Re-imagining the Extended Titanium Value Chain

By Trevor Stansbury, Supply Dynamics

Titanium 2013 | Caesar's Palace, Las Vegas, Nevada
What do titanium and watermelon have in common?
“Points of pain” transformed...

...into “points of infatuation”
VOLATILITY + OUTSOURCING + GLOBALIZATION

- Cost & demand variability
- Supply disruptions
- Reduced productivity

- Less control of critical cost drivers
- Fragmented purchasing power
- Supplier financial instability

- Highly distributed supply base
- Extended planning horizons
- Operating model complexity

=RISK, threatening revenue, earnings certainty &
customer satisfaction

The Environment
“The most important information is not what goes on inside the organization but what goes on outside, and that information is not available and in most cases doesn’t exist.”

-Peter Drucker
BBC World Series Nov. ’05
The problem of “data dislocation”
**Problem:** Data ‘gaps’ put your Supply Network at risk.
Why is this important?
Too much focus on operational elements of ‘should cost’ analysis . . . and *not on Material inputs*

\[
s = \frac{[(x \times t \times (1 + z) \times r) + (u \times w \times y)]}{q + (k / p)}
\]
Global OEM’s* recognize the challenges . . .

John Deere purchases raw materials and some manufactured components and replacement parts for its equipment, engines and other products from leading suppliers both domestically and internationally. These materials and components include a variety of steel products, steel and iron castings, forgings, plastics, electronics and ready to assemble components made to certain specifications. John Deere also purchases various goods and services used in production, logistics, offices and research and development processes. John Deere maintains strategic sourcing models to meet its production needs and build upon long-term supplier relationships. John Deere uses a variety of agreements with suppliers intended to drive innovation, ensure availability and delivery of industry-leading quality raw materials and components, manage costs on a globally competitive basis, to minimize the likelihood of the supply base causing business disruption include supplier financial viability, capacity, business continuity, quality and delivery, and weather-related events including natural disasters. In fiscal year 2012, John Deere experienced no significant work stoppages as a result of shortages of raw materials or other commodities.

* Excerpt from John Deere 2012 10K
Changes in the availability and price of certain raw materials, components and whole goods could result in production disruptions or increased costs and lower profits on sales of John Deere products. John Deere requires access to various raw materials, components and whole goods at competitive prices to manufacture and distribute its products. Changes in the availability and price of these raw materials, components and whole goods, which have fluctuated significantly in the past and which are more likely to occur during times of economic volatility, can significantly increase the costs of production which could have a material negative effect on the profitability of the business, particularly if John Deere, due to pricing considerations or other factors, was unable to recover the increased costs from its customers. John Deere relies on suppliers to acquire raw materials, components and whole goods required to manufacture its products. Certain components and parts used in John Deere’s products are available from a single supplier and cannot be re-sourced quickly. Supply chain disruptions due to supplier financial viability, capacity constraints, business continuity, quality, delivery, or disruptions due to weather related or natural disaster events could affect John Deere’s operations and profitability.

* Excerpt from John Deere 2012 10K
The more distributed and extended your Supply Network becomes, the stronger its management needs to be.
A Business Imperative

*Re-capturing visibility & control . . .*

1. **Reconnect** your **assembly and part schedules** to a detailed breakdown of the components and raw materials that **go into them**

2. **Influence & control** supply, and proactively **coordinate** critical constraints on behalf of your **Supply Network**.
Prerequisite: An Analytic, Collaborative Multi-Enterprise Platform

The best solutions:

- Establish one system of TRUTH.
- Automate Bill-of-Material maintenance and up-keep.
- Empower multi-enterprise collaboration between stakeholders.
- Provide secure role-based access to Stakeholders via the ‘cloud’ and presented relevant views to what matters.
- Allow validation of information, and customized reporting based upon the participant’s role.
- Interface seamlessly with but do not require changes to OEM legacy systems.
- Enable real-time monitoring & reporting on purchasing and delivery status across the extended enterprise.
**Value drivers. Risk mitigation + reduction of COGS**

*Strategies supported reduce financial exposure + deliver hard $ savings*

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
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<tbody>
<tr>
<td>✓</td>
<td>Leverage aggregate volume to gain commercial benefit with producer</td>
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<tr>
<td>✓</td>
<td>Standardize production material forms, sizes and specifications</td>
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<tr>
<td>✓</td>
<td>Proactively expedite the timely purchase and supply of production materials across the extended supply network</td>
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<tr>
<td>✓</td>
<td>Eliminate sole sources of supply</td>
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<tr>
<td>✓</td>
<td>Recover ‘cost of credit’ premium (estimated at +/- 7 pct – sub-tier risk)</td>
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<tr>
<td>✓</td>
<td>‘Price masking vs. Directed buy benefit / Capture Rebate</td>
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<tr>
<td>✓</td>
<td>Improved forecasting &amp; planning</td>
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<tr>
<td>✓</td>
<td>Compress &amp; control cash conversion cycle</td>
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<tr>
<td>✓</td>
<td>Ensure continuous supply and capacity</td>
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<tr>
<td>✓</td>
<td>Better manage and monitor surcharges</td>
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<tr>
<td>✓</td>
<td>Reduce Part &amp; Commodity Complexity</td>
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<tr>
<td>✓</td>
<td>Recover scrap/revert value</td>
</tr>
<tr>
<td>✓</td>
<td>Reduce delivery variances through better coordination</td>
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</tbody>
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Analytics drive commodity strategies & sourcing policies

1. OASIS 8.0 generates ‘Bill of Resource’ analytics
2. Map analytics to value drivers & risk factors
3. Evaluate savings against sourcing policy criteria

- Network stakeholders
- Network demand
- Commodity category
- Market volatility
- Demand aggregation
- Physical flow

Strategy & execution model:
- Buy-sell (resale)
- Directed buy
- Rebate (directed buy)
- Consignment (buy & consign)
Thank you!

For additional information or to learn more about Supply Dynamics & how we can help transform your Extended Supply Chain into a sustainable competitive advantage please contact us: by phone at +1 (513) 965-2000, e-mail results@supplydynamics.com or visit www.supplydynamics.com
Supply Dynamics was conceived and built from the ground up specifically to address the challenges of managing sourcing, procurement and supply chain complexity in highly distributed manufacturing environments.

Our solutions were designed to reflect a deep focus on the multi-tier, multi-enterprise relationships between parts, materials, capacities, processes and finished goods.

We work with leading Fortune 1000 global manufacturing companies that are committed to pro-actively managing part-commodity supply risk and price volatility throughout their extended network of external partners and suppliers. Our clients recognize the value of our data driven approach & solutions as a sustainable competitive advantage.