

**Supply Chain Transformation Process Model (Background Information)<sup>1</sup>**

**Introduction**

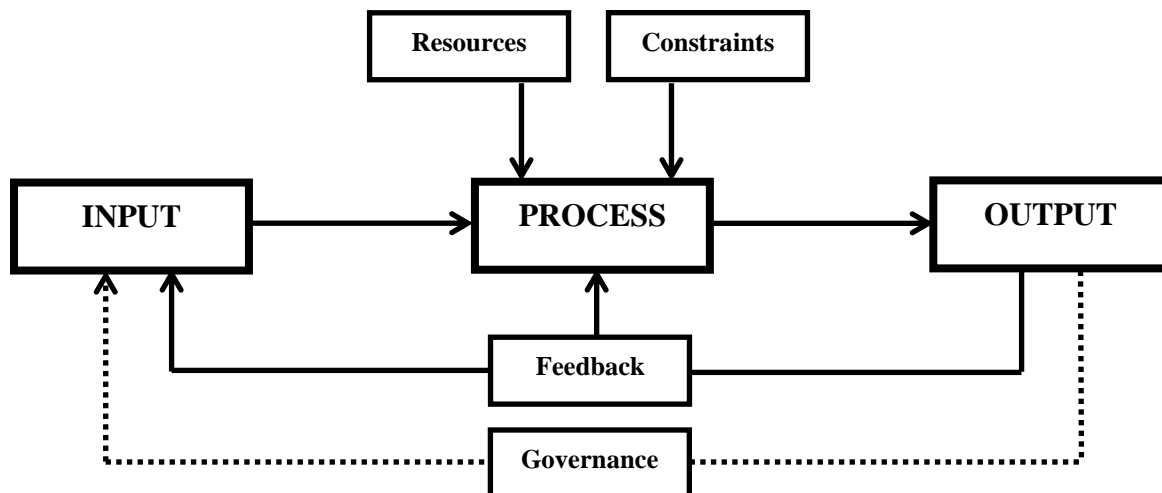
This short white paper highlights the importance of process transformation to the area of supply chain management. Aside from the strategic value that effective supply chain management may create for individual organizations, the concept of end-to-end (E2E) SCM underscores the need to coordinate, cooperate, and collaborate with supply chain partners for the greatest likelihood of success.

The growth and sustainability of any organization is inextricably related to the ability of that organization to continuously improve and reinvent itself. This is where implementation of a meaningful process model is highly applicable to the area of SCM. Essentially, a process model is similar to a GPS that helps organizations get from where they may be at present, to where they would like to be in the future. Frequently, this is expressed as transformation from an “as is” state to a “to be” state.

**Supply Chain Transformation Process Model<sup>2</sup>**

As illustrated in Figure 1, the key elements of a supply chain transformation model are: **INPUT**, **PROCESS**, and **OUTPUT**. This is typically referred to as an I/O model. Some of the additional process elements that are relevant include: Resources, Constraints, Feedback, and Governance. Further details relating to elements of the SC transformation process model are included in Figure 2.

**Figure 1: Supply Chain Transformation Process Model**



<sup>1</sup> This material was developed by C. John Langley Jr., Ph.D., Clinical Professor of Supply Chain Management, Penn State University.

<sup>2</sup> Please note that the purpose of this white paper does not include being the ultimate reference source on the topic of transformation or supply chain transformation. Moreso, it is intended to serve as simple and logical description of a concept that may be useful in completing the assignments in this module.

**Figure 2: Example Transformation Process Elements and Details**

<b>Process Elements</b>	<b>Description</b>	<b>Examples</b>
<b>INPUT</b>	<ul style="list-style-type: none"> <li>• “As is” state</li> <li>• Basically, the state of the supply chain prior to the intended transformation.</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain goals and objectives</li> <li>• Configuration/mapping of current supply chain</li> <li>• Details relating to facilities, customers, suppliers, capital, cost, and growth</li> <li>• Economic and competitive environments</li> <li>• Macro and micro changes in product and service markets</li> </ul>
<b>PROCESS</b>	<ul style="list-style-type: none"> <li>• Conversion or transformation of inputs into outputs</li> </ul>	<ul style="list-style-type: none"> <li>• Supply chain innovations</li> <li>• Flows of products, information, capital, throughout the supply chain</li> <li>• Alignment within and among organizations</li> <li>• Essentially, what needs to be converted, changed, or added to achieve results of the transformation</li> </ul>
<b>OUTPUT</b>	<ul style="list-style-type: none"> <li>• “To be” state</li> <li>• Results of the transformation</li> </ul>	<ul style="list-style-type: none"> <li>• Improvements in supply chain processes</li> <li>• Measurable results</li> <li>• Impacts on customers, cost, capital and growth of organization</li> <li>• Enhanced competitive advantage</li> </ul>
<b>Resources</b>	<ul style="list-style-type: none"> <li>• Capabilities needed to accomplish the transformation</li> </ul>	<ul style="list-style-type: none"> <li>• People</li> <li>• Information</li> <li>• Technology</li> <li>• Financial support</li> <li>• Change management capabilities</li> </ul>
<b>Constraints</b>	<ul style="list-style-type: none"> <li>• Constrain the process and/or outputs</li> </ul>	<ul style="list-style-type: none"> <li>• Organizational policies</li> <li>• Budget/financial capabilities</li> <li>• Supply chain partner capabilities</li> <li>• Culture/environmental</li> <li>• Government/regulatory</li> <li>• Contract terms</li> <li>• Risk</li> </ul>
<b>Feedback</b>	<ul style="list-style-type: none"> <li>• Assess process and process outcomes with desired goals and objectives – use as basis for needed revisions to process inputs or changes to process steps</li> </ul>	<ul style="list-style-type: none"> <li>• Comparisons of outputs with goals and objectives</li> <li>• Identify elements of the process map that are in need of re-thinking or revision</li> <li>• Valuable step to make mid-course modifications to improve process outputs</li> </ul>
<b>Governance</b>	<ul style="list-style-type: none"> <li>• Rules or policies of how the process works</li> <li>• Actually, governance itself is a process</li> </ul>	<ul style="list-style-type: none"> <li>• Who is to be involved, and what are their roles</li> <li>• Protocols for decision-making</li> <li>• Documentation of information and status relating to steps in transformation process</li> </ul>

Further perspectives on supply chain transformation are provided in the sections below relating to well-regarded principles of supply chain management and characteristics of successful supply chain transformation processes.

### **Seven Principles of Supply Chain Management<sup>3</sup>**

One of the seminal articles in the discipline of supply chain management suggests that there are seven basic principles of managing a supply chain. Aside from sometimes exceptional amounts of change in our supply chain and business environments, these principles have withstood the test of time. They are listed below, and have been modified slightly to reflect relevant aspects of the current supply chain environment.

1. Segment customers according to their needs, including logistics and supply chain needs.
2. Customize the logistics network through the use of real-time decision support tools.
3. Listen to signals of market demand and plan accordingly.
4. Differentiate product closer to customer in the interest of better aligning supply and demand for products and services.
5. Source strategically with suppliers that have a commitment to end-to-end supply chain excellence.
6. Develop a technology strategy to facilitate functioning of the E2E supply chain.
7. Adopt supply chain wide performance measures to facilitate commitments of all supply chain partners to overall supply chain excellence.

The reason for reference to these seven principles is to provide some examples of the types of actions that may be taken to improve and reinvent supply chains. As a practical matter, these principles sometimes need to be interpreted in the context of today's supply chains and the opportunities and challenges that exist in real-time and in the future.

### **Characteristics of Effective Supply Chain Transformation Processes**

While there are many attributes of effective transformation processes, those listed below are a representation of the types of priorities that should be considered.

- Easy to understand
- Comprehensive
- Integrated and inclusive
- Alignment (objectives, strategies, organizations, etc.)
- Leadership
- Transparency
- Balance benefits vs. costs
- Needed tools and resources
- Ability to manage processes
- Change management capabilities

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<sup>3</sup> Anderson, D.L., Britt, E.F., and Favre, J.D., "The Seven Principles of Supply Chain Management," Supply Chain Management Review, Spring, 1997.