

Lean Enterprise Division

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Chair's Message

Season's Greetings:

It is December, and before you know it 2013 will be history. This is when we can spend time with family and friends and reflect on all that has happened this year and all of the blessings we share. I personally want to thank everyone who has contributed so much to ASQ and to our division.

Many people have put in lots of hours preparing for our conferences, both the Lean and Six Sigma Conference and the ASQ World Conference on Quality and Improvement. Particular thanks to David Behling, our program chair, and his committee for reviewing the abstracts and presentations that were ultimately selected. I know their selections for next year will provide us with another great Lean and Six Sigma Conference—you will not want to miss it, so mark your calendars for February 24 – 25 and join us in Phoenix, AZ. And also make plans to join us at the World Conference in Dallas, TX, May 5 – 7. Thanks to Kiami Rogers, past chair and hospitality and arrangements chair. Kiami always puts on the best hospitality suite at these outstanding events. If you have been there, you know it is the place to be.

We are going to miss Bernie Klemmer, our treasurer, who is resigning to take on the role of chair of the Princeton New Jersey Section—all the best Bernie and thank you so much for your service to the division. Thanks also to Tammy Miller, who has volunteered to serve out Bernie's term as treasurer in 2014.

We will also miss Linda Milanowski, our ASQ Community Development representative. Linda retired in October and had been with the Lean Enterprise Division since its inception in 2006. We wish Linda all the best in all of her future endeavors. And we welcome Megan Noviskis and look forward to continued strong collaboration between the LED and ASQ Community Development.

Thanks to David Hight, our secretary, for taking notes at all our meetings and teleconferences, and for helping to keep us on track for all of the assignments we give ourselves. Also thanks to Maria Stoletova for being our membership chair and working together with Madhavi Chodankar, our voice of the customer chair, as we continue to better understand the wants and needs of our members and the other customers we serve.

Thanks to Alan Mendelssohn for establishing our Fellows nomination process and serving as its first chair. Thanks also to Patricia Morrill, our Healthcare Division liaison, and to Kam Gupta, our Human Development and Leadership Division liaison. For those in healthcare, you will not want to miss the special Lean in Healthcare one-day workshop, which follows the Lean and Six Sigma Conference on February 28—Patricia was key to making that workshop happen.

Thanks to Scott Smith, Internet liaison, who keeps our website up to date, and thanks also to Lance Coleman, who serves as both the publications chair and the newsletter editor. This newsletter is just one part of what Lance is providing to the division.

And finally, thanks to Sylvia Soria, audit chair. It is getting to be that time again, Sylvia. Your service to the division is critical in making sure we maintain our fiduciary responsibilities to our members. And thanks to Javed Cheema, our certification chair, and for his help in promoting the Lean Bronze Certification.



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This is also a time to remember those who are no longer with us. This includes Larry Stern—husband of our chair-elect Terra—who passed away in early October. Those of us who knew Larry as a colleague really appreciated his professionalism, knowledge, and humor. He was a great supporter of ASQ and of the Lean Enterprise Division. Our thoughts and prayers go out to Terra and her family, particularly at this time of year.

We have much to be thankful for. Thanks again to all of you for being members of ASQ and the Lean Enterprise Division, a global network of professionals helping individuals and organizations apply proven and leading-edge lean principles and practices to achieve dramatic results for personal and organizational success.

Sincerely,

Frank Murdock

Chair, ASQ Lean Enterprise Division

Note From the Editor

Season's Greetings:

For me, this is a time for reflection and thanks as well as celebration. Now that we are coming to the close of another year, I would like to thank all of my Publications Committee members for working so hard to ensure quality content for this newsletter. I would also like to thank you, the reader, for your support and feedback, which allows us to continuously improve our offerings.

Though I didn't know Larry Stern as well as many of you, I too mourn his passing and extend my prayers and condolences to his wife, Terra Stern, our division chair-elect, and their family during this difficult time. During my brief encounters with Larry, I found him to be smart and energetic with a dry but potent sense of humor; he will be missed. I will also miss working with Linda Milanowski, who retired in October, and am grateful for all of her hard work as headquarters liaison for our division along with the many other duties that she performed for ASQ. On a positive note, I would like to say welcome and thanks to Jeanine Becker, who is replacing Linda as our headquarters liaison and newsletter architect. Looking forward to working with you, Jeanine.

Along with other information, this month's issue includes the following articles:

- A Visit to Two Japanese Hospitals "Leaning" Toward Lean, by Mark Graban
- T³ Tools, Techniques, and Templates: Pull Systems/Kanban, by Chad Vincent
- The Paradigm Shift in Product Development With Lean, by Madhavi Chodankar
- Lean Project Management, by Terra Vanzant-Stern
- Learning From the Experience of ... George Koenigsaecker, by David Behling
- A book review of *Lean Supply Chain & Logistics Management*, by Paul Myerson

Looking ahead, we are very excited about the upcoming Lean and Six Sigma Conference taking place at the Pointe Hilton Tapatio Cliffs Resort in Phoenix, AZ, from February 24 – 25, 2014. The theme of the conference is "Sustaining Results Through a Culture of Quality." Also, for the first time we will add a third day for a lean in healthcare workshop! Go to asq.org/conferences/six-sigma/index.html for more details.

If you attend the conference, please stop by the LED booth and introduce yourself. In the meantime, keep "leaning forward," and let us know if there is something more the division or this newsletter can do to better promote lean and serve as a resource to our professional community.

Warm regards and safe travels,

Lance Coleman

LED Publications Chair, Newsletter Editor



A Visit to Two Japanese Hospitals “Leaning” Toward Lean

by Mark Graban

Last November, I had the opportunity to visit Japan for the first time as part of a lean healthcare study mission. It was fascinating to compare notes with colleagues from the United States, Belgium, and Holland as we visited factories, including a Toyota plant, and two hospitals using the lean methodology—at least to some extent.

One interesting takeaway from the trip was a better understanding of the differences between Toyota’s company culture and the typical Japanese business culture. People in the United States often complain it is hard to embrace lean or to have a “kaizen culture” of continuous improvement because it somehow goes against our national nature, including our tendency to be individualist “cowboys.” Toyota and Japanese lean companies have different challenges to overcome.

One cultural aspect that fits well with lean is that Japanese workers, generally speaking, more willingly follow the routines, or kata, they are taught without questioning things or deviating from them. I was taught that Japanese store clerks all tend to follow the same kata even if they work for different companies. It’s basically standardized work, in a lean context.

However, one Japanese host said, “Kaizen does not come naturally to us.” That statement would probably shock most people, but a similar statement was made at the hospitals we visited. What are the cultural barriers to kaizen in Japan? First is the high value placed on harmony in Japanese society. This leads to organizational cultures where people are afraid or unwilling to speak up or stick their necks out—the tallest blade of grass gets cut. Toyota and other companies have had to work hard to create a climate where people can and do make waves—in a constructive way. It is, in a way, easier for a worker to reach up and pull the physical “andon cord” that hangs over an assembly line than it would be to speak up.

The two hospitals we visited did not have andon cords, but they had some lean practices and, more important, some aspects of lean culture that they, like Toyota, were working hard to create.

The first hospital we visited had what appeared to be a tools-driven approach to lean. Their primary focus was on 5S, although it was by no means naturally occurring or consistent across all departments. Some departments, like the operating rooms, looked as messy as any “pre-lean” hospital in the United States. However, the inpatient units and pharmacy had made a number of improvements in workplace organization. The CEO of the first

hospital took inspiration from factories, where workers “have everything they need for their job when they need it.” The CEO set a good example by first implementing 5S in his office and by participating in biannual 5S audits around the hospital.

Nurses had used 5S to better sort and organize crutches, cables, and other equipment. Drawers in crash carts and the nurses’ station desk had foam cutouts or clearly marked areas for each tool or medication, making it easy to see if anything was missing (which could be a matter of life or death in the case of meds). Most visibly, each nurse had a bag on her hip with the most frequently used items, including hand gel and tape. The bags, when not worn, were hung neatly on designated pegs.

The second hospital we visited had more of a CEO-driven quality culture, with a “medical quality improvement” methodology that had incorporated elements of TQM, Six Sigma, and lean over time. The CEO emphasized the need to “change minds, including top management” if the organization was going to change. He said, humbly, “We’re not sure if we are doing a good job, but we are serious about it.” The hospital, during 20 years of the CEO’s leadership, went from bankruptcy to having enough money to build a new hospital. Most Japanese hospitals are losing money today, said the CEO.

The hospital encourages quality improvement teams to work in annual cycles, and each team is required to recruit a physician to participate. The teams, such as one that reduced waiting times for walk-in patients, are taught to follow the scientific method and the PDCA cycle, or the Deming cycle. Their annual theme for improvement was, “Think for yourself, then act.” The high-level process they taught was:

1. What is the current situation?
2. What are the reasons behind these problems?
3. Where are some possible solutions?
4. Try out the solutions.
5. Check: Were the solutions effective? What were the results?
6. If things improved, then standardize and prevent backsliding.

As different as things are in Japanese hospitals, it was all very familiar to the international visitors. As a hospital leader said, “Ideally there would be no lean or kaizen program; we’d just do it naturally.”

Newsletter Publishing Guidelines

Main Factors

1. Technical merit
 - Includes correct facts
 - Relevant to our mission
2. No selling of services
3. Nothing offensive
4. Original content only. Nothing previously published or presented.

Additional Factors

1. Not too similar to something recently done
2. Desired subject matter – how timely is material?
3. Well written (not requiring extensive editing)
4. Needed length

Categories — Newsletter submittals should fit into one of the following categories:

- A Case for Lean (ACL) – case studies and articles on successful deployment of lean in business
- Lean in Life (LIL) – examples of lean outside the workplace
- Tools, Tips, and Techniques (T³) – practical applications of specific tools
- Lean in Print (LIP) – book reviews
- Lean Bytes (LB) – event coverage, announcements, and other news

Length — Desired length for tips, book reviews, articles, and case studies is 400 – 800 words. Tips and book reviews would be in the 400 – 600 range, articles anywhere from 400 – 800 words, and case studies 500-plus words. If a submittal goes beyond 800 words then we may look at breaking it into more than one part.

Review and Selection Process — All submitted works will be reviewed by at least two members of the subcommittee. The subject for a book review should be approved in advance by either two members of the subcommittee or by the subcommittee chair. Upon approval of a submitted work, the subcommittee forwards the piece to the ASQ LED newsletter editor for final review, approval, and release. The newsletter editor will determine when accepted articles will be published.

Other — All articles containing photos should be submitted with the photo(s) as a separate jpeg attachment.

Calendar/Main Theme(s)

(Submittals relating to the main theme receive priority)

Issue	Content
February 1	Submit content by December 1 – preview of Lean and Six Sigma Conference
May 1	Submit content by March 1 – preview of ASQ's World Conference on Quality and Improvement
September 1	Submit content by July 1 – training, certification, and back-to-school
December 1	Submit content by October 1 – year-end reflection/looking ahead to next LSS conference

T3 Tools, Techniques, and Templates: Pull Systems/Kanban

by Chad Vincent, LBC (or COA Representative)

Pull is the method of producing an item only when the customer demands. A pull system is a continuous process improvement system that is established to facilitate pull. It is one of the basic building blocks of lean and the subject of this issue's T³ column. T³ is a regular feature of the *Lean Enterprise Division Newsletter* dedicated to introducing some of the common tools, techniques, and templates used to help organizations on their lean journey.

"It is not the most intellectual of the species that survives; it is not the strongest that survives; but the species that survives is the one that is able best to adapt and adjust to the changing environment in which it finds itself."

—Leon C. Megginson¹

What Is a Pull System?

Pull is one of the three elements of Just-In-Time. The other two elements are takt time and standard work. The pull system is a method of controlling production according to only what the customer (or downstream process) consumes, based upon a signal of what is withdrawn from "inventory." The pull system links actual demand information to the upstream process to prevent overproduction. The pull system was developed by Toyota based upon the principles of the U.S. supermarket. In the U.S. supermarket system, shelves are replenished after customers "pull" what they require when shopping. Based upon triggers set on inventory levels in the warehouse, the supermarket would reorder items to replenish the shelves. Therefore, all inventory is controlled by the actual customer demand.

While in this article we will not discuss the traditional manufacturing of "push production," there are three distinct elements that distinguish pull from push²:

1. Defined: A defined agreement with specified limits pertaining to volume of product, model mix, and the sequence of model mix between the two parties (supplier and customer).
2. Dedicated: Items shared between the two parties must be dedicated to them. This includes resources, locations, storage, containers, and so forth, and a common reference time (takt time).
3. Controlled: Simple control methods, which are visually apparent and physically constraining, maintain the defined agreement.

What Are the Elements of the Pull System?

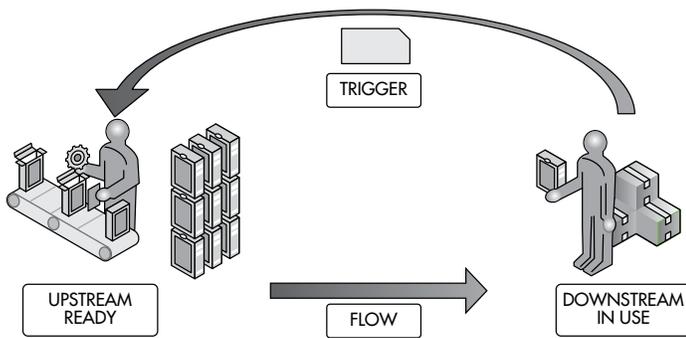
There are four key elements of a pull system:

1. Trigger: The method of communicating what needs to be produced, where the inventory belongs, when it should be produced, and how many to produce.
2. Flow: The "path" of the material or information and the speed of transfer.
3. Upstream Ready: The upstream process is only producing when triggered, therefore it is in a "ready" state to produce when triggered. This is where items are stored (not stored at downstream process).
4. Downstream in Use: The downstream process is in production and uses a predetermined amount of product prior to "triggering" the upstream process to produce more.

This is different than having the upstream process produce to a forecast demand. The upstream process produces only based upon what the

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Figure 1: 4 Elements of the Pull System



downstream process consumes. Therefore, the downstream process inventory or WIP is only what is being consumed. There is no extra inventory at the downstream process.

What Is a Trigger?

Pull systems are often called kanbans. In literal terms, kanban (pronounced kahn-bahn) is an element of the pull system, the trigger. Kanban is Japanese for “sign board.” It is often interpreted as “sign,” “visual record,” and “shop sign.” Not to be confused with the literal translation, in Japan the term kanban can be used to mean both the “kanban card” and the “kanban system.” The trigger of the pull system is simply the method of communicating to the upstream process the following:

- What to be produced or provided (in service)
- How many to be produced
- When to begin production
- Where to place the produced items when complete (location)

Figure 2: Example of a Kanban Card

Part No.	09-34-62-783	← WHAT	
Supermarket Quantity			
Min.	2,000	Max. 4,000	← HOW MANY
Lot Size			
One (1) Tote (Est) = 200 pcs. 10 Totes = 1,000 pcs.		← HOW MANY	
RESTOCK @ 3 CARDS		← WHEN	
Location			
Coil Bay: Grid A-6		← WHERE	

References:

- ¹Megginson, L. C. (1963), “Lessons from Europe for American Business,” *Southwestern Social Science Quarterly*, 44(1): 3-13.
- ²Manos, Tony, and Chad Vincent, editors, *The Lean Handbook*, Milwaukee, WI: ASQ Quality Press, 2012, pp. 160-161.
- ³Marchwinski, Chet and John Shook, editors, *Lean Lexicon, Third Edition*, Cambridge, MA: Lean Enterprise Institute, 2006, pp. 74-77.
- ⁴Liker, Jeffrey, *The Toyota Way*, New York, NY: McGraw-Hill, 2004, p. 110.

The Paradigm Shift in Product Development With Lean

by Madhavi Chodankar

This article is organized into two parts. Part I focuses on essentially understanding the paradigm shift in product development and how products will be developed with the growing evolution of consumer-centric organizations.

Part II, in a subsequent issue, will include some of the lean tools being used in companies today in conjunction with other methodologies, with some interesting insights into how software and mobile product companies have integrated lean within their product development processes. More and more, companies today are required to develop innovative new products and bring them to market faster and more efficiently in order to remain competitive. The ability to bring new products to market or quickly refine an existing product portfolio can be the difference between market stagnation and capitalizing on new growth opportunities—both directly impacting the bottom line. Achieving success in the development of new products is like navigating a minefield filled with uncertainty in development capabilities, communication, market analysis, and strategic positioning, not to mention product quality, cost, and development time. Identifying applicable, salient technologies and coupling those with existing market needs and working through concept ideation, design, development, and into actual production can be a daunting task even for the most seasoned of practitioners.

The foundation of lean product development is in its customer-aligned approach that incorporates the agility to adjust and evolve a product along with a customer need, a shift in market needs, and/or to react to new opportunities as they arise. Lean product development methods and principles help companies reduce time to market, improve resource utilization, and reduce new product development risk while cutting waste, reducing product costs, and product development expenses. Companies using lean product development methods have experienced:

- Dramatic reduction in time to market for new products
- Elimination of waste throughout the product development process

- Ability to attack emerging market opportunities and gain first-mover advantages
- Improved utilization of product development resources
- Reduction in overall product development costs, cycle time inventory costs, and defect rates

So how is lean product development different from functional/traditional product development? Table 1 outlines some differences:

Table 1: Lean Versus Functional Product Development

Lean Product Development	Functional Product Development
Lean thinking, customer-centric, aligning all processes/functions in the organization toward being customer-centric	Functional management, processes, and functions worked very well in their own silo, yet all that was developed did not fit well together in delivering value to the customer
Evaluation of multiple perspectives/ approaches during initial stages before production launch, resulting in an uninterrupted product flow through production and final product launch	Focus is to cut costs in early stages, resulting in changes close to production launch, ultimately resulting in interruptions in product flow through production as well during/after final product launch
More incremental product improvements	More radical product improvements
Heavyweight product owners	Lightweight project coordinators/managers
Overlapping compressed phases	Sequential long phases
Good communication mechanisms, particularly using visual tools	Walls between departments (functional silos)
Cross-functional teams	Narrow skills in specialized departments

According to the “Lean Product Development Benchmark Report” by Aberdeen Group, 25 percent of best-in-class companies indicated they have had a lean product development program in place for five or more years compared to less than 5 percent of average companies. According to this report, the best-in-class companies were the ones that had employed lean product development practices and methods, and clearly had experienced substantial improvements in their lead time to launch the product, improved revenues, increased savings in product development costs, improved communications between functions/departments, dramatic improvements in gross margins and, above all, enhanced customer satisfaction.

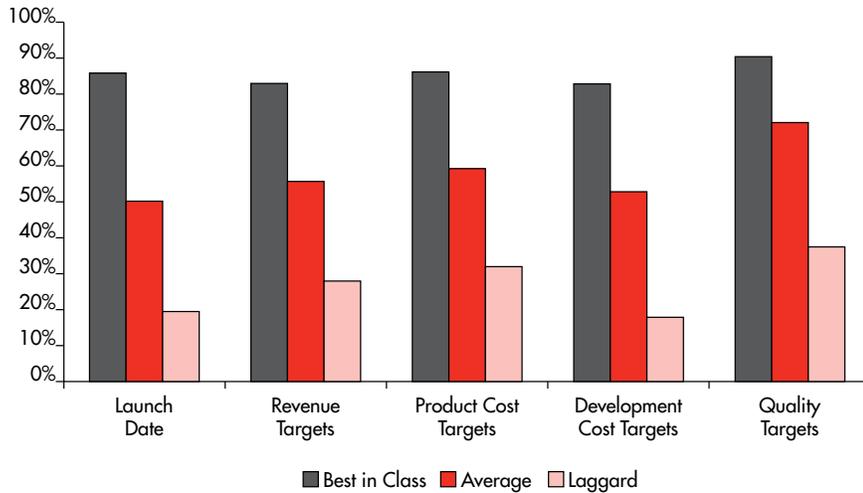
Now let us understand a little more about the lean product development approach.

James M. Morgan and Jeffrey K. Liker, authors of *The Toyota Product Development System, Integrating People, Process, and Technology* (2006, Productivity Press), offer the following product development guidelines practiced by lean manufacturing pioneer, Toyota:

- Establish customer-defined value to separate value-added from waste.
- Front-load the product development process to thoroughly explore alternative solutions while there is maximum design space.
- Create a level product development process flow.
- Utilize rigorous standardization to reduce variation, and create flexibility and predictable outcomes.
- Develop a chief engineer system to integrate development from start to finish.
- Organize to balance functional expertise and cross-functional integration.
- Develop towering competence in all engineers.
- Fully integrate suppliers into the product development system.
- Build in learning and continuous improvement.

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Figure 1: Top Performers Hit Targets, Earn “Best in Class” Status



- Build a culture to support excellence and relentless improvement.
- Adapt technologies to fit your people and process.
- Align your organization through simple visual communication.
- Use powerful tools for standardization and organizational learning.

Essentially, lean product development follows an event-driven approach to managing the development of a product from initial conceptualization to final launch; an approach where each event is a focused, collaborative meeting with clearly defined inputs and outputs; and visual tools and exception management playing a prominent role within all events. The following are the key events that occur after a formal project kickoff event:

1. **Market Requirements Event:** This is the event where customer needs and/or requirements are converted, through systematic tools, into prioritized engineering specifications. The primary inputs to the event are voice of the customer data, market requirements brief, and competitive data; and the key outputs are a prioritized list of high-level engineering requirements, a market positioning statement, and a set of action items to be executed during the concept design activity.
2. **Planning/Risk Management Event:** This event is a typical project-planning event, with the difference that it is being led by a product owner. The primary inputs to the event are project schedule, launch date, project prioritization process, budget and resource needs, potential risks, and corresponding actions to mitigate those risks. The key outputs of this event include the project budget and resource plan, the project milestone schedule, a prioritized list of risk issues, and associated actions to mitigate those risks.
3. **3Ps – Product/Production Preparation Event:** This event focuses on using innovative cost reduction and quality enhancement tools to reduce product manufacturing costs and increase the delivered quality, essentially designing products and processes right the first time and developing alternatives to meet core customer needs. The key outputs of this event include a preliminary product development/manufacturing plan, prioritized lists of critical-to-quality and critical-to-cost improvements, optimized capital plan, and action items to implement.
4. **Design Review and Freeze Event:** The focus of this event is 100 percent on finalizing product design specifications, timelines, and costs in preparation for production launch. This event revalidates the business case that no significant changes are required, or proceed with changes to design or kill the project. The key outputs of this event are prioritized lists of corrections, improvements, and a master action list to enable design freeze along with a proposed date for freezing the design.

5. Production Readiness Review

Event: This event ensures that all deliverables required for product launch are complete and correct. This includes qualification of test data, final production launch plan, final layout for lines and cells, poke-yoke, test/inspection, sourcing/supply chain, distribution/logistics, and sustaining support.

Part II of this article, which will appear in our next newsletter, will include some of the lean tools and other methodologies employed by software and mobile product companies to reap the benefits of lean product development.

About the Author

Madhavi Chodankar is the president and principal consultant of Excellerate LLC, a boutique training and consulting company in Mountain View, CA, that helps companies accelerate organizational excellence and sustain the same through continuous improvement. Chodankar is also the chairman of the Voice of Customer Committee of ASQ's Lean Enterprise Division and the vice president of education services of the Association of Business Process Management Professionals.

Lean Project Management

by Terra Vanzant-Stern

Statistics show that over the next few years, 120,000 people between the ages of 55–65 will retire each year. This presents serious leadership, historical, and knowledge gaps for many organizations. Although much has been written about this dynamic, few companies have prepared for this massive transformation and utilization of the younger workforce. This makes building strong infrastructure and support systems a necessity. Spending time educating the workforce now on how to engage in basic project management and process improvement has extreme merit.

Choosing a methodology, such as lean, increases the success of all process improvement projects and prepares companies to handle the labor force transition. Lean recognizes the analytical business processes that must take place; however, it also balances that approach with the recognition that people are the main drivers. Lean emphasizes the role of the project manager along with understanding change management and team dynamics.

Basic project management (PM) is one of the cornerstones of a successful lean project. At some point, every lean idea or implementation becomes a project. Some projects are informal, whereas many follow Project Management Body of Knowledge

(PM-BOK®) principles supported by the Project Management Institute (PMI). Training and education in understanding the project management system development life cycle (SDLC) is valuable to the lean professional.

The PM-BOK describes a project as a temporary endeavor undertaken to create a unique product. Lean process improvement projects are ongoing with the intent of continuous improvement. However, the lean professional and organization still benefit from using standard project management when executing or evaluating process improvement projects.

Basic project management guidelines also provide the framework to deliver projects with attention to integration, scope, time, cost, quality, human resources, communications, risk management, and procurement.

Implementing training programs that prepare employees on how to recognize process improvement projects as well as execute these projects is crucial to an organization's sustainability. The advantage of adding lean thinking and tools to PM training is that standard project management does not always emphasize the people factor or the opportunity for continuous improvement. Learning to work in teams and understanding tools that will make projects better, faster, and more cost-effective are prime learning objectives in lean programs.

The goal of PM is that the customer's expectations are met. The goal of lean is that the customer's expectations are not only met but exceeded. Lean chooses to "delight" the customer when possible. Meeting the customer's expectations and achieving consensus on scope is often a basic project management exercise. Lean professionals know that before expectations can be exceeded, they must be met.

Many tools in PM are already used in lean, which makes the learning process easier for employees to digest. For example, determining critical-to-quality (CTQ) factors, developing stakeholder's analysis and communication templates are common to both practices. However, reducing risk associated with a project often aligns closer with PM guidelines, and reducing redundancies aligns more with lean thinking. Both methodologies are necessary and valuable to the emerging workforce.

With the changing employee landscape, involvement, and understanding of basic project management, the SDLC and lean thinking should begin immediately to achieve the ultimate goal—customer satisfaction—in the future.

Lean Supply Chain & Logistics Management Review

by Lance Coleman

In *Lean Supply Chain & Logistics Management*, author Paul Myerson provides a thorough yet manageable introduction to the concept of lean and its eight wastes. He successfully shows examples of the eight wastes as exemplified in the supply chain and logistics management process. For those with less experience with supply chain, Myerson introduces the Supply Chain Operations Reference (SCOR) model, both as a means of providing an overview of supply chain management and organizing this book. Practical examples from real-world companies show how lean tools, when properly deployed, can help eliminate

waste. The section on lean used in conjunction with current technology covers an important aspect of lean program deployment that is on occasion overlooked in books introducing lean to a specific group.

As a discussion of how lean can positively impact the bottom line in the area of supply chain and logistics management, this work is certainly worth reading. The Lean Opportunity Assessment in the book appendix provides an excellent starting point for assessing where opportunities are for implementing lean within your supply chain organization. For those who have decided to implement lean within their supply chain management program, this book provides case studies as well as guidelines for how to practically apply the appropriate lean tool to improve specific functions.

About the Reviewer

Lance Coleman is a quality engineer and site lean program coordinator at The Tech Group in Tempe, AZ. Coleman has an AAS degree in electrical engineering technology from Southern Polytechnical University in Marietta, GA, and is an ASQ Senior member as well as Certified Six Sigma Green Belt (CSSGB), Quality Auditor (CQA), and Biomedical Auditor (CBA). He is a published author and currently serves as the ASQ Lean Enterprise Division Publications Committee chair and newsletter editor.

Learning From the Experience of ... George Koenigsaecker

by David Behling, LED Programs Chair

This column brings you interviews with some of the top lean, improvement, and leadership individuals at the forefront of our field.

I recently had the pleasure of speaking with George Koenigsaecker, the author of Leading the Lean Enterprise Transformation. He led the lean transformations of both the automotive and tool groups at Danaher Corporation and the successful lean conversion at The Hon Company (HON), which doubled productivity and tripled revenues. This led Industry Week to recognize HON on its list of the "World's 100 Best Managed Firms." Koenigsaecker participates on six boards of directors and has been inducted into Industry Week's Manufacturing Hall of Fame.

How did you get started in lean transformation?

In the mid-1970s, I was conducting due diligence on a Japanese company for Deere & Company and observed some incredible productivity gains. When I investigated how these gains were achieved, I found out that the company was partnering with some people trained by Toyota. I came to the realization that these tools and the system were extremely powerful. Later, I led a benchmarking effort with Rockwell looking at best practices in business enterprises around the world. Toyota and Toyota-related businesses were the best of the best.

What have you been recently reminded of that is important to remember when practicing lean?

It is all about leadership; senior leadership is key. I feel that there are three behaviors that make successful lean leadership: (1) drive for continuous improvement; (2) drive for mentoring (growth) and learning (must be humble); and (3) drive for disciplined execution. Humbleness is necessary for learning (#2), because the leader must realize that there are things that he doesn't know. Disciplined execution (#3) is the one found to be missing most often. A lot of hard work and change management are needed to make this happen, and often, a CEO is not up for such work because of where they are in their career/life. The two best examples of this type of leadership that I know are Toyota for established/end state culture and Danaher for "brownfield" transformation (first five years of lean implementation).

What do you think is the most important part of lean transformation?

Senior leaders' education on lean is the most important. Toyota has a basic belief that senior leadership must be knowledgeable enough to see waste and not need to be lean experts. Senior leaders should be able to ask questions and use the power of observation effectively to see waste. A difficulty is that often, senior leaders do not think that they have the time for this, and that there are more important things to do.

What are the one or two most important measures to look at for a lean initiative?

How you measure success is the most important, and using True North metrics is the best ways to accomplish this. The four dimensions of True North metrics are quality improvement, delivery/lead time/flow improvement, cost/productivity improvement, and human development. Toyota's philosophy is "improving 'the metric' every day, every week, and every year," and thus, continuously improving on these four dimensions. Some companies like Danaher have added growth as a fifth dimension. These metrics provide an organization with a fairly simplified way of looking at things and provide common focus.

If you were going to explain to someone (or an executive) what lean transformation is, what would you say?

Lean transformation is building a culture that continuously improves (any type of) work; it is just a way of looking at work. The goal is to build a culture so that the organization is so motivated, so incentivized, has time available, and has the tools to continuously drive improvement by the True North metrics. You want to build a culture that allows a larger portion of the organization to stand back and fundamentally improve the processes every

day, instead of spending 95 percent of their time firefighting.

What do you think is the biggest misunderstood concept concerning lean within society and the lean community today?

Lean versus Six Sigma. Lean uses Toyota Production System (TPS) tools and has a team delivering results, while Six Sigma uses quality tools and has an expert delivering the results. The West has broken the two systems away from each other, which is different than how it was originally designed. The Toyota Business System was built with the TPS [lean] as one leg and the total quality control (TQC) [Six Sigma] as the other. Toyota implemented them at the same time and integrated them together. The Western world has broken the initial integrated system into two separate schools, causing us to lose a lot of ground. Lean and Six Sigma are mutually synergistic and both are needed for successful improvement.

I would like to, once again, thank George Koenigsaecker for providing the opportunity and time to conduct this interview.

About the Author

David Behling is the programs chair of the Lean Enterprise Division. He has worked extensively in the lean, improvement, and quality fields helping companies by creating a lean culture and building lean leadership. He is currently the director of process improvement at Goodwill Industries of Southeastern Wisconsin in Milwaukee, WI.

5S Implementation at an Engineering College: A Case Study

by *Ramesh Rajagopal*

5S implementation in manufacturing is not new. We have read about 5S implementations in banks, hospitals, and office environments. But implementing 5S at an engineering college is not something that happens frequently. Members from ASQ India's Local Member Community (LMC) Ahmedabad wanted to make this happen. After meeting with many colleges, one college showed interest in this initiative—Bhavnagar Government Engineering College, Gujarat, India. Students at this college showed interest in learning more about ASQ, quality, and business excellence. Twenty students became members of the ASQ student community after interacting with our chair, Himanshu Trivedi, and India's first ASQ student chapter was born.

The student chapter, once formed, began a 5S implementation project. A one-day rapid improvement 5S project began the week of June 12. Two weeks before the program, student teams were formed and responsibilities were allocated to them. Six zones of the production engineering department were selected for the first phase. This included faculty offices, design labs, classrooms, the store room, and bathrooms. A list of necessary items for the 5S activity was given to the students, which included cleaning tools, toilet cleaning liquids, floor-washing equipment, marking tapes, red tags, etc. It was also suggested

that a carpenter, plumber, and electrician be on-site the day of the event to fix any problems immediately during the event. It is critical to spend time planning your 5S event so you have all of the materials you need to complete the event in an efficient manner and without many issues or items getting put off until a later date. Items that get put off tend to never get done! The first day's agenda included the first two hours for an introduction to 5S, the next six hours for implementation activities, and the last hour for sharing experiences. Fifty students participated in the workshop.

After the introduction, students were assigned designated areas. After a small start-up delay, the real work started. First students sorted all unwanted items, then they cleaned the entire area, marked the places where items needed to be placed, and identified all of the items. The participants enjoyed their work.

At the end of the day, we were able to see great satisfaction and accomplishment in the students' and faculty members' faces. The students said they learned more than 5S; they learned teamwork, project management, communication, leadership, presentation, time management, and so on. The classrooms were transformed into clean rooms. Toilets were shining. Loose electrical wires and broken cement structures were fixed. To summarize the feedback in one sentence: "They are delighted, enjoyed the experience, and learned the power of 5S and want to continue the same wherever they go." The college principal decided to have this activity at least once every month. The session concluded with the creation of a list of pending activities and an action plan for sustenance.

Overall, this workshop reinforced the thought that 5S will work everywhere and produce the same results. Fifty engineering students were transformed through this exercise—hopefully, they will apply the benefits of this exercise when they go to work for organizations.

Thanks to ASQ-LMC Ahmedabad team members Himanshu Trivedi, Shrikant, Professor Jain, Nital Zaveri, and faculty members of Bhavnagar College for making it happen!

About the author

Ramesh Rajagopal is a graduate in engineering, with an MBA and more than 21 years of experience in implementation of Six Sigma, total quality management, quality assurance, total productive maintenance, lean management, quality and environment management systems, supplier development, training, organization development, and change management. He is a Certified Six Sigma Master Black Belt, TPM facilitator, and ISO QMS lead auditor. Rajagopal is also a Senior member of ASQ and serves on the ASQ Lean Enterprise Division Publications Subcommittee.

The Healthcare Division is partnering with the Lean Enterprise Division to present a day-long post-conference workshop entitled: *Creating and Sustaining a Lean Culture in Healthcare: What You Can't Learn From a Book*

Speakers: Marti Beltz and Cindy Barrs. More information on our speakers at: [LSS Conference 2014: Something New and Exciting!!!](#)

This interactive workshop is designed to offer some insights and tools you won't learn from a book. Examples will be from healthcare; not just the clinical side, but also from the key business processes that support the care. We'll focus on how to introduce lean so it doesn't look like another "flavor of the month"; how to engage senior leaders and clinicians; how to manage all that change; and how to mature the culture from "doing" to "thinking" to "being" lean.

This special session will be held February 26, 8 a.m. – 5 p.m., local time. You can find more information on this exciting event at: asq.org/conferences/six-sigma/program/day/wednesday.html.

My Lean Journey and the Role ASQ Has Played

by *Beth Reid*

Six years ago in 2007, I was sitting in a meeting with my leadership listening to them discuss a real problem we were having with getting our material from our docks into the stock room to be issued to our production floor for a major program. Our organization was issued a directive to start a Lean Six Sigma program and to select someone to receive training and lead this effort to improve our production time. For some reason, I was selected to be this person.

I had no idea what lean and Six Sigma were, but I was about to find out. After a record-setting training blitz, I had Green Belt, Black Belt, Train the Trainer Facilitation, and Lean 101 training all within a nine-month period of time. My head was swimming, but I quickly became completely obsessed with continuous improvement, affordability, and Lean Six Sigma. With all this data and information, it was time to begin my first project and stand up our continuous improvement program within my organization. Uh-oh, what had I gotten myself into?

At this point, I discovered ASQ and its annual Lean and Six Sigma Conference. Thank goodness! ASQ has been my rock and support through my entire journey. By getting connected through ASQ, I quickly found others who were in similar circumstances, as well as experts who were more than willing to spend a little time with me to help me organize my first kaizen event. The first conference I attended in 2008 offered a preconference one-day lean kaizen workshop taught by Tony Manos. I registered and attended. My first kaizen event was scheduled for three weeks after this conference. Manos taught the kaizen process from beginning to end and made sure I was ready to embark on my journey as a true lean practitioner. I am one of those who learn by doing.

Fast forward six years to today. ASQ has been pivotal in my growth and education as a Lean Six Sigma practitioner. Through their Lean Enterprise Division, I've met colleagues who have reached out and helped me along my way. They are always a phone call or email away when I run into a challenge in my lean journey. I have attended the last six ASQ Lean and Six Sigma Conferences in Phoenix, AZ. Each year, the conference offers exactly what I need to further enhance my knowledge. I always leave with a new idea or tool I can use. Each year, there are multiple presentations across multiple industries that are focused on applying the tools we have. What is interesting are the unique approaches some practitioners come up with and present at the conference. I always find several ideas to take back to my company and apply.

I can't imagine how difficult it would be to implement our continuous improvement program without ASQ and all the help, tools, training, and mentors that are available—not to mention the annual Lean and Six Sigma Conference. Without ASQ, I would be lost!

The dock-to-stock issue we had at the beginning of my story was quickly improved and has maintained its improvement for five years. It was a pivotal step in our continuous improvement journey that would not have been possible without the support and education through ASQ. If you are at the beginning of your lean journey or a well-seasoned veteran, I hope you get connected through ASQ and use them as the valuable resource and support organization they are.

2014 Webinar Schedule Announcement

In the spirit of standardized work and as a value to our members, LED has scheduled all of its 2014 webinars for the second Wednesday of every month at 12:30 p.m. Central Standard Time. Mark this on your calendars and plan to attend our lineup of great speakers. A full calendar of webinars for 2014 will be available on the LED website by the end of the 2013 calendar year at asq.org/le.

January 8 – Jeff Fuchs: Lean Personified

Discover how lean can make your life more productive, predictable, stress-free, and rewarding.

February 12 – JD Marhevko: DMAIC and Autism – A Sample Size of One

A dynamic overview of how DMAIC and various lean tools can be utilized in a home environment to improve the quality of life for a child diagnosed as being on the autism spectrum. The discussion takes the participants through how DMAIC was successfully used to make viable differences with live metrics and results.

March 12 – Alan Openshaw: TBD

April 9 – Adil Dilal: TBD



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Lean Enterprise Division | December 2013 | Volume 12, Issue 3

2014 LEAN AND SIX SIGMA CONFERENCE February 24 – 25, 2014 | Phoenix, AZ Sustaining Results Through a Culture of Quality

The 2014 Lean and Six Sigma Conference offers a special opportunity for you to get your lean and Six Sigma certifications right in Phoenix before you attend the conference. Don't miss this chance to establish yourself as a recognized lean and Six Sigma expert, and make an important investment in your career.

Lean and Six Sigma Conference Certifications

**APPLY FOR
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**Application Deadline: January 10, 2014
Exam Date: February 23, 2014**

- Six Sigma Black Belt
- Six Sigma Green Belt
- Lean Bronze Level Certification (*SME/AME Shingo Prize/ASQ Partnership*)

Save the date for the 2014 Lean and Six Sigma Conference. It doesn't matter if you are in manufacturing, service, government, or healthcare; or whether you're just starting to discover lean and Six Sigma or a seasoned veteran, you will discover how to apply lean and Six Sigma tools and methodologies to produce sustainable results to move toward your organization's bottom line to make a difference in your organization.

Visit sixsigma.asq.org to apply for your certification and learn more about the conference.

NEXT ISSUE

T³, Part 2: Pull Systems, Interview with Jim Kouzes, Interview with John Kotter, Lean or Six Sigma – Which Comes First? by Jim Bossert, and 2014 Lean and Six Sigma Conference.



Please consider the environment.

Do you really need a paper copy of this newsletter? Please send a message to jbecker@asq.org with "Electronic Only" in the subject line.