

Q2.11

# MANAGING TIMES

Sharing Solutions for Your Lean Journey

## STELLAR CUSTOMER CARE DRIVES GROWTH



Vermeer CEO Mary Andringa talks about their bold lean culture  
Page 4



OpEd: Bayer CEO on rebuilding American manufacturing  
Page 14



Segmenting your supply chain to match customer needs.  
Page 11





What strikes me as I review the articles in this issue is that we are literally transforming lean itself. As lean thinking matures, many of our clients no longer need to understand the definition of lean or how to implement some of the tools within their organizations.

The articles in this issue highlight the next frontier of operational excellence. How are you pushing beyond the boundaries and creating the future of lean in your enterprise?

In our **Leadership Insights Q&A**, **Vermeer CEO Mary Andringa**, a long time lean champion, has created a larger-than-life lean culture to unearth a steady stream of cash flow, growth and profit sharing. Vermeer leaders have infused their culture with LeanSigma principles and best practices and are replicating this model as a platform for sustainable, repeatable growth. This means that they aren't expanding globally by simply opening sales offices in other countries. They're embedding themselves in each local market and developing new products and services that meet local business requirements.

In our featured case study, a **medical device manufacturer** is simplifying business processes to get closer to customers and remove hard-to-see waste in a **call center**. As sales grew over the years, operations in the customer call center became increasingly complicated and less effective. They decided to apply LeanSigma tools and practices to reduce the number of dropped calls, improve average speed to answer and reduce the number of calls going into voice mail. As a result, the company was able to increase customer value and drive new revenue opportunities.

**Ken Koenemann**, our resident expert on lean value chain transformation, challenges us once again to think differently

about **supply chain management**. He advocates the concept of value stream segmentation as a way to connect customer demand, marketing strategy and execution by organizing supply chain strategies around customer needs.

Finally, be sure to read about the **Carlisle Corporation**. The diversified industrial manufacturer was recently awarded the **TBM Perfect Engine Corporate Award** just three years into its lean journey. Carlisle is using the LeanSigma approach as part of a strategic roadmap for value creation and growth. Since 2008, the company has rapidly deployed lean methodologies through a global implementation of the Carlisle Operating System — a global lean business management and performance system. Over 75 Carlisle sites have leveraged lean to drive a 25 percent improvement in productivity, liberate 2.6 million square feet of manufacturing and warehouse space, and deliver nearly \$70 million in division cost savings throughout five strategic business platforms.

Don't get me wrong. The basic tools and methodologies will always be important, and these lean leaders aren't taking the tools for granted. They've recognized that the basics are just the beginning. A LeanSigma operational excellence model provides a foundation for leveraging your assets and people to constantly increase the value that you deliver to your customers. Is lean standing still in your organization or is it transforming to create your new future? ■

A handwritten signature in black ink that reads "Anand Sharma". The signature is fluid and cursive, with a horizontal line underneath.

Anand Sharma  
Co-founder & CEO  
TBM Consulting Group, Inc.  
asharma@tbmcg.com

A publication of

TBM Consulting Group

4400 Ben Franklin Boulevard  
Durham, North Carolina 27704  
800.438.5535 www.tbmcg.com

#### Publisher

Anand Sharma: asharma@tbmcg.com

#### Executive Editor

William A. Schwartz: bschwartz@tbmcg.com

#### Managing Editor

Angela Scenna: ascenna@tbmcg.com

#### Featured Columnists

Anand Sharma  
Tonya Vinas  
Ken Koenemann  
Greg Babe

#### Contributors

Mary Andringa  
Tonya Vinas  
Nero Haralalka  
David Drickhamer  
Melissa Slater

#### Art Direction and Design

Crossbow Group  
www.crossbowgroup.com

#### Printing

Carter Printing & Graphics, Inc.  
www.carterprintingnc.com

#### Published in Durham, NC

4400 Ben Franklin Boulevard  
Durham, NC 27704

TBM, the TBM logo, and LeanSigma® are registered trademarks of TBM Consulting Group, Inc.

If you would like to receive this journal via email, send your vital information including email address to [tbm@tbmcg.com](mailto:tbm@tbmcg.com)

**On the cover:** Business process improvement in a call center helps our client get closer to customers and roll out upgrades and other client benefits faster.

**Dave Winter**, Stolle Machinery Company, LLC, was named as Vice President, Manufacturing, Colorado Operations. David will be responsible for direction, leadership and oversight of their production sub-system integrators and contract logistics centers within the state of Colorado...Congratulations to the winners of Scholle's 2010 Lean Award winners from the Scholle Packaging Northlake facility: **John Piccininni, Rick Gawenda, Lewis Bowman, Dan Robbins, Ken Eme and Andre Oliveria**. They received the award for excellence in all aspects of a lean enterprise while proficiently deploying best practices and achieving expected results....Catalent Pharma Solutions recently launched a lean transformation at their Wilmington, KY location...**Herb Brown**, formerly of TBM Consulting Group has joined Steris Manufacturing as Director, Lean Enterprise.

Mark Bennett is now the C.I. Leader at Mettler Toledo, Hi-Speed, Ithaca, NY. TBM has added several new employees to support our clients: **Parker Ress**, Graphic Designer and **Brent Hetland**, Dploy Solutions Programmer in Durham, NC...**Edward Qiang LIU** and **Kevin Handayang** are Senior Management Consultants in TBM China and Indonesia respectively...**Patricia Fonseca**, Marketing Manager and **Jose Sanchez**, Senior Management Consultant in TBM Mexico...**Aditi Badve**, Senior Management Consultant in TBM-US. She is a Six Sigma Black Belt with extensive FDA regulatory experience... The following consultants are supporting TBM clients in a contract role: **Ken Black, Bill Sample, Bonnie Smith, Don Beaver, Kevin Hogan, Mike Noonan and Sheri Nemeth**. ■

## 2011 Perfect Engine Award



TBM presents Carlisle Corporation with the 2011 Perfect Engine award recognizing commitment to a continuous improvement philosophy and its success as a lean enterprise. From left to right: Bill Schwartz, TBM Executive Vice President, President and CEO, Mike Voigt, Vice President, Carlisle Operating System, Dave Roberts, Carlisle Chairman, Anand Sharma, TBM Founder and CEO.

## Lean Leads The Way

How one mid-sized manufacturer created a larger-than-life lean culture to unearth a steady stream of profit sharing, cash flow and growth.

*Tonya Vinas, freelance business journalist and former editor of Industry Week magazine*

**Mary Andringa, President and CEO** of Vermeer,

a heavy-equipment manufacturer based in Pella, Iowa.

Vermeer leaders have infused their culture with LeanSigma principles and best practices and are replicating this model as they expand globally.



**Q. You have so many exciting improvement programs going on at Vermeer —whether focused on product and process, or dedicated to employee or community benefit. How do you decide what to focus on?**

We use the process of policy deployment. This past year, for instance, we did another five-year strategy look. We identified some major breakthrough initiatives that we want to focus on for the next five years, and then we drilled down into what our top priorities would be for 2011 and identified our annual improvement projects. From that, we decide the areas where we will put our resources.

**Q. Tell me about one of your top priorities for 2011.**

Our potential — and how we build our resources for — growth in the Latin American market. But as in everything we do, we use lean as we go through the process. So we'll be looking first at growing with the resources that we have — creativity before capital.

**Q. You have seven sites around the globe, approximately 2,400 employees, nearly 600 industrial and forage equipment dealers and an expanding product line. How has having a lean culture helped your company manage complexity?**

There are always complexities and challenges no matter where you are as a company. Lean has made some things less complex. For example, 10 years ago, we did not have standard work and commonality, which made us more complicated. We used lean to create more commonality in engineering, more commonality in processes. But we're complicated in different ways.

In the past 10 years we've enlarged our global footprint and our product/solution offering; we've bought a lot of technology; and we've bought a few companies. And we were able to do all of that because we freed up inventory for cash.



**Q. Now how is Vermeer using lean to prepare for the future?**

We are building strong lean leadership within different entities. What we have found works for us is sharing expertise. For instance, an environmental leader who has experience in doing assessments in all of our different locations would create standard processes and commonality in key areas, and then would work with global managers in implementing these processes. This has helped us to make sure we are moving the lean culture into all areas where we have grown.

I'm not saying everything is exactly the same, because even on our main campus, where a majority of our employees are, we are still working on that. But lean has definitely helped us to understand what standard work is, and what a process is. This is all part of the five-year and one-year plan.

**Q. How has your lean program helped Vermeer to create value in terms of revenue growth, profit sharing, cash flow and other high-level measures?**

Lean has enabled us to acquire new product lines and manufacturing facilities. This gives us growth opportunities in more markets. By continuing to reduce various kinds of waste, we also reduce costs. In reality, these cost reductions have helped to counteract some of the inflation, wage and benefit increases, and especially material increases. But I continue to believe that one of the most important benefits is improving the balance sheet by being able to reduce inventory and increase cash, which can then be used for more value-added opportunities.

**Q. What are you doing to instill lean in the next generation of leaders?**

We are encouraging and helping everyone to get involved in the process. We have next-generation leadership very much involved in the five-year process, and they are involved in every part of the annual improvement projects.

**Q. Do you have a formal system to identify next-generation leaders?**

We have a system of management-resource reviews in which we really look at potential performance. I evaluate my team, my team evaluates their teams, and it goes down the organization. We look for high performers or high potential, wherever they are on the scale. We look at the mid- to high-side of the matrix and work to give those people unique opportunities. Maybe it's lateral movement to give them experiences so they can expand their portfolio. For instance, we'll give them an opportunity to lead an annual improvement project.

**Q. Has Vermeer suffered from the skills shortage in manufacturing?**

That's a concern for us. With our global growth, we're really looking for more people from different cultural backgrounds, especially with bi-lingual or multi-lingual capabilities, and we're trying to develop those capabilities. We're literally moving people who are interested in growth opportunities from location to location, and it's not necessarily from the U.S. to elsewhere, but from elsewhere to the U.S. For example, we are giving an opportunity to someone who was head of our procurement in China, and she is coming over here to work in continuous improvement.





We also have quite a robust internship program, so we are touching college students. Right now we have 200 intern applications, and we'll be able to take 25 to 30, so it's really competitive. We look for someone with multi-cultural experience or who can fit where we have a need. We have hired quite a few people who broaden our perspective this way.



We also do a lot of training. We train welders and machinists, and we work intensely with our local community colleges. We are very proactive about making sure we have the right talent.

**Q. You have a very innovative new-product-development process. Give me an example of a recently developed product that is creating value in a new way for customers.**



Our on-grade trenchless technology for sewer or water installation. Usually these projects use large excavators, and a lot of open trenches. This technology is trenchless, and it is precision boring. It uses a laser, and it takes all of the fluid out of the ground. What you get is perfectly on-grade precision installation of pipe. We are growing the market. It's pretty dependent on government funding, but this is a big issue around the world. So it is a big market.

**Q. How about a service example?**

We've done some training courses for the tree-care industry. It's not a big, profitable program, and it's not ongoing because it is somewhat dependent on government funding. We have participated in weeklong training for potential employees of tree-care companies. Then, at the end of the week we set up interviews for the participants and try to secure them jobs. Checking back with the employers, they were very pleased with the knowledge that these participants had, and often they were promoted into managerial positions faster than they would have been otherwise.

**Q. As far as global lean companies, I consider Vermeer to be world-class. Yet, true to lean principles, your company still works to eliminate waste in very basic ways. Your dealer inventory-replenishment program is a good example.**

That's right. We worked on one line to reduce lead time. What required 52 days to deliver in a batch mode is now at a little over two days. When a brush chipper is sold to a retail customer, we automatically start building another brush chipper for the dealer and get it to them as soon as possible. Previously, we had been incentivizing them to order once a month. So they were ordering in batches, but not selling in batches, and the flow didn't fit.

**Q. Can you summarize the project?**

We had a kaizen event with dealers to figure out how the trigger points would work, and we launched it with a couple of pilot dealers. Then we would launch it at one dealer a month and work out the bugs before we moved on. Within a year we had all of our domestic dealers on the program, and they love it. Before, they would place an order without really knowing what customers wanted, and then we would fill that order over the next couple of months.

Now, we know at 4 o'clock in the morning what they sold, and we automatically put a replacement in the line up for them. And often, we have that chipper on a truck on the way to them the next day. [We have some buffer in our yard, and they have some buffer in their yard.]

So inventory turns for dealers have improved tremendously, and they get fresh inventory. This used to be a problem because we would have aged inventory, and they would have aged inventory, because forecasts changed.

**Q. What have been the biggest business benefits for dealers and Vermeer?**

They tell me that they are spending 10 to 20 fewer hours a month in planning. A lot of dealers have multiple locations, so they spent a lot of time locating equipment and moving it from one location to another. Now, we deliver directly to the site from where they are going to sell it.



For Vermeer, when we got the dealers set up, we turned around and did the same thing with the key suppliers for the model line. We really kept working at the whole line from the suppliers to the production process, to the dealers. Because of this project, we've made great strides with our domestic industrial dealers for at least 50 percent of our volume.

**Q. What lean practices do you use most in your work life?**

I'm really into standard work. I'm constantly looking at how to pack, how to go into airports and how to go through customs in ways that take time out of a process. And I'm always sequencing what has to be done when. ■

---

“Because of this project, we’ve made great strides with our domestic industrial dealers for at least 50 percent of our volume.”

---

## Simplification Brings Medical Device Supplier Closer to Customers

Identifying and removing hard-to-see waste in the call center increases customer value and revenue opportunities.

*Tonya Vinas, freelance business journalist and former editor of Industry Week magazine*



Stellar customer care is a key growth driver at this company.

Identifying waste — you could call it the first step toward process improvement. Look around for piles of parts or barricades of boxes. Time how long an operator searches for a missing tool. Count the number of steps someone takes to deliver information that could have been conveyed visually.

These typical wastes are easy to spot on an open plant floor where inventory is everywhere. But what if operators are on phones instead of a production line? Such was the setting for a customer call center when the company asked for TBM's help.

Stellar customer care is a key growth driver at this company. But as sales grew over the years, operations in the call center became increasingly complicated and less effective.

Leaders suspected the potential to increase throughput and quality (more calls, more sales and a better customer experience). What was needed, they decided, was a way to apply LeanSigma tools and practices to this non-manufacturing operation.

“As we've expanded, we didn't look internally at our processes and ask, *Does this still make sense? And do our internal processes ultimately bring value to our external customers?*” explained a company spokesman. “With TBM's help, we were able to step back, evaluate our processes and answer those questions.”

### CLIENT

A privately held company that develops, manufactures and sells disposable medical devices, with clients in 90 countries.

### CHALLENGE

The company identified three goals for its in-house call center for new and existing customers: improve customer satisfaction, reduce costs and increase revenue.

### SOLUTION

The call center team used traditional LeanSigma practices and tools to identify “just-do-it” waste removal opportunities in the call center; streamline call routing; standardize work; and implement plans for ongoing training, measurement, control and sustainment.

### RESULTS

The company achieved short-term efficiency gains without a major reorganization. Company leaders say they are now closer to customers and able to roll out product upgrades and other client benefits faster.

Companies in high-growth sectors such as medical device and equipment manufacturing often unintentionally complicate processes as they expand. Fortunately, as this example demonstrates, traditional process-improvement tools and practices can be an effective solution.

### Current State: A Complicated Path

The company's client-focused and nurse-focused associates are not typical customer service representatives (CSRs). Because of the highly personal nature of the diagnosis for which these devices are used, CSRs working directly with patients need to be able to provide encouragement and emotional support while answering questions, giving instruction, and matching

---

“Through our customer service initiatives, we’ve enhanced our position as a customer-facing organization...”

---

customer needs to the right products. This balance requires skills developed through experience. CSRs working directly with healthcare professionals who are caring for patients also need a high level of skill and experience, as well as clinical knowledge. These valuable employees give the company a competitive advantage.

“Through our customer service initiatives, we’ve enhanced our position as a customer-facing organization,” said the company spokesman. “By focusing on the needs of the end-user, we’ve been able to build greater

credibility and consistent brand recognition among our customers.”

But despite the model's strengths, problems were uncovered when the call center team and TBM mapped the process of answering incoming calls and serving customers:

- **Information flow was complicated:** Caller information was being passed from one department that answered the phones to the CSRs. Also, a batch-and-queue process pushed callers to one group for processing their enrollments and insurance, and then back to the original phone-answering team to order product samples. The result was a long lead time between an incoming call and a satisfied caller.
- **Inconsistencies and variations among coordinators and associate coordinators:** No standard work. No best practices. Not even regular lunch-hour coverage. And there was variation in yield, which was not based on experience.
- **Weak spots in customer service:** Six percent of calls were dropped during transfers; the average time to answer a call was 17 seconds; and an average of 21 calls went to voice mail each day.

The findings revealed obvious improvement opportunities when mapped next to a future-state value stream, but company leaders were reluctant to move there directly. They feared that too much change too soon would erode brand recognition that had been carefully nurtured.

The solution was to design an “interim state” and create a six-month timeline to get there. Ultimately, a unit known as “Triage,”

which provided mainly back-office-type functions, would be eliminated and its duties absorbed by CSRs.

Without Triage, incoming calls to CSRs would increase, so early kaizens focused on this challenge.

The work started with client-focused coordinators. Tasks and training were divided into a list of “just-do-it” items and creation of standard work for operators. Results after one week showed marked improvement in key customer-facing metrics and the potential to save 450 hours in work time annually.

### Best-Practices Approach Accelerates Improvements

At first, the CSRs were resistant to create standard work. Each had their own practices that they felt cemented relationships with callers.

#### Just Do Its: (450 Hours Saved Annually)

- > **Phone Enrollment to Electronic Form – Projected savings of 275 hours**
- > **Lead to Electronic Form – Projected savings of 160 hours**
- > **Fax Remaining – Projected savings of 15 hours**

	Pre-kaizen	1 Week Post-kaizen	5 Weeks Post-kaizen
Dropped Calls	6%	3.8%	2.3% (Goal 2.5%)
ASA (Average Speed to Answer)	17 seconds	9 seconds	13 seconds
Calls Going to Voice Mail	21	9	7

“Also, with this new practice, we are able to uncover revenue opportunities that were previously overlooked.”

“They thought of themselves as developing a personal relationship with customers and said, *‘We don’t want to sound like robots,’*” said Nero Haralalka, a TBM practice leader who worked with Hollister. “So we said, O.K., we won’t make you sound like robots, but we can develop some best practices for everyone to use.”

Standard-work documentation and training followed for voicemail greetings, introductions and messaging, customer titles, identifying the “why” for each call, addressing insurance questions, etc. In all, the group identified 22 must-have best practices used to create training documents, and 17 nice-to-have best practices that would become part of an online best-practices forum.

The kaizen team also identified key metrics to measure their progress and a control plan that included weekly peer-to-peer meetings, a quarterly best-practices review meeting, and creation of a quick-reference guide for operators.

Additionally, they identified the time that callers are on hold as an opportunity for upselling (14,400 patients per year) and set a goal of increasing yield (patient enrollment) by three percentage points a year, which could mean more than \$650,000 in cost of goods sold.

This strategy worked well based on results five weeks after the first kaizens.

The second focus area was the group handling incoming calls from nurses. The streamlining and efficiency work mirrored the first effort. Potential benefits identified included increased enrollment of 67 patients per year and new incremental revenue of more than \$400,000 a year.

### A Plan for The Future

More powerful than short-term gain is that the improvements make the company faster and more nimble in the market. New strategies and tactics can be implemented faster, and added benefits will reach customers sooner.

“By eliminating some of the inefficiencies on the floor, taking advantage of multiple just-do-it initiatives, and embracing an overall sense of change, we have been able to expedite new strategies that will make us much more competitive in our marketplace,” said the spokesman. “Also, with this new practice, we are able to uncover revenue opportunities that were previously overlooked.”

Going forward, the company is confident team members can sustain the improvements they’ve made and identify and implement more as they move toward the future-state vision.

According to the company spokesman, “This process change has allowed us to handle more customer inquiries and makes for a better consumer experience when they call us. To that end, we will continue to evaluate the changes that we’ve implemented, while exploring new opportunities and better methods of executing the sustainment process.” ■

## Value Stream Segmentation

When It Comes to Serving Your Customers,  
One Size Does Not Fit All

By Ken Koenemann, Managing Director, TBM Consulting Group, Inc. © 2011



By Ken Koenemann

Managing Director, TBM Consulting Group, Inc.

Velocity and flexibility have been supply chain management buzzwords for decades. These objectives have prompted companies to invest billions of dollars into new information technology, supplier development programs and redesigned distribution networks. Much of that effort has been a waste of time and money. Let me explain.

In a traditional manufacturing business the sales department always wants more inventory. Suppliers want larger orders. And operations wants longer production runs. Driven by economies of scale thinking, each of these functional biases ultimately reduces velocity and flexibility, and increases costs.

Customers still want their orders delivered tomorrow, or sooner, but too often the specific items or configurations that they want are out-of-stock and put on backorder, or the sale is simply lost.

At some point the call goes out from the corporate office: Our supply chain must be revamped and optimized to increase velocity and flexibility. New IT systems are then rolled out to increase material and order visibility. Manufacturing processes are leaned out; tripling inventory turns and reducing order lead times from a month to a week or less. The supplier base is rationalized and partnerships are formed with key vendors.

Distribution networks are restructured. And, lo and behold, material and goods flow faster and orders are delivered in half the time. And then competitors follow suit.

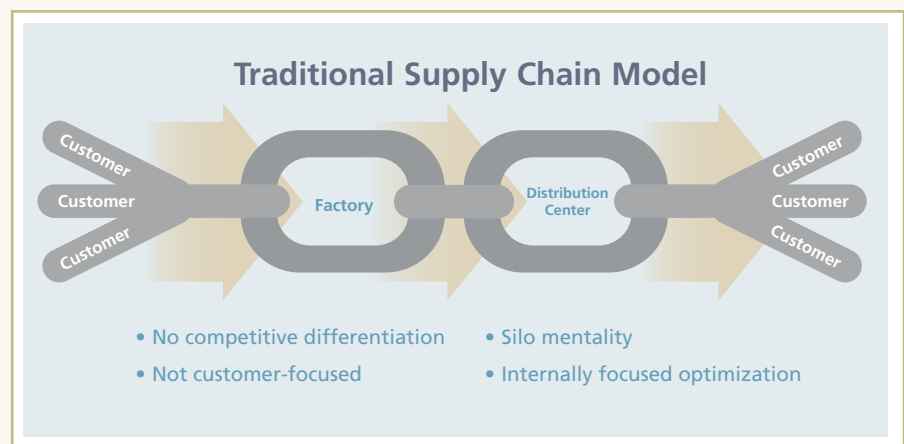
So the supply chain must become even faster and even more flexible. More investments are made, suppliers' arms are twisted, production operations are expedited even further, and... I think you get the picture. Unfortunately, a very important player is overlooked in this one-size-fits-all supply chain optimization strategy: your customers.

### Value stream segmentation connects customer demand, market strategy and execution

True customer focus starts from a value stream segmentation perspective. The idea that you should organize your businesses around value streams has been promoted for years, but the vast majority of companies still approach production planning, manufacturing and order fulfillment—again, driven by economy of scale and cost-based thinking—in ways that treat all customers the same.

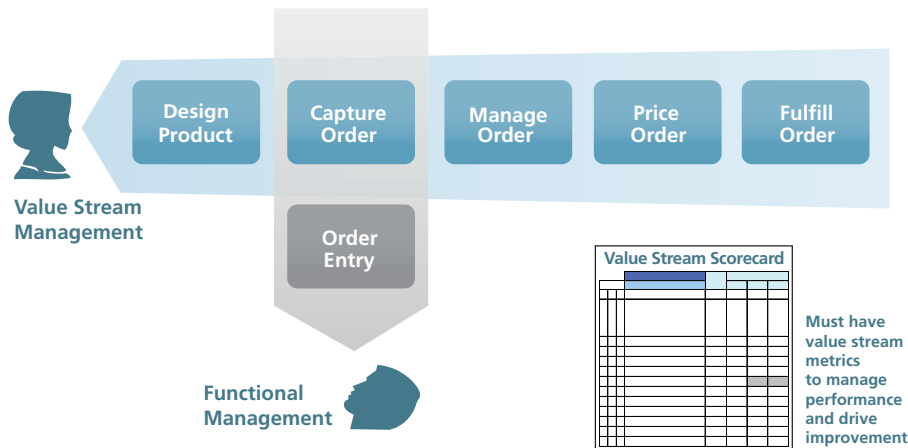
There are a variety of reasons why a business should not serve all of its customers with the same order fulfillment strategy.

By analyzing and segmenting market requirements, a business that is truly demand-driven will optimize individual value streams to match customers' unique needs.



*A traditional supply chain model is based in a silo mentality, internally focused, and offers little competitive differentiation with customers.*

“Whenever there is a product or service for a customer, there is a value stream. The challenge lies in seeing it.”



Value Stream Management offers a more customer centric approach. The real challenge lies in physically seeing the value stream from the customer perspective. Organizations must develop value stream metrics to manage performance and drive improvement.

**From the customer’s perspective:**

- **Customer service** – Strategic customers deserve and expect concierge-level service.
- **Service requirements** – Different customer segments have different product option needs and value-added service requirements.
- **Innovation and new products** – New products and features developed for one market segment may have little interest or appeal for another.

**From a business perspective:**

- **Profitability** – Knowledge of long-term sales and earnings potential should influence order fulfillment commitments.
- **Cost control** – Order-fulfillment models should match customer expectations. Faster service, for example, could be offered at a premium for customers willing to pay for it.
- **Sales growth** – Tighter alignment between customer expectations and order fulfillment performance will improve the customer experience for both premium- and value-oriented customers, improving profitability and revenue growth.

**One Size Does Not Fit All**

Value stream segmentation starts with understanding actual customer requirements through demand segmentation. By analyzing and segmenting customer requirements, your businesses can optimize individual value streams to match the unique needs of those customers.

A demand segmentation initiative will look at order volumes, order variability, historic inventory levels, shipment records and point-of-sale data. In the factory, this analysis can be used to determine if a product should be made using a “pull” system, or if it should only be produced on a made-to-order basis. It should also influence supply chain strategies.

For example, PC manufacturers in various markets around the world have attempted to perfect a mass customization business model in order to offer an almost infinite variety of product configurations based on each customer’s unique needs. What they’re discovering is that a significant percentage of customers don’t require such extreme customization.

Retail outlet buyers, for example, are perfectly happy with a fairly standard configuration, with the possibility perhaps of a few minor modifications. The mass customization fulfillment model does not match the value stream requirements of those customers.

In this case, a build-to-stock fulfillment model improves product availability for those less finicky customers who receive their

Learn more about value stream segmentation on our webinar. Join Ken Koenemann, TBM Managing Director and value chain expert, to learn how organizations are embracing value stream management to outperform competitors and optimize internal performance.

**One Size Doesn't Fit All Customers — Using Value Stream Management to Deliver Market-Based Strategy**

orders faster. It also reduces costs for PC makers, which can manufacture and ship more standardized products via container ship instead of air freight. Reducing such transportation costs alone could save billions of dollars for some of these companies. Apple Inc. (www.apple.com) has led the way in this area with products that are virtually identical with minimal customization. This allows its contract manufacturers to quickly ramp up assembly of new products and ship them out by the millions of units.

Another example on the customer side could be any of the major suppliers to the mammoth retailers, such as Wal-Mart and Target, or the home improvement centers like Home Depot and Lowe's. The sales volume is so significant that these suppliers typically have dedicated account managers and teams that include cross-functional

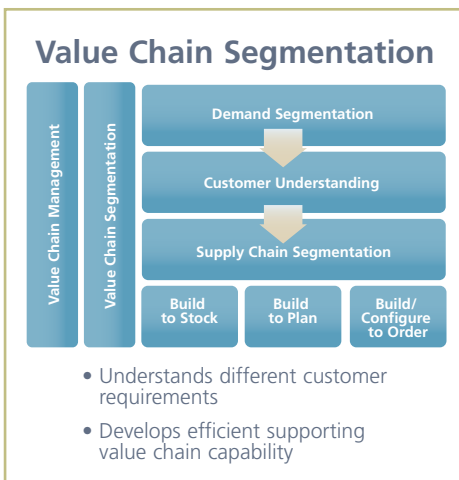


In effect, by embedding a team with the customer, they have begun to segment their fulfillment models all the way back to new product development to satisfy each customer's unique market needs.

Inventory reductions and service level improvements will typically deliver sufficient cost savings to justify a value stream approach. In addition to cost savings, applying the appropriate order fulfillment strategies by value stream promotes long-term sales growth by improving overall customer satisfaction. Supply chain velocity and flexibility should only be pursued when those performance characteristics enhance the alignment of your order fulfillment and supply chain structure with the needs of current and potential customers.

Ask your operations management team how well they understand the requirements of your primary customer segments. Does your operations, order fulfillment and customer service structure support the needs of those value streams? ■

*Ken helps clients leverage lean into the extended enterprise—applying lean principles to their sourcing, manufacturing, warehousing, distribution, planning and scheduling processes. He was trained by two original members of Taiichi Ohno's Autonomous Study Group and spent six months in Japan learning and implementing the Toyota Production System.*



representatives from product development, purchasing, production and distribution. Each works closely and exclusively with counterparts within the customers' organizations. They may even have dedicated production lines, distribution center space and transportation lanes for these customers.

## Definitions

- > **Value Stream Management** – A strategic approach for organizational alignment and structure that ensures all functions are aligned to support specific value streams or strategic lines of business. A value stream manager has profit & loss (P&L) responsibility for a segment and generally manages direct reports or a matrix organization aligned to effectively run the business.
- > **Value Stream Segmentation** – A strategic process for analyzing and understanding different customer requirements within a value stream that helps organizations to define and implement product features, service offerings and customer interfaces aligned to customer expectations.
- > **Demand Segmentation** – An analytical approach to understanding customer buying patterns through the analysis of volume, variability and frequency to determine product portfolio needs, optimize sourcing, manufacturing and distribution decisions and select appropriate fulfillment and management systems.
- > **Supply Chain Segmentation** – An approach for grouping customers with similar fulfillment needs and then developing distinct supply chain operations to meet those particular requirements. The objective of segmentation is to develop distinct supply chains that are able to more efficiently and profitably meet a wide range of customer needs.

By Greg Babe, President and CEO of Bayer Corporation and Bayer Material Science LLC



By Greg Babe

President and CEO of Bayer Corporation and Bayer Material Science LLC

## What's happened to American manufacturing?

America was built by generations of men and women who got out of bed every morning and made something. Their hard work and ingenuity were the backbone of this country.

But somewhere along the line, our country fell out of love with manufacturing. After World War II, U.S. manufacturing contributed as much as 30 percent of GNP. However, since 2007, due to a number of factors such as the recession, that share of GNP has fallen to just 11 percent. We stopped making products, not just from “mature industries,” but from the high-tech space, too. Innovations that define this generation – cell phones, microprocessors and plasma TVs – and those that will shape the future aren't being made in America anymore.

These technologies are now primarily coming out of China, where companies are quickly “scaling” up from start-up to mass production. One Taiwanese company alone, Hon Hai Precision Industry Company, plans to employ more than 1.3 million by the end of the year. That's more than the worldwide headcount of Apple, Dell, Microsoft, Hewlett-Packard, Sony and Intel combined.

So how do we correct the course of the American manufacturing industry? The framework for an answer may be found in the work of two unheralded geniuses: Angus Maddison, a Scottish economist, and William Bernstein, an American neurologist turned investment advisor turned historian.

For nearly six decades, Maddison looked at a single economic statistic: GDP per capita in every country, across all of human history. Per-capita economic growth was essentially nonexistent for much of recorded history, until about 1820 and the onset of The Industrial Revolution in the United

Kingdom. Here began a remarkable growth trajectory, which works out to be about two percent of inflation-adjusted income growth per year. It continues to this day.

Dr. Bernstein entered the picture with his book, *The Birth of Plenty*, deciphering the historical forces behind such a dramatic change. Bernstein's “hypothesis of wealth” is based on four conditions: property rights, scientific rationalism, capital markets, and efficient transportation and communication. Each one has to be present to create real and sustainable economic growth. Combine these

---

“Building upon the current manufacturing momentum for continued long-term success depends on whether or not we encourage the factors that give rise to economic growth.”

---

four forces and you begin to manufacture products that improve people's lives.

Take a deeper look at Bernstein's four conditions of industrialization, and you can see a stark correlation to the decline of manufacturing here in America, and how we can start moving in the right direction again.

**Property rights:** The U.S. tax system has a chilling effect on property rights. America's corporate tax rate, at 35 percent, is the second highest among the 30 OECD countries. Only Japan has a higher tax rate. While most countries are lowering corporate taxes, America is doing the opposite.



# Bayer

**Scientific rationalism:** Our nation's need for scientists and engineers will only grow as baby boomers retire. Reaching students early is key to sparking interest in science.

Bayer Corporation's *Making Science Make Sense*® program promoting hands-on learning is one example.

**Access to capital markets:** The government must ensure a stable financial system, efficient capital markets and ethical business practices. Carefully implementing new financial reforms will give banks the certainty they need to begin taking prudent risks and lending in a way that grows our economy and creates jobs.

**Transportation:** We need to invest in infrastructure to more efficiently move products and people. A recent analysis by the nonpartisan Milken Institute estimates that an infrastructure investment of \$225 billion over three years would create 6.2 million jobs, \$238 billion in earnings and \$775 billion in output.

There are some positive signs. February was a good month; the U.S. manufacturing sector saw an additional 33,000 jobs and the highest output indexes in seven years. These large gains were spurred by declining inventories and robust export demands.

Building upon the current manufacturing momentum for continued long-term success depends on whether or not we encourage the factors that give rise to economic growth. It's a collaborative process and requires ongoing discussion between industry leaders, elected officials, regulators, our own employees, and the public to keep it going.

We need to start the conversation. The decision is ours alone and will ultimately decide the economic future of this country. ■



**TBM LeanSigma® Institute***2011 Schedule Highlights***USA****LEANSIGMA GREEN BELT AND BLACK BELT CERTIFICATION**[www.tbmcg.com/lsgb](http://www.tbmcg.com/lsgb)

- WEEK 1: Define/Measure/Analyze: **July 18 – 22, 2011** Durham, NC
- WEEK 2: Event Week: **August 15 – 19, 2011** at Host TBD, USA
- WEEK 3: Analyze/Improve/Control: **September 12 – 16, 2011** Durham, NC
- WEEK 4: Advanced LeanSigma Skills (Black Belts Only): **October 10 – 14, 2011** Durham, NC

Hands-on, experiential belt training for operations professionals who need to combine lean and Six Sigma tools to rapidly implement high-impact business improvements. Green Belt certification provides candidates with LeanSigma principles, kaizen methodology and Six Sigma statistical problem-solving tools to create a faster approach to identifying and correcting problems. Black Belt certification teaches candidates how to lead Sigma Kaizen events and how to use kaizen to complete black belt projects in six weeks versus a typical six months. The curriculum includes value-stream analysis and Six Sigma statistical problem-solving tools. LeanSigma Green Belt is not a prerequisite to LeanSigma Black Belt.

**EXECUTIVE ROUNDTABLE**[www.tbmcg.com/roundtable](http://www.tbmcg.com/roundtable)

- **August 10 – 11, 2011** in Atlanta, GA with a tour of WIKA Instrument Corp.

A 1.5-day workshop designed for executives who wish to experience first-hand how manufacturers are leveraging lean as a strategic platform for growth. If you consider your company to be poorly positioned for growth or unable to translate continuous improvement results into meaningful, measurable value then you should consider attending this intimate roundtable discussion for senior business leaders.

**LEANSIGMA GLOBAL SUMMIT**[www.tbmcg.com/globalsummit](http://www.tbmcg.com/globalsummit)

- **September 21 – 22, 2011** in Las Vegas, NV

2 days, 20+ breakout sessions, featured speakers and panelists to help you achieve operational excellence in the workplace. We expect nearly 150 operations and continuous improvement leaders from a wide variety of industries in the manufacturing and service sector. Early bird discount and group discounts available.

**EVENTS**

Visit [www.tbmcg.com/events](http://www.tbmcg.com/events) for information about webinars and other opportunities to hear TBM and client presentations on a wide variety of topics related to operational excellence

**Corporate Headquarters**  
Durham, North Carolina  
800.438.5535

**Brazil**

São Paulo  
55.11.5051.7490

**China**

Pudong, Shanghai  
86.21.6888.6671

**Germany**

Frankfurt  
+49(0)69.710.455.172

**India**

Gurgaon  
91.124.437.5995

**Mexico**

Monterrey  
52.81.50.00.91.36

**United Kingdom**

Nottingham  
+44 (0) 1623.758298

Join us on



PRESORTED  
FIRST CLASS  
MAIL  
US POSTAGE  
PAID  
RALEIGH, NC  
PERMIT #2483

TBM Consulting Group, Inc.  
4400 Ben Franklin Blvd.  
Durham, NC 27704  
[www.tbmcg.com](http://www.tbmcg.com)

