

# How Organizations Can Increase Profitability While Improving the Work Environment

A restaurant's management team discovers that enabling cooks to stay focused on value creation improves business performance and makes them more effective leaders.

by Matt Savas and Patricia Panchak



When lean practitioners tackle a big problem, they use A3 problem-solving to break it into its more minor, actionable components. That’s because lean thinkers have demonstrated that significant business problems — including revenue or profit shortfalls, falling market share, an unreliable supply chain, and the like — originate in the value-creating work on the front line. And it’s why lean practitioners preach “Go to the Gemba.”

Leaders and managers also know that A3 management — the work of overseeing A3 problem-solving — does so much more than merely resolve work-process problems. The practice provokes a mindset change in everyone, recasting the manager from commander to coach, a new relationship that, in turn, reshapes the work environment, replacing conflict and blame with collaboration. As managers work with their teams to eliminate obstacles and frustrating tasks, business results and the work environment improve.



Managers at a flagship restaurant learned these lessons when they used lean thinking and practices to make progress toward closing a nearly 8% profit gap while maintaining or improving its sterling service reputation. Within nine months, the team, working with LEI coaches in a [Co-Learning Partnership](#), increased year-over-year profit by 2.2%, nearly half from reduced labor and overtime costs. (As with many lean transformations, the changes yielded additional savings from the work-process improvements, in this case, from food waste reductions.)

Also, during that time, leaders and workers discovered that lean thinking and practices had transformed their fast-paced, harried, conflict-riddled former workplace into a more purposeful, less stressful, and more productive one.

## Gemba

The Japanese term for “actual place,” often used for the shop floor or any place where value-creating work actually occurs; also spelled genba.

The term often is used to stress that real improvement requires a shop-floor focus based on direct observation of current conditions where work is done. For example, standardized work for a machine operator cannot be written at a desk in the engineering office but must be defined and revised on the gemba.

## A3 Report

Title: What are you talking about?		Owner/Date
<b>I. Background</b> Why are you talking about it?	<b>V. Proposed Countermeasures</b> What is your proposal to reach the future state, the target condition?  How will your recommended countermeasures affect the root cause to achieve the target?	
<b>II. Current Conditions</b> Where do things stand today? - Show visually using charts, graphs, drawings, maps, etc.  What is the problem?	<b>VI. Plan</b> What activities will be required for implementation and who will be responsible for what and when?  What are the indicators of performance or progress? - Incorporate a Gantt chart or similar diagram that shows actions/outcomes, timeline, and responsibilities. May include details on specific means of implementation.	
<b>III. Goals/Targets</b> What specific outcomes are required?	<b>VII. Followup</b> What issues can be anticipated? - Ensure ongoing PDCA. - Capture and share learning.	
<b>IV. Analysis</b> What is the root cause(s) of the problem? - Choose the simplest problem-analysis tool that clearly shows the cause-and-effect relationship.		

A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down on a single sheet of large (A3) paper, often with the use of graphics. At Toyota, A3 reports have evolved into a standard method for summarizing problem-solving exercises, status reports, and planning exercises like value-stream mapping.

A3 paper is the international term for paper 297 millimeters wide and 420 millimeters long. The closest U.S. paper size is the 11-by-17 inch tabloid sheet.

Source: *Lean Lexicon, Fifth Edition*

## 'Seeing' the Work

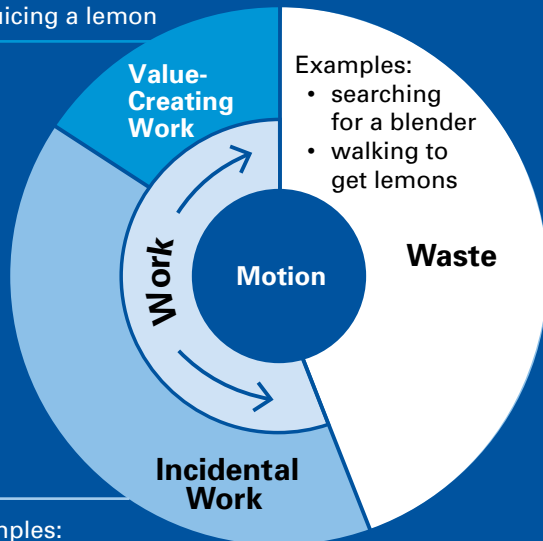
Lean thinking defines work as human actions (motions) involved in producing something of value — products or services. These actions can be divided into three categories.

1. **Value-Creating:** Movements directly necessary for making products, such as welding, drilling, and painting (e.g., chopping garlic, seasoning a tuna steak).
2. **Incidental Work:** Motions that operators must perform to make products but that do not create value from the standpoint of the customer, such as reaching for a tool or clamping a fixture (e.g., picking up a knife, opening a drawer to get a tuna steak).
3. **Waste:** Motions that create no value and can be eliminated, such as walking to get parts or tools that could be positioned within reach (e.g., searching for a knife, walking to a cooler to get tuna)

### Categories of Work Motion

Examples:

- sautéing onions
- juicing a lemon



Examples:

- searching for a blender
- walking to get lemons

Examples:

- picking up a knife
- opening a refrigerated drawer

from the *Lean Lexicon 5th Edition*

## Understanding the Problem

To start, LEI and the restaurant’s director broke down the more significant and vague problem of poor profitability into its more actionable components. They discovered that labor and food primarily drove the additional costs during the summer surge. Further, they documented how labor costs soared during the summer as managers hired more cooks and staff to manage the seasonal rush. Management typically increased the number of cooks from 14 to 15 per shift in the off-season to 19 to 20. Overtime also increased, as cooks would arrive early between 7 a.m. to 9 a.m. to afford sufficient time to prep food and tool their stations before lunch service began at 11:30 a.m. Moreover, changing regulations meant higher minimum wages for staff and increased overtime hours for assistant managers. As a result, cost increases were outpacing revenue growth 6% to 3%.

The restaurant leaders were skeptical that they could fine-tune their food replenishment system to reduce food waste or avoid their spring hiring frenzy during the summer rush. After all, the kitchen could barely keep up even after the hiring spree. Still, they agreed to continue investigating to discover the problems’ underlying, or root, causes. LEI coaches began by challenging management with a simple question: What is work?

The management team carried out a detailed work analysis, conducting a spaghetti mapping exercise during a busy lunch service to help the management team learn how to see work versus waste using LEI’s “Categories of Work Motion.” This exercise helped them identify how often cooks left their stations to do nonvalue-added work and how much time they spent not doing the value-added work, cooking. Critically, they also identified why cooks left their stations: to restock product, deliver finished dishes to the expediting station, and retrieve clean dishes, among others.

The spaghetti-mapping exercise confirmed for management that the solution to their profitability problem wasn’t that they needed more cooks — or even “better” or more efficient cooks. Instead, they needed to eliminate what was getting in the way of the cooks doing their job and create a better work process that kept cooks cooking.

The restaurant's former executive chef explained the revelation: Before "when a cook fell behind, we thought it was because he just wasn't good enough and we needed to replace him; this was naïve," he says. "When we began to look closely at the work and break it down between value-add, non value-add, and waste, we realized the jobs were hard to do successfully and frustrating for workers. It was really the process that was causing failure, not the individual."

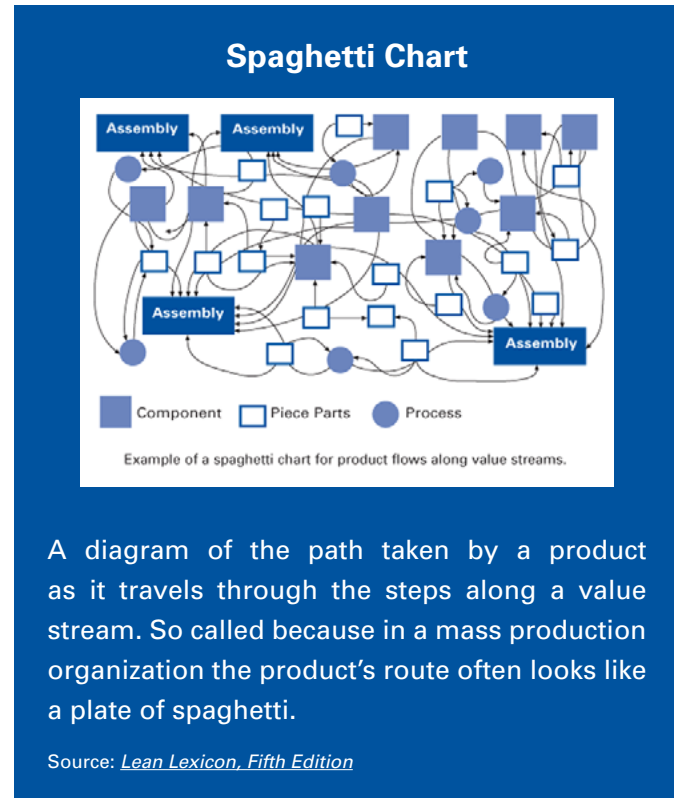
### Improving a Process: A Just-in-Time Kitchen

The management team and LEI began by making a change designed to keep cooks cooking: establishing an on-demand prep station that would replenish product continuously for the entire kitchen and creating a new position — the lineback — to deliver products to cooks from the prep station.

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In the previous process, each morning, fifteen cooks arrived between 7 a.m. and 9 a.m. to prep their stations for a day of service beginning at 11:30 a.m. Each cook was responsible for prepping his station's *mise en place* — a French culinary term meaning "everything in its place." For example, the sauté cook heated water for pasta, chopped garlic, shredded pecorino cheese, among myriad other tasks. The cooks competed for scarce space, tools, and products, leading to a chaotic environment. They spent as much time gathering ingredients, moving up and down an elevator to access a second-floor cooler, and bumping into one another as they did preparing their stations.

Moreover, cooks could not accurately forecast demand, as they did not know what customers would order. Fearing



stockouts during service and "getting in the weeds" — falling behind in restaurant-speak — cooks tended toward over-preparing, especially product that was time-consuming to prepare.

The cooks' fear of this situation is a quintessential example of the problems lean thinking and practices reveal and systematically address. The dreaded scenario is a problem that everyone is aware of yet doesn't "see" or acknowledge and so is handled via workarounds by the person completing the task. Unfortunately, such workaround "solutions" usually cause other problems in adjacent work processes, which also tend to be overlooked or accepted as inevitable.

For example, when the chefs over-prepare ingredients, some of which they throw out if not used that day, or as they work at an over-stocked station, reaching around and over more items than necessary, they're wasting their time and increasing physical strain.

Without a systematic plan to ensure cooks never run out of ingredients during service hours, it's understandable that they would overproduce to avoid falling behind — and being blamed for — delays in serving the customers. And at the same time, it's also understandable that the cooks may



*Before optimizing inventory, the chefs would overproduce and store more product than necessary at their stations. Chefs saw overproduction as a strategy to avoid stockouts during service hours, which would have pulled them away from their stations to prep more, which would cause them to fall behind in preparing customer orders and, in turn, jeopardize customer service. Instead, by basing inventory at the stations on data — how much of each product is sold in one shift — the team reduced the amounts prepped and stored, keeping enough to keep the cooks cooking and maintain the restaurant’s high level of customer service. Yellow squares show pecorino cheese stored at sauté station.*

accept stockouts of some prepped ingredients or the need to throw away others as a lesser problem because those issues do not impact their ability to deliver orders.

For instance, shredding pecorino cheese requires setting up a Robot Coupe, slicing up a block of cheese, shredding it, and storing it. Doing this in the middle of a busy dinner service would leave the sauté cook desperately behind, so he would shred enough cheese for up to four days of service. Because the cheese took up precious space in the station’s refrigerated drawers, there was less space for other critical ingredients. For example, he may have just one pan of chopped asparagus, leaving him at risk of running out. As a result, cooks often had too little of some ingredients and too much of others.

The management team addressed the chaotic prep process with the new on-demand prep system. With the new process, each station stores only two pans of prepared product for most ingredients: one pan designated as the “working pan” and the other as a “backup pan.” In addition, depending on a product’s sales velocity and prep lead time, they store more pans in a walk-in cooler.

For example, on average, the sauté station receives 36 orders requiring chopped clams for a busy day. Since each pan holds 15 portions, the station requires three pans to complete a day of service. The lead time to prep chopped clams was less than a minute, as it was a matter of emptying a can into a pan. Consequently, they keep two pans at the sauté station and none in the cooler.

Another example is the linguini, which requires eight minutes to parcook. Since the sauté station typically sells 68 portions per day and each pan holds 10 portions, the station requires seven pans to complete a day of service. Because of the lead time to prep, management decided to maintain two working pans and a backup pan at the station and store six in the walk-in cooler.

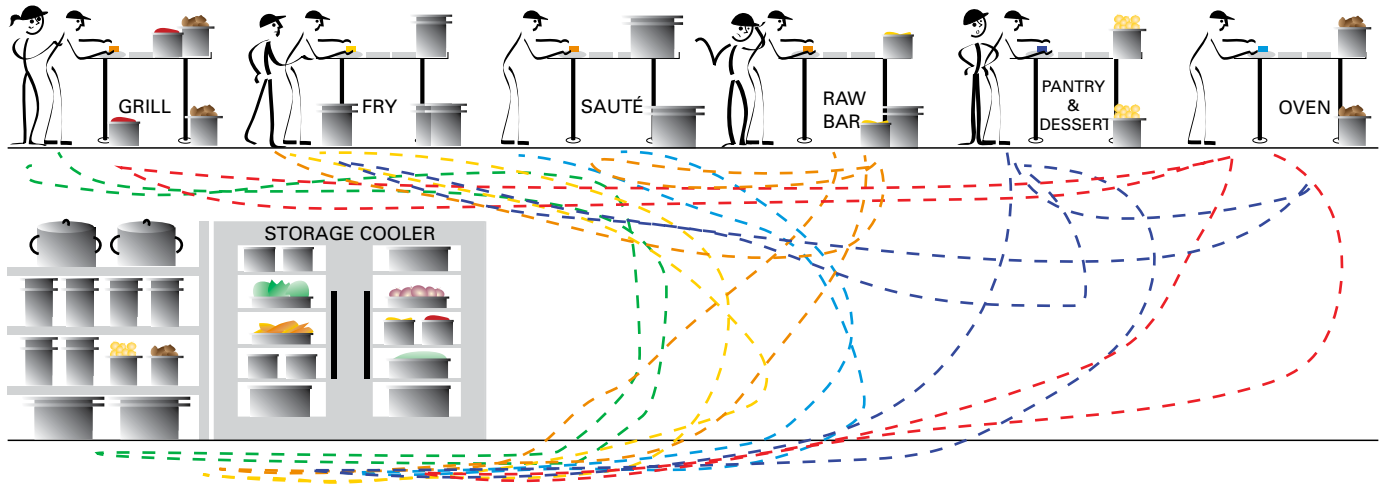
When a cook finishes a working pan, he places the empty pan on a blue tray at his station, signaling the required replenishment, and then pulls from the backup pan. Meanwhile, the lineback (a role comparable to a barback in pubs and bars and waterspider in manufacturing plants) retrieves the empty pan, places its product label on the prep cook’s preparation board, retrieves a pan from the walk-in cooler, and places it in the cook’s station. The lineback observes a fixed route through the kitchen every 10 minutes. This process ensures the cook never leaves the station and can focus on cooking.

At the same time, the prep cook replenishes the products as indicated by the labels accumulated on the preparation board. This process ensures that the kitchen only produces what customers have consumed, eliminating the risk of spoilage while ensuring the cooks always have what they need to serve customers.

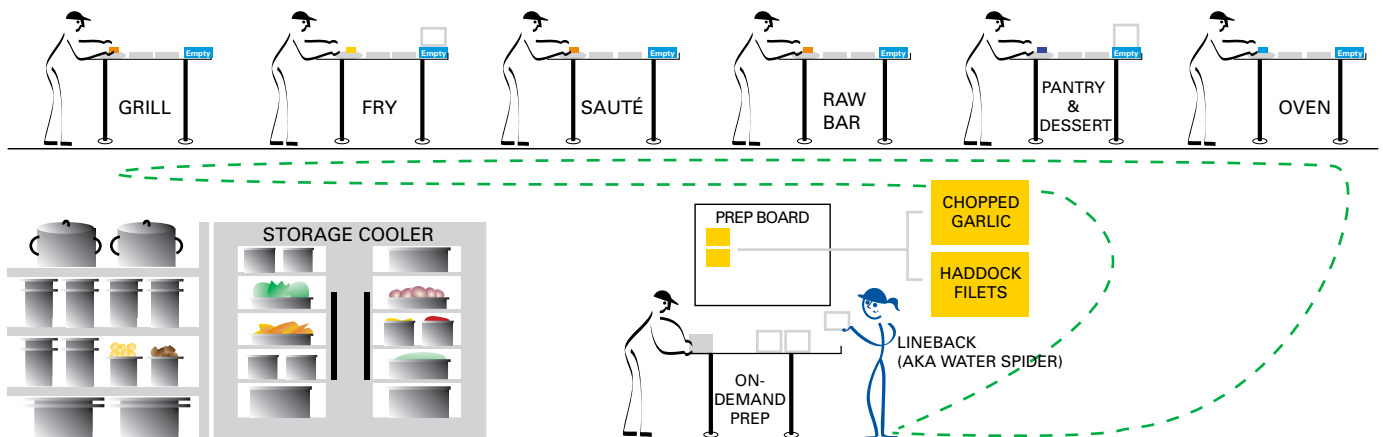
Reassigning current staff members to the on-demand prep station and lineback positions enabled just-in-time delivery of product to the cooks’ stations. This change reduced raw material (ingredients) and work-in-process (pre-prepared

## Improving Kitchen Workflow

### Before



### After



recipe components) inventories, which in turn decreased scrap (spoiled food).

### Testing the New Process

The new system got an unexpected test in mid-April, a typically slow time of year, when a hot and sunny Saturday filled the restaurant. Management had yet to hire its army of summer cooks, which meant a crew of 15 was challenged to serve peak summer demand for a day when it usually would require twenty. Not only was the service successful, but the following morning, the restaurant was quiet. A

busy dinner service typically emptied product from the restaurant, requiring a heroic effort to restock all stations between 7 a.m. to 11:30 a.m. the following morning. However, because prep happened continuously throughout the day, the service stations remained stocked.

Critically, the impromptu test confirmed that the work process improvements they had made would enable them to meet the summer surge without the usual hiring spree. So, they elected not to hire additional cooks for the summer, instead opting to retain a staff of 15 cooks plus a lineback and adjust the start times for cooks from between 7 a.m.

and 9 a.m. to 10:30 a.m., which reduced overtime outlays. Savings from these decisions fell to the bottom line.

However, more surprising to everyone was discovering that not hiring additional cooks during the summer rush wouldn't cause the staff to work harder. Indeed, the work process changes had made the work easier and reduced the frustrations inherent in nonvalue-added work — the wasted time spent searching for the things they needed to do their value-creating work.

Recalling the day, the restaurant's former kitchen manager admits, "Obviously, everybody was a little frantic and needed a little bit of coaching, but we had so much more time to do our jobs — what our jobs were intended to do. So, it was really, really nice to see, for sure."

The test also demonstrated the effect A3 management and problem-solving have on the work environment and employee engagement. For example, former kitchen manager notes that the day after meeting the challenge of the unexpected rush, he saw a lot of buy-in from the staff, adding that they were saying things "like, 'I can't believe we just did this,' or 'what else can we do?' and 'let's keep going.' So it was cool."

## Developing People and Changing Leader Behavior

For the kitchen manager, learning with LEI how to work with the cooks to address issues the lean way was transformative, saying he is starting to introduce the practices in his new job. Once he experienced the lean approach — going to the gemba to see and understand the work, working with and coaching the cooks and other kitchen staff to resolve problems — he understood the value of building the problem-solving capability of the team.

When faced with a problem, "it's so easy in our industry just say, 'we need to change them,'" explains the kitchen manager. With lean thinking, however, you look at the processes and how to fix them." This mindset change is precisely what lean thinking teaches, according to LEI President Josh Howell. "Lean leaders frame problems as a function of process and not people. If a line cook falls



**March 2, 2017, at 10:19 a.m.:** Before the work-process changes, 15 cooks jostled in the kitchen's tight spaces to gather equipment, prepare product, and set up their workstations before the restaurant opened for the day, which contributed to labor costs and the chefs found stressful and frustrating.



**February 6, 2018, at 10:15 a.m.:** After, with the new setup process, one chef prepped the stations, and two others prepped food, which meant the other chef's shifts could start at 10:30 a.m., not 7 a.m., reducing labor costs and allowing them to focus on cooking. Reducing the number of chefs during early morning prep time also cleared the aisleways and reduced the prepping chefs' frustration.

Product	Start Time	End Time	Problem Encountered
EGGPLANT	7:57	9:40	Fui por todo el staff para cocinar el eggplant
BALSAMIC	7:14	7:26	Fui por azúcar y razones
Red Pepper spread	7:30	7:44	Fui por cream cheese al segundo piso
POLENTA	8:55	9:16	Fui a traer todo para cocinar
Roasted corn salsa	9:25	10:15	Fui al segundo piso por todo para la salsa
ARROCHOKE stuffing	9:38	10:30	Fui por un sartén grande
QUINOA salsa	11:00	11:34	Fui a traer todo
GRU COX spread	11:22	11:53	Fui por los platos al 2 piso
Smoked shorizo oil	11:56	12:07	
SHRIMP and crab	12:20	12:41	Fui por oliva oil al segundo piso
Lemon wedges	12:40	1:05	segundo piso por lemon
Lemon wheels	12:46	1:04	segundo piso por lemon
no. Encuentro contener para usque		nota para add plan	nota para sopa clarachara

Had to get cream cheese on second floor

A simple tool that the kitchen staff used for kaizen was a problem identification sheet. For two weeks, the prep cook tracked the start and finish times and the problems he faced preparing every item. This data sparked workflow improvement ideas from the prep cook and the management team. For instance, the exercise revealed time-wasting trips to the second floor, prompting the team to create storage near the prep area to increase productivity and relieve the prep cook of frustrating trips to the second floor.

behind, we don't blame the cook," he explains. "Instead, we observe and interrogate the process. What is getting in the way of that cook's success? Then we try to improve it."

The lean approach to leadership is "so powerful," the kitchen manager adds. "Because not only are you gaining respect and credibility for yourself; you're also making their job and their morale so much better along the way."

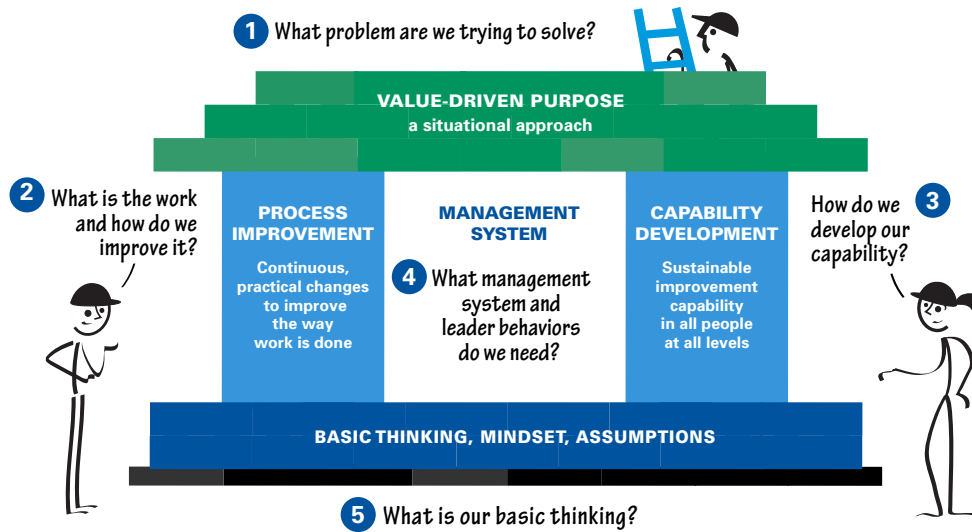
For the executive chef, the mindset change required of leaders and managers as they adopt lean thinking and practices is fundamental. Before getting lean coaching from LEI, "our culture was 'Management knows what's wrong.' We just attacked things without ever taking time to understand problems," he says. "Over time, we learned

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to be humble and appreciate the cooks. We realized that by working in tandem [with the value-creating staff], we could actually solve problems and improve the [work] environment." ■



# The Lean Transformation Framework



A Co-Learning Partnership such as the one described in this case study does not begin with a preconceived plan. Instead, LEI coaches follow the Lean Transformation Framework (LTF) to help partners understand how to apply lean thinking and practice situationally. The LTF addresses fundamental questions of purpose, process, and people.

To learn more about the LTF, [watch this video](#).

## How the Restaurant Answered the 5 Fundamental LTF Questions

<p><b>1</b> What is the value-driven purpose? Or what is the problem to solve?</p>	<ul style="list-style-type: none"> <li>Improved the profitability of the restaurant while maintaining high-quality standards.</li> </ul>
<p><b>2</b> What is the work to be done (to solve the problem)?</p>	<ul style="list-style-type: none"> <li>Established waterspider to enable cooks to stay focused on the value-added work of cooking.</li> <li>Established a just-in-time prep station to continuously supply fresh ingredients to cooks and reduce inventory.</li> <li>Applied 5S practices in walk-in coolers to increase storage density, eliminate searching, and simplify inventory counting.</li> </ul>
<p><b>3</b> What capabilities are required (to do the work to solve the problem?)</p>	<ul style="list-style-type: none"> <li>Trained everyone on how to see work versus waste, thereby enabling kaizen (continuous improvement).</li> <li>Introduced A3 problem-solving to break down, analyze, and solve the root cause of problems.</li> </ul>
<p><b>4</b> What management system – operating system and leadership behaviors – is required?</p>	<ul style="list-style-type: none"> <li>Introduced daily management huddle to identify and address problems quickly.</li> <li>Transitioned from having leaders solve all problems to coaching others to solve problems.</li> </ul>
<p><b>5</b> What basic thinking, including mindsets and assumptions, are required by the organization as a purpose-driven socio technical system?</p>	<ul style="list-style-type: none"> <li>Changed mindset from blaming the cooks to blaming the process for failures.</li> <li>Started viewing cooks as problem-solvers who can improve their work processes, not just as a set of hands that cook.</li> </ul>

**LEI's Co-Learning Partner and Learning Group programs are for leaders looking to transform their enterprise and contribute to the lean thinking and practice body of knowledge. You and your team will closely partner with LEI Coaches in a journey of discovery that will take your organization to the next level.**

### **Become a Co-Learning Partner**

Partner with the Lean Enterprise Institute (LEI) to accelerate your lean journey and jointly conduct experiments on the best way to advance your lean transformation. As one of a select group of companies, you'll work closely with LEI thought leaders, such as John Shook, Jim Morgan, and other top-flight LEI Coaches and subject-matter experts.

Within the partnership, LEI Coaches will guide you as you design and evaluate the experiments that will help you discover the best lean approach to address a business problem or achieve breakthrough performance. We don't come in with a cookie-cutter solution. Instead, LEI Coaches bring their decades of lean thinking, practice, and coaching to bear on the business issues you need to address and guide you through discovering — for your organization and in the specific situation — how to resolve it.

By offering targeted, immersive experiences that demonstrate the value of addressing all five dimensions of the Lean Transformation Framework, LEI Coaches ensure you and your team gain an in-depth understanding through crucial guided practice.

### **Join a Learning Group**

LEI's most advanced partners — those who have reached the highest levels of lean thinking and practice — are invited to participate in an LEI facilitated learning group. Open only to those who have and are willing to share advanced lean thinking and practices, this learning opportunity allows organizations and their teams to learn from one another. While participants in the learning groups collectively direct the learning, LEI Coaches facilitate the meetings three to four times per year and share related learning materials.

The meetings are held on-site at a learning group company or in virtual gatherings. The learning groups are organized around a specific lean thinking and practice discipline, industry, business function, and the like.

The longest-running Learning Group is focused on Lean Product and Process Development (LPPD), bringing together partner companies interested in transforming their product, process, and service development systems. Much of this Learning Group's learning was captured in Jim Morgan's and Jeff Liker's *Designing the Future*, which LEI co-published with McGraw Hill in 2019. Who knows, maybe your lean transformation story will become part of an upcoming book published by LEI.

### **Companies we've partnered with**



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## About The Lean Enterprise Institute

The Lean Enterprise Institute, Inc, was founded in 1997 by management expert James P. Womack, PhD, as a nonprofit research, education, publishing, and conferencing company. As part of its mission to advance lean thinking around the world, LEI supports the Lean Global Network ([leanglobal.org](http://leanglobal.org)), the Lean Education Academic Network ([teachinglean.org](http://teachinglean.org)), and the Healthcare Value Network ([healthcarevalueleaders.org](http://healthcarevalueleaders.org)).

## Continue Your Learning

The Lean Enterprise Institute (LEI) offers a wide range of learning resources, all with the practical knowledge you need to sustain a lean transformation:

### Learning Materials

Our plain-language books, workbooks, leadership guides, and training materials reflect the essence of lean thinking — doing. They draw on years of research and real-world experiences from lean transformations in manufacturing and service organizations to provide tools that you can put to work immediately.

### Education

Faculty members with extensive implementation experience teach you actual applications with the case studies, worksheets, formulas, and methodologies you need for implementation. Select from courses that address technical topics, culture change, coaching, senior management's roles, and much more.

### Events

Every March, the Lean Summit explores the latest lean concepts and case studies, presented by executives and implementers. Other events focus on an issue or industry, such as starting a lean transformation or implementing lean in healthcare. Check [lean.org](http://lean.org) for details and to get first notice of these limited-attendance events.

### [lean.org](http://lean.org)

A quick and secure sign-up delivers these online learning resources:

- Thought-leading content delivered monthly to your inbox.
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