Sales and Operations Planning (S&OP)

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Background

- Companies are facing increased pressure to be able to match supply with demand effectively
  - Increased price competition.
  - Demand changes grow the need for increased flexibility, shorter lead times, customized products and delivery processes.
  - Through outsourcing, supply chains have become complex networks of organizations, with a high number of relationships and stakeholders keeping various positions and roles
- Increased pressure for cost-efficiency and flexibility

Plan vs forecast

- Forecast
  - Is an estimate
  - To form a forecast, information from multiple sources needs to be collected
  - For demand forecast a company collects data from market, from own company, competitors, historical sales
  - Measured as forecast accuracy
- Plan
  - Is based on decisions
  - Uses forecasts, capacity data, constraints, financing
  - Plan tells what a company is going to purchase/produce/deliver
  - Is realistic and will be implemented
  - Can and needs to be controlled

Purpose of S&OP

- Creates a plan - one set of numbers
- Proactive communication and decision making process
- Creates common understanding throughout the company about what the company is going to produce, deliver, or purchase in the coming periods of time
- Key business process applied to balance demand and supply
- Forum for executive debate
- Decisions made in S&OP impact costs, flexibility or leadtimes

The need for S&OP

- When visiting a small metal equipment company near Helsinki, the person responsible for purchasing told:
  - “It is challenging and painful to make purchase order decisions, because I don’t have the needed information. I try my best to find out what’s going on in production, sales, marketing and inventory, but the guys seldom give me answers about what they are planning to do in the near future, not to mention a year ahead”.

=> The company did not have a S&OP process in place

S&OP is an important integration and coordination mechanism

- Addresses volume and product mix and company’s key resources - combines demand and supply
- In tactical planning process: links strategic planning to operations planning
- Unites plans into one integrated set of numbers
- Enhances constructive engagement and alignment across functions - coordinates the operations, marketing, and finance functions - despite functional incentives and orientations
- Interorganizational relations are mostly considered through collaborative supply chain planning concepts
**Planning levels**

<table>
<thead>
<tr>
<th>Planning cycle</th>
<th>Planning output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>Business plan</td>
</tr>
<tr>
<td>Monthly</td>
<td>S&amp;OP</td>
</tr>
<tr>
<td>Weekly</td>
<td>Master scheduling</td>
</tr>
<tr>
<td>Daily</td>
<td>Material and service planning</td>
</tr>
</tbody>
</table>

**S&OP frames operational planning**

**How the process runs**

<table>
<thead>
<tr>
<th>Step</th>
<th>Title</th>
<th>What Supports</th>
<th>Outcomes</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Demand planning</td>
<td>Demand forecasts, customer order agreements</td>
<td>Operational demand</td>
<td>3-7</td>
</tr>
<tr>
<td>2</td>
<td>Supply planning</td>
<td>Supply forecasts, competitor analysis</td>
<td>Operational demand</td>
<td>10-15</td>
</tr>
<tr>
<td>3</td>
<td>Functional meeting</td>
<td>Sales and marketing, operations, inventory</td>
<td>Operational demand</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Master scheduling</td>
<td>Master schedules, inventory, and operational planning</td>
<td>Operational demand</td>
<td>16-19</td>
</tr>
<tr>
<td>5</td>
<td>Finalize planning</td>
<td>Finalize S&amp;OP plans, align with S&amp;OP functions and supplement the strategic objectives</td>
<td>Operational demand</td>
<td>19-20</td>
</tr>
</tbody>
</table>

**Escalations**

Decisions to be escalated from demand planning or supply planning to pre-S&OP or Executive meeting

- If there are any major issues in demand or supply planning, escalate them to the partnership meeting
- Examples: remarkable signs of market changes, new product introductions with uncertain demand, changes in the environment, competitor actions

**Participation**

- All business functions engaged — finance, human resources, marketing, materials, operations, product management, and sales.
- The process is usually facilitated by the S&OP manager and S&OP team.
- S&OP is not just a bunch of extra work, but an integral part of employees responsibilities.
- Management participation: the process should be seen as an avenue to effectively running the business and determining what levers should be pulled in order to better meet customer expectations
### S&OP risks and traps

- Poor forecast accuracy
- Reactive process
- One dominant player – i.e. S&OP manager makes decisions without consensus decisions
- Not all functions involved
- No senior management involved
- No KPIs – planning without checking quality
- Resource-consuming process without improving performance

### S&OP opportunities – advanced S&OP

- Integrated business planning
- Target-oriented planning
- Identifies gaps in reaching the targets - where and when reactions are needed
  - Additional marketing efforts
  - Sales personnel activities
  - Production – additional shifts
  - Purchasing

### The S&OP environment

![Diagram of the S&OP environment]

Thamby et al. 2013

### How to select S&OP design

![Diagram of how to select S&OP design]

Kjellsdotter et al. 2015

### S&OP culture and leadership

- An organizational mindset and practices that facilitate and advance formal planning
  - Aligned objectives
  - Rewarding and incentives
  - Top management ownership
  - Collaborative manner
  - Empowerment - encouraging employees to participate actively in S&OP

### Summary - learnings

- Need for S&OP in companies
- Role between strategic and operative planning
- Integrating and coordination role
- S&OP process
- S&OP organization

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Ivert, Dukovska-Popovska, Kaipia, Fredriksson, Dreyer, Jonasson, Chabada, Damgaard, Tuomikangas (2015) “Sales and operations planning: Responding to the needs of industrial food producers,” Production Planning & Control, 26:4, 280-295
