supply chain roadmap: The method

A three-step method to understand, describe and review your supply chain strategy

Probably in your career, you have been challenged by a big question ... What is the best supply chain strategy for my business?

And maybe, you also have bumped into the same difficulties faced by many companies ... It is very difficult to define the right criteria to select and deploy the most appropriate supply chain strategy for your company.

This is precisely the value proposition of "Supply Chain Roadmap", a three-step method for understanding, mapping and redesign of your supply chain strategy, assuring linkage with business strategy by understanding market forces and company’s competitive positioning.

Method tools are available at http://www.supplychainroadmap.com/Downloads.html
If you like to use web based forms, please http://www.supplychainroadmap.com/Toolbox.html
Supply Chain Roadmap: A methodology to evaluate, describe and redesign a supply chain

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1. When/Where to apply Supply Chain Roadmap?

In order to obtain better results, for large companies, Supply Chain Roadmap should be applied in an independent way to each business unit or product category, in order to have more accurate results, because of is very common to have several supply chains under a same company.

In addition to that, Supply Chain Roadmap should be applied in several business scenarios:

- For new business, the method supports “base zero” strategy development based on the information of business framework and parallel view of “Generic supply chain models, a detailed understanding of both could support to define factors of the strategy.

- For “Ongoing business”, Supply Chain Roadmap, supports the understanding of gaps between supply chain strategy and business strategy, supported by “Generic Supply Chain Models”. Is very important to highlight than gaps may be a competitive advantage –companies could be running business out of the standard parameters, based on internal competences and it could be a practice very difficult to imitate for the competitors- or gaps could be a failure than must be solved.

- In addition to previous practice, for “ongoing business”, Supply Chain Roadmap could be used for understanding of competitor’s strategy and potential failures (gaps) of their strategy than could be exploited in a favorable way.
Supply Chain Roadmap, could be used for studying “What if?” in order to be prepared against hypothetical business situations. For example, if oil prices are too high, transportation cost became a relevant issue and supply chain strategy must have in consideration additional factors that could affect service policies and unique value proposal.

2. How to apply Supply Chain Roadmap?
Supply Chain Roadmap is applied in a three-step method:

![Supply Chain Roadmap Flowchart](image)

**Figure 2**, “Supply Chain Roadmap” three–step method.
Source: Own elaboration

Supply Chain Roadmap method pretends to support understanding about supply chain strategy by a systematic and analytical approach, but results are highly dependent of team discussions, due that in each stage of the method are several team discussions in order to allow full understanding of scenario under review.

**First step: Supply Chain Assessment**
Before apply supply chain assessment is necessary to define assessment’s scope, in both: scenario to evaluate and business unit range (geography, product category, group of customers, etc.), as is explained in Figure 3.
After defining assessment scope, should be applied assessment, according to activities defined in figure 4.

Figure 3, “Supply Chain Roadmap” Assessment scope
Source: Own elaboration

Figure 4, First step.
Source: Own elaboration
Assessment is applied using questionnaires detailed in figures 5 to 7.

### Figure 5, Assessment, questionnaire 1: Supply Chain Framework

Source: Own elaboration
### Assessment tool: Questionnaire 2: Supply Chain Profile

Please, answer the questions, under “internal processes/abilities perspective”, in other words, which is the “general condition/behavior” of our supply chain?

**Guideline:** What is the dominant factor in your supply chain?

<table>
<thead>
<tr>
<th>Order penetration point</th>
<th>MTF Make to Forecast</th>
<th>MTS Make to stock</th>
<th>MTO Make to Order</th>
<th>ATO Assembly to Order</th>
<th>DTO Design to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is customer’s order received?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service</th>
<th>Order Size</th>
<th>Order Cycle from order to receiving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Large</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed Lead time, variable lead time or replenishment cycle?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inventory Strategy</th>
<th>High inventory level for optimizing production batches</th>
<th>High rotation to reduce working capital</th>
<th>Common components/materials (pooling)</th>
<th>Inventory before divergence point</th>
<th>Pooling for increasing responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the inventory strategy?</td>
<td>Are products personalized according to customer's needs?</td>
<td>Are finished products received by suppliers?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, never</td>
<td>Yes, in a few special cases</td>
<td>Yes, relevant number of orders</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Product Personalization | No, never | Yes, in a few special cases | Yes, relevant number of orders |
| Are products personalized according to customer’s needs? | Are finished products received by suppliers? | Are finished products made or outsourced? |
| No | Yes | Yes, in a few special cases |

<table>
<thead>
<tr>
<th>Process</th>
<th>Process Flow</th>
<th>Batch</th>
<th>Job Shop</th>
<th>Assembly Line</th>
<th>Continuous Line</th>
<th>Other/Mix?</th>
</tr>
</thead>
<tbody>
<tr>
<td>dominant process flow type?</td>
<td>Reference compared against inventories policy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>Normal</td>
<td>Small</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Production cycle time to produce all SKUs- | Long | Medium | Short |
| Relevance (Long, Medium, Short) compared against industry? | How Many days? |

**Figure 6, Assessment, questionnaire 2: Supply Chain Profile**

*Source: Own elaboration*
Second step: Mapping

Mapping stage pretends to support understanding of supply chain scenario, by giving a graphical single view of supply chain strategy, due that, there is an activity related to discuss “Supply Chain Roadmap” in order to adjust topics that weren’t found in assessment’s step.

Figure 7, Assessment, questionnaire 3: Unique Value Proposal.
Source: Own elaboration

Figure 8, Second step
Source: Own elaboration
Mapping is applied using model detailed in figure 9.
Third step: Gap analysis

Gap analysis stage pretends to find dominant behavior of supply chain, factors that are out of the dominant behavior –gaps-, discussion about gaps –Are gaps a competitive advantage inimitable for competitors? Or Are gaps failures of the scenarios that must be solved?- and finally, an updated version of supply chain roadmap and action plan to fix or strengthen the gap, according if gap is a competitive advantage or a model’s failure.

This is one of the most important steps of the Supply Chain Roadmap method and should be focused in the understanding if the gaps are factors that create value and competitive advantage or if them are in the wrong direction.

![Figure 10, Third step. Source: Own elaboration](image)

Gap analysis is applied using model detailed in figure 11, dominant factors of each group are differentiated by an asterisk at the right side and they define what the dominant supply chain is.
5 A industrial products company’s case

Company Omega (for confidentiality reasons its name and industrial sector have been changed) is a multinational company, which main business is a key raw material for fast moving consumer goods companies. Analysis is restricted to an operation in a Latin American country.

Assessment was developed by a consensus among medium and top managers of several functions as operations planning, distribution, sales, marketing and supply chain. Based on assessment was developed Supply Chain Roadmap which is presented in Figure 12.
After that, Gap Analysis was developed; some portions of it are presented in figure 13. Gap analysis was used as base of discussion among team members.
Main conclusions of gap analysis discussion were:

**Gap analysis shows:**
- Supply chain is an upstream efficient supply chain, at the downstream, both product and service, are oriented to a continuous replenishment supply chain.
- Management is focused in an efficient supply chain.
- Unique value proposal is oriented to a continuous replenishment supply chain, but, they are not focused in the two main drivers for customers: low working capital and no minimum order size.
- Efficiency is required in order to assure competitive price, compared against international suppliers (who are oriented to low cost).
- Customers are oriented to compare offers based on landed cost.
- Regular delivery and LTL order size are the most important features of the alpha’s supply chain, due to support two of his winners: Low working capital and no minimum order size (lower than FTL).
- Market is driven primarily by “low cost” and in a second importance level by “low working capital”, due to the impact of both in the final cost of the products.
- Product quality (backed in technical support in site), supply stability (low risk) and low working capital are important winners in order to assure customer preference against imported products.
- Omega’s supply chain is a continuous replenishment supply chain, but they are not using collaborative relationships in a strategic way.

Main recommendations were:

- Maintain “efficiency oriented” upstream supply chain, in order to assure a minimum price gap against international competitors.
- Maintain “Unique value proposal” oriented to “Product Quality” and “Low working capital”, which are real winners for customers.
- Increase tactical actions in order to deep collaborative relationships with customers seeking to enhance “low working capital” and “low risk supplier” features.
- Tactical actions should be oriented to enhance “Low working capital” by two actions:
  - Reduce working capital
    - Increase delivery frequency and collaborative planning in order to reduce customer’s inventory, inclusive, offering VMI (vendor management inventory) programs to customers.
  - Increase working capital value perception
    - Estimate product total cost (landed cost + inventory handling + inventory holding cost + financial cost), looking to make relevant these costs to customers.

Main results were:

- It was established a collaborative replenishment program with main customer, based on that, customer’s inventory reduced from 30 days to 15 days.
- Company defined a new focus of its strategy, looking for adding value to main customers, based on a continuous replenishment, which is impossible to match for the foreign competitors.