THE PLUG-AND-PLAY SUPPLY CHAIN:
BEYOND EFFICIENCY TO GROWTH
THE PLUG-AND-PLAY SUPPLY CHAIN: BEYOND EFFICIENCY TO GROWTH

Years of growth, merger and acquisition activity, changing customer markets and globalization have taken their toll on supply chains. “Instead of operating a concise set of ‘configurable’ supply chain segments, many organizations wrestle with a web of complex and overlapping or underdeveloped supply chains,” says Accenture in a recent report on supply chain transformation. “The reverse can also be true, where some organizations have standardized various supply chain segments to the point where they are no longer meeting customer requirements in the most efficient way possible.”

“I am fed up seeing all the metrics from my Head of Supply Chain on efficiency. I want to hear about what we’re doing to get new customers, get to market faster. I don’t want to hear about efficiency. I want to hear about growth.”

CEO, Fortune 500 company

New research by DHL Supply Chain bears this statement out. In a global survey on supply chain standardization and segmentation, among the 350 respondents, 32 percent reported their companies operate more than 10 discrete supply chains.

Companies are realizing that operating with this complex web of one-off supply chains is unsustainable. It is high cost and full of waste. It is cumbersome and lacks the agility to respond to real-time market dynamics, and it exposes quality gaps and performance failures – all of which can leave companies vulnerable to the competition.

These realities have spawned renewed interest in streamlining supply chains through segmentation and standardization. But not the segmentation and standardization practices of five or 10 years ago. Thanks to advances in data analytics and visibility, organizations can create finely-tuned, agile supply chains built on intelligent, data-driven decisions around customers, markets and, importantly, profitability.

We call this emerging model the plug-and-play supply chain. Exploring the nature of this evolving strategy is the focus of this paper.

WHAT IS THE PLUG-AND-PLAY SUPPLY CHAIN?

The plug-and-play supply chain is perhaps best described using the analogy of Lego bricks. It involves creating a supply chain that consists of core standardized, easily replicable solutions, augmented by standardized, process-proven bolt-ons that are tailored to unique segment or market needs.

Following the Lego analogy, the core supply chain might consist of blue blocks forming the foundation/majority of the construction. The bolt-on options would be yellow, red, white and green blocks – far fewer in number – added atop the blue foundation. These alternate colored building blocks would not only be limited in number of colors, but also standardized within their own color.

---

1 “Accenture Helps Global Research-Based Pharmaceutical Company Reduce Operating Costs and Improve Service with a Large-Scale Supply Chain Transformation,” Accenture, 2014, p.8
2 Research report: “Plug-and-Play Supply Chain,” DHL Supply Chain
“The idea is to create configurable base-case solutions which satisfy 70 to 80 percent of the requirements in a market segment,” explains Gary Keatings, Vice President Solutions Design, DHL Supply Chain. “Then add optional plug-ins which provide solutions based on unique customer requirements.”

These standardized supply chains are based on smart segmentation strategies – i.e., segmentation derived from analytics around critical factors such as customer and product profitability, market/geography requirements and service parameters. They are designed to support and enable growth and competitive advantage – not just to cut costs or improve efficiency.

“For companies advanced in segmentation, it becomes their tool for ongoing governance of desired trade-offs,” notes Barry Blake, Vice President Research, SCM World.3 “It is how they balance cost and service [and profitability].”

The goal of segmentation-standardization is to reduce complexity and cost and increase agility. In many cases, this effort results in fewer discrete supply chains. According to the DHL Supply Chain survey, trimming the number of supply chains they operate is a priority for 42 percent of respondents.4 For those survey companies cutting their number of supply chains, not surprisingly, the overwhelming reason was to reduce complexity and streamline operations.

And whether they’re decreasing their number of supply chains or maintaining the status quo, 69 percent of DHL survey respondents report their companies are pursuing supply chain standardization – the plug-and-play approach. However, only 16 percent said they are well along or finished with this process.

### TRADITIONAL VS. NEXT-GENERATION SEGMENTATION

Segmentation is foundational to the plug-and-play supply chain. Traditionally, most firms segmented their supply chains based on attributes of their customer base, products and channels.

Results from the DHL Supply Chain survey indicate this approach is still widely used. In the study, geography, product, corporate unit and customer segment topped the list of segmentation buckets. Interestingly, only 25 percent of respondents listed cost to serve as one of their organizing priorities (Figure 1).

### FIGURE 1
HOW ARE YOUR SUPPLY CHAINS ORGANIZED?

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>57.2%</td>
</tr>
<tr>
<td>Geography</td>
<td>66.0%</td>
</tr>
<tr>
<td>Customer segment</td>
<td>39.7%</td>
</tr>
<tr>
<td>Corporate units/divisions</td>
<td>45.3%</td>
</tr>
<tr>
<td>Cost to serve</td>
<td>24.7%</td>
</tr>
<tr>
<td>Resilience/flexibility responsiveness</td>
<td>19.0%</td>
</tr>
<tr>
<td>Strategic agenda/growth</td>
<td>24.4%</td>
</tr>
<tr>
<td>Other</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

Source: DHL Supply Chain, 2016

---

3 Barry Blake, “Supply Chain Segmentation the Key to Future Profitability,” SCM World, 2013, p.10
4 Research report: “Plug-and-Play Supply Chain,” DHL Supply Chain
“When companies segment by product and customer, they typically do that based on aggregated characteristics or data,” says Richard Sharpe, CEO of Competitive Insights. “They may segment by revenue or by some form of cost or profit allocation, and they may apply a standard margin. Or they simply segment by region.

“But there’s no precision in their decision-making because the basis of the information is not precise,” Sharpe points out. “As a result, you can have two different customers buying the exact same products but their profitability is very different. And no one knows why.”

Next-generation segmentation addresses this problem of managing by averages. “We can now drill down to accurate profitability by SKU, by customer, by channel and see the drivers of profitability and the root causes of unprofitability,” Sharpe continues. “This provides the data needed to make smarter segmentation and standardization decisions.”

Thus, the foundation of next-generation segmentation is data-driven analysis of demand dynamics and the profitability of customers and products. “This analysis provides the information needed to tailor service agreements and supply chain policies in order to raise the overall profitability of the portfolio while providing reliable and suitable service. Because the dynamics of demand and profitability change frequently, this analysis must be institutionalized and performed on a standard cadence.”

**STANDARDIZING EXECUTION**

Once companies appropriately segment their supply chains, the next task is to standardize them, and do so across people, process and technology.

A key emphasis of supply chain standardization is to create repeatable components and solutions. “You need to be able to intelligently adapt to changing conditions,” advises Sharpe. “This is not a one-time, fixed point-in-time exercise. You want to be able to update the supply chain as often as needed to respond to everything from a change in the price of oil to a new last-mile delivery strategy.”

**REPEATABLE, STANDARDIZED COMPONENTS ENABLE SUCH AGILITY**

As the execution arm of global supply chains, third party logistics service providers (3PLs) are on the front line of this move to standardization. “We realized that although the processes we had developed to service our customers were working at the peak level of efficiency, our methodologies and services were difficult to scale – for us and for our customers,” explains Keatings. “It was taking all of our effort to manage the existing complexity in our business. We had to find a better way.

“Our biggest challenge was the fact that we were solving the same problem over and over again and not creating an institutional corporate memory of best practices so they could be replicated,” Keatings continues. “So we began building databases and libraries of customer-facing best practices. Now if we come in and speak to a customer and capture and profile their supply chain, we can match it against a database of supply chains we’ve already created. We can get a quantitative score that there is an 85 percent match to these three customer supply chains over here.

“The next step is to figure out what the last 10 percent plug-ins should be,” he explains. “Then we solve for any really unique challenges on top of that – say the last 5 percent. But the key is starting from that 85 percent fit.”

---

This plug-and-play approach carries tangible benefits for the customer. For example, applying this methodology, DHL has found that implementation start-up lead time and cost has dropped significantly – by as much as 70 percent.

“This plug-and-play approach carries tangible benefits for the customer. For example, applying this methodology, DHL has found that implementation start-up lead time and cost has dropped significantly – by as much as 70 percent.

The plug-and-play supply chain templates are not static solutions by any means. “We are constantly challenging ourselves to innovate and improve the templates,” says Keatings.

**NOT THE STATUS QUO**

For many organizations, this kind of supply chain standardization flies in the face of how they perceive their company and its supply chain. “People have gotten used to thinking that their company, its supply chain, products and customers are special, unique and different,” Keatings observes. “So they are reluctant to change over to this new standardized platform approach because they’re worried it will break down in some way.”

Also, the cost to change can be significant. “If you’re moving over to the blue ‘Lego platform’, you’ll be switching off existing infrastructure and may require a new or different infrastructure,” the DHL VP notes. “Most people are not very keen to invest in long-term supply chain projects. They’re looking for quarter-by-quarter savings from their supply chain. So no one wants to own that longer term investment.”

Interestingly, despite such barriers to adoption, companies believe a plug-and-play strategy can deliver substantial results. When asked what value they expect to realize from full implementation of a standardized supply chain, respondents to the DHL survey answered accordingly:

- Greater efficiency: 89 percent
- Reduce costs: 87 percent
- Increase flexibility/resiliency/agility: 78 percent
- Improve quality: 59 percent
- Drive/support growth: 51 percent
- Serve geographies effectively: 51 percent

That said, at least to date, the companies that embrace this transformational strategy usually do so because they are experiencing a major shock to the system – e.g., a merger or acquisition, a rapidly shrinking or growing market, or entry of a disruptive competitor or product.

“These companies understand they have to do something different now,” Keatings says. “They know they must rethink their entire operating strategy to tackle the threat or opportunity, or face the consequences.”
PROTECTING PROFIT, FUELING GROWTH

Smarter segmentation and standardization is “much bigger than sales and operations planning,” believes Sharpe. It is a strategic model designed to bring order to the web of complex and overlapping or underdeveloped supply chains most companies operate. But more than bringing order, this strategy creates the platform for more profitable growth.

“At the end of the day,” concludes Sharpe, “it’s all about the generation and protection of profit. This new supply chain becomes tremendously strategic for the enterprise. It becomes an integral part of determining the strategy around what you sell, where and how – not just the function that executes that strategy.”
THE PLUG-AND-PLAY SUPPLY CHAIN:
BEYOND EFFICIENCY TO GROWTH
NOVEMBER 2016

By Lisa Harrington, President, lharrington group LLC and Senior Research Fellow, Supply Chain Management Center, Robert H. Smith School of Business, University of Maryland

For further information
For the latest supply chain insight and resources, visit
dhl.com/supplychain
supplychain@dhl.com