSINESS VALUE
- Periodic Lifecycle management
- Segmentation of Products, customers and supply chains
- Value based Decision making
- Alignment with the strategy

PEOPLE
- Executive Visibility
- Strategic KPI monitoring
- Competence and Capability management
- Aligned performance KPIs

End-to-end integration, collaborative scheduling
- Real time Information availability
- User-friendly Interfaces & reports

S&OP 2.0 PLATFORM
- Enabled agility
- Strategic KPI monitoring
- Advanced demand management
- Advanced inventory management
- Advanced KPI setting
- LEAN parameterization
- End-to-end integration, collaborative scheduling
- Real time Information availability
- User-friendly Interfaces & reports

CAMELOT Management Consultants
Segmentation, collaboration, visibility and integration

Process perspective on S&OP 2.0: integration of processes and maximization of collaboration between different levels:

- Define economics
- Value Capture
- Optimize costs (0-24 mths)
- Execute (0-12 wks)

Strategic Planning
- Vision, Mission, Corporate Strategy

Tactical Planning (S&OP 2.0)
- Competitive positioning
- Segmentation
- Strategic SC configuration & network design
- Consensus Demand, Supply, Inventory and P&L projections
- Performance monitoring; advanced analytics

Scheduling & Execution
- PR scheduling
- Collaborative Production Planning & Detailed Scheduling
- Delivery Scheduling & Execution
- Order To Cash
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Handling complexity via segmentation

Segmentation is the key method to tailor the planning approach and to production strategy:

**Demand segmentation**
- Demand pattern
- Forecast accuracy
- Sales volume
- A,B,C Classification

**Supply segmentation**
- Volumes
- Product mix
- Product routing
- Lead time & set up time
- Capacity & bottlenecks

**Policies**
- Statistical forecasting methods
- Forecasting/demand planning level: SKU or product family
- **Production strategy:**
  - order lead time << production lead time: Make-to-stock, campaign production based on Make-to-forecast, or Reorder Points, Kanban
  - order lead time > production lead time: Make-to-order, Assembly-to-order
- **Replenishment model:** Push/pull, Vendor Managed Inventory, Kanban
- **Stock positioning**
  Locations in the SC network, inventory levels

Example: long lead time in production, class A material, stable demand → make to forecast
short lead time in production, class C material, erratic demand → make to order
long lead time in production, class C material, erratic demand → make to forecast
Segmentation and collaboration are the keys to effective demand forecasting and shaping

1. Demand Pattern Analysis
   - Eliminate erratic demand & analyze patterns:
     - Random
     - Trend/Seasonal
     - Intermittency/Lumpiness
     - Variability distribution
   - Select forecasting model (Statistics, judgmental, collaborative) and match to business classification
   - Identify bias in demand chain between end-customer and supply points

2. Map to supply strategy
   - Select replenishment model
   - Identify production and postponement strategy (MTF, MTO, MTS, BTO)
   - Match to production approach (rate-based with high-output), flexible
   - Determine inventory level (positioning and sizing)

3. Define demand shaping strategy
   - Select shaping approach (volume/price) and target
   - Map to policies and develop rules:
     - Allocation
     - Order income monitoring
     - Quota management
     - Production reprioritization
     - Promotion
     - Pricing
   - Align order taking process and connect to supply planning

Integrated demand management and shaping
Collaboration between local processes and central S&OP process

A right way of integrating S&OP with operations has to be chosen:

Option 1: detail scheduling drives S&OP

Option 2: S&OP drives detail scheduling

PROJECT EXAMPLES
Collaboration between local processes and central S&OP process

Integration of local & global S&OP is critical for global companies

PROJECT EXAMPLE

- Review business performance KPIs
- Decide on escalated issues
- Sign off operational plans

- Aggregate Demand Planning
- Top-down forecast adjustment
- Marketing input

Regional Demand reviews

Global Demand Reviews

Regional replenishment and inventory planning
- Central Planners have time to prepare proper MPS and RCCP and provide feedback to Regional Planners
- Constraints review

Regional Replenishment Planning

Global Demand & Supply Balancing

Global pre-S&OP and financial reconciliation

S&OP reconciliation meeting (monthly)

Global Financial review (quarterly)

Executive S&OP meeting (quarterly)

- Review alignment of the operational plans with the business strategy
- Review business performance KPIs
- Decide on escalated issues and provide guidelines

- Challenging statistics
- Bottom-up process
- Forecast accuracy review

- Scenario playing:
- Closing gaps via scenario simulation
- Building financial projection from the volume plans – single set of data

- Review financial performance KPIs projection based on the S&OP plan

- Review business performance KPIs
- Decide on escalated issues
- Sign off operational plans

Review business performance KPIs
Decide on escalated issues
Sign off operational plans
Simulation capabilities to analyze tactical business and financial implications to maximize profit – SCM talks $
Before designing planning processes, segmentation is used to identify the right planning and execution policies.

**Segmentation for planning approach**

1. **Classical planning**
   - Planning processes need to be designed in accordance with product volume and variability characteristics.
   - RW = Rhythm Wheel; production approach/schedule to reduce production variability.

**Classical planning vs. Innovative approach**

**Classical planning**
- Forecast
- Production
- Capacity utilization
- Inventory
- Customer

**Innovative approach**
- Consumption trigger
- Order
- Consumption
- Production
- Capacity utilization
- Inventory
- Customer

Planning processes need to be designed in accordance with product volume and variability characteristics.
S&OP 2.0 leverages LEAN SCM by providing a platform that links together strategic planning and configuration, tactical planning, detail scheduling, LEAN SC parameterization and execution.
Camelot’s approach is to additionally link Delivery Scheduling & Execution closely to S&OP planning processes and follow same principals

- **Segmentation is the key:** Better planning results can be achieved by adaptation of the planning solutions to the specific shipment profile characteristics

- **Visibility:** Transparency on transport execution is key requirement for regular assessment of segmentation

- **Technology:** Advanced IT technologies like SAP TM 8.0 support this strategy, but need to be customized accordingly to support the different focuses for each segment.
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Drivers for collaboration

- Cultural Change:
  - Consider each individual as a strategic asset

- Organization Change:
  - Put in place matrix organization

- Technology Change:
  - Enable changes through collaborative solutions

- Management Change:
  - Break both internal and external barriers

Source: LMC white paper
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## Selected project examples

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<th>Challenge</th>
<th>Approach</th>
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<td>Driving and managing growth, Missing link between demand &amp; supply</td>
<td>Establish an European Sales and Operations Planning (S&amp;OP) process</td>
</tr>
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<td>LyondellBasell</td>
<td>Volatile demand and varying prices, Complex planning processes, Improve planning quality and speed, Margin optimization</td>
<td>Design and implementation of new integrated demand planning processes and the integration of supply planning (S&amp;OP)</td>
</tr>
<tr>
<td>BASF</td>
<td>Alignment between strategic and operational planning, Close the gap between “supply” and “value” chain management, Capacity utilization and margin optimization</td>
<td>Harmonization of SC planning processes, Introduction of a value chain organization unit and clarification of roles and responsibilities, Integration of GS&amp;OP with operative planning</td>
</tr>
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<td>DyStar</td>
<td>Volatile demand, long lead times &amp; high inventory, Missing global demand and supply planning transparency, SC organization not aligned</td>
<td>SC Segmentation and re-design of S&amp;OP, Organizational alignment and implementation of new roles, responsibilities KPI &amp; S&amp;OP meeting structures, Implementation of SAP APO (S&amp;OP)</td>
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Camelot is an international consultancy with leading expertise in business strategy, process management and information management.

Camelot Management Consultants - who we are

- Founded 1996 in Germany and the United States
- Proven expertise in chemicals, pharmaceuticals and consumer goods
- High aggregation of supply chain expert knowledge with 120 consultants and offices in Cologne, Mannheim, Munich, Basel and Zurich
- Supply chain thought and innovation partnership with leading universities
- Technology partnerships with software providers such as SAP or Oracle

Camelot International Group

- **Global coverage** with international team of more than 320 consultants in Europe and 1,200 consultants world-wide
- Recently established Camelot MC company in Dubai.
- Covering the Americas with a partner network based in San Jose, CA and Philadelphia, PA
- Covering Asia with a partner network in Malaysia, Singapore, China and India
Company introduction – Who we are

We have profound process industry expertise with strong focus on the Pharmaceutical and Chemical industry

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<td>Performance Management</td>
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<td>Information Management &amp; Systems</td>
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S&OP 2.0

For more information please contact us:

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