How to Become a Lean Champion
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How to Become a Lean Champion

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AT A GLANCE

Lean tools and techniques can deliver lower costs, higher quality, and major improvements in customer service. But many companies struggle to achieve these benefits—even after many years of trying. Lean practitioners attain rising levels of performance as they increase their expertise, just as champion-league sports teams play with greater skill than local-league teams. To achieve true lean expertise, companies must pass through three levels of maturity.

LEAN LOCAL LEAGUE: LEARNING THE BASICS
At the basic level, companies understand key lean tools and apply them at local factories but not consistently across the network of plants.

LEAN NATIONAL LEAGUE: IMPLEMENTING A LEAN PRODUCTION SYSTEM
At the second level of maturity, companies establish a lean production system with common tools, principles, processes, and metrics that are applied consistently across the manufacturing organization.

LEAN CHAMPION LEAGUE: EXPANDING BEYOND MANUFACTURING
Companies playing in the champion league have extended their lean expertise beyond manufacturing to areas such as sales, administration, R&D, and engineering.
Lean tools and techniques can deliver lower costs, higher quality, and major improvements in customer service. But many companies struggle to achieve these benefits—even after many years of trying. Why is success so elusive? The reasons vary. In many cases, lean approaches aren’t applied consistently across plant networks. Some efforts lose momentum because they fail to widely engage and train employees, so results aren’t sustained over time. When companies do succeed at applying lean approaches to manufacturing they often stop there instead of expanding their efforts more broadly to other areas of the business. These problems result from differing degrees of lean maturity. Lean practitioners attain rising levels of performance as they increase their expertise, just as sports teams in the champion leagues play with greater skill than those in the local leagues. (See Exhibit 1.) Like professional athletes, companies pass through three levels, or “leagues,” as they increase their expertise:

- **Level 1: Lean Local League**—Learning the basics
- **Level 2: Lean National League**—Implementing a lean production system
- **Level 3: Lean Champion League**—Expanding beyond manufacturing

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**Exhibit 1 | Companies Pass Through Three Levels of Expertise**

![Diagram showing three levels of expertise: Local league, National league, and Champion league.]

- **Local league**
  - Learning the basics
- **National league**
  - Implementing a lean production system
- **Champion league**
  - Expanding beyond manufacturing

*Source: BCG analysis.*
Companies must progress through the different maturity levels in order to improve their performance and enjoy the resulting benefits. Unfortunately, most get stuck at some point, and their lean efforts stagnate. Let’s look at the characteristics of each league more closely and explore what actions are needed.

**Lean Local League: Learning the Basics**

Entry-level lean practitioners are primarily trying to find and eliminate waste in production. Objectives typically include efficiency gains, cost reductions, better quality, shorter lead times, and greater flexibility. Companies at this level understand key lean tools and apply them at their local factories but not consistently across their network of plants. For instance, the manufacturing sites have standalone lean solutions that are not aligned with solutions at other sites. Through quick wins, these companies can typically achieve cost savings of 5 to 10 percent—for an immediate impact on the bottom line. Sustaining the performance improvements over time and driving consistent standards across the network are the key challenges that companies must address to progress to the next level.

At this first level, many companies focus on identifying—and minimizing—the seven sources of manufacturing waste: overprocessing, overproduction, motion, transportation, excess inventory, defects, and waiting. To this end, they might analyze their key processes, looking for wasted time, needless activity, and steps that don’t add value.

Next they apply lean tools such as *kaizen* (continuous improvement), *kanban* (ongoing replenishment), and *poka-yoke* (error proofing) to drive results. Choosing the right tool for eliminating the identified sources of waste can be difficult, however. Commonly used lean tools such as single-minute exchange of dies, or SMED, are easily applied to reduce changeover times. But other situations are more challenging.

For instance, improving the overall equipment effectiveness (OEE) of packaging or production lines in consumer goods manufacturing can be a complex, time-consuming problem. OEE numbers are often low—only 60 to 70 percent—and companies may use sophisticated tools such as reliability-engineering methods to estimate, measure, and improve their processes.

In fact, the solution may be much simpler. Minor stops are often at the root of equipment effectiveness problems, and autonomous maintenance can reduce those stops by 75 to 85 percent within a few months. It comes down to getting the basics right: training operators to help with maintenance, identifying and eliminating machine defects, bringing equipment back to base condition, and continuous improvement.

Learning these basic lean principles, tools, and techniques should be a primary focus of companies at level 1. But despite the quick wins and early benefits, a number of problems will likely become evident: differing outcomes among production sites; insufficient worker involvement; inefficiencies, excess costs, and recurring issues; failure to share best practices within the organization; and decreasing benefits over time.
Companies that resolve these shortcomings are ready to play in the lean national league—the second level of lean maturity.

**Lean National League: Implementing a Lean Production System**

Companies in this league are among the top players in their industry. They are moving toward an integrated lean production system that involves the whole manufacturing network. As a result, they can reduce the value-adding costs (that is, all manufacturing costs except for those associated with raw materials and other inputs) of their current operations by 10 to 15 percent while cutting waste virtually to zero.

At this level of maturity, common lean tools, principles, processes, and metrics are applied consistently across the manufacturing organization. By using uniform measurements and standards, companies can compare plant-to-plant performance and flag areas that need greater attention or additional employee training. Moreover, because things are done the same way at each plant, workers and managers can easily move from one workstation or location to another: learning curves, therefore, are far shorter, and flexibility is greatly enhanced. Another hallmark is the full engagement of plant employees. Each person on the shop floor has a specific, lean-related role—such as safety, maintenance, or root-cause elimination. When workers are responsible for performance improvements, the results can be dramatic. For instance, by assigning a worker responsibility for equipment maintenance, one company was able to reduce minor stoppages in production lines by more than 80 percent.

At this level, lean efforts fund themselves. They provide enough of a financial payback—through cost savings, higher quality, greater efficiency, and better customer service—to offset the costs of implementation. As such, these efforts never lose organizational support or resources.

To reach this level of maturity, companies must master the key challenge of really bringing the production system to life and sustaining it over time. Continuous improvement is a core lean principle aimed at ensuring that lean efforts deliver benefits on an ongoing basis. Yet many companies make the mistake of setting up a lean program, reaping the short-term benefits, and then failing to move forward to expand beyond the initial targets. With this static approach, most efforts lose momentum and eventually stall.

What’s needed is a dynamic approach to governance that systematically and regularly renews itself so that continuous improvement is woven into the fabric of the lean program. As Exhibit 2 illustrates, dynamic governance has four components: *improvement identification, planning, implementation,* and *performance management.* Let’s look at each of these more closely.

**Improvement Identification.** This is a critical activity that involves analyzing key processes, identifying areas of waste, and generating improvement ideas. This should never be a one-time activity, but an ongoing effort. Leading companies
regularly conduct audits of their lean production systems, analyzing losses and finding new savings opportunities. They have standard processes in place to ensure that best practices are shared among sites. Moreover, they increase employees’ engagement through a scheduled series of conferences, workshops, and factory visits that focus on lean tools and techniques. The strongest players develop tools that systematically generate improvement initiatives that draw on the knowledge of as many employees as possible. Examples include suggestion boxes linked to individual recognition and rewards and annual loss-analysis exercises in which people team up to identify new areas for improvement. For instance, a white-goods manufacturer conducts a yearly loss analysis with the active participation of shop floor employees. The analysis focuses on finding improvements that can be implemented within the next 12 months and typically generates cost savings of 10 to 15 percent.

**Planning.** This step involves the creation of new road maps for achieving the improvement opportunities that are identified each year. Each road map clearly shows how lean approaches will be applied to reach specific objectives. Timelines, deliverables, and needed resources are defined, along with the financial impact of each objective.

**Implementation.** This ensures that the right roles, structures, organization, and capabilities are in place to support the road maps and ensure success—and that these are standard and consistent across the production network. For instance, an industrial goods company defined specific roles at different levels of the organiza-

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**EXHIBIT 2 | Dynamic Governance Has Four Components**

| Improvement identification | Audit and loss analysis | • Semiannual audit of the production system  
| | | • Systematic annual identification of savings opportunities  
| | Best-practice management | • Established standard processes that ensure the sharing of best practices among sites  
| | | • Conferences, factory visits, and other interactions that increase employee engagement  
| Planning | Road map development | • Clear road map that shows the application of production system elements to meet savings objectives  
| | | • Clearly defined timeline, resources, and deliverables  
| Implementation | Organization | • Lean organization’s support of rollout and execution of road maps  
| | | • Standardization and implementation of roles and responsibilities  
| | Qualification | • Training plans and qualification matrices for all employees that embed lean principles, tools, and techniques in the organization  
| | Project management office | • A demanding PMO that ensures implementation and tracking of savings  
| Performance management | Management review | • Standardized process for regular management reviews on the shop floor  
| | | • Clear deviation management to meet expected objectives  
| | Key performance indicators | • Common KPI system across all factories  
| | | • Visual management across all levels, such as progress boards on the shop floor  
| | Rewards | • Performance levels (for example, bronze, silver, and gold) defined for factories  
| | | • Regular reviews linked to a common reward system for the leadership team  

Source: BCG analysis.
tion and assigned responsibility for teaching lean tools and techniques, coordinating overall implementation and removing obstacles, providing local teams with knowledge and best practices, and supporting implementation at the local plant level. A project management office is essential for managing implementation and tracking savings. If employees need new knowledge or skills, training and development plans are put in place. For instance, employees might be trained and qualified in areas such as standards development, autonomous maintenance, continuous waste identification, and use of company-specific tools such as loss analysis.

**Performance Management.** This is necessary for monitoring progress toward lean goals and ensuring full transparency across the organization. A system of key performance indicators (KPIs) is set up and standardized across factories. Typical KPIs include measurements related to cost, productivity (such as output per full-time equivalent employee, or FTE), quality (such as scrap levels or number of errors), and service performance (such as speed or on-time delivery). Factories are ranked according to their performance levels, and the performance reviews of employees and managers are linked to lean objectives.

Prominently displayed boards that track progress toward specific metrics are helpful management tools that can encourage increased engagement and motivation. The key is to identify and correct any course deviations quickly, so the program can get back on track.

Progress toward a lean production system is an evolution that usually unfolds over a period of three to five years. By the end of level 2, all key tools have been implemented, all employees are involved, and results have been sustained over time. The production system and continuous improvement have become integral parts of daily work.

Despite significant improvements in cost, quality, efficiency, and customer service, however, forward-looking companies begin to realize that lean benefits can and must be extended beyond manufacturing. That is the focus of level 3, the lean champion league.

**Lean Champion League: Expanding Beyond Manufacturing**

Companies playing in the champion league have extended their lean expertise to areas beyond manufacturing and are using advanced tools and techniques. (See the sidebar, “Advanced Lean, Advanced Tools.”) Only a few companies play in this league. Typically, they start to expand their lean capabilities along the value stream, integrating suppliers and customers to drive greater efficiency and further savings. Most extended lean efforts focus on administrative and service processes, in which high overhead can hurt the bottom line.

But even more complex functions such as R&D and engineering, which are harder to standardize, can benefit from lean principles and tools. Such functions present a unique set of challenges. For instance, most of them deal with the flow of information, not tangible materials. Waste in such functions may be less obvious and not easily observed. In many cases, the work itself is intangible, more varied, and less
predictable than that of other functions. Information flows may be nonlinear and multidirectional, with many back-and-forth iterations. As a result, more and better communication is generally needed, and cross-department interaction and collaboration are critical. Finally, the people involved likely have a diverse set of knowledge and skills.

Applying lean to nonmanufacturing areas—even complex functions—can deliver impressive results: lead time reductions of 40 to 70 percent, productivity increases of 15 to 25 percent, and 50 to 70 percent fewer errors. To succeed, companies must address four areas:

- **Processes.** Analyze the function’s processes and subprocesses, flagging any disruptions, variations, rework, or exceptions that slow the flow of work. Try to eliminate any task that doesn’t add value. A detailed analysis often reveals unexpected inefficiencies and complexities—and significant opportunities to improve performance by simplifying and standardizing work flows. In turn, these insights can lower costs, increase productivity, reduce cycle times, and improve quality. For instance, reviewing and streamlining engineering standards can simplify and shorten development times.

- **Behaviors.** Teamwork, collaboration, clear responsibilities, and knowledge sharing are key tenets of a lean culture. Metrics, incentives, and rules that break down barriers, support effective decision making, and promote the right behaviors are necessary for success. Ongoing training and development in lean tools and techniques ensure that changes will be sustained over the long term.

**ADVANCED LEAN, ADVANCED TOOLS**

A central concept of advanced lean expertise is the maximization of cross-functional coordination and cooperation—one of the most difficult things for companies to achieve.

Attaining this goal requires a sophisticated set of tools that includes the following:

- **Sales and operations planning** involves deciding—on the basis of demand forecasts, cost factors, risk profiles, and strategic objectives—how much of which products to make, where to make them, and which markets to send them to.

- **Product segmentation** groups products on the basis of characteristics such as volume, demand volatility, capacity consumption, and supply chain impact, and plans production accordingly.

- **Bill of process** focuses on a common set of core processes in order to create a shared approach across similar lines or across plants that make the same products. BOP is, therefore, closely linked to the product design process.

These advanced tools help break down the functional silos that hinder lean progress. They’re an integral part of the tool kit of most lean champions.
• **Tools.** As with any lean program, the right tools are an integral part of an effective approach. In an engineering environment, for instance, tools that support project management, resource planning and allocation, decision making, and collaboration are critical.

• **Culture.** Lean programs can succeed in a wide range of functions, but different cultures present different challenges, and companies must customize their approach accordingly. For instance, a culture that prizes skilled individual contributors may not welcome team-based structures, yet teams are a basic tenet of the lean philosophy. This type of culture may require an employee-led, bottom-up approach that doesn’t dampen creativity. A top-down mandate would likely backfire.

Lean principles and tools can be applied broadly to areas outside of manufacturing. For instance, one company’s sales division had been struggling to keep up with market demand, but top management was opposed to increasing head count. By eliminating waste from all sales processes, the division was able to increase productivity by almost 20 percent and manage the growing demand without hiring new people. Sometimes the solutions are even simpler. The finance division of a major company generated massive numbers of reports, relying on a large staff to produce them. When a survey revealed that few people wanted or actually used these reports, the company immediately stopped producing most of them and realized major savings.

More complex functions can benefit as well. A major airline applied lean techniques to dramatically reduce the time needed to make engineering changes to the interior of its aircraft—changes ranging from new armrest materials to additional functionality for in-flight systems. The airline set up a cross-functional project structure with a strong project manager, clearly defined responsibility and authority for all tasks, and streamlined decision making. Project milestones that used to take 40 days to reach now take 12 hours or less, and budget overruns are a thing of the past.

At some point, more companies will succeed at applying lean tools and techniques beyond manufacturing. Until then, the lean champions of level 3—the most ambitious, lean-minded companies—will lead the way.

**To increase their lean expertise, companies must know at what level they’re currently operating and identify key areas for improvement.**
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