FEBRUARY 2015, VOLUME 14, ISSUE 1

NEWS

Lean Enterprise Division

February 2015 Highlights

2 Note From the Editor

4 Auditing Beyond Compliance

6 T^3: Tools, Techniques, and Templates – Suggestion Systems

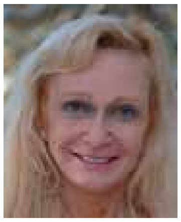
7 Lean Bytes

9 Use of Affinity and Venn Diagrams for a K–12 Public School's Student Costume Collection

10 Learning From the Experience of … Eric Ries

Chair's Message

Hello and Welcome to 2015!



It is an incredible honor to lead and serve the Lean Enterprise Division as the 2015–2016 chair. As a member of the leadership team, I am inspired by our division's journey and past successes.

This is a critical time for lean as a practice. But, make no mistake, the methodology and tools supported by lean are headed for greater triumphs, recognition, and global adaptation.

The quality world respects innovation but requires results. Lean provides structured yet flexible ways to capture, analyze, and evaluate data. Data—lots of data—is needed to make responsible decisions. It is those critical decisions that are the precursors to innovative thoughts.

As we start a new phase of our voyage together, I wanted to share some background on myself and what enthuses and encourages me.

My path to lean took a peculiar route, as it has for many of our members. After high school I joined the military, and post military I pursued a career in education. Somehow, through a series of rather random events, I found myself employed in executive-level HR positions for more than two decades.

I remember being told, in my role as an HR professional, that the employees were broken. Listening to countless stories of woe, it occurred to me that for the most part it was the processes that were broken and not the people.

This epiphany led me to research project management. Later, I was attracted to lean and Six Sigma. Project management, lean, and Six Sigma made a huge difference to my division as well as to my employer. Our HR group became an income-producing department as opposed to an overhead entity.

Since 2006, I have worked for SSD Global Solutions, a division of System Services & Delivery, Inc. SSD focuses on training and consulting to increase critical thinking.

I am here, today, for the same reasons I believe most people join the Lean Enterprise Division. I enjoy the fellowship of people who understand the power of lean thinking.

Naturally, I also appreciate the ancillary benefits to being part of the Lean Enterprise Division. These benefits include networking, education, and certification assistance.

Thank you for allowing me to serve. Together we can make a difference.

About Lean Enterprise Division Chair

Terra Vanzant Stern, Ph.D., PMP, SPHR/GPHR, is a Six Sigma Master Black Belt who has studied in the United States and Australia. She is the author of *HR Concepts for Project Managers, Lean Six Sigma Practical Bodies of Knowledge*, and *Lean Six Sigma: International Standards and Global Guidelines.* Her next book, *Lean & Agile Project Management*, will be published in June 2015. Vanzant Stern served as ASQ Denver Section chair and co-chaired the 2013 ASQ Rocky Mountain Quality Conference. She is currently the president and owner of SSD Global Solutions, a firm dedicated to increasing critical thinking skills by using basic project management practices, lean thinking, and Six Sigma methodology.

ASQ Lean Enterprise Division
The Global Voice of Quality™

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 (T^3) – 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 600 to 1,200 words. Tips and book reviews would be in the 600- to 800-word range, articles in the 800- to 1,200-word range and case studies 1,000+ words. If a submittal goes beyond 1,200 words then we may look at breaking it into more than one part. For longer submittals, there is also the option of writing a 1,200- to 1400-word piece for our quarterly lean column in *Six Sigma Forum Magazine.*

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 on 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

Note From the Editor

Greetings from the ASQ Lean Enterprise Division. This is an exciting time for the division as we are about to participate in the 2015 Lean and Six Sigma Conference at the beautiful Pointe Hilton Tapatio Cliffs resort in Phoenix, AZ, March 2 – 3. The conference also holds the opportunity to take certification refresher courses and sit for several certifications, including the Six Sigma Yellow Belt, Six Sigma Green Belt, Six Sigma Black Belt, Master Black Belt, and the Lean Bronze Certification. Tracks at this year's conference include the following:

- Establishing and Sustaining a Culture of Quality
- Implementation of Lean and Six Sigma
- Lean and Six Sigma Fundamentals
- Nontraditional Applications of Lean and Six Sigma
- Sustaining Results

The conference is a great value at $1,295 for members/$1,495 for nonmembers. Attendees have the opportunity to network with approximately 600 like-minded professionals. I have personally attended four different organizations' lean or lean and Six Sigma conferences over the past four years. This conference is my favorite based upon breadth and depth of offerings relative to cost. I hope to meet many of you at the conference this year!

This marks my first issue as editor of the *Lean Enterprise Division* newsletter after serving as a member of the publications team for the last three years. As a child, I enjoyed writing poems, songs, and short stories. However, as I grew into a teen and adult, I found I was pulled in different directions and gradually stopped writing. I probably went almost 30 years without picking up a pen. In 2010, I started a new job as a corporate accountant at a chemical plant near Savannah, GA. The VP of finance was instrumental in my hiring because of my experience in Lean Six Sigma. On my first day on the job, the VP asked me to write an article on root cause analysis. I sat down and the words started flowing like they did as a child. I quickly finished the article and was exhilarated at what I had created. I knew that I needed to continue to create new works and hone my skills as a writer. I soon started blogging regularly on ASQ Communities about the subjects that I love: continuous improvement, quality, Baldrige, project management, etc. In the past couple of years I have helped two authors edit their works and I have begun writing my own book. My wish is that I can help other writers get their voice out there—possibly for the first time. Please submit your articles to Publications@asqled.org.

Yours truly,

Scott Smith
LED Newsletter Editor
swsmith111@gmail.com

Lean Enterprise Division
ASQ The Global Voice of Quality™

Members Everywhere

* Division Management Committee (DMC)
** Elected officers (5)
12 voting member leaders
6 for a DMC quorum

ASQ HQ AME/SME/ Shingo Association Representative **Brian LeHouillier**

COA Representative **Tony Manos**

COA Representative **Chad Vincent**

COA Representative **Beth Reid**

Certification Oversight and Appeals Committee

Newsletter Editor **Scott Smith**

*Publishing Value Stream Chair *TBD*

*Certifying Value Stream Chair **Beth Reid**

Mentoring Chair **Brian Galli**

Webinar Chair **Paul Harbath**

Education Chair **Lance Coleman**

*Developing Professionals Value Stream Chair **Lance Coleman**

ASQ Division Liaisons Healthcare **Patricia Morrill** **Others –** *TBD*

Social Responsibility Liaison *TBD*

*Networking Value Stream Chair **Cedro Toro**

*Technology Support Process Chair *TBD*

Nominations Chair **Frank Murdock**

Audit Chair **Sylvia Soria**

*Standards Support Process Chair *TBD*

Membership Chair **Matt Jones**

Voice of the Customer Chair *TBD*

*Communications Support Process Chair *TBD*

Secretary **Mike Levenhagen

Past Chair **Frank Murdock

Chair **Terra Vanzant-Stern

Chair-Elect **Chris Hayes

Office of the Chair

Treasurer **Tammy Miller

Business Plan and Budget Coordinator **Don Smith**

ASQ Liaison **Jeanine Becker**

January 2015

Volunteers Wanted! Contact membership chair Matt Jones at matt@optimumoutput.com if interested in volunteering.

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Advertising Rates for *The Lean Enterprise Division News* are as follows:

Full page:	US$500 per issue
Half page:	US$300 per issue
Quarter page:	US$150 per issue

For submissions or questions about multiple ad discounts, contact **Scott Smith**, swsmith111@gmail.com.

Auditing Beyond Compliance

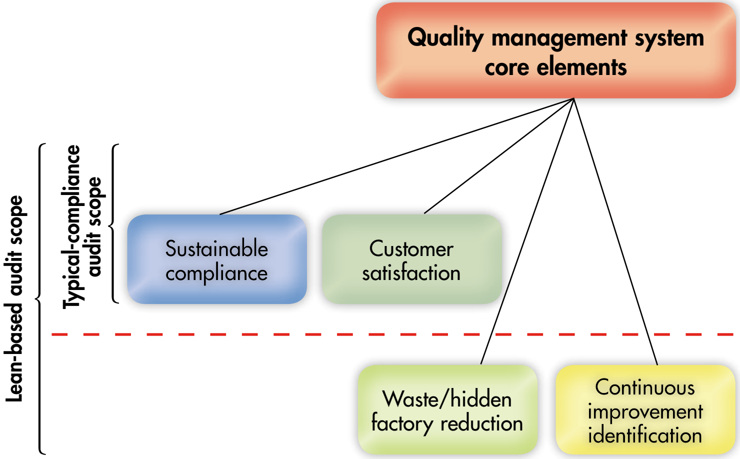
Lean vs. Traditional Auditing

By Janet Bautista Smith – ASQ CSSBB, CMQ/OE, CQA, CQE

Traditional auditing (*non-lean methodology*) is like a riding mower designed to do an effective grass trimming as it is designed for that purpose. Attaching accessories (such as snow plow, garden scrapper, grass bagger, etc.) to the regular riding mower will increase this tool's added value and impact on the user's efficiency in accomplishing tasks beyond the regular mowing function.

Think of lean auditing as the riding mower with attachments; using the same auditing principles as traditional auditing, lean auditing offers a different perspective through the application of simple lean tools. The riding attachments (lean tools) offer a wider view of the audit variables at a level beyond compliance, the sole focus of most traditional audits. Compliance, of course, must be achieved and sustained before changes for improvement can begin. Compliance is the foundation and benchmark of the improvement initiatives. A lean auditing model is basically compliance, customer satisfaction, waste/hidden factory reduction, and identification of improvement opportunities. These core elements' interrelationship provides a dynamic synergy serving as a catalyst for sustainable compliance and measurable improvement initiatives.

Lean Model – Auditing Beyond Compliance


Quality management system core elements
Lean-based audit scope
Typical-compliance audit scope
Sustainable compliance
Customer satisfaction
Waste/hidden factory reduction
Continuous improvement identification

Reference: *Auditing Beyond Compliance*, Quality Press 2012

What are the main differences between lean-based audits (auditing beyond compliance) and typical-compliance audits?

Typical audits, in most cases, focus heavily on compliance verification with little or no consideration of lean initiatives such as identification of waste to trigger measurable improvement opportunities. Why?

One possible reason is the lack of management's buy-in to support this methodology. This can easily be remedied if the auditing function can make these opportunities more visible, such as the use of metrics before and after the deployment of an improvement initiative triggered by an audit finding. The "lean-based function to be" can begin the application of simple tools such as the supplier, input, process, output, customer (SIPOC) described in Diagram 1. This is one simple tool that can help you get started with a basic lean audit. Note: There are many reference books that will help the reader understand other lean tools. For this article, SIPOC is the chosen tool to exemplify the process of lean auditing.

Basic steps in creating a simple SIPOC—*backward thinking*. This can be prepared as part of the audit planning stage:

Step 1: Select the PROCESS, product, or system to be evaluated. In this example, we will use "Software Changes" as the selected process.

Step 2: Define the expected OUTPUT. If not available, a brief interview with the process owners or stakeholders will give you an idea on their expectations. List these items under "Output Criteria."

Step 3: List the associated INPUT that will address the items listed in "Output Criteria."

Step 4: List the feasible measurements that will tie the INPUT with the OUTPUT. Think out of the box. The nature of the expected OUTPUT given in Step 2 will provide clues on the relevant metrics (measurement of success). If possible, select relevant metrics

cont. on p. 5

Auditing Beyond Compliance *cont. from p. 4*

already in the organization's data collection for easy review.

The application of the SIPOC tool in Diagram 1 will be one of the lean-based audit foundations for this particular case study. Diagram 2 depicts a sample flow in applying the SIPOC tool integrated with the lean-based audit vs. traditional audit method. The lean tool is applicable at the different stages of the audit or gap evaluation:

- Problem identification
- Root cause analysis
- Audit observations that will trigger measurable deliverables including waste or variation reduction
- Verification of the effectiveness of actions

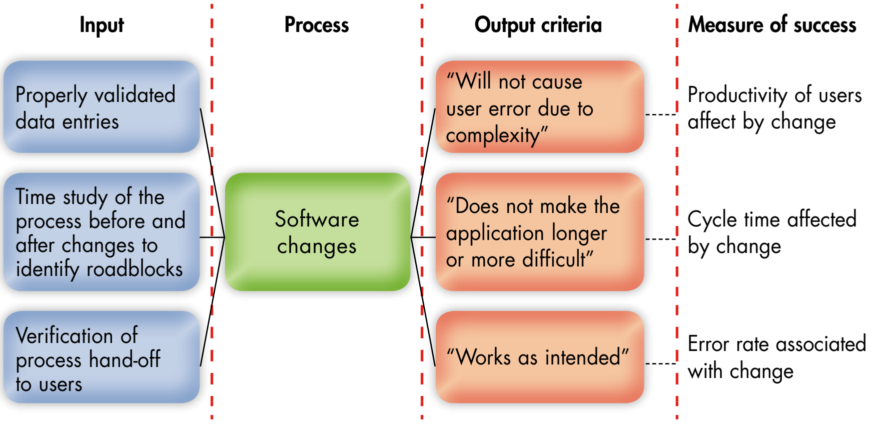
How difficult is it to convert from the typical audit of sole-compliance focus to a lean-based auditing beyond compliance program?

It is really not difficult. First, you need commitment to understand the basic lean tools and the dedication to integrate the selected tools in your system. It is not rocket science; it is a logical perspective of analyzing a situation, just like the attachments on the regular lawn mower. Choose the tools that work for you. Start simple.

About the author

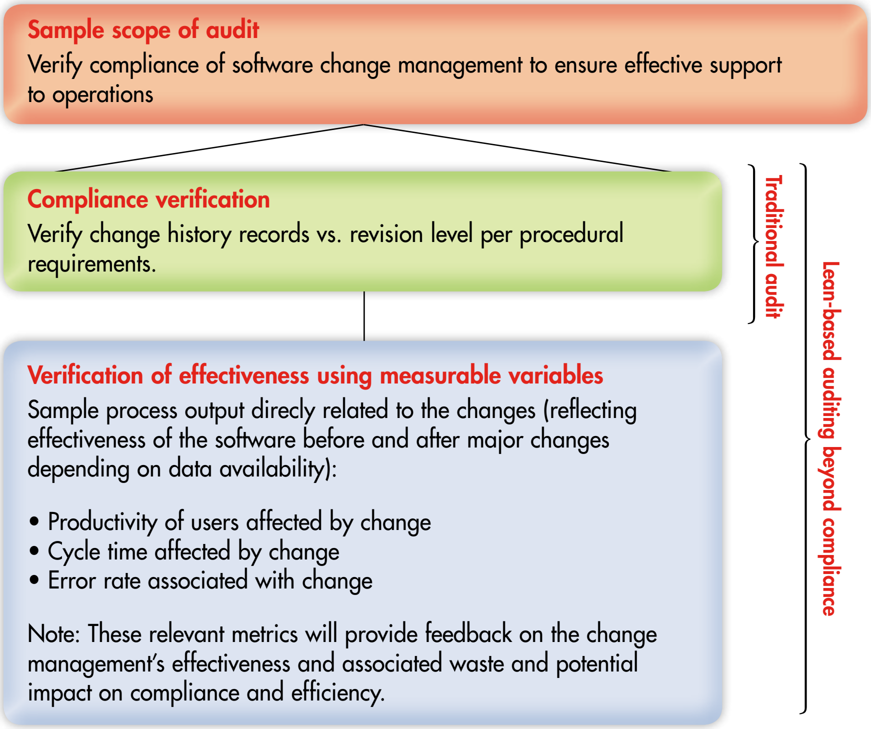
Janet Bautista Smith is the director of quality and continuous improvement for ProTrans, International. She has a bachelor of science degree in chemical engineering from University of Santo Tomas, Philippines, and is an ASQ Certified Six Sigma Black Belt (CSSBB), Quality Auditor (CQA), Manager of Quality/Organizational Excellence (CMQ/OE), and Quality Engineer (CQE). Bautista Smith is the author of *Auditing Beyond Compliance*, published by ASQ Quality Press (http://asq.org/quality-press/display-item/index.html?item=H1430). She presented a tutorial on "Strategic Planning Using Lean Methodology" at the 2012 ASQ National Quality Education Conference and tutorials on lean auditing at the 19th, 20th, and 21st ASQ Audit Conferences. She was a speaker at the 2010 ASQ Lean and Six Sigma Conference. Bautista Smith has also written articles for ASQ's *Quality Progress* magazine on "Rapid Response," July 2010, and "The Big Picture," August 2012.

Diagram 1. Simplified SIPOC


Input
Process
Output criteria
Measure of success
Properly validated data entries
Time study of the process before and after changes to identify roadblocks
Verification of process hand-off to users
Software changes
"Will not cause user error due to complexity"
"Does not make the application longer or more difficult"
"Works as intended"
Productivity of users affect by change
Cycle time affected by change
Error rate associated with change

Reference: *Auditing Beyond Compliance*, Purdue University/TAP Workshop, presented by J.B. Smith, August 2014

Diagram 2. Lean-based vs. traditional method—verification of action plan's effectiveness using metrics to evaluate progress


Traditional audit
Lean-based auditing beyond compliance

Sample scope of audit
Verify compliance of software change management to ensure effective support to operations

Compliance verification
Verify change history records vs. revision level per procedural requirements.

Verification of effectiveness using measurable variables
Sample process output direcly related to the changes (reflecting effectiveness of the software before and after major changes depending on data availability):

- Productivity of users affected by change
- Cycle time affected by change
- Error rate associated with change

Note: These relevant metrics will provide feedback on the change management's effectiveness and associated waste and potential impact on compliance and efficiency.

T^3: Tools, Techniques, and Templates – Suggestion Systems

By Chad Vincent, LBC (or COA Representative)

The suggestion system is a concept that has been around for a long time. However, most organizations misuse these systems solely for idea generation. These organizations place a suggestion box somewhere and expect employees and staff to immediately use this "opportunity" to speak out and submit all sorts of improvement ideas. They may even include an incentive for ideas submitted and implemented. When these types of systems are started, there is usually a strong beginning. But in the end, these systems eventually fail and the ideas stop flowing into the box.

Why Do Suggestion Systems Fail?

These box systems lack some key elements that make a lean suggestion system successful. The first mode of failure is the underutilization of resources. As ideas pour into the box, these get placed onto a list. This list grows bigger as the ideas get bottlenecked in a bureaucracy of committees, prioritization, and project management. Resources are allocated to the "vital few," while the lower-priority ideas that are still valid remain on the list and may be placed lower and lower as other higher-priority ideas are generated and added to the list. This brings us to another mode of failure—lack of communication. As the ideas are maintained on another list the organization manages, these ideas are lost to the status updates of "active" ideas. This creates a communication gap between the submitter of the ideas and the entity that manages the ideas. Eventually, those submitting ideas become frustrated that nothing is happening when they submit an idea and stop participating. Another failure mode is the "gaming" of the incentives side of the system. If the number of ideas submitted is incentivized, soon the system will be flooded with useless ideas as those individuals attempt to fill a quota to achieve the incentive. Also, individuals can start "sandbagging" ideas, or withhold ideas, to make sure they have enough to submit for the next quota deadline. When the system is "gamed," individuals are using the suggestion program for the wrong reasons and the wrong culture is established. Another failure mode is the complexity of the suggestion system. A system that is overly complex is more difficult to navigate, resulting in lower participation.

Keys to Success

A suggestion system can be a very successful endeavor, as demonstrated by Toyota. While each suggestion system should be molded to the individual organization and the culture the organization wants to drive, there are some essential elements that can make the system more successful.

1. **All ideas are accepted.** No individual is restricted from submitting an idea; ideas are not criticized. The thought is that the system be open to everyone so as many people as possible can get involved.
2. **Suggestions result in recognition.** All those submitting suggestions are recognized. While there are many ways to provide recognition, monetary recognition is not the only way. Organizations should get creative. While monetary recognition should be seriously considered for implemented ideas that make an impact to the organization's bottom line, other means of recognition can be created for those who submit ideas, those who submit ideas that are implemented, and those who help with the implementation. Adapt a recognition program that motivates employees and staff and drives engagement and empowerment in the process.
3. **Small ideas and small successes should be the focus.** The system should include a tiered approach. The goal is to keep ideas as close to the level of the submitter so that ownership stays within the submitter's control to implement. If an idea is too complex, it should be forwarded to the appropriate level of resources in the organization for implementation. The suggestion system should create coaching and mentoring opportunities between the submitter and their immediate supervisor. This way the supervisor can coach the submitter on the tools and techniques of problem solving, waste elimination, and continuous improvement such that the submitter owns the idea and drives the implementation. This not only empowers the individual, but also embeds the trust and respect to manage the improvement and develop as part of the lean journey.
4. **Use visual management to keep the idea progression visual and communication clear.** Some organizations use special forms designed around the PCDA cycle to manage the individual idea from submission through completion. Along with standardized forms, visual management boards are used to track the status of the idea through the process. The key with the visual management board is to not have a list, but to use the forms themselves and structure the board to move the forms through sections on the board that designate the various stages of idea progression (i.e., idea submitted, implementation, completed, and elevated). Even those ideas that are designated as too complex for the individual or work team are maintained on the idea board, such as the "elevated" section example.
5. **Manage through work teams.** The suggestion system with visual management should be integrated into the tier meeting (work team meeting) approach, where the leader of the work team can review new ideas, discuss the status of ideas in implementation, and determine if an idea is too complex for the team and requires elevation to the next tier higher in the organization. This increases participation in the suggestion system by including those individuals who may not have strength in idea generation, but may be stronger in identifying and implementing solutions. Everyone participates in the process.

Driving Culture

When used correctly, the suggestion system not only positively impacts the bottom line but also drives culture. A suggestion system provides the opportunity to empower employees to drive continuous improvement. Including visual management and clear communication keeps engagement high in the process and encourages involvement by all impacted by the idea. The ideas create touchpoints for individual development through coaching and mentoring by leaders in the organization. Most importantly is the opportunity for the leaders to show respect to the individual through recognition for ideas submitted and trust in the employees to own and implement those ideas. This allows for employees to realize the impact of continuous improvement in real time as the ideas are implemented.

Lean Bytes

2015 ASQ Lean and Six Sigma Conference

Speakers have now been chosen for the annual ASQ Lean and Six Sigma conference, which will take place March 2 – 3, 2015, in Phoenix, AZ. The 2015 program will be even more jam packed than last year, with 46 concurrent sessions, six workshop sessions, two preconference courses, and three post-conference courses. There will also be five certification exams offered before the conference. Help us to make ASQ's 2015 conference the best one ever! Go to asq.org/conferences/six-sigma/ to find out more information on the conference or to register.

Been thinking about adding a Lean Bronze Certification to your résumé? Chris Hayes from ASQ's LED and Hank Czarnecki from AME will be instructors for the Lean Bronze Certification Exam Preparation course at the Lean and Six Sigma Conference. The exam prep course is a highly interactive and fast-paced course to ensure you're ready to take the exam, which is the first part of the lean certification process. For more information, or to register for the certification exam prep course, visit asq.org/training/lean-bronze-certification_LBCRP.html.

Consider making this conference a family vacation as well, and enjoy world-class dining, entertainment, arts, museum, and golfing in the Phoenix metropolitan area. Only a short trip away is one of the seven natural wonders of the world—the Grand Canyon. Also nearby are beautiful Sedona, AZ, historic Tombstone, AZ, and the petrified forest. For more information on the many things to do in Phoenix and the rest of Arizona check out the links below.

http://www.arizonaguide.com/

http://www.visitphoenix.com/index.aspx

http://www3.hilton.com/en/hotels/arizona/pointe-hilton-tapatio-cliffs-resort-PHXTCPR/index.html?wt.srch=1

Membership Update

We have started and are maintaining a volunteer database to draw upon when volunteers are needed. If you haven't had the opportunity to volunteer for a division committee, activity, or event, please do so. (You can gain recertification units [RUs] for your involvement!) The networking opportunities during the involvement time are tremendous. The benefits to the division and its members are equally tremendous. Get involved and see how your talents can be utilized!

Leadership Update

In support of ASQ and the Association for Manufacturing Excellence (AME), three Lean Enterprise Division volunteers attended AME's 30th International Conference in Jacksonville, FL in early November. As a result of our alliance with AME, the Society of Manufacturing Engineers (SME), and the Shingo Institute, ASQ plays an important part in the industry-leading Lean Certification program, which is a globally recognized standard for lean principles and practices.

With more than 50 exhibits at AME JAX, the ASQ booth saw a lot of conference visitors and featured books from Quality Press, LED newsletters, information on lean methodology, and the alliance Lean Certification program. Most visitors were keenly interested in our Lean Certification.

ASQ managing director Brian LeHouillier led the LED team, consisting of **David Behling** (program chair), **Dave Harry** (marketing chair), and **Scott Smith** (newsletter chair). With more than 1,800 attendees, AME JAX is billed as the largest lean conference in the world featuring more than 60 tours,

cont. on p. 8

Lean Bytes

cont. from p. 8

40 workshops, six intense value streams, 15 special interest sessions, and nine keynote speakers.

LeHouillier, Behling, Harry, and Smith attended several tours and workshops and made some valuable contacts by engaging with attendees about ASQ, the Lean Enterprise Division, and Lean Certification. They also brought back some great recommendations to improve our division and innovative ways to share knowledge and information on lean. LED is planning to exhibit again at the AME International Conference in Cincinnati, OH, in November 2015.

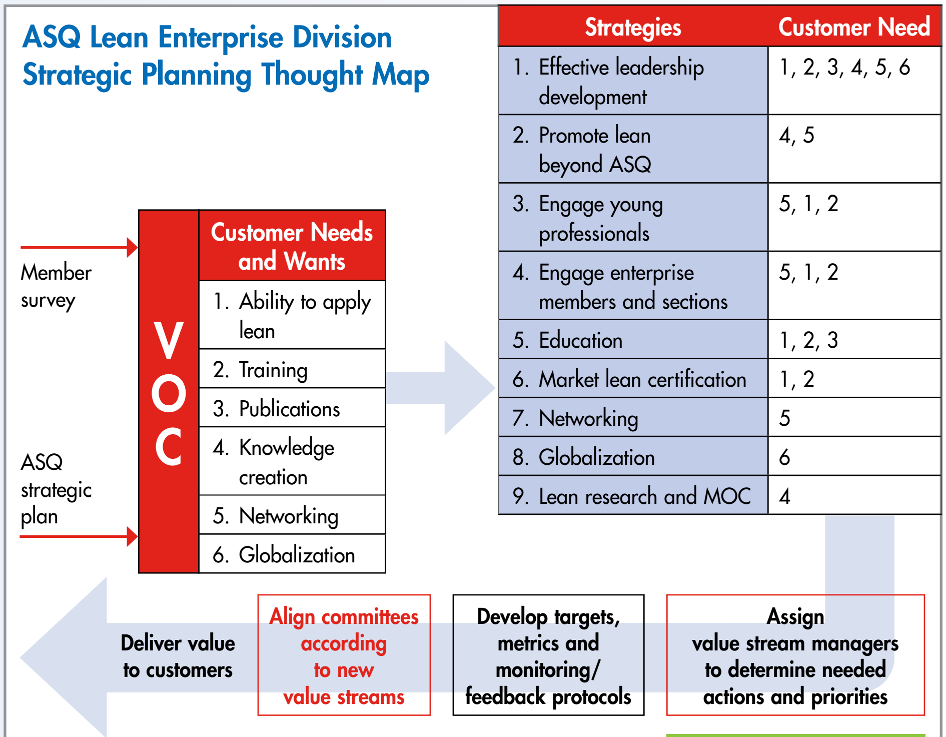
Ana Bailey collaborated with Dr. Thomas Goldsby from The Ohio State University, as well as Dr. Scott Ellis and Dr. Jae-Young Oh from the University of Kentucky to publish a paper about an airplane simulation game in the *Decision Sciences Journal of Innovative Education (DSJIE)*. The *DSJIE* is a peer-reviewed journal of the Decision Sciences Institute. Its mission is to publish significant research relevant to teaching, learning, and education in the decision sciences—quantitative and behavioral approaches to managerial decision making.

The paper, entitled "Teaching Lean Six Sigma within a Supply Chain Context: The Airplane Supply Chain Simulation" recently **won the annual Instructional Innovation Award** from the Decision Sciences Institute! You can read the paper here: http://onlinelibrary.wiley.com/doi/10.1111/dsji.2014.12.issue-4/issuetoc.

The Customer-Driven Organization: Employing the Kano Model, by **Lance B. Coleman**, was released in December 2014 by Productivity Press.

Strategic Initiatives

The LED Division Management Committee (DMC) is still seeking volunteers to participate in the project teams created around the nine strategic initiatives identified in the thought map (above right). If you are interested in participating in this important and exciting effort, email Lance Coleman at lance@fullmoonconsulting.net, to tell him which strategy implementation you would like to assist with and he will put you in touch with the right person.



ASQ Lean Enterprise Division Strategic Planning Thought Map

Member survey

ASQ strategic plan

VOC

Customer Needs and Wants
1. Ability to apply lean
2. Training
3. Publications
4. Knowledge creation
5. Networking
6. Globalization

Strategies	Customer Need
1. Effective leadership development	1, 2, 3, 4, 5, 6
2. Promote lean beyond ASQ	4, 5
3. Engage young professionals	5, 1, 2
4. Engage enterprise members and sections	5, 1, 2
5. Education	1, 2, 3
6. Market lean certification	1, 2
7. Networking	5
8. Globalization	6
9. Lean research and MOC	4

Assign value stream managers to determine needed actions and priorities

Develop targets, metrics and monitoring/ feedback protocols

Align committees according to new value streams

Deliver value to customers

Education

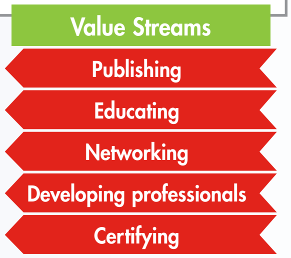
Planning continues in the Education Committee for developing the LED Learning Series (LLS), a free and low-cost lean curriculum for those interested in becoming proficient lean practitioners with a secondary emphasis on Lean Certification. The program will be available in early March 2015. For more information contact education_chair@asqled.org. Also under consideration as educational offerings is the development of podcasts and five-minute videos.

Publications

The Wayne Paubst Award for best LED newsletter article of the year has been renamed the Wayne Paubst and Kiami Rogers Award. The winner will be selected by the Publications Committee and contacted by the end of January 2015.

We have also expanded the offering of our lean column to address a more expanded audience as seen below.

- *ASQ Six Sigma Forum Magazine*
- *QNewZ,* the newsletter for the New Zealand Organization for Quality
- *The Quality Edge*, the newsletter for the South African Society for Quality
- Various sections around the country



Value Streams

- Publishing
- Educating
- Networking
- Developing professionals
- Certifying

Webinars

Did you know that LED recorded webinars are on the open-access portion of our division website, www.asqled.org? Now, you can share this valuable resource with colleagues who are not members of the LED. Contact PaulH@leanwerks.com for more webinar information.

New Website For LED!

We gathered our members' voices and listened to what you had to say. Many members wanted to see more relevant and timely information on our website. In order to accommodate your needs, we have created a new website at www.asqled.org. The new site is now active and up-to-date. Please take a look at the new site and give us your feedback. We'd love to hear how well we've satisfied your website needs.

Use of Affinity and Venn Diagrams for a K–12 Public School's Student Costume Collection

By Kathryn D. McIver

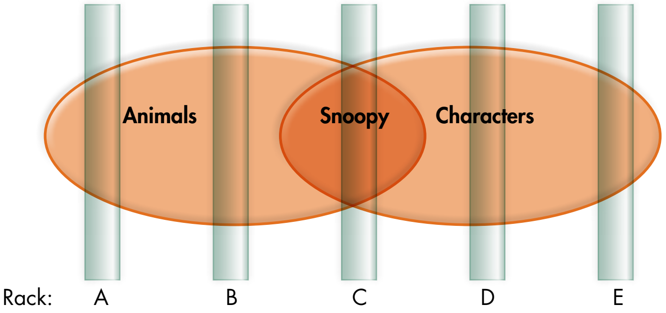
One of the most glorious things about being in elementary school is the school pageant; this is when the students express themselves on stage! When a project team was tasked with making the school district's substantial costume collection more accessible, several solutions were identified before deciding the solution is using the existing library software to create a special collection that is viewable anywhere the library catalog is accessible. To do this effectively, the team relied on the heavy usage of affinity diagrams outside of the typical root cause analysis or solution-seeking applications.

This costume collection is a result of an extremely generous donation of 15,000 handmade student costumes from a women's society that believed strongly in the continuing of theater and stage education for the district's elementary-aged students. The collection was and is continuously growing with the ongoing addition of donations, making the objective of this project even more vital and timely. The problem statement for this project is: The costume collection isn't being utilized by the teachers. Upon doing root cause analysis, the team determined there were two reasons the costume collection wasn't being used: lack of knowledge of its existence and the extreme difficulty checking out the costumes. Based on the requirements provided by the teachers in the voice of the customer collection, the project team determined that using the library catalog to create a special collection would achieve both objectives of making the resources more visible and provide a more effective means of checking out the costumes. The current state for checking out costumes had the teachers wandering around and selecting the costumes they needed from the dozens of racks in the warehouse. Then, when checking out, a hand-written note describing the costume for each item was filled out. The average time for gathering costumes for an elementary school production was one hour and 50 minutes, with 40 of those minutes used for filling out paperwork.

Rather than using affinity diagrams to isolate themes for root cause analysis or solution generation, the team brainstormed categorization for the costumes using questions like: Should we have categories and sub-categories such as animals then dogs, or should we use a theme approach such as indigenous wear (regional or ethic costumes) to formulate key words for searching the catalog? This categorization was painstakingly time consuming, but vital to the solution due to having to create indexing and key words for the catalog. After the categories were complete, the items were photographed and bar codes were affixed to the costume so that when being checked out no handwriting was needed. Once these tasks were complete, the team was ready for the first user of the barcoded, cataloged system.

The first person pilot was extremely successful from the checkout perspective, with a time reduction from 40 minutes to approximately 15 minutes. However, having a pilot with one teacher uncovered an opportunity to enhance the teacher experience by creating a map of the warehouse. This needed piece of the solution required the project team to once again start grouping the costumes into categories; however, this time the team needed to do so to create a floor plan rather than a set of keywords for the catalog. To create the floor plan, the team used the categories and sub-categories created for the catalog as the basis and then created Venn diagrams to show the relationship in the key words. For example, the matter of Snoopy the dog: Snoopy is both a character (i.e., defined role) and a dog under the animal category (depending on the parts of the costume used) and needed to be stored somewhere where both uses could easily be found (see Figure 1). Once a floor plan map based on the Venn diagrams was created, the warehouse was rearranged and the catalog was updated to include the location of the item for further ease of access.

Figure 1: Example of the Venn diagrams used to create the floor plan



After the map was created and the catalog updated, another teacher came in for costumes for a production of "The Wizard of Oz." Issuing her a cart, the list of costumes she requested and a copy of the map, this teacher was able to pull all the costumes needed in 34 minutes, bringing the grand total of costume retrieval and checking out to 47 minutes. This dramatic decrease in cycle time marked a success for one of the project objectives and directly applied the voice of the customer feedback collected at the beginning of the project.

While affinity diagrams and Venn diagrams are often go-to essentials for brainstorming and relationships in a lean facilitator's toolbox, using them to create a library collection catalog and a floor plan is a nontraditional approach to the application of these tools and highlights the flexibility of lean tools. By having the team visually classify the types of costumes to create the categories, and subsequently sub-categories, the team was able to determine descriptive key words for the catalog. Then, based on those categories, the team created Venn diagrams for interrelationships to create a floor plan (and map) that allows teachers to quickly find exactly the costumes they are looking for, in addition to providing a reference point for the collections catalog.

About the author

Kathryn D. McIver is a Lean Six Sigma Master Black Belt and the lean program manager for The Denver Hospice. Prior to working for The Denver Hospice, McIver worked in the fields of healthcare, K–12 education, and telecommunications. In addition to being a past presenter for the ASQ Lean and Six Sigma Conference, she is currently serving her second term as chair of ASQ's Denver Section and holds national ASQ committee positions. By focusing on a multidisciplinary approach that includes practices outside of traditional process improvement and organizational performance, she tailors the lean performance excellence experience for the organizations she is serving to achieve sustainable results. For questions or comments, McIver can be reached at kathryndmciver@gmail.com.

Learning From the Experience of … Eric Ries

By David Behling, LED Program Chair

Eric Ries

This column brings you interviews with top lean, improvement, and leadership thought leaders.

I recently had the pleasure of speaking with Eric Ries, an entrepreneur and author of the New York Times *best-seller,* The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Business. *In 2004, he co-founded and served as CTO of IMVU, his third startup. In 2007, BusinessWeek named him one of the Best Young Entrepreneurs of Tech. In 2010, he was named entrepreneur-in-residence at Harvard Business School and is currently an IDEO Fellow. He also currently serves on the advisory board of a number of technology startups.*

How did you get interested in lean?

I was a software programmer who spent his entire career focused on the digital world and had little experience working with the physical world. My world was software development and building software better. I always felt that it would be better to have customers involved sooner in the process; however, I never had the opportunity to try this until I started working for my own company. The idea was to write code and put it into production as quickly as possible, one change at a time. This concept was considered extremely radical 10 years ago. The real problem became that the techniques worked and no one could explain why. As long as I was working with engineers this was not a problem; however, as soon as I began trying to teach and convince non-engineers of its validity, everyone wanted to know why.

Finding the answer became my quest. I began reading every leadership and business book that I could get my hands on. I used recommended reading lists and book appendices, and I finally found Taichi Ohno's Toyota Production System. I found the answer to the why in his description of the 5 Whys and problem solving. This led me to my interest in lean, as now I could begin explaining the success of my process.

What is important to remember when practicing lean in entrepreneurship?

We apply lean to the hypotheses or our understanding of what the product needs to be; it is very scientific and fast with a premium on speed. We must first figure out what to build, then how to build it in a more efficient way. The pull through our idea factory is our experiments, which help us better understand what the customer wants. We use build–measure–learn, which is very similar to the PDCA cycle. People forget the foundation of any action in lean is the long-term vision/thinking of what the system should be or look like. One is just being "busy," if their actions are not aligned with a vision or something long-term.

If you were going to explain to someone (or an executive) why lean applies to startups (besides that it just works …), what would you say?

This is a conversation that I have quite often, since skepticism is really high in nontechnology companies. I will generally begin by asking if their innovation and new products are going better than ever, always successful, and their customers are delighted? If yes, then OK. Most companies, however, are finding innovation is getting harder and more expensive; they are having trouble finding growth and creating new growth. Even companies with excellent lean programs eventually meet diminishing returns unless new growth is added.

I tell them that our way will systematically improve the company's speed to market and the likelihood of success with new initiatives fueled by innovation. If they are interested, I say, "Let's run some experiments to see if it can work."

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

If you've "done" lean in a small company, then you have done a lean startup. This is definitely not true, since a startup must meet criteria for high uncertainty. A lot of small businesses do not meet the criteria for startups, because they already know what's going to work in the future. Most small companies are only unintentionally small; they are trying to get big. A startup really doesn't know what is going to work in the future.

cont. on p. 11

If you could have an organization adopt only one lean entrepreneurship behavior or teach only one lean entrepreneurship tool, what would it be?

The root and most powerful tool is simply to acknowledge, *"everything you do is an experiment."* If you believe/know what the result will be, it is NOT an experiment. Everyone is already doing an experiment with their new products, so why not make it a good one? The questions become: Do you want to run a good or bad experiment? What does a good experiment look like? And, what are the "leap of faith" assumptions for the plan to work?

What is your greatest concern about the lean entrepreneurship movement?

There are two main concerns: One is for the people who helped start the movement and the other is for those trying to join. (1) We were known as rebels when we started and it was cool and exciting. Now it seems to be becoming mainstream and normal. What do the rebels do now? Who do we go fight against? People forget how incredibly large the mainstream community really is. I still meet people who have never heard of lean, much less lean startup. We must make sure to keep the macro view—there is so much more work to do and areas to touch. (2) On the flip side, when something is exciting, everybody wants to join and "lots of 'crap' gets sucked in." People are hungry for a formula, not everyone has patience to go through the learning process, and consultants are selling everything. Teaching people a new way of thinking and business philosophy takes time; people must struggle to learn and do the work. Remember when the U.S. auto industry first went to Japan to learn, they were told about respect for humanity, problem solving, and the culture, then they saw the clean manufacturing area and all of the robots. We know what answer they came back with. Remember, mindset is cheaper than robots.

What is the biggest opportunity for lean entrepreneurship in today's world?

We are living in a golden age of entrepreneurship—kids in garages can compete with the world's best companies. Huge new categories of business opportunities are being created as many industries that people said entrepreneurship could never touch are being "touched." Entrepreneurship is becoming democratized. However, many people are not interested in entrepreneurship and can deliver impact everyday within their company, within HR, finance, IT, etc. They have the opportunity to transform how established companies do their work. We need to begin to let people act in a more entrepreneurship way in their everyday lives, at work and at home. We need to make the work system more humane. It seems to always circle back to "respect for humanity." What would you do differently, if you had to prove your plan?

I would like to, once again, thank Eric Ries for providing me the opportunity and time to conduct this interview.

About the Author

David Behling is program chair of the Lean Enterprise Division. Throughout his career, he has worked in the lean, improvement, and quality fields helping companies define and create value for their customers through transforming their cultures and building lean leadership. He is currently the director of process improvement at Goodwill Industries of Southeastern Wisconsin and Metropolitan Chicago, a nonprofit community organization, in Milwaukee, WI.

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Date	Name	Topic
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March	Ron Pereira	Creating a Culture of Kaizen

NEXT ISSUE

Message From the Chair
Note From the Editor
Feature: Where's My Sensei – Beth Reid
T^3: Tools, Techniques, and Templates – TBD
Employing a Systems Approach – Scott Smith
Learning From the Experience of … TBD
Lean Bytes
LSS Conference Recap
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