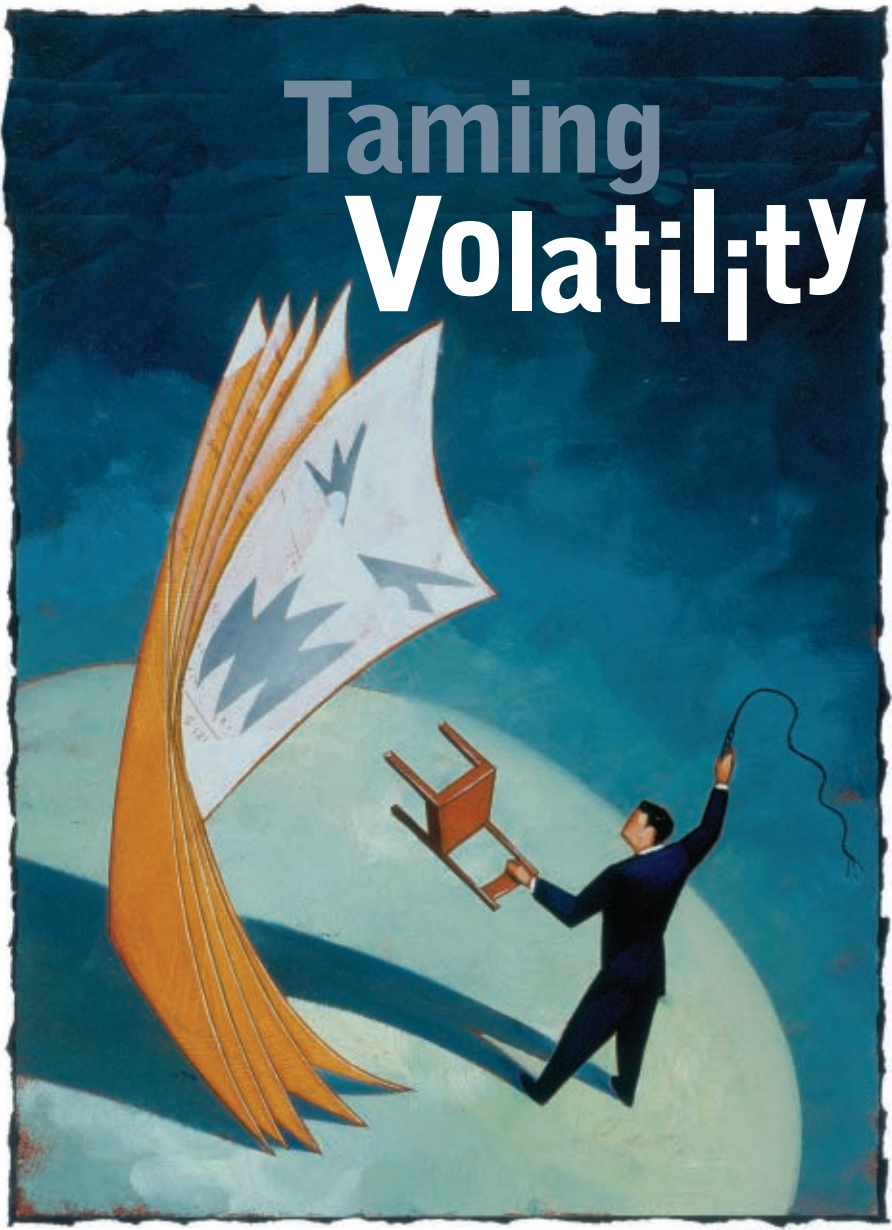


# SUPPLY CHAIN

## MANAGEMENT REVIEW<sup>®</sup>



# Taming Volatility

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# The Top 25 Supply Chains: **LEADERSHIP IN ACTION**

By Debra Hofman

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**The 2011 Supply Chain Top 25 rankings from Gartner include repeat winners and some new entrants. Perhaps even more important than the actual rankings, though, are the lessons learned from examining just what makes the leaders stand out. This year, six specific tactics they embrace seem to point the way toward supply chain excellence.**

**G**artner recently published its 7th annual Supply Chain Top 25, a ranking of the world's leading supply chains. As in previous years, the 2011 ranking identifies those large companies with supply chains that come closest to an ideal we call the "Demand Driven Value Network." And while there are always new names on the list, the principles that separate the leaders from the rest remain largely consistent. (See accompanying sidebar for the 2011 list.) This article will highlight the trends we've seen this year from the leaders, and elaborate on the themes which differentiate them.

## **What Is the Definition of Excellence?**

Our methodology is based on a composite score for each company that is made up of a set of financials combined with an opinion component. Three financial metrics—Return on Assets, Inventory Turns, and Revenue Growth—make up 50 percent of each company's score. The remaining 50 percent of the score is derived from polling a group of supply chain professionals (156 individuals this year) as well as 32 of our own analysts. The details of how these numbers are defined, sourced and normalized can be found in the full report or on the Gartner website ([www.gartner.com](http://www.gartner.com)). But what matters to this article is the definition of excellence that we ask voters to consider as they complete their ballots.

Exhibit 1, on page 10, captures the organizational ideal of demand-driven principles as applied to the global supply chain. This model has three overlapping areas of responsibility:

- **Supply management**—Manufacturing, logistics, and sourcing.
- **Demand management**—Marketing, sales, and service.
- **Product management**—R&D, engineering, and product



Astrid Dinunno

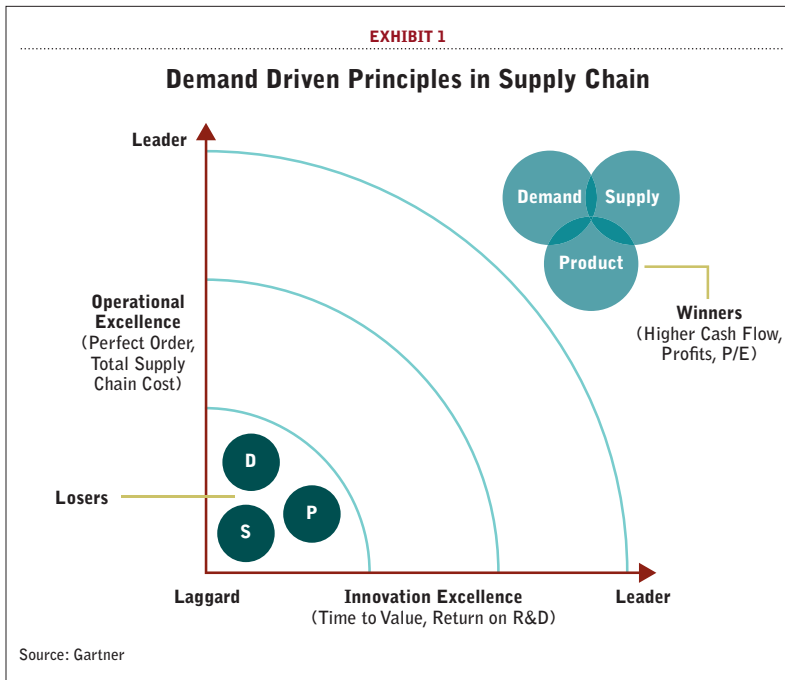
## Supply Chain Top 25 for 2011

1. Apple
2. Dell
3. P&G
4. Research in Motion (RIM)
5. Amazon
6. Cisco Systems
7. Wal-Mart Stores
8. McDonald's
9. PepsiCo
10. Samsung
11. The Coca Cola Company
12. Microsoft
13. Colgate-Palmolive
14. IBM
15. Unilever
16. Intel
17. HP
18. Nestle
19. Inditex
20. Nike
21. Johnson & Johnson
22. Starbucks
23. Tesco
24. 3M
25. Kraft Foods

development.

Excellence is a matter of visibility, communication, and reliable processes that link all three of these functional areas together. When these processes work together, the business can respond quickly and efficiently to opportunities arising from market or customer demand. Defining characteristics of supply chains built to this design include the ability to manage demand rather than just respond to it, a networked rather than linear

approach to global supply, and the ability to embed innovation in operations rather than keep it isolated in the laboratory. The demand-driven model is inherently circular and self-renewing, unlike the



chain: operational excellence and innovation excellence. Operations, including delivering as promised to customers and keeping costs under control, are relatively easy to measure and unambiguous as business value metrics. We recommend a hierarchy of metrics, at the top of which are perfect order rate and total supply chain costs, to monitor this dimension. (See Exhibit 2.)

Of course, operational excellence has value only if customers want what is being made and shipped. To address this dimension, we look at innovation excellence. Although far harder to measure reliably, this dimension also can be managed with a hierarchy of metrics, in this case topped by time to value and return on new product development and launch (NPDL). (See Exhibit 3.) Companies that manage to balance leadership on both these dimensions

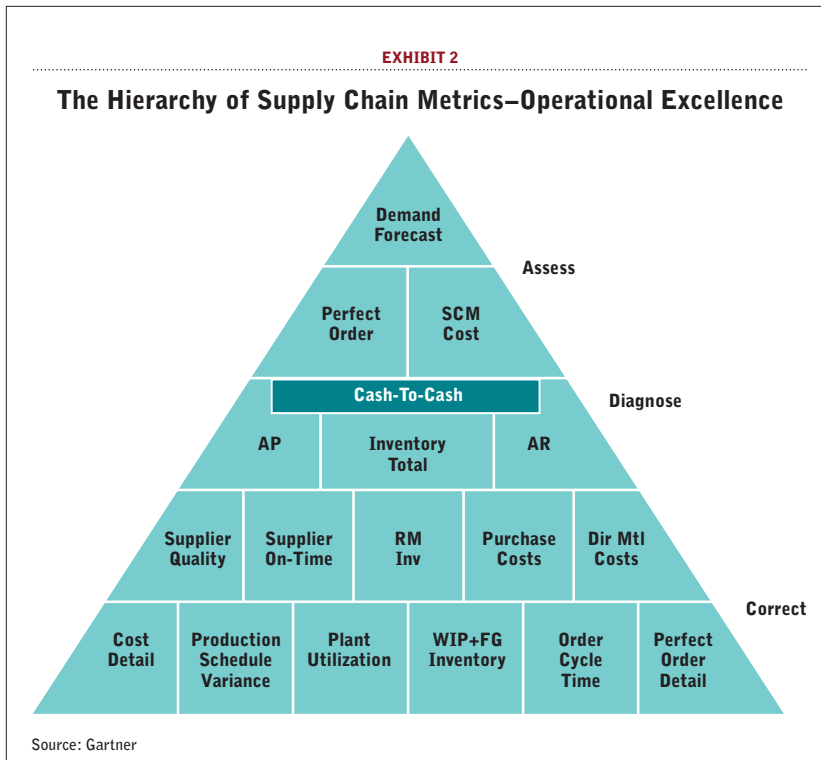
push supply chains of our factory-centric industrial past.

#### Operational Excellence and Innovation Excellence

Two basic dimensions of measurement capture the totality of the best-in-class demand-driven global supply

over time not only satisfy their customers but also earn better returns on capital invested, whether in assets or research and development.

Peer voters and our own analysts are instructed to use this definition of excellence when completing their ballots. The typical reference points used then are demonstrated operational and/or innovation excellence as experienced by the voter as a customer, supplier, competitor or professional peer of the companies under consideration.

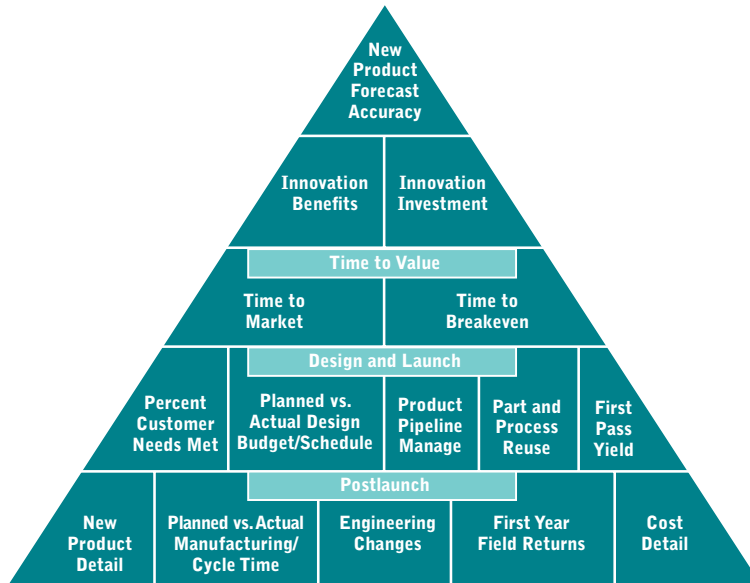


#### What Differentiates the Leaders?

Each year, our supply chain analysts research the supply chains of hundreds of companies. Two of the themes we are seeing across this research should be noted here. First is an increasing emphasis on the notion of resilience: the ability to deliver predictable results, despite the volatility that many have pointed out is now here to stay. Speed, agility, efficiency, responsiveness and innovation—all remain critical, but equally important is a resilient supply chain. Companies like Cisco, Dow

EXHIBIT 3

The Hierarchy of Product Metrics - Innovation Excellence



Source: Gartner

chain landscape. Yet few companies do them well, and even fewer have developed mature strategies to string them together. We'll discuss each of these tactics below.

- Organization as Value Chain
- Extended Supply Chains as

Networks

- Segmentation of Supply Chains
- Sales & Operations Planning for

Balance

- Embedded Innovation in

Supply Chain

- Hierarchies of Supply Chain

Metrics

**Organization as Value Chain**

One of the trends we've seen over the last several years is a move from the notion of "supply chain" to "value chain" and a concomitant increase in the span of responsibility of the sup-

ply chain organization. The old image of a supply chain organization limited to either inbound materials management or logistics is fading. What's replacing it among the leaders is a supply chain organization, often reporting at the board level, whose responsibilities go beyond the functions of plan, source, make, and deliver to include functions such as customer management, new product launch, post sales support, and change management. Moreover, the leaders link these key functions through

Chemical, RIM, Unilever and others are actively designing in structures, processes and methodologies to create and expand this resiliency not only in their own supply chains, but in those of their trading partners as well.

The second is the notion of what we call "orchestration." Companies have been moving steadily up the demand-driven maturity curve over the last several years. What differentiates the leaders is that they go beyond simply borrowing and adapting others' best practices.

They create new ones altogether, often defying conventional wisdom to rewrite the rules and increase the gap between themselves and others.

The question is, how do they get there? With seven years of



**Leaders take the notion of the organization as value chain one step further;** they design and manage their supply chains as the extended networks of trading partners.

data and discussion behind it, the Supply Chain Top 25 has offered some important lessons about leadership and excellence. Chief among these is that while best practices are critical, functional competence is not enough to define a leader. Demand-driven leaders go beyond to build a foundation for growth and continual learning that constitutes an engine for superior competition.

There are six tactics that we've seen leaders use. Some of these are, in fact, widely used across the supply

the cross-functional processes and roles that are so critical to being demand-driven.

We've talked about Cisco Systems in the past, where the supply chain organization has been renamed to "Customer Value Chain Management" and is organized to mirror, rather than serve, the business. In terms of organization, the transformation has included establishment of supply chain functions for new product development that work closely with Cisco's engineering

organization to coordinate fast and successful launches, customer service that not only fixes problems in the field but tracks end-to-end resolution, and quality control.

But it's not just about reporting structure. Whether they formally change organizational reporting lines or not, leading companies are redefining the responsibilities of their supply chains to move away from functional silos toward an end-to-end value chain focus—starting with the end consumer of the product and moving back



**By identifying the leaders, we hope to consistently highlight the best practices from which others can learn, thereby raising the bar for the supply chain profession as a whole.**

through the supplier base and new product launch—that manages the physical and information flow through the network.

Consumer products and high tech companies have led the way in this, but there is plenty of movement in other industries as well. In healthcare/life sciences, the customer has historically been the next paying trading partner—for example, manufacturers have traditionally viewed distributors as their customers. Companies like J&J and Novartis are changing that view, looking out to the multitude of customers in their value chain, going from “the patient back to the pallet.” Healthcare systems like Sisters of Mercy have expanded the span of responsibility for their supply chain organization to include the patient bedside all the way back to the supplier base. Aerospace & Defense manufacturers have traditionally been program-driven, supply-centric organizations. But companies like Raytheon are breaking out of this paradigm, going beyond the traditional functions of procurement, logistics, material management, and subcontract management to include the customer bidding process and forecasting. Raytheon also has a strong governance process to help ensure cross-functional alignment where needed, for example between engineering and supplier management, in which supply chain influences designs that shape demand and mitigate risk.

### **Extended Supply Chains as Networks**

Leaders take the notion of the organization as value chain one step further; they design and manage their supply chains as the extended networks of trading partners (cus-

tomers' customers, suppliers' suppliers, logistics providers, contract manufacturers, third-party warehouses, and so forth) that they really are. What they're doing is orchestrating a set of activities across the network, aligning goals based on each player's value proposition that will result in the desired outcome from that network—the profitable delivery of final product to a customer.

RIM's Partner Collaboration Express initiative is aimed at establishing process and technology connections with its strategic trading partners to create more seamless collaboration, supported by its Operations Control Center to create an interconnected network with global visibility to demand patterns, supply networks, and product requirements.

The combination of collaboration and end-to-end visibility enables RIM to balance efficiency and agility while executing its supply chain anywhere in the world. Microsoft has co-designed its end-to-end value chain collectively with its trading partners. With a heavy reliance on third party manufacturing resources, Microsoft locates its staff on site with suppliers, not only to ensure the quality of the output but also to provide its own supply chain expertise to suppliers whose margins are often very thin.

### **Segmentation of Supply Chains**

Another trend we've seen over the last few years is the move toward defining segmented supply chains. In many organizations, supply chains historically “grew up” organically, rather than being proactively and strategically designed. Leaders have realized that, in fact, one size does not fit all, and that the days of having one supply chain approach through which they force fit all their products are over. Instead, these companies are defining how many supply chains they need to operate, and designing an architected set of supply chain strategies that will allow them to profitably deliver supply through each.

Many companies segment their customers, or their suppliers, or their products. The leaders have figured out the key to end-to-end segmentation, which requires the combination of all of these. Gartner sees supply chain segmentation as the dynamic alignment of customer channel demands and supply response capabilities, with each segment optimized for net profitability. This requires a complex set of capabilities to optimize each decision point in each segment, including where

and how to source, how to price, what service levels to promise, which orders to take, and which channels to deliver through.

We have defined seven steps companies follow to segment and define their supply chain types, including:

1. Conduct customer and market analysis.
2. Assess current capability.
3. Cluster value chain requirements for the supply response.
4. Design portfolio of supply chain types.
5. Align and enable dynamic cost model.
6. Align cross-functional metrics and incentives.
7. Govern and refine.

One classic example of this is Dell, second in our Supply Chain Top 25 this year and in the Top Five since the beginning. The company revolutionized supply chain management early on with its direct, configure-to-order, just-in-time-inventory model. But this one-size-fits-all supply chain hit up against a set of challenges as the basic product became increasingly commoditized, customer preferences changed, and emerging markets blossomed in importance. Business customers required different service levels, purchase options, pricing variations and delivery speeds than consumers. In response, Dell embarked on a transformational journey to segment its supply chains and design the most profitable response for each, aligning all internal functions to execute against the new vision.

The new portfolio allows Dell to vary the cost, speed, and service level of their response to best meet the value needs of the customer group. The results have been impressive: reduced complexity, stronger connection to customers, improved internal collaboration, improved forecast accuracy, and \$1.5 billion in cost reductions between 2008 and 2010.

### **Sales & Operations Planning for Balance**

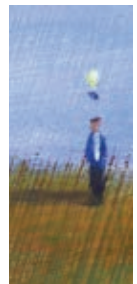
Sales & Operations Planning is perhaps the most widely known and used tactic, but it is also something that most companies struggle to do well. Research on S&OP shows enormous variation in the composition of S&OP teams, the goals of S&OP meetings or processes, and the degree of maturity in technology support for this critical tactic.

Through our research in this area, we've found that

the majority of companies are stuck in "Stage 2" of our S&OP maturity model, falling prey to what we've called the "seven deadly challenges of S&OP"—clarity of goals, alignment to strategy, reward systems, definition of a "good" decision, governance, the role of the forecast, and connection of planning to execution. A Stage 2 level S&OP process focuses on the critical activity of supply/demand balancing, matching demand that incorporates customer and market intelligence to the organization's asset, resource and material constraints to arrive at a feasible production plan. At the same time however, in this stage ownership remains with the supply chain organization, focus is on the short-term planning horizon, and many companies find that decisions often don't translate into execution at lower level processes.

Companies in the Top 25, however, often excel at S&OP. These organizations focus their S&OP process on the strategic and tactical tradeoff decisions they need to make to ensure optimum profitability across the end-to-end value chain. Inventory is seen as a strategic lever

**What differentiates the leaders is that they go beyond simply borrowing and adapting others' best practices. They create new ones altogether.**



to buffer demand volatility or supply risk rather than as a cost-slashing target, as the operating plans become tightly integrated with financial plans. Jointly owned across business leaders, the S&OP process is where go-to-market opportunities are translated into profitable responses from the total supply network, with a focus on revenue, profit, and service rather than on volume and units. All of this, of course, requires more robust data, a clear governance process, the right metrics, and a culture that rewards transparency and prevention rather than fire-fighting.

Samsung Electronics, a regular in our Top 25, has often been cited as one of the best practitioners of this tactic, and with good reason. S&OP at Samsung is a fundamental component of the operation with a highly structured process that has visibility at the highest levels of senior management. Moreover, the process is supported with extensive data that allows them to make complex tradeoffs decisions quickly and efficiently. Unilever, No.15 this year in the Top 25, has implement-

ed a global process designed to take advantage of natural trade-off points in the organization, and has an advanced governance capability to assess process compliance. Procter & Gamble's S&OP process is governed by the general manager with components owned by the different businesses, and is tightly integrated with the financial profit forecast. At Kimberly-Clark, the S&OP process includes an explicit focus on risk analysis on both the demand and supply sides, with a clear link to finance that allows value-based decisions. And at Nike, where S&OP serves as a cross-geographical collaboration platform and a link to financial forecast accuracy, the process extends beyond traditional supply chain boundaries to incorporate product and portfolio management, contract manufacturing, and retail performance.

### Embedded Innovation in Supply Chain

We first published our three-circle demand-driven model in 2004 in a report called "21st Century Supply on Demand." The inclusion of a "product" circle to accompany supply and demand carried an explicit message about the importance of connecting traditional notions of supply chain with the new product development and launch process to ensure that new products are brought

fast changeovers to enable a very different strategy of enticing a younger market with over 500,000 custom vehicle configurations. Caterpillar, which sells highly configured heavy equipment with complex variations that extend lead times, connects its design to a supply chain segmentation strategy to reduce demand uncertainty, offering standard products with shorter lead times in one segment, while in other segments offering more variation but longer waiting periods. Embedded innovation is a tactic that the best supply chain organizations use to more quickly and reliably convert better products into higher profits for the business.

### Hierarchies of Supply Chain Metrics

All companies measure. In fact, most companies (and in particular, most supply chain organizations) measure a lot. What most still struggle with is how to focus on the metrics that matter—and even more importantly, how to interpret and then act on those metrics to achieve a desired outcome, namely to improve operational results. From our years of research in this area, we find that most organizations are, in fact, awash in supply chain metrics, and find themselves so caught up in the tactical aspects of measuring—defining, collecting, sorting, translating, rational-

izing differences—that it becomes an end in itself. And suddenly they realize they've lost sight of the bigger picture.

While there are many reasons for this, underlying much of the difficulty is a cultural issue.

In most organizations, numbers are seen as something that you "game"—that is, how can we make sure our department comes out looking good and the blame gets shifted somewhere else. This is exacerbated by the fact that in most companies, targets are set for each of the functions (procurement, manufacturing, order management, transportation, warehousing and so on) so each is programmed by the numbers to focus on its own goals.

The best companies—the ones we call "excellence addicts"—have a very different approach to metrics. People in these organizations understand that the whole is greater than the sum of the parts, that it is, in fact, a system, and that the purpose of the metrics is to make the entire system work better. When individuals in these companies get together to discuss and interpret a set of numbers, the conversation isn't about whose fault some-

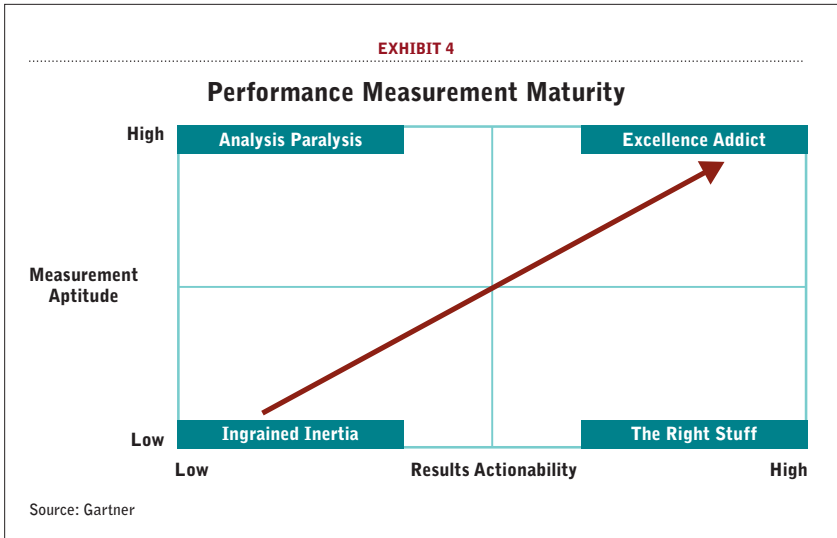


**Two basic dimensions of measurement capture the totality of the best-in-class demand-driven global supply chain: operational excellence and innovation excellence.**

to market that satisfy the total customer experience profitably and effectively. Without this connection—when new products are launched without having taken into account supply chain considerations early on, and when supply chains are designed without taking into account that new products require different supply chain strategies than existing products—we get new products that are unprofitable to deliver, or high margin products that lack differentiation or strategic market impact, or a failed launch altogether.

There are many examples of embedded innovation. Ford shares vehicle platforms across brands to improve factory utilization and reduce supply chain variability, allowing it to profitably respond to variable demand across its global brands. Fiat uses late stage postponement and a manufacturing process designed to allow

EXHIBIT 4



which is faster, cheaper, environmentally more sound, and more sanitary to boot.

There are other examples, including Intel, Procter & Gamble, and Cisco. All have realized that using metrics with an attitude of curiosity rather than fear results in better outcomes. They also realized the importance of something we call “balanced excellence.” Rather than mindlessly aiming to be best in class on every subcomponent of every metric, they understand that they need to set the right targets focused on end-to-end supply chain performance, and then consciously

design and manage the tradeoffs they will need to make to achieve those goals.

thing is; instead, it’s about where things broke down in the system, how to fix them, and then how to take it to the next level. They are ruthless in constantly examining their own processes to push the envelope of performance. (Exhibit 4 shows the Performance Measurement Maturity Matrix.)

PepsiCo is a great example of this. Embedded in the organization’s DNA is a culture of challenging and questioning the status quo: constantly improve, and then improve some more. When you’ve reduced time and cost and increased service as much as you can, when you’ve improved down to the “theoretical absolute” and you’ve hit the physical limitations of the existing process, you don’t stop. You keep asking: How else can we do it? For example, in the beverage business, sanitation of the bottle is hugely important and represents a big chunk of the cost both in dollars and in the environmental impact on water. After endless cycles of improvement, PepsiCo asked themselves, why use water at all? The result: they switched to ionized air to sanitize the bottles,

design and manage the tradeoffs they will need to make to achieve those goals.

### Raising the Bar for All

At its highest level, the goal of the Supply Chain Top 25 research has always been to raise awareness of the supply chain discipline and how it impacts business. By identifying the leaders—that is, companies that are

**Embedded innovation is a tactic that the best supply chain organizations use to more quickly and reliably convert better products into higher profits for the business.**



pushing the envelope of supply chain innovation—we hope to consistently highlight the best practices from which others can learn, thereby raising the bar for the supply chain profession as a whole. The ongoing discussion and debate about what excellence really means and how we as a supply chain community should measure and recognize it helps to clarify and illuminate what it takes to get to the next level. ☺

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