Business Process Modeling for Supply Chain Transformation

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Neha Jain

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Neha also works are a business process modeler for the new system designs and optimization work currently underway at DuPont.

Prior to joining DuPont, Neha has worked in companies across IT, Financial, Pharmaceutical and manufacturing industry verticals.
Janice Gullo

Janice M. Gullo, CFPIM, CSCP is a Program Manager in the Supply Chain Center of Competency Group for DuPont.

She is a Lean Six Sigma Master Black Belt. Janice is also a Certified Professional Forecaster.


She serves as a Subject Matter Expert (SME) for APICS Body of Knowledge Committee.

Our Goal Today:

• Understand the basic concepts of process modeling

• Understand the key issues facing supply chains

• Understand the use of Process Modeling in transformation of processes
The evolution of process:

*Capability Maturity Model: Guidelines for improving software Process, published in 1995*

*Where do we think we are in terms of process maturity level?*

The evolution of technology

*Optimization/Competitive advantage*

*ERP*

*Integration*

*Automation*

*Transactional*

*Documentation*

*Infrastructure*
Process and Technology

If process optimization is a common goal of systems as well as process experts, they need to work together. Also, speak understandable languages!

Example: Customer segmentation

Successful customer segmentation needs integrated processes and systems for end to end supply chain visibility.
Business Process Modeling

Provides a language in which business process, resources and systems can talk without information leakage.

It helps integrate processes and improve E2E visibility

Advantages of Process Modeling

- End to End process visibility
- Communicate and Collaborate
- Alignment with strategy and organizational goals
- Facilitate process analysis and optimization
- Standardize processes where necessary
- Tool for training
- Facilitate Change Management
Mapping Vs. Modeling: a difference in thinking

Process Maps:
1. Static and easily lost over time
2. Lack of visibility
3. Lost over time
4. Lack of consensus
5. Non-flexible
6. Several versions of truth

Process Models:
1. Dynamic
2. Flexible
3. Facilitate system integration
4. Help with change management
5. Help with standardization
6. Collaboration
7. Collaboration

Some of the Key Supply Chain Problems in front of us
- Janice Gullo
Key Supply Chain issues

- Agility is about responsiveness, how quickly do I sense and respond?
- How do I remove the waste in my process? Reduce lead time, less inventory, focus on customer
- How do I make investments in systems to add value and innovate my processes?

Key Challenges in Supply Chain

- Supply chains need to be agile to respond to changing needs of our customers
- Lean has been good when things are stable... what about now? Can we rely on it solely to help us grow?
- True agility means that my supply chain is integrated both internally and externally – can BPM help?
**BPM-Six Sigma-Lean**

*BPM is a philosophy that works hand in hand with tools and best practices provided by six sigma and Lean*

**Agility**

*SCOR Definition: The agility attribute describes the ability to respond to external influences; the ability to change.*

- **Visible E2E Process**
- **Quick Decision making**
- **Tightly integrated processes**
- **Trustable, Quality Data**
- **Increased Flexibility**
Getting Started with Business Process Modeling

What is your Business Strategy?

For Value Creation:
It is imperative that every project is in sync with the organizations strategy and vision
What is your Governance?

- Enable quick decision making
- Sponsor alignment on goals
- Right mix of resources
- Increased visibility and transparency
- Increased collaboration
- Clear understanding of accountability

What is your Pain Point?

* Pain point may not always be a burning issue, it could be aimed to address a chronic long term problem. *

* For example, documenting best practices for processes could very well be the goal of the organization. *
What is your BPM strategy?

1. Central repository and shared, collaborative design model or individual ownership
2. Scattered BPM experts or center of excellence for BPM?
3. BPM for business specific projects or for central application development or ERP development?

What needs to be modeled?

*Decision on what will be modeled will facilitate standardization of process modeling effort; thus enabling process analysis.*
Red outlined words will be difficult to see in a large room.

Beth Rennie, 7/16/2012
What time frame are you modeling?

- As-is or current state
- To-be or future state
- Delays
- Real time simulations

*When you model is dependent on your need or pain point.*
*You could be modeling all these in a phased approach*

What language to choose?

Some criteria for modeling language selection:
- Appropriately defines anything in domain
- Easily understandable by users
- Can be easily extended for system integration work
- Should be flexible to allow future process enhancements
- Should allow business users to document business rules in the process model
- Should be supported by tools in the market. For example, BPMN as it is an OMG standard, it is supported by several tools.
What is your Business process architecture?

Use of Reference Models
- Supply Chains: SCOR
- Value Chains: VRM
- Telecom Industries: eTOM
- Financial Industries: APQC
- Others

Reference Models such as SCOR provide designer with best practices, metrics, process hierarchies, and supply chain concepts to help innovate not only their processes and add value, but also to help innovate the systems that support these processes.

What is your process hierarchy?

Supply Chain Operations Reference:

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Configuration</td>
<td>Activity</td>
<td>Workflow</td>
<td>Transactions</td>
</tr>
<tr>
<td>$ Source</td>
<td>$1 Source Stacked Product</td>
<td>$1.2 Receive Product</td>
<td>$2.1 Order Entry</td>
<td>$3.1 Order Processing</td>
</tr>
<tr>
<td>Distinguishes Business</td>
<td>Distinguishes Complexity</td>
<td>Distinguishes Capabilities</td>
<td>Names Tasks</td>
<td>Sequences Steps</td>
</tr>
<tr>
<td>Defines Scope</td>
<td>Defines Scope</td>
<td>Defines Scope</td>
<td>Defines Scope</td>
<td>Defines Scope</td>
</tr>
<tr>
<td>Standard SCOR practices</td>
<td>Company/Industry definitions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Process Hierarchy
Vertical alignment of processes

Level 1
- Level 2
- Level 3
- Level 4

How processes interface?
Horizontal alignment of processes

Process interface establishes relationship between processes and shows integration and alignment
What are your business rules?

- Business rules capture and implement business policies and practices
- Facilitate operational decision making
- Large volume of these business rules can be automated
- Visible business rules will increase transparency in the organization.

*For example, customers could be segmented and provided different prices based on ABC segmentation. This could be modeled in the business rules.*

Example: Finance Industry

Process: Online home loan applications process.

**Pain Point:** Too many manual reviews. One solution, anybody with debt to income ratio of less than 36% should be rejected automatically.
What do you measure?

- Costs (Rates, costs)
- Times (e.g. Through put times, processing times, frequencies)
- Delays
- Work (effort, man hours)
- Quality (Error Rates, defects, deadline reliability)

Achieving a balance between costs, times and quality is the key to performance monitoring and process control

How do you monitor what you measure?

- Clear cut goals of measurement- SMART
- Benchmarking against competitors
- Best Practices
- Customer focused and Value adding metrics
- Scenario planning for different leading and lagging indicators from the measurement data
- Using standard tools
Leverage metrics provided by frameworks

**Example: SCOR Metrics (Level 1,2)**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Strategic metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>RL.1.1 Perfect Order Fulfillment</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>RS.1.1 Order Fulfillment Cycle Time</td>
</tr>
<tr>
<td>Agility</td>
<td>AG.1.1 Upside Supply Chain Flexibility</td>
</tr>
<tr>
<td></td>
<td>AG.1.2 Supply Chain Upside Adaptability</td>
</tr>
<tr>
<td></td>
<td>AG.1.3 Supply Chain Downside Adaptability</td>
</tr>
<tr>
<td>Cost</td>
<td>CO.1.1 Supply Chain Management Cost</td>
</tr>
<tr>
<td></td>
<td>CO.1.2 Cost of Goods Sold</td>
</tr>
<tr>
<td>Assets</td>
<td>AM.1.1 Cash-to-Cash Cycle Time</td>
</tr>
<tr>
<td></td>
<td>AM.1.2 Return on Supply Chain Fixed Assets</td>
</tr>
<tr>
<td></td>
<td>AM.1.3 Return on Working Capital</td>
</tr>
</tbody>
</table>

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Transforming your supply chain:
Doing all this together: BPMS Business Process Management Suite

Examples of BPM solutions for different industries:

• Service organization: Call center management or navigational processes
• Logistics: Network optimization, fleet management
• Manufacturing/Warehousing: Inventory management
• Insurance: Case management, claims
Transformation

In an organizational context, a process of profound and radical change that orients an organization in a new direction and takes it to an entirely different level of effectiveness. Unlike “turnaround,” which implies incremental progress on the same plane, transformation implies a basic change of character and little or no resemblance with the past configuration or structure.

- BusinessDictionary.com

Questions?
Thank You!

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