Government Finance Officers Association

A Guide to Starting the **Lean** Journey

Commentary

"The Guide to Starting the Lean Journey should be required reading."

"The GFOA's A Guide to Starting the Lean Journey should be required reading for every public manager. The GFOA provides an easy to understand guide to implementing Lean in the public sector, with excellent examples and case studies. This guide will provide you with ideas to create a Lean culture that will move your organization forward even in this challenging era of slow-growing revenues, increasing service demands, and high customer service expectations. Read it, share it with your leadership team, and start eliminating waste."

— Chris Morrill, City Manager, City of Roanoke

"What a great resource."

"What a great resource for local municipalities that are considering Lean for performance improvement. Our hope is this guide helps several of our colleagues to start innovating."

— Scotty Martin, Manager of Analytics, Budget and Management Office, City and County of Denver, and founding member of Denver's Peak Academy, Lean training program

"With Lean, we were able to work smarter with faster results."

"Lean transformed our school system. Before we implemented Lean, improvement was slow and costly, in terms of time and financial resources. With Lean, we are able to work smarter with faster results. We learned how to identify and eliminate waste, with the end goal of improving processes and outcomes. We learned the value of identifying the root cause of problems before jumping to solutions. We've incorporated metrics around all improvement projects and have been able to make results visible for our stakeholders. Making our results visible has increased our credibility with our constituents, especially with stakeholders from the private industry, where Lean has been practiced for many years."

"This guide is a practical approach to getting started and shows how Lean can be incorporated into the public sector. It also shows the practical and material results that can be achieved by using Lean. This is your first step to getting started on your lean journey. Once you're on the path, you'll see organizational improvement you never dreamed possible."

— Paul Soma, Associate Superintendent of Finance and Pperations, Traverse City Area Public Schools

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The GFOA Research and Consulting Center is the management analysis and consulting arm of the Government Finance Officers Association and is nationally recognized for its comprehensive analytical and advisory services, and specialized research on state and local government finance. Since beginning operations in 1977, the GFOA Research and Consulting Center has provided advisory services to hundreds of local, county, and state governments; public utilities; elementary and secondary education systems; and transit authorities.

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1. Introduction

You've heard of Lean and you are intrigued. You are acquainted with the basic Lean tools and concepts such as Kaizen, the 8 wastes, root cause analysis, and process maps - but what are the next steps? The purpose of this guide is to help you get off to a good start on your Lean journey, including:

- **Considering Lean**. You first must consider if Lean is the right journey for you.
- **Become aware of what a Lean organization looks like**. Stephen Covey says "Begin with the end in mind." Learning about Lean and the experiences of others and what they have accomplished puts you in a better position to begin the journey.
- **The strategy for implementing Lean at home**. Once you have learned about Lean you and decide it is the suitable journey for you, then you are ready to begin the Lean journey in your own organization.
- **Building a Lean culture**. Lean is not just collection of tools. It is a mindset and way of working. Lean will have its greatest impact when that mindset pervades the organization.
- **Building support for Lean**. Change is often hard for employees. Change is sometimes for employees so thought must be given on how to make the transition easier.

However, this guide does not presume there is just one path for the Lean journey. Readers are encouraged to use the information in this report to create the path that works best for their organization.

Finally, this guide does assume that the reader has some basic knowledge of Lean. If you are completely new to Lean please consider reading "Lean: Achieving Critical Mass" available for free on the GFOA website at www.gfoa.org or by emailing research@gfoa.org.[1] If you need a refresher on some of the most important terms and tools of Lean, please consult Appendix 3 to this report.

Lean Phraseology – Words Matter. Leaders of public sector organizations who are interested in going Lean should choose their words carefully in order to convey the proper message about Lean. Below is guidance from noted Lean researchers M.L. Emiliani and D.J. Stec from "Leaders Lost in Transformation."[2]

A Lean Project, Initiative … or Journey?

Characterizing Lean as an "initiative" or "project" usually indicates to people that Lean efforts will last a fixed period of time. Lean is better characterized as a "journey" because there is no end to improvement.

Lean "Tools" or Something More?

The word "tools" indicate to people that Lean is just that – a bunch of tools. Instead, Lean is a management system rooted in key principles (continuous improvement and respect for people), with key objectives (such as create value for customers), supported by processes and tools (such as kaizen, 5S, process mapping, standard work, root cause analysis, etc.).

2. At the Beginning: Considering Lean

> **If you can't describe what you are doing as a process, you don't know what you're doing.**
>
> **— W. Edwards Deming**

The first step in the Lean journey is to decide if Lean is right for you. The eye-catching headlines of governments making dramatic improvements–often 80% or greater improvements in time, cost, and/or quality – would understandably interest many public officials in pursuing Lean in their organizations.

Upon initial inspection, Lean does not seem that hard. The tools of Lean are straightforward and simple to use. However, this apparent simplicity can be deceptive. As David Mann, author of the award-winning book, *Creating a Lean Culture*, states: "Many Lean implementations fail because Lean is too easy! That is, too easy to implement the physical trappings of Lean while failing to notice the need for a parallel implementation of Lean management."[4]

Lean Results in the City of Irving, Texas

The City of Irving began using Lean methods in 2007 and has achieved impressive results.[3] Here is just a sampling:

- **Commercial permit process: Plan review time reduced by 76% (15.7 to 3.7 days)**
- **Legal Services Request: 72% reduction in cycle time (18.5 to 5 days) and 50% reduction in errors rework**
- **Street Repairs: Reduced repair cycle time from average of 14 weeks to less than 6 weeks**

"Lean management" differs from traditional management in many ways. Foremost is that traditional management focuses on the end results. Lean management focuses not only on results, but also on what ultimately produces results: the process. Hence, management must rigorously apply the tools and methods needed to establish and maintain a focus on process. Lean management differs from traditional management in other ways too. Exhibit 2.1 summarizes the most important differences in these two management styles. As a public manager, you must decide if you are willing and able to change your management system to a Lean management system. If so, you are ready to take the next step.

Exhibit 2.1: Traditional Management versus Lean Management

Traditional Management	Lean Management
Reactive to change. Change in work only happens when management requires it.	**Adaptive to change.** Change often happens as a result of worker initiative.
Control. Management's job is to make sure workers stay on task.	**Enable.** Management's job is to make sure standards are clear and to remove impediments.
Schedule. Get it done on time. Fix problems later.	**Quality.** Do it right the first time so there are no problems later.
Fix problems. Problems must be fixed as quickly as possible so that work can move down ine. If it's not broke, don't fix it.	**Learn from problems.** Problems must be solved in a way that prevents recurrence. Fix it so it doesn't break.
Manage from data. Use data to understand how work is proceeding and to make decisions.	**Use data, but rely on observation and experience.** Data are important to find problems, but first-hand observation and experience is indispensable.

Other Lean Considerations

Here are some other common questions / considerations that arise at the beginning of the Lean journey.

Is strong elected official support required? While elected official support is ideal, GFOA's research has found that Lean can, in fact, be primarily a managerial initiative. In fact, the City of Irving, Texas won the Baldrige National Quality Award partly using Lean methods and the impetus came primarily from the City Manager. However, in other governments such as King County, Washington (Seattle) an elected County Executive was responsible for bringing in an appointed official to oversee the Lean journey. Of course, having the active engagement of elected officials can provide a powerful boost to Lean, but their active engagement is not necessarily required.

Do all departments need to participate in Lean? Every department should be made aware that a Lean journey is underway and should receive an overview on Lean. However, only the most enthusiastic departments should be heavily involved in the journey from the beginning, such as participating in Kaizen events. Once successes are realized and publicized other departments can be included.

Do we need to call it "Lean"? A few organizations have elected to rename Lean in the interest of making it more palatable to employees. For example, some members of the organization may view the term "Lean" as threatening, so rename Lean to "continuous improvement." Or, in order to avoid Lean being labeled as a "new" thing for the organization (and, therefore, a potential fad), it has been merged with an existing management initiative. Organizations have also renamed commonly used Japanese terms in Lean in order to make Lean seem more familiar. The benefits of changing the terminology in order to ease the initial adoption of Lean would have to be weighed against potentially making the wide range of Lean resources from outside of the organization less accessible to staff (i.e., they may not know to look for "Lean" resources and/or may not understand terms that are commonly used in Lean.)

Is Lean just the new "flavor of the month"? If Lean is a fad, it has been a fad for well over 20 years. Lean is derived from the ideas of production efficiency luminaries like Henry Ford, W. Edwards Deming, and Taiichi Ohno (of Toyota Motor Company). Lean has become a standard practice in many manufacturing industries and has become very popular in service industries from hospitals to fast food. Lean is now making inroads into government organizations.

3. The Next Step: Become Aware of What a Lean Organization Looks Like

Familiarize yourself with what Lean organization looks like.

Stephen Covey, author of *The Seven Habits of Highly Effective People*, says "Begin with the end in mind." In this spirit, once you have made the commitment to become a Lean organization, your first step is to familiarize yourself with what a Lean organization looks like. Here are three ways to do just that.

Watch videos. The internet has many free video resources on Lean. Some recommendations include:

- **City of Irving, Texas**: 5S and the Utility Truck. This video shows how the City's utility workers applied the Lean technique of "5S" to their utility trucks, saving 330 hours per year per employee. The video features extensive interviews with the workers and their explanation of the project. Note that the video references Six Sigma, but is, in fact, about the Lean technique of 5S.
- **King County, Washington: Report Out**. The County maintains a site for its Lean initiatives, including videos that capture experiences from Lean events from across the County.
- **City of Baltimore, Maryland: Lean Events**. The City's Lean government website documents some of its experiences improving services with Lean.
- **2013 Washington State Lean Transformation Conference**. The second annual Washington State Government Lean Transformation Conference hosted by the Office of the Governor featured presentations on Lean thinking and tools, many of which have been made available to the public via a series of videos.
- **City of Elgin, Illinois: Lean Experiences**. In these videos, City staff describes some of their experiences with Lean.

Read up. A lot has been written on Lean and there are materials specifically on Lean in the public sector available. Some recommendations include:

- **June 2013 issue of *Government Finance Review*.** The June issue of GFOA's bi-monthly magazine was devoted entirely to Lean and covered a wide range of issues relating to Lean. You can obtain a copy of this issue by emailing: research@gfoa.org.
- **Shingo Prize books**. The Shingo Research and Professional Publication Award recognizes and promotes research and writing regarding new knowledge and understanding of Lean and operational excellence. The Shingo prize website lists award winners from the past number of years.
- **Books on Lean in the public sector**. A few books have been written on Lean for the public sector in particular and are helpful for highlighting issues specific to using Lean in government. Appendix 1 provides a bibliography of books GFOA has used in its research.

Visiting an organization that has implemented Lean provides great first-hand exposure to Lean in action.

Take a tour. Visiting an organization that has implemented Lean provides great first-hand exposure to Lean in action. Visits to private sector firms can work quite well as the basic principles of Lean are the same across industries and it is, at least right now, much easier to find private firms with significant Lean experience than to find governments with such experience. For example, the City of Chula Vista, California worked with Goodrich Aerospace in 2008.[7] Goodrich had been practicing Lean for about 10 years at that point. Seeing how Lean thinking pervaded the entire company had a profound effect on the City staff. King County, Washington staff visited Lean organizations in the health care, manufacturing, and service industries. The visits showed the staff how Lean could be applied in different settings and to see the impact of Lean on the lives of the individual workers.

According to Ed Chew, the Continuous Improvement Manager for the City of Chula Vista: "My experience with companies that practice Lean is that they are eager to share their knowledge with 'newbies.' I would encourage people interested in Lean to search their local area for companies that practice Lean and give them a call!" Organizations such as the Lean Enterprise Institute and the Association for Manufacturing Excellence maintain networks of Lean practitioners, which should make the search easier.

Of course, you should visit other governments who have started Lean if the opportunity is available. For example, York County, Virginia has hosted a number of visits from other governments interested in learning about how Lean might work. Examples from other local governments will often resonate better than those from private firms even if the underlying principles are not much different.

Get Lean Training. Getting trained in Lean provides you with knowledge of the tools, techniques, and concepts that are applied in Lean process improvement and Lean management. Lean training should take place on, at least, two levels:

- Lean management training teaches senior management the daily practices and tools needed to create and maintain a focus on processes.
- Lean methodology and tools training is for a broader audience, including front-line staff, middle management, and executive management and teaches participants how to analyze and improve processes using Lean techniques.

Appendix 2 provides descriptions of the content that would, ideally, be included in training for both of these two levels. However, Lean training must be put to use for it to be beneficial, so it is better to get training after the decision has been made to embark on a Lean journey, rather than just at the point of deciding whether or not to go on the journey. All the participants in the training should be responsible for participating in some tasks to apply Lean within the organization. Some may participate in Kaizen, while others may participate in smaller-scale activities, such as applying 5S to their work area, or looking for any of the 8 wastes in their work processes, ideally with coaching from others with greater Lean experience/skill.

Lean Certifications?

Six Sigma is well-known for its martial arts inspired "belt" system of certifying practitioners, from "yellow belts" for beginners to "master black belts" for the most accomplished experts. Lean does not have a similar ranking system for beginners through experts, though, a consortium of organizations that are dedicated to advancing continuous improvement concepts and methods have created the "Lean Certification" system of bronze, silver, and gold levels for more advanced Lean practitioners.[8] However, in GFOA's experience these certifications are not necessary to start the Lean journey.

4. The Strategy for Implementing Lean in Your Organization

After learning about the experiences of others with Lean and getting trained in Lean methods and concepts, you are ready to implement Lean in your own organization. The initial implementation of Lean often focuses on performing a Kaizen event on a business process (though it doesn't necessarily have to). While undertaking a first Kaizen event is certainly an important part of getting started with Lean, it is also important to give broader consideration to questions such as:

- How will we ensure that the improvement ideas generated by the Kaizen event are put into practice?
- Who steers the direction of our Lean journey?
- How will Lean relate to our mission and strategic objectives as a public service organization?
- How can workers be motived to use Lean on an everyday basis, outside of a Kaizen event?

> **What Is "Kaizen"?**
>
> **In Lean, Kaizen has two important meanings:**
>
> 1. **A dedicated period of time, usually about 3 days (or as much as a week) when a small team focuses on a process or work area . The team makes many (sometimes hundreds) of small improvements to the process or work area during this time. This is often referred to as a "Kaizen event."**
> 2. **A broader culture that strives for perfection and to eliminate waste. It is the organized use of common sense to improve cost, quality, and timeliness. At its best, Kaizen is a culture of daily continuous improvement.**

This section of guide will first address selecting a process for a Kaizen event since that is an immediate and practical concern for those starting out on their Lean journey. The guide will then address the Lean governance structure, addressing the first two questions above. This is followed by a discussion of developing a Lean culture, answering the latter two questions.

Selecting a Process for a Kaizen Event

Many governments choose to begin their Lean journey with a Kaizen event, after receiving training. Care must be put into selecting a process for a Kaizen event in order to get the most out of the time and energy that will go into the Kaizen event. The first order of business is to select the process itself. Processes that have a clear link to the organization's strategic objectives, are causing stakeholders a great deal of pain, and/or directly interface with the public are often good candidates. However, an overriding consideration is the support of the organization's leadership to change a given

You can do a pre-Kaizen event analysis to help by providing additional data before starting the formal Kaizen event.

process. If those managers that lead the organizational unit (e.g., department) in which the process exists are unwilling to vigorously support Lean, then your Lean energies are probably better directed somewhere else. Over time the support to change may develop, but in the beginning of the Lean journey it is often better to apply Lean with your most willing participants.

Once the process has been identified, a start and stop point of the process must be defined for the Kaizen event. Often, a process does not have a clear beginning or end, so by defining boundaries for the process keeps the Kaizen event focused.

Finally, there should be an agreed upon metric for defining how much improvement is desired and, ultimately, if improvement has been made. For more information on selecting and defining a process for Kaizen, consult "Getting Started with Lean Government Projects" in the June 2013 issue of *Government Finance Review*.[9]

A pre-Kaizen event analysis can help to define some of the points above by providing additional data before starting the formal Kaizen event. Some of the key pieces of information to uncover in the pre-Kaizen event analysis include:

- **Process map**. A basic process map (much less detailed than would be developed in a Kaizen event) can help better define the specific problems that the Kaizen event will address. It could even be that mapping the process causes the organization to change its assumptions about what made the process a good candidate for a Kaizen event in the first place. One city identified the payroll process as its first candidate for a Kaizen event. A pre-Kaizen process mapping, however, revealed that many of the problems the city was experiencing would be better addressed by more effective use of computer automation, including the city's existing enterprise resource planning software. While Lean would have been helpful (and in fact the city later held a Kaizen event to address payroll), it would have not made an ideal first process because the team members would have fewer opportunities to apply the Lean tools.
- **Data collection**. Data should be collected on how the process currently performs. This provides a benchmark for assessing how much improvement should be sought and, later, measuring the actual improvement obtained. Data can be collected at the actual work site and use simple manual data collection tools such as checklists, frequency plots, and concentration diagrams. The objective is to answer "how are we doing right now?" Importantly, data collection provides an opportunity for employees to immediately get involved in the Lean process. For instance, York County asked employees in the business license process to come to the Kaizen prepared with a high level flowchart of the process and a list of the challenges that its customer departments were experiencing with the process.
- **Legal or contractual barriers identified**. For some government processes, legal or contractual obligations that dictate how a

process must be performed are a serious consideration. In some cases, these represent real limitations on how the process can be changed. In many other cases, however, these barriers are exaggerated or even imagined. Hence, the pre-Kaizen event analysis should take stock of perceived legal or contractual barriers and then confirm the actual provisions that create these barriers and what exactly those provisions require of the government.

- **Employee readiness for change**. Finally, the pre-Kaizen event analysis should ascertain the readiness of participants in the process to change the way they work. If participants are not willing to change, ideas for improvement will be much harder to implement. Tools such as elevator speeches and stakeholder analyses are effective in building a coalition for change and mitigating areas of resistance (see section 6 of this guide). Lean is difficult, if not impossible, to impose. Rather, engage employees and develop broader based employee commitment help to move change forward.

With the pre-Kaizen event analysis complete, you are ready to begin. The details of how to perform a Kaizen event are beyond the scope of this guide, though a solid Lean training course should provide the necessary information. Further, many of the governments interviewed for this guide note from their experiences that it is wise to engage an experienced facilitator for your initial Kaizen events. The goal should be to enable staff to run Kaizen events without outside assistance, but help with the first Kaizen events helps the organization achieve a more certain early success and provides on-the-job training for staff to facilitate Kaizen in the future.

In any event, as the quote from David Mann at the beginning of this guide elucidated, the tools and technicalities of running a Kaizen event are a secondary concern when it comes to realizing tangible and sustained benefits from Lean. The primary concern is a Lean management system that produces an intent focus on processes and that uses Lean to get the best

A Different Starting Point

The City of Roanoke, Virginia began their Lean journey with a six hour training course for the City leadership team on key Lean concepts (about 6 hours) and then began training select employees 25 at a time. Rather conducting a Kaizen event, as part of their training, employees have to undertake and present two smaller scale Lean projects. The City now has several successes under its belt and is expanding Lean training to greater numbers of employees. Below are a few examples of gains the City has made:

- **The accounts-payable operation yielded a savings of $63,000 annually by converting more than 150 vendors from check payments to Electronic Funds Transfer payments.**
- **Permits that formerly took 18 days to be issued now take six.**
- **A virtual credit card used to pay vendors reduces paperwork and brings a 1% rebate to city coffers.**

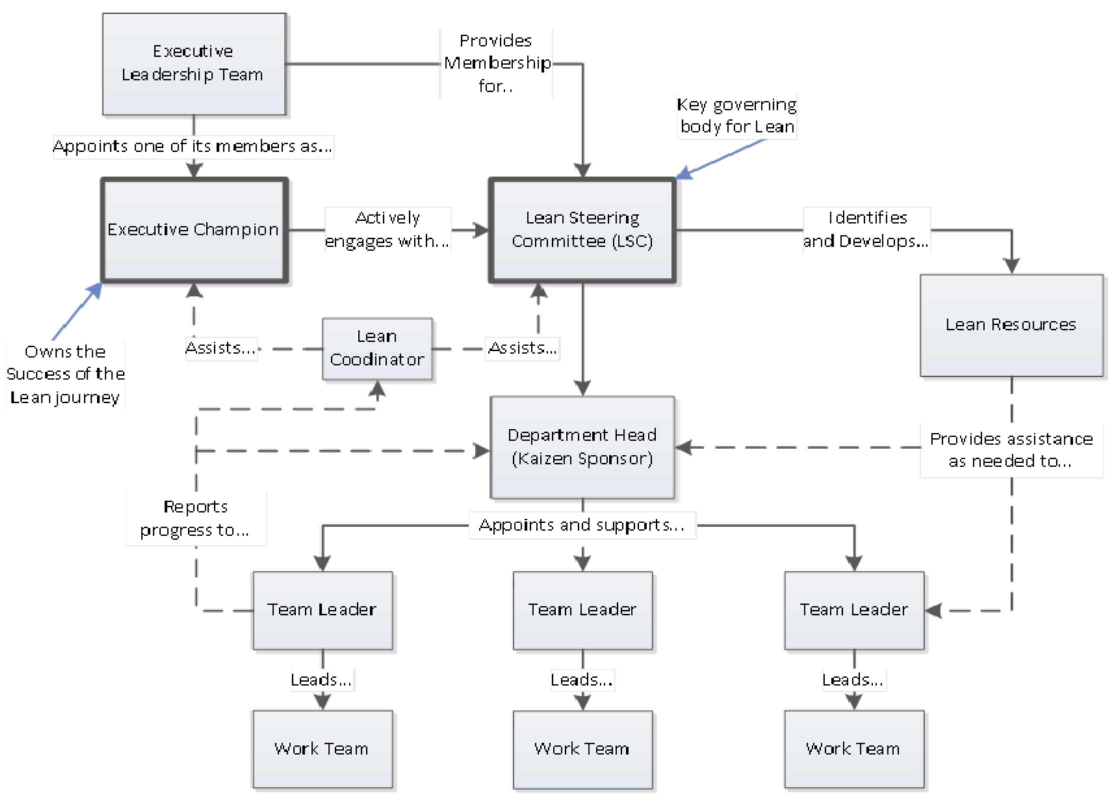
results from processes. Hence, the next section addresses Lean governance, which is the overarching structure that defines decision rights and accountabilities for Lean.

Lean Governance Structure: Decision-Rights and Accountabilities for Lean

A Lean governance structure is a system for determining the organization's objectives with respect to Lean and monitoring performance to ensure that these objectives are attained.[10] A governance structure identifies the individual who decides what the objectives are and the individual who is responsible for them.

Exhibit 4.1 depicts a model Lean governance structure. The model comprises all of the functions that need to take place in a Lean governance system. The reader will need to adapt the model to best fit the unique circumstances of his/her organization, but all of the essential functions should be covered in some fashion. For example, in a smaller organization, the Lean Steering Committee may have fewer members and one person might fill multiple roles. For instance, the Executive Champion may also be the Lean Resource. All of the functions are described on the following pages.

Exhibit 4.1: Model Lean Governance Structure



Executive Leadership Team. The Executive Leadership Team is at the apex of the governance structure. The Executive Leadership Team comprises top leaders in the organization – almost every government probably has an Executive Leadership Team in place already and that group is the same for the Lean governance structure. The Executive Leadership Team provides broad support for Lean in the organization – for example, they might direct that Lean become an important element of personal performance appraisal.

Lean Steering Committee (LSC). The LSC is the key working body in the Lean governance structure and is primarily responsible for guiding the government on its Lean journey. The LSC should consist of five to six members, most of who can be drawn from the Executive Leadership Team. All members can serve rotating six to eight months terms. Rotating membership prevents the committee from becoming too large and unwieldy, while still providing an opportunity for everyone to participate and reinforce their Lean learning. It is also advisable to have some permanent executive membership within the LSC: one or two executives with important cross-functional operational responsibilities (e.g., a chief operating officer).[11] One of these permanent members might be a good candidate to chair the LSC. Finally, the LSC can round out its membership with a non-executive staff person who has an important role in the Lean journey. For example, perhaps a staff

Example of Lean Steering Committee Standard Work

1. **Agenda is issued one week in advance and copied via e-mail to all top managers, soliciting any inputs they have for the agenda.**
2. **Lean steering committee meeting should be scheduled for 90 minutes and be held once/month, without fail.**
3. **Recording of LSC minutes should be rotated each month among LSC members. Minutes should be sent to all top managers and also posted on the Intranet shared site no later than one week after the meeting.**
4. **The next LSC meeting should be scheduled at the end of the current meeting (agenda item).**
5. **Standing agenda items:**
   a. **Review of previous meeting minutes.**
   b. **Any additional items to be discussed.**
   c. **Update on status of key performance metrics.**
   d. **Two managers to briefly (10 minutes max.) update their Lean activities, progress, and new identified opportunities for improvement.**
   e. **One Kaizen event process owner to update progress (10 minutes max.)**
   f. **Review of LSC checklists for Sustaining Change and Leadership (do once/6 months)**
   g. **Other agenda items.**
   h. **Setting the next LSC meeting date and closure.**
6. **This standard work should be reviewed by the executive leader with the LSC Chair a minimum of once/6 months to ensure compliance.**
7. **Audit ALL Standard Work compliance every six months.**

member has a very high degree of Lean training and/or provides assistance to other departments with their Lean activities.

As a first step, the steering committee should define its internal functioning; the most basic feature is the meeting schedule and duration.

The steering committee should, as a first step, define its internal functioning. The most basic feature is the meeting schedule and duration – once a month for 90 minutes is a standard to follow. Other functions of organization should be defined, such as who will lead the meetings and who will develop the agenda and standard work for the LSC (see sidebar for an example) as well as record the results of the meeting.

The committee should also define its most important responsibilities and how it will handle them. Below are the key areas of responsibility that the committee should consider:

- **Identify and prioritize major potential Kaizen events**. The LSC should identify possibilities for strategic use of Kaizen events and develop a scoring/rating tool to select the best opportunities for Kaizen events. Eventually, departments may become more active in identifying and executing Lean activities without requiring LSC direction. Hence, the LSC will also need to have a role in coordinating Lean activities across the organization.
- **Follow-up on Kaizen events to ensure ideas are implemented**. A Kaizen event can generate numerous ideas for improvement. None of these ideas will do the organization any good unless they are put into action. The LSC should receive a monthly update from the Team Leader / Process Owner (see later on in this document for full description of this role, but in short the staff member who leads a Kaizen event) on the implementation of these ideas (including, perhaps, a brief in-person report).
- **Follow-up to ensure payback from Kaizen**. A significant risk of Lean process improvement activities is that the time savings from successfully implemented ideas won't be translated into actual hard dollar savings or service improvements in other areas.[12] The LSC should take steps to ensure that payback is achieved by requiring clear goals be set with respect to Kaizen and how those goals will be translated into either tangible reductions in cost or increased benefits the public receives for their tax dollars. This should be supplemented by prominently displayed, monthly visual metrics tracking the progress of the Kaizen event. That said, it should be noted that savings may take some time to develop for some Kaizen events, so the LSC may need to be patient in these cases.
- **Follow-up on everyday Lean activities**. Lean activities should not be limited to Kaizen events. The LSC should receive short presentations on a sample of smaller scale, everyday Lean activities. These presentations should be made in person and can be rotated to feature different organizational subunits (e.g., departments, divisions) at each LSC meeting. The LSC might also take steps to encourage everyday Lean activities by providing formal recognition for successful projects, running contests, etc. The sidebar on the following page provides further information on getting started with everyday Lean. Lean also offers more advanced methods of getting

employees engaged in everyday Lean activities, such as “A3 Reporting” (see the June 2013 issue of Government Finance Review) and everyday work improvement idea programs.

- **Ensure adequate Lean training**. The LSC should ensure there is a coherent training strategy for Lean. This includes orientation activities for new employees as well as training for current employees.

Getting Started with Everyday Lean

Lean should not be limited to occasional Kaizen events. Employees should be encouraged to incorporate Lean in their everyday work life. There are a variety of options for making employees aware of Lean and equipping them with the tools to participate in Lean. Here are a few of the more important methods to consider:

- **Getting the word out. One of the first orders of business is to make everyone aware that the Lean journey is underway and get them excited about participating. Some mediums might include: an “elevator speech” which is a short prepared talk about the virtues of Lean, 60 to 90 seconds in length at most, that can be given at opportune moments; short (1-2 minute) success videos; Lean intranet site with weekly updates; monthly internal Lean newsletters; making Lean a topic at each monthly manager’s meeting with their employees. These are just some of the ways to get the word out about Lean and to inspire others to embrace Lean.**
- **5S. The 5S method of organizing the work area is easy to do and can be performed at varying scales – from the individual to the entire organization. Further, 5S is often good preparation for process improvement because it helps workers recognize waste in the work place that requires improvement to the process, rather than just better organization of the work area.**
- **Lean demonstrations. Document successes employees have with Lean as stories and pictures and use them to demonstrate the value of Lean to others. 5S projects often provide good material for demonstrations because the before-and-after pictures can be quite striking.**
- **8 Wastes scavenger hunt. Employees are tasked with finding examples of each of the Lean “8 wastes” in the work area. After identifying examples, employees could also be asked to come up with one small idea to reduce or eliminate one of the wastes that they found. Management can use the results as a coaching opportunity and as source of “quick win” improvement ideas.**

Training can range from intensive, multi-day training to “brownbag” luncheons of an hour for short review of key Lean concepts like 5S, the 8 Wastes, or 5 Whys.

- **Ensure sharing of important successes**. Sharing successes is not just a way to boost morale, but can serve to spread replicable ideas across the organization thereby multiplying the benefits from a Kaizen event. The LSC should have a mechanism to review the results of Kaizen events and identify and disseminate potentially replicable ideas.
- **Appoint people to fill roles in the governance structure**. Someone needs to identify people to fill roles in the governance structure and make them aware of their responsibilities. In some cases, the candidates for roles may be obvious (e.g., Department Heads) but others may require more thought. Also, for some Kaizen events or other Lean activities it may not always be immediately obvious who

should sponsor the event (e.g., for one that crosses departmental boundaries). The LSC should make sure that all roles in the governance structure are unambiguously filled and that Kaizen events have a clear sponsor.

- **Serve as final arbiter for disputes**. Disputes can arise in Lean process improvement. One of the more common is when the individual responsible for implementing an improvement idea after the Kaizen sits outside the direct authority of the Team Leader and Department Head / Kaizen Sponsor and does not follow through on his/her obligations. The LSC gets involved to resolve disputes that the parties cannot resolve on their own.
- **Set reward/recognition strategies**. The LSC should determine how Lean will impact the organization's compensation/reward/recognition strategies. One of the most popular strategies is to incorporate Lean into personal performance appraisal systems.

Executive Champion. An Executive Champion is a single executive who oversees the success of the Lean journey. Even with the presence of an Executive Champion it is important to note that Lean must be a collaborative effort. As Emiliani et al.[13] point out:

A single [Executive Champion] cannot accelerate Lean implementation [without the active engagement of others in the organization]. This places an unreasonable expectation on the [Executive Champion], and will likely lead to diminished outcomes or even failure. It takes the dedicated efforts of the entire senior management team, led by the CEO to achieve a … Lean transformation.

Likely, the Executive Champion would be drawn from the Executive Leadership Team and would chair the LSC or at least be closely involved with the LSC. Some Executive Champions may prefer to let someone else chair the LSC so that Lean governance does not become too closely associated with just the Executive Champion, but even in this case the Executive Champion should remain actively engaged with the LSC and Lean governance. The Executive Champion should use the same communication channels as the LSC to remain abreast of the Lean activities in the organization in order to avoid duplicative communication efforts.

Finally, as Emiliani points out the CEO does need to be actively engaged in the Lean journey in order to achieve transformative results. For example, in Traverse City Area Public Schools (TCAPS), Michigan, the superintendent is the Executive Champion and the other

Is Governance Structure Organization-wide?

This guide is written from the perspective of an organization-wide governance structure. However, if certain parts of the organization simply aren't on board with Lean yet it is not necessary or even advisable to force-fit them into the governance structure. The governance structure can be limited to those areas of the organization that are willing participants in Lean. Others can always be brought in later.

executive managers are also actively engaged in the Lean journey and, as a result, TCAPS has acheived great success with Lean.[14] While the CEO does not necessarily have to be the executive champion, TCAPS' experience does show that active engagement of the CEO is very important.

Lean Coordinator. Some organizations may find it useful to have a Lean Coordinator position attached to the LSC and Executive Champion. The Lean Coordinator helps with the administrative tasks that are required for the Lean governance system to work. For example, the Coordinator should work with the Kaizen event Team Leaders (Process Owners) to track the status of ideas that come out of Kaizen in order to report to the LSC and Executive Champion. This is best done by setting up a monthly matrix for each Department Head and Team Leader to update Kaizen event action items and key metrics along with other Lean activities for all to see. The Coordinator may also help deliver communications from the LSC and Executive Champion to the rest of the organization – for instance disseminating Lean success stories, distributing a short Lean newsletter, etc.

The organization should designate staff with special Lean expertise as Lean Resources.

Lean Resources. The organization should designate staff with special Lean expertise as Lean Resources. This could be a formal group, like King County has done with the creation of a Kaizen Promotion Office or this could be a less formal group – staff that have a special aptitude for Lean and a greater level of Lean training/experience than their colleagues may be designated to help other departments with Lean initiatives as the need arises. However, it is essential that the Lean Resources are seen as supplements to the departments' own efforts and not a replacement for departments' full engagement in Lean.

In addition to on-staff expertise, the Lean Resources could also comprise other resources. For example, some larger governments have blanket contracts with Lean consultants for Kaizen facilitation. Baltimore even provides a physical asset – an "innovation lab" that provides a physical space with the equipment optimized for supporting a Kaizen event.

Department Head (Kaizen Sponsor). Department Heads support the Lean initiatives within their department (or might jointly support a project with other Department Heads). With respect to Kaizen events, the Department Head makes sure Kaizen events happen on a regular basis and that results are obtained from the Kaizen events. Department Heads also serve in a "sponsor" role for Kaizen events (or in some organizations a manager with comparable authority to a Department Head could be a Kaizen Sponsor). As the sponsor, the Department Head selects the Team Leader who will run the Kaizen event and works with the Team Leader to select Work Team members (this includes coordinating with other departments who will be contributing team members). The sponsor also facilitates the team's work by drafting a project charter and refining it with the Team Leader, helping the Team Leaders overcome roadblocks, keeping the Team Leaders focused on the goal of the Kaizen event, and recognizing successes.

Outside of Kaizen events, the Department Head is responsible for developing the Lean competencies of staff and encouraging the use of Lean methods to make improvements throughout their department.

Finally, note that Exhibit 4.1 shows only one Department Head, but there would, in fact, be a box for every Department Head in the organization.

Team Leader (Process Owner). This is a manager within a department who manages workers who perform a process. While at the beginning of the Lean journey the organization (and the managers themselves!) may think of these individuals as "middle managers." In the course of the Lean journey, the goal is to eventually shift the organization's and middle managers' perception to one where they are seen as leaders of teams engaged in the continuous improvement of work and "owners" of the processes that they manage. In practical terms, this means that team leaders should lead Kaizen events (assisted by a Lean facilitator, especially for less experienced Team Leaders) and should be primarily responsible for driving forward the implementation of the improvement ideas from Kaizen (assuming the Team leader is recognized as the owner of the process that was the subject of the Kaizen).

The Team Leader should update the Department Head and the LSC on progress towards implementing the improvement ideas. A good way to do this is a "Kaizen newspaper." This is simply a monthly summary of the activities that have taken place to put the ideas into action, including a running summary of who is responsible for the tasks associated with implementation and when those tasks are due by. Kaizen newspapers are normally updated monthly and posted prominently. In many cases, the Team Leader will depend on the cooperation of people outside of his or her supervisory authority to implement an improvement idea. Hence, the Lean governance structure should include protocols for dealing with instances where individuals outside of the supervisory authority of the Team Leader fails to live up to their commitments, including escalation of the issue upwards.

Outside of Kaizen, Team Leaders should take steps to actively engage employees in generating small ideas for improving work on a regular basis and integrating those ideas into standard work.

Work Team. These are the frontline employees who work in the area or process of focus for the Kaizen. The employees have two roles in the Lean governance structure. First is participation in Kaizen events and second is the contribution of smaller ideas for improving the work on a regular basis. Note that Exhibit 4.1 shows one work team per Team Leader, but it is possible for a Team Leader to have more than one Work Team.

While a governance structure is important, Lean must ultimately be lived at the day-to-day level of public employees – Lean must become part of their values, beliefs, and behaviors, supported by the requisite systems and structures. A Lean culture, the subject of the next section of this guide, is therefore an essential complement to the governance structure.

Action Item Escalation Procedure

- Team Leader discusses face-to-face with the individual responsible for the item.
- If no resolution, Team Leader gets Department Head / Kaizen Sponsor to intervene face-to-face.
- If no resolution, the LSC is brought in by the Kaizen Sponsor to intervene face-to-face.

5. Getting Sustained Results from Lean: Creating a Lean Culture

A government will not get sustained benefits from Lean if Lean is not enmeshed into the organizational culture. Some of the most important reasons Lean needs to become part of the culture include:

- Much of the benefit of Lean comes from the workers taking the initiative to improve work by identifying problems and finding solutions. The culture must be respectful of workers' ideas and input, and be supportive of employee engagement in the improvement of work processes.
- The leaders/managers/supervisors must coach and support employees in order to encourage them to take the initiative in improving work. This and other behaviors required of management under Lean are different from traditional management (see section 2 of this paper for more on this). Hence, a culture supporting the Lean way of managing must be developed.
- Lean is a "continuous improvement" activity, so the organization must always be looking for the opportunity to eliminate waste. A Lean culture means that everyone is always looking to eliminate waste and to identify and solve problems - it is not just an occasional "project."
- After a process has been improved, standards must be developed and maintained to ensure the new way of working persists. Without standards the "backsliding" into the old ways of working that afflicts many types of business improvement initiatives can also affect Lean. A Lean culture emphasizes the everyday importance of maintaining standard work.

This section of the guide first addresses the leadership practices necessary in a Lean culture and then describes the management system that leads to a Lean culture.

Lean Leadership Practices

Fundamental to making the shift to a Lean culture is an understanding of the Lean Leader "Commandments"

1. Has a high respect for people. The leader treats everyone with dignity and respect and ensures clear responsibility is assigned for every process and problem.
2. The Leader does not seek to assign blame for underperformance, but focuses on the process to find systemic causes.
3. Sets the example for others to follow – the leader "models the way."
4. Has high honesty and integrity, which develops into high trustworthiness among employees.

5. Has taken Lean training and is competent to use the tools, including training others.
6. Is an active coach and visits the work areas regularly.
7. Is a continuous learner.
8. Is a servant leader, realizing that the job is to train and to help all staff identify, improve, & solve problems.

Also required is an upheaval in the way the Lean leader (anyone who has people reporting to her/him) performs her/his job. The Lean leader's job requires her/him:

- To act as a coach – to not make all the decisions or have all the answers, but to ask non-threatening questions and develop problem identification and solving skills of direct reports.
- To train all of her/his employees so they have an in-depth understanding of the forms of waste and they are able to "see" processes in a new, clearer way which leads to the ability to continuously improve.

This is tough work for leaders who have done things a different way for all of their careers. Some supervisors can't make this transition. The organization has to be prepared how to handle supervisory obstacles that would impede the Lean journey.

Lean Culture and the Lean Management System

Organizational culture consists of the values, beliefs, behaviors, systems and structures which comprise "the way we do things around here." So, changing the culture starts with changing the management system. David Mann identifies three primary components of a Lean management system:[15]

- Visual control system
- Daily accountability process
- Leader standard work

Visual Control System

One of the most powerful Lean tools is "visual management." Visual management is the use of signs, information displays, layouts, color coding, and other visual cues that will enable the worker or even the casual observer to immediately recognize the work standard and any deviation from it. A "visual control" is where visual management is used to proactively manage work (as opposed to passively provide information). Visual controls are important to a Lean culture because they reveal how a process is performing and they are a visible symbol of management's commitment to Lean management (and cultures need symbols!). Further, by insisting that the information underpinning the controls and the controls themselves are maintained and current, visual controls reinforce focus on process.

Visual control can take many different forms, with the best form depending on the circumstances. The following pages provide some examples of the more common Lean visual controls.

Performance Measurement Dashboard. A dashboard is a prominent display of performance measures that describe how well a process is working and that workers can respond if expectations are not being met. The City of Irving uses dashboards similar to that depicted in Exhibit 5.1.

Exhibit 5.1: Performance Measurement Dashboard Visual Control from Irving, Texas

PLANNING AND INSPECTIONS

Strategic Plan	Key Performance Indicator	Description	Prior	Actual	Target
Goal 8	*Strategy 8.1*				
Sound	Customer	Public counter transaction time	3.30	3.45	<5
Governance	Service	Public counter customer survey	1.2	1.2	>1
		Telephone response time	15s	16s	<18s
		Phone conversation quality control	.99	1.01	>1

In actuality, the City's dashboards are large dry erase boards that have been posted in conspicuous locations in the work area. The dashboard shows a measure, the actual performance, the target performance, and the performance from the prior period.

Visual Indicators of Completion of Tasks. This visual control lists the tasks for a process and uses visual indicators, like color coding, to show whether the tasks have been completed.[16] This type of visual control could be organized to monitor tasks for the days of the week or by project. Exhibit 5.2 (on the following page) illustrates a project-oriented visual control for York County, Virginia. The County identified the need to review all cell phones to determine justification for each phone issued, to determine that the service option selected matches the specific requirements for each position, and to eliminate any unjustified phones. Exhibit 5.2 makes obvious how the County was doing on completing the tasks associated with its project at a point in time.

Takt / Pitch Board. A Takt board (also known as a pitch board) is used to monitor "Takt time." "Takt time" is how often you should produce one output, based on the rate of demand, to meet customer requirements. Takt time is calculated by dividing the available work time per day (or other relevant unit of time) by the customer demand rate per day (or other relevant unit of time). For example, if there are 450 minutes of work time available in the day and there are 50 forms to be processed in the day, then the Takt time is 9 minutes per form. This figure can be used to monitor output to see if it is keeping pace with customer demand. For example, if the first two forms of the day take 30 minutes to do, the workers then know that they are behind the pace needed to meet the day's demand.

Exhibit 5.2: Visual Indicator of Completion of Tasks for York County's Cell Phone Use Review Project

Task	Planned Completion	Month Completed	Status
Obtain List of cell phone numbers with employee names, service options and departments	JUNE	JUNE	
Review cell phone policy and forms	JUNE	JUNE	
Review usage reports			
Develop employee request/justification form	JUNE	JUNE	
Send d-mail to Department Heads with list of phones in their department and instructions to complete justification forms	JULY	JULY	
Obtain authorized justification forms from department directors	JULY	AUG	
Prepare updated list of cell phones reflection departmental changes for County Administration review	AUG		
Obtain changes from County Administration	SEPT		
Coordinate changes from administration with directors	OCT		
Cancel phones identified for termination	OCT		
Initiate authorized changes to service plans	OCT		
Inventory returned phones	OCT		
Reconcile service plan changes made by service provider to forms	OCT		
Calculate savings from project	NOV		
Communicate results to County Administration and directors	NOV		

= Completed = Missed Target Date = At Risk of Missing Target

Calculating Takt Time in the Real World

As the reader might surmise, calculating Takt time in a real-world application can be more complicated than the simple example presented here. For example, you must consider how much work time is truly available in the work day to devote to the process being monitored, there may be significant variability in the time needed to process each unit of work, or there might be significant variation in demand on different days of the week or in different seasons. There are ways to deal with these all of these challenges, but Takt time is a more advanced Lean tool, so it probably should not be the first type of visual control attempted by those who are relatively new to the Lean journey.

When put on a Takt board for everyone to see, workers can quickly see when work is falling behind schedule so that adjustments must be made. Exhibit 5.3 shows a sample Takt board for processing purchase orders. The key elements of the Takt board are the scheduled production for each hour, the actual production for each hour, variation between the two, and reasons for the variation. A Takt board could use some other unit of time besides hours to monitor the schedule, but hours are most common. Notice that the schedule is not the same for each hour – this is because there are likely other tasks besides processing purchase orders that the workers must complete, so an allowance must be made for this. Finally, the section of the Takt board for reasons for variation is critical because it allows the participants in the process to find patterns and fix repeating errors. For example, Exhibit 5.3 shows that the computer was down between 10 and 11 am causing the schedule to fall behind by 3 purchase orders. If computer problems are routinely causing the schedule to fall behind it tells process participants what to focus on fixing.

Of course, you should not feel constrained by these examples and should develop a visual control format that works best with your situation. Here are a few design principles to help guide you in the design of your visual controls.[17]

Exhibit 5.3: Takt Board for Purchase Orders

Yesterday:	100POs	and	14.3	POs/Hr
Today:	110 POs	and	15.7	POs/Hr
Hour	Schedule	Actual	Var. =/-	Reasons for Variation
9-10 a.m	10	10	0	
10-11 a.m.	181	5	-3	Computer went down
11-12 a.m.	18	22	4	Got help from cross-trained staff
12-1 p.m.	0	0	0	Group outing for birthday lunch
1-2p.m.	18	13	-5	Lunch ran late
2-3 p.m.	16	18	2	
3-4 p.m.	18	18		
4-5 p.m.	12	14	2	Cut department meeting short
Totals	110	110	0	

- **Compare expected to actual performance**. Any format of visual control focuses on comparing expected and actual performance of a process in order to highlight abnormalities/deviations.
- **Highly visible, widely accessible**. The control should be laid out in a way that is easily understandable and should use visual cues, such as color codes (e.g., red, yellow, green) and/or symbols (e.g., thumbs up or down), in order to quickly and intuitively convey information. The control should also be posted in a conspicuous place or otherwise be easy to access by everyone involved in the work process that the visual control is used to manage.
- **Management understands the importance of it**. The information provided by the visual control should be actively used by management and management should understand the role of the visual control in maintaining a Lean culture.
- **Aesthetic appeal is secondary and high-tech is unnecessary**. Visual controls do not have to be works of art to be effective, and nor do they need to take the form of a computerized "dashboard." In fact, low-tech controls offer a number advantages over high-tech including lower cost and greater flexibility to change the format.

As a starting point to heading off potential resistance, visual controls should be focused on measuring the process, not on the performance of individual workers.

Finally, managers might be concerned that visual controls tools could elicit resistance from employees. This is where the "Lean Leader Commandments" must be visibly obvious in how the manager conducts business. As a starting point to heading off potential resistance, visual controls should be focused on measuring the process, not individual workers. Further, and more critically, visual controls should be used to engage workers in improving the process through coaching. If actual performance is not meeting expected performance it will be obvious to all – this should be used as an opportunity for workers to communicate to management what they need help on to meet expected performance levels. Hence, the accountability for performance works both ways – workers are accountable for doing the work and managers are responsible for teaching their staff how to identify and solve problems (to "see" their work environment in a new way) and responding to workers' requests for assistance. If managers act quickly to resolve the legitimate concerns raised by workers, the credibility and acceptability of the Lean system will be greatly enhanced.

Daily Accountability Process

A daily accountability process is used to review how the process is performing and to follow up on assignments made previously to improve the process. The most common form of the daily accountability process is a brief meeting at the beginning of the day, rarely lasting longer than 15 minutes, which takes place in or adjacent to the work area. The meeting is often called a "stand-up" meeting because the participants all stand, rather than sit, in order to encourage the participants to move through the agenda expeditiously.

The agenda for the meeting should be defined by the information that

Standard work represents the best, easiest, and safest way to do a job, reflecting the collective wisdom of the employees who perform the work.

is generated by the visual controls and any problems that were encountered in the previous 24 hours. The participants should address gaps between actual and expected performance, discuss why the gap has occurred and what can be done to rectify it (readers familiar with Lean tools may notice that this corresponds well with the plan-do-check-act cycle and A3 reporting). Assignments should be made to take corrective action, including immediate countermeasures (i.e., "trial" solutions) and for developing longer lasting solutions. Finally, the meeting should review progress on assignments made in previous meetings.

Leader Standard Work

Standard work represents the best, easiest, and safest way to do a job, reflecting the collective wisdom of the employees who perform the work. Standard work reduces variation in work and deviation from effective practice. The supervisor of the area owns the standard work for the area. A primary responsibility of leaders is to make sure that the work process runs as intended, hence a leaders should see that standard work is developed and adhered to by the workers. However, workers are not the only ones who should adhere to standard work. Managers should also follow standard work to ensure the Lean management system runs as intended.

The precise content of leader standard work will vary with the position and responsibility of the leaders. Further, content should be derived from the standards used by the manager's direct reports – since the manager's role is to manage them, the manager's standard work should be designed with this goal in mind. That said, it is possible to identify a number of general tasks that should be included in leader standard work:[18]

- **Record performance data or verify that they are being recorded**. Managers should either record performance data themselves or, ideally, make sure that performance data are being faithfully recorded by workers.
- **Review performance data to understand and respond to abnormalities**. All managers should periodically review performance data. Middle managers should consult the data more frequently for the processes they supervise, while executives may examine them less often.
- **Spot check/verify critical work processes**. While data are important, Lean teaches that there is no substitute for first-hand observation and experience. Hence, all managers should visit the locations where the work actually happens (called the "Gemba" in Lean) to see for themselves. These "Gemba walks" should have a clear purpose and agenda, such as to verify that standard work is being followed. Middle managers and supervisors should go on a Gemba walk daily, while upper level managers may go less often. To illustrate, Traverse City Area Public Schools wanted its facility maintenance practices to be more proactive, rather than simply reacting to complaints by school site managers. To help realize this goal, management and the maintenance workers undertook regular Gemba

walks with specific objective looking for opportunities to fix problems before they became complaints and to eliminate waste in the maintenance process so that the Schools could perform more maintenance with its existing resources. Executive managers occasionally join these walks to emphasize the importance of maintaining the condition of the Schools' capital asset stock.

- **Attend daily accountability meeting.** Supervisors should attend the daily accountability meeting for the process that they manage, though they may choose to rotate the leadership of the meeting in order to develop employees. Upper level managers should also meet with their direct reports to review standard work, though this might occur less frequently.

Leader standard work should be developed into a checklist. Each item receives a check if it is completed without incident. However, if an abnormality or other issue is encountered it should be documented on the checklist along with any request for support from the next layer of management that is needed to resolve the issue. The checklist becomes the basis for the accountability meeting between that manager and his or her supervisor.

6. Building Support for Lean

GFOA's research with governments who have started the Lean journey found that many employees will support Lean and become very enthusiastic about Lean. In fact, a very real risk of Lean is that management will not be able to keep up with worker enthusiasm. For example, York County, Virginia's management has received over 300 improvement suggestions from employees less than four months after starting the Lean journey and has been challenged to keep up with them all. In other governments, GFOA has encountered frustration among individual employees because top management can't keep up the pace of change preferred by enthusiastic employees.

Of course, these are relatively nice problems to have on your Lean journey. However, not all employees will be supportive of Lean and some may even resist it. A useful first step is to analyze levels of stakeholder support for Lean. Exhibit 6.1 provides an example of a stakeholder analysis. The chart uses codes for the relevant stakeholder names, positions, and/or groups (e.g., the code might represent the CEO, a department, a work team, etc.). The codes are used to avoid singling out a particular stakeholder when the chart is shown in a public setting, though the staff responsible for Lean communication strategy would know what the codes represent so that they can focus their efforts appropriately.

The goal of the analysis is to identify the current level of support for each stakeholder, the desired level, and the gap between the two. The level of stakeholder support can be roughly estimated – this should be sufficient to guide the communications strategy. The team may find that some stakeholders are already sufficiently supportive or that a high level of support is not necessarily required from some stakeholders. Exhibit 6.1 shows that there is a gap between the current and desired level of support for some stakeholders and that some stakeholders only need to be brought to a neutral level of support, rather than be transformed into firm Lean advocates.

Exhibit 6.1: Shareholder Analysis Chart

Stakeholder Name	Strongly Against -2	Moderately Against -1	Neutral 0	Moderately Suportive +1	Strongly Supportive +2	Type of Resistance	Plan to Address
A					X/0		Keep informed
B					X/0		Keep informed
C		X →	0			Political	Show personal relevance
D				X/0			
E		X →	0			Technical	Education and expectations
F			X →	0		Technical	Education and expectations
G				X/0			Keep informed
H			X →	0		Cultural	Keep informed
I				0 →	X	Political	Presentation

X = Current Support Level 0=Needed Support Level → Movement Needed

Finally, Exhibit 6.1 classifies the type of resistance from resistant stakeholders as political, cultural, or technical. The source of resistance helps to inform the actions that might be taken to build support. The chart also includes a brief note on the strategy for building/maintaining support.

Another useful beginning step in the Lean journey is to develop an "elevator speech" for Lean. An elevator speech is a prepared talk of 90 seconds or less (the length of an elevator ride) that describes why the organization is doing Lean, the vision for what will be better as a result of Lean, what is expected of the listener, and how Lean is going to benefit the listener. The elevator speech is intended to be used at impromptu encounters with employees in the hallway, at the water cooler, or in the elevator! The elevator speech can address Lean generally or a specific Lean project (such as a Kaizen event).

It is wise to develop an elevator speech early on the in the Lean journey because questions about Lean will quickly arise from staff across the organization. Not only should management staff be versed in the elevator speech, but also line staff who are playing a major role in the launch of the Lean journey (e.g., participating in a Kaizen event, getting extensive Lean training, etc.). Below is an example of an elevator speech from the City of Boca Raton, Florida for its Kaizen event for its accounts payable process.

What is the Project?

The Accounts Payable (AP) Lean Team is looking to improve the AP process by identifying and minimizing areas that create duplicate efforts, excessive process times, and errors.

Why are we doing it?

To find ways to improve the AP process, to simplify the workflow and to improve vendor relationships.

What do you expect from me?

A positive attitude, cooperation, your perspective and ideas for improvements.

What's in it for me?

Improving the process and simplifying the work will generate better results to make your job process easier and less frustrating.

After the elevator speech, a more extensive communication strategy should be developed. The strategy should serve to: A) make employees aware of the Lean journey and tell them what it is; B) build their desire to participate in it; and C) provide them the knowledge and ability to make a positive contribution. Videos, staff meetings, brown bag lunches, and many other mediums can be used to get the message out. However regardless of the medium, the communications strategy should engage employees along three key dimensions:[19]

- **Logical**. Appeal to employees' analytic and rational side.
- **Emotional**. Appeal to "gut" instinct.
- **Environmental**. Change the work environment to encourage people to get on board with Lean.

A first step in making a logical appeal is to see if you can find an example of something the organization has done successfully that could reasonably be seen as a precursor to Lean.

Logical

A first step in making a logical appeal is to see if you can find an example of something that the organization has done successfully in the past that could reasonably be seen as precursor to Lean. This helps change Lean from something totally new to something that is consistent with what has been done in the past. For example, middle managers in one government were skeptical of involving front line employees in process improvement. The leadership pointed to a recent example where line staff had suggested training seasonal workers only in the most common types of transactions and having those workers process only those transactions, freeing up the veteran, full-time workers to concentrate on the unusual, non-standard transactions that were contributing to delays in the department (as opposed to the departments traditional approach of attempting to train the seasonal staff to handle all types of transactions). This innovation proved very successful and hence the leadership could make the logical case that the department only wanted to do more of something that had already worked (find and implement good ideas for line staff), rather than doing something completely new.

Perhaps the most important element of the logical case is to be very clear and precise about what employees need to do to implement Lean. Often inaction from employees is mistaken for resistance when it is, in fact, lack of clarity. Hence, management should articulate the specific behaviors that it wants employees to engage in. Examples of specific behaviors might include:

- Find instances of the 8 wastes in the work area and suggest ideas to minimize or eliminate them (perhaps even requiring a minimum number of ideas per employee or per work team)
- Conduct 5S on a regular basis on your physical and/or virtual work area
- Collect and report performance information for visual control tools
- Follow standard work and document where there are abnormalities and report them to management

A final element of the logical case is to describe why the organization is pursuing Lean in terms of the better future it will create. The Lean leaders should not rely on metrics or financial measures, but should describe a future in vivid terms that employees can logically relate to. For example, GFOA worked with a human services agency responsible for funding grantees (e.g., community groups, non-profits, etc.) that provide social services to small children. The agency was applying Lean to its accounts payable process, which is how the grantees received reimbursement for their services. Grantees are not cash-rich organizations, so if they do not receive timely reimbursements serious interruptions in services to the children could result. Hence, it is not difficult to appreciate that a logical case for improving the accounts payable process that rested on timely payments to grantees and uninterrupted services to children was more inspiring than one based on accounts payable cycle time!

The first step in making an emotional appeal is to find the feeling that resonates with employees.

Emotional

The first step in making an emotional appeal is to find the feeling that resonates with employees. To continue our example from the human service agency, you could imagine how the logical case to get timely reimbursement to grantees could be greatly enhanced with an emotional component – perhaps a brief site visit by accounts payable staff to where services are delivered to children or even a short video from the grantees about how important a timely payment is to them. A visual emotional appeal, as these examples suggest, is particularly effective as is having an effective, trusted messenger. Citizens, clientele, or elected officials are often very effective messengers.

Part of the emotional appeal for Lean should address "what-is-in-it-for-me." Employees may be very interested in how Lean impacts them personally. Some employees may be motivated by making work easier and less frustrating, while others may be motivated by the opportunity to contribute ideas to the improvement of work. Potential job loss is also an important issue of self-interest to address because Lean sometimes is associated with layoffs and downsizing in the minds of employees. It is important that management break this association. King County, Washington and the City of Baltimore, even went so far as to issue a pledge that no employees would lose their County/City employment as a result of their participation in Lean process improvement. Governments that have already gone through large layoffs may point out that the job losses have already occurred and the purpose of Lean is to help the remaining staff develop greater capacity to deliver services.

The next component of the emotional case is to make the change seem less daunting by breaking it into smaller, bite-sized pieces. Fortunately, Lean provides ample opportunity to do this since Lean is focused on creating many small ideas for improvement over time. First, management should jump on any feasible small ideas for improvement that come out of the first steps of the Lean journey (for example, a number of small ideas often come out of simply attending a Lean training course). Showing immediate response goes a long way towards convincing employees that Lean is an investment that is worth their energy.

Similarly, in a Kaizen event the Kaizen event leader should make a great effort for the Kaizen event to produce actual results, not just ideas for improvements. For instance, in human services agency the Kaizen Team used the last half of the day to begin to actually develop the new forms that would be needed to put the new, streamlined accounts receivable process into practice. At the Oakland County Clerk's department, the Kaizen Team did not have the time or resources to actually start making the changes they had suggested – however, the department leadership visited with the team at various points during the Kaizen event to understand the ideas that were being suggested and took steps to move them forward immediately, such that by the end of the Kaizen event many of the ideas had already been set in motion by the department's leadership, which was very gratifying to the Kaizen team participants. Both of these approaches make it far more likely that employees will have considered Lean a positive experience and will participate enthusiastically in future Lean efforts.

Many employees will appreciate learning new skills (many of which often also apply to life outside of work) and virtually all employees will get a jolt from seeing their ideas implemented.

The final component of the emotional case can flow from the other two components and that is to take steps to develop employees' capacities through Lean. Many employees will appreciate learning new skills (many of which often also apply to life outside of work) and virtually all employees will get a jolt from seeing their ideas implemented. A key part of capacity building is often cultivating an identity amongst employees that is compatible with the switch to Lean. Since public service is fundamentally about making life better for the citizen, this should not be difficult to do with Lean. For example, might a financial staff person identify with the notion of being efficient and maximizing value for the government's resources? Would a line staff identify with helping citizens in need? These are clearly objectives of Lean, so if the organization's leadership can make that connection employees will be more apt to embrace Lean.

Environmental

The premise of the environmental component of engaging employees is that people's attitudes and behaviors are in no small way shaped by their environment. Therefore, leadership should be mindful of adjusting the environment to encourage employees to adopt Lean. Perhaps the most powerful aspect of an employee's environment is other employees! Human beings generally prefer to go along with the crowd,[20] so if employee engagement is generally successful and leadership can demonstrate that this is the case then many resisters will be swept along for the ride. To illustrate, York County, Virginia held large Lean training sessions for employees (around 40 people at a time), and included known resisters with groups of employees that were open to Lean and even enthusiastic about it. One resister in particular was very vocal at first, actively refusing to participate in group exercises and suggesting that the best improvement the County could make would be to get rid of all senior management. However, through the course of the day this employee watched other employees actively participate and was even subjected to some peer pressure to participate and by the end of the day this employee was engaged and had even contributed two of the best suggestions for improving work.

Leadership can also shape the environment by making it easier to be Lean. For example, in a Lean organization employees should identify waste and contribute small ideas for improvement as part of their everyday work. Leadership can make this easier by providing a very short and simple form for submitting ideas, rather than the long and complex forms that are sometimes associated with employee suggestion programs. Access to Lean resources can also help – for instance, an intranet site with instructions on how to do 5S or definitions of the 8 wastes. The key is to find out where employees are getting stuck with Lean and to find small ways to make it just a little easier.

Conclusion

The Lean journey is not easy, but the rewards are potentially great in terms of organizational performance and personal growth of employees. The difficulty of Lean comes not in mastering the Lean tools, which are relatively simple to learn and easy to use. The difficulty is in changing the management system and, consequently, the culture to embrace Lean ideas and make them part of the everyday process of eliminating waste and creating the best value for citizens.

Appendix 1: Bibliography of Public Sector Lean Books

- Bert Teeuwen, Lean for the Public Sector (CRC Press: Boca Raton, Florida), 2011.
- Shannon Flumerfelt and Paul Soma, *Lean Essentials for Schools: Transforming the Way We Do Business* (Destin, Florida: Charactership Lean Publishing), 2012.
- Miller, Ken. *Extreme Government Makeover* (Washington, D.C. Governing Books). 2011
- Graham Richard, *Performance is the Best Politics* (Los Angeles: HPG Press), 2008.

Appendix 2: Ideal Lean Training Course Descriptions

Lean Management Training

Lean management training is for those individuals that manage an organizational unit that will be implementing Lean. The objective of the training is to familiarize managers with essential Lean concepts and to prepare them to support Lean in the organization with a management system and culture that is attuned to the fundamental principles of Lean.

Training should not necessarily be limited to executive managers – it should include middle managers who are responsible for managing a business process. Some of the key concepts that should be included in a half to one day management training are described below.

- **Overview of Lean tools**. Managers should become familiar with the basic vocabulary and essential tools of Lean since these are the most visible aspects of Lean. The management training should be dedicated to methodology and tools, but should not provide detailed explanations on the tools.
- **Lean culture and management system**. The bulk of the training should focus on the new management tools and techniques that managers will need to use. Those techniques are the same ones described in this guide: visual controls, daily accountability process, and leader standard work.
- **Lean governance**. Implementing Lean will require that the responsibilities and decision rights be defined. What will the executive sponsorship structure look like? Who will be accountable for producing results from Lean activities? Who will they report to? Given that processes often reach across multiple departments, how can the cooperation of these departments be secured in order to improve the process?
- **Strategic Lean versus grassroots Lean**. One of the beauties of Lean is that it can be, and often is, taken up by line workers without the need for management to direct workers to do it. However, Lean should not and cannot be just an organic phenomenon that is left to filter through the organization at the grassroots level – it needs to be strategically directed from top management by linking Lean to the organization's mission. Hence, the management training should focus on how to integrate Lean into the organizations strategic plan and also how to take advantage of the natural enthusiasm workers often display for adopting Lean in their own work areas.

Ideal Lean Methodology and Tools Training

The methodology and tools training is a two to three day training for line workers, middle managers, and executives. It is important that the training is not limited to just management level staff – it should include line workers, particularly those who are most likely to rapidly adopt Lean thinking and champion it in the organization and those who will be asked to apply Lean to a business process or work area in a Kaizen event. The content for such a course should cover topics such as:

1. Principles of Lean Thinking. The basics of Lean thinking such as:
    a. Specify value from the standpoint of the customer
    b. Identify the value stream of work and eliminate waste
    c. Create flow and work is pulled by the customer
    d. Involve and empower employees
    e. Continuously improve toward perfection
2. The Plan, Do, Check, Act (PDCA) cycle of continuous improvement
3. Lean tools and techniques
    a. The eight wastes.
    b. 5S.
    c. Process Mapping.
    d. Visual Management.
    e. Mistake Proofing.
    f. Standard Work.
    g. Data collection tools.
    h. Root cause analysis.
4. How to conduct a Kaizen event
    a. Choose opportunity and evaluate readiness
    b. Set goals and guidelines
    c. Analyze the current state
    d. Find solutions and design the future state
    e. Prepare action plan
    f. Implement action plan
    g. Measure the effects
5. Lean simulation (a “table top” exercise where employees apply the Lean methods in a controlled environment)

Appendix 3: Important Lean Tools and Terminology

WHAT IS "LEAN"? Lean is a system of thinking and way of working that emphasizes reducing waste in both time and material costs while providing the same, or enhanced, value to the customer (e.g., a citizen or another department). Lean is often thought of as a process improvement method, known for its expansive toolset for improving efficiency and effectiveness in the workplace. And while those are perhaps the most tangible benefits, the true power of Lean is its ability to transform the culture of an organization – encouraging an entire workforce to work together as they strive for continual improvement. In that state, Lean is no longer a project to be completed; it has been ingrained into the DNA of the organization.

The 8 Wastes. The concept of waste is core to Lean, which aims to discover root causes of waste and eliminate or minimize them. In fact, Lean categorizes eight types of waste, helping employees more easily recognize it. The eight forms of waste are:

- **Defects**. When incorrect work is sent to the next step in the process or to a customer.
- **Over-Processing/Inspection and Checking.** Over-processing is putting more work into a product or service than is necessary to meet customer requirements. Inspection and checking is a particularly prevalent form of this waste, especially in government.
- **Waiting**. Idle time created when employees (or customers) wait for information, physical items, and so on. Wait time equals downtime.
- **Inventory/Backlog**. The sum of all tasks waiting to be processed; also includes physical inventory.
- **Transport**. Transporting anything that does not directly add value to a final product or service is a form of waste.
- **Motion**. Excess motion in completing a task causes waste.
- **Over-Production**. This results when a product or service is provided in greater amounts than necessary or has more features than are necessary.
- **Underutilizing People's Abilities**. The most insidious form of waste is failing to make use of employees' full talents, skills, and knowledge.

5S. 5S is a process and method for creating and maintaining an organized, clean, and high-performance workplace. It helps identify and eliminate the eight forms of waste while closely involving line employees in a project they can easily accomplish, allowing them to see visible results. Under 5S, staff follow five steps – sort, set-in-order, shine, standardize, sustain – to organize the workplace in the most efficient and effective manner possible. When 5S is complete, employees recognize the benefits of a more organized, ergonomic, and safe workplace, in terms of both productivity and aesthetic presentation.

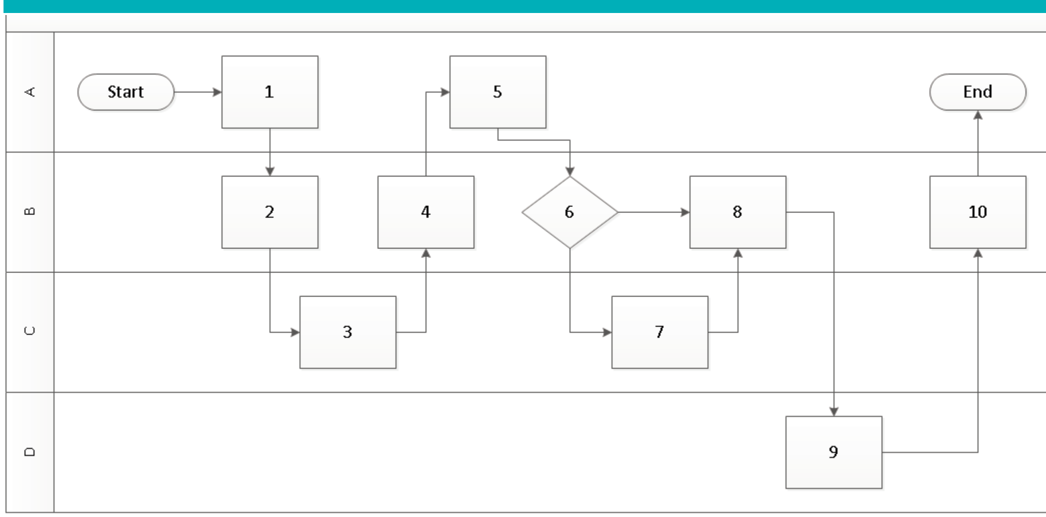
Process Mapping. Process maps are perhaps the best-known Lean tool. The GFOA has found that a variety of process mapping techniques are used, but the technique that appears to have the most use for government is the swim lane diagram (see Exhibit A3.1). Swim lane diagrams have the advantage of being fairly similar to standard flowcharts, except for the added dimension of showing process participants, making it easy to learn and use. Participants in the process are listed down the vertical axis and steps are shown sequentially, from left to right.

Swim lane diagrams clearly illustrate where work is passed from one person to another, which is important because these hand-offs of work are often a key point of process failure. The swim lane diagram is used to make the flow of work visible and, thus, to make waste more visible. In our example, we see that participant B hands off the work a number of times to other people. Assessing the way the work stream is structured can make it possible to reduce or eliminate unnecessary hand-offs. For instance, step 5 might be a check or inspection by participant A that causes delay without adding value, and eliminating it would create a smoother workflow.

A swim lane diagram can be a powerful conversation starter for process improvement, as it might be the first time all participants see the full end-to-end process detail. The simple act of creating a process map can have immediate effects by creating a common understanding of how the group could work together.

Visual Management. Visual management allows managers and workers to see waste in easily digested ways, allowing corrective action to begin right away. Visual management also helps keep managers and staff connected to the realities of the workplace, rather than operating on assump-

Exhibit A3.1: Swim Lane Diagram



tions. Finally, visual management can be used to set targets for improvement. Visual management can take many forms, including: checklists, posting work standards prominently in the workplace, and displaying "scoreboards" on relevant metrics such as quality, cost, and timeliness.

Mistake-Proofing. Mistake-proofing encourages small adjustments in the early stages of a process to prevent defects later on. For example, a keyless entry system for cars prevents users from locking themselves out and needing a locksmith to correct the mistake. Mistake-proofing techniques can be designed to prevent a mistake altogether (e.g., required fields on computerized entry screens, microwaves that stop when the door is opened too early, product designs where assembly parts can only fit one way, etc.), or to detect a mistake and alert the worker (e.g., red and green underlines in Microsoft Word to point out misspelling and grammar mistakes). For example, in a public works department, outlines of tools may be drawn on the peg board where the tools are hung to ensure the tools are not put in the wrong place.

Standard Work. Standard work institutionalizes Lean concepts to prevent deterioration or backsliding after processes have been improved. Standard work could include the familiar book of standard operating procedures, but should be easily understood and absorbed by users. For example, a picture of how to perform work correctly is often more effective than a text description. Many of the mistake-proofing and visual management techniques described above can also be used to create standard work – for instance, a checklist is a powerful tool for making sure all necessary steps were followed in a process.

Kaizen. Kaizen is a Japanese word (which now appears in English dictionaries) that means "change for the better." In the context of Lean, Kaizen refers to the process by which workers and management cooperate to continuously improve the work place. A Kaizen event is a dedicated period of time lasting one to five days, depending on the scope of the team's work, where workers come together to focus on improving a specific process or work area.

Gemba. Gemba is also a Japanese word (also now found in English dictionaries) that means "place where the action happens." In Lean, this refers to visiting the actual place where the work is performed in order to understand how a process operates. Performing Kaizen or any other Lean activity outside of the real setting, or without the real participants, will result in a distorted perspective of the process. Gemba also refers to the requirement for managers and analysts to regularly get out of their offices and visit the workplace on "Gemba walks" to see how work is performed and to be on the lookout for problems or abnormalities that need attention.

End Notes

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2 M.L. Emiliani and D.J. Stec. Leaders lost in transformation. *Leadership & Organization Development Journal* Vol. 26 No. 5, 2005 pp. 370-387.

3 Statistics supplied by the City of Irving based on an internal evaluation of results.

4 David Mann. *Creating a Lean Culture: Tools to Sustain Lean Conversions*, 2nd Ed. (CRC Press: Boca Raton, FL). 2010.

5 Mann, *Creating a Lean Culture*, 2010.

6 Description taken from Shingo Institute website, located at the University of Utah.

7 Goodrich Aerospace has since become United Technologies.

8 These organizations are the Society of Manufacturing Engineers, the Association for Manufacturing Excellence, the Shingo Prize, and the American Society for Quality.

9 Harry Kenworthy, “Getting Started with Government Projects,” *Government Finance Review*, June 2013.

10 Definition adapted from the OECD definition for corporate governance. See: Organization for Economic Cooperation and Development, Directorate for Financial, Fiscal, and Enterprise Affairs, OECD Principles of Corporate Governance, SG/CG (99) 5 and 219, April 1999.

11 Note that these positions will vary with the structure of the government. For example, in a large government with an elected chief executive, it may not be practical for this person to serve on the steering committee. For instance, in Baltimore, the steering committee comprises the HR director, chief information officer, and the CitiStat Director (CitiStat is Baltimore’s performance measurement system).

12 This is known as the “empty garage effect” and was described in: Bert Teeuwen. “Cash on the Barrel with Lean.” *Government Finance Review.* June 2013.

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15 Framework for change to a Lean culture is taken from: David Mann. *Creating a Lean Culture: Tools to Sustain Lean Conversions*, 2nd Ed. (CRC Press: Boca Raton, FL). 2010.

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18 Adapted from Mann, *Creating a Lean Culture*, 2010

19 Three stage framework and its components adapted from Chip Heath and Dan Heath. *Switch: How to Change Things When Change is Hard*. (Crown Business: New York, New York). 2010.

20 The Solomon Asch conformity studies are the most striking example of this discovered in a laboratory setting.