



Lean Enterprise Institute
lean.org

“The Magic of Lean”

An Interview with [The Lean Manager](#) co-author Michael Ballé

Author Michael Ballé shares why he and his father wrote their newest lean novel, which shares the magic of lean—the moment when, after all the hard work, as a result of true transformation, kaizen becomes fun.

Q. Michael, let’s start with a 2-part question. It's been four years since you and your father wrote [The Gold Mine](#), published by LEI in 2005. Now we have the sequel, [The Lean Manager](#). Can you say why you two wrote these books, and why you chose a business novel format?

A. I wrote *The Gold Mine* with my father, Freddy, through 2003 and 2004. At the time he had recently retired from his executive work, and we had started working together as consultants. Freddy learned the Toyota system firsthand. While working at Renault in the mid-seventies he began visiting Toyota plants in Japan, and talked directly with the original pioneers. He later set up the first full lean system out of Toyota in Europe back in the early nineties, at an OEM supplier, with Toyota's coaching—and where I first started studying lean implementation as part of my doctoral research. I joined him to help other companies create their own lean systems. I really wanted to share this experience and convinced Freddy we should write it up. Most lean books at the time were essentially “what is lean”—in other words a definition of the system. Some of these books were in fact excellent. We felt, however, that the implementation experience was another beast entirely. Actually practicing lean under the guidance of a sensei—undergoing a complete transformation as a result—was much more about the quirks of human behavior than simply an understanding of the tools.

The novel format wasn't the first idea. We started writing a traditional business book that focused on the people aspect of lean. But it just didn't work, and after a few false starts we couldn't figure out why. Then one day, I started telling a story, drawing from Freddy's experiences, and it just flowed out. As Freddy and I began to build the lean concepts and tools into this narrative, it became clear why this couldn't be written as a traditional business book: because a lean system is, well, a system. It's all interconnected—which is why it's so powerful. In trying to capture this through a structured argument we had to break the whole apart artificially topic by topic, and that's simply not the way lean thinking works in practice. By having characters arguing and defending, we could draw in the various elements of the system and give a more complete picture of lean thinking and acting. As we progressed with the story it became apparent that the novel was a powerful way of conveying the "learning by doing" aspect of lean. You can discuss pull systems all you want, but the feeling of turning off the MRP and trusting those kanban

cards—or of moving the machine that has stood there forever—is quite unique and hard to convey in any other format than a narrative.

Q. So what are the “vital few” lessons about implementing a lean system that you and Freddy hoped readers would take away from *The Gold Mine*—and *The Lean Manager*?

A. First, lean is a practice, not a theory or a philosophy. Second, lean is learned by doing. Third, the doing leads to self-reflection, and thus improvement. I guess that the main lesson is that there is no such thing as “implementing” lean. This is a fundamental misunderstanding. You can teach people to lean their own processes, which means learning how to satisfy their customers better and take the waste out of their operations. You go to the shop floor, you look carefully, you agree on problems, you try something, and then you discuss carefully what happened and draw the right conclusion. Which is why, as Pat Lancaster from Lantech once pointed out to me, to do lean you have to find a sensei you can get along with and drive it from the top. The lean perspective, which means 1) how lean defines problems (as in: what is a problem and what is not), 2) what kind of solutions it seeks (as in: what is an acceptable solution, and what is not), and 3) how it goes about it to solve them (as in: what practical steps to solve the problems) is not “just a bit” different from traditional management—it's REALLY different. This is what *The Gold Mine* and *The Lean Manager* try to illustrate—you take one step after the other—you apply a tool, discuss the principles, see where that gets you, and then start again. You define a goal a bit further, figure out how to get there quickly but safely, and move on again.

The trick we all eventually learn from practicing lean is that understanding the full system grows from taking small practical steps forward. You discover the purpose of tools and the results of using them deeper and deeper only by using them, and then seeing how they relate to everything else. You make your own connections. But because this is not the way we've been taught to do business, and because kaizen is often counterintuitive (we prefer high pay-off global solutions that deal with big global problems), trying to understand the system all at once rarely works. Unfortunately, this is what most people seek in “implementing” lean. They want a roadmap, a clear picture of the lean “there” and how to get from here to there without having to do it right away and then think it through. By nature, lean doesn't work that way. Indeed, the Toyota Production System has been described as the Thinking Production System, a system to make people *think*. This is a fairly unique experience, and hard to describe, a mixture of being engaged and constantly scratching one's head all at the same time. So this is what happens to the characters in both novels. They progress step by step, and as they solve obvious problems, they discover more subtle ones. They don't walk randomly though, their sensei takes them through the principles of the lean system: just-in-time with flow, leveling, takt and one piece flow, then standardized work and kaizen and then jidoka. This is just one path, as the journey through the system is not unique. However, the elements of the system are pretty definite and although one attacks them in the order they appear due to the business problems, they all need to be tackled together to deliver the real lean benefits. This is why there is no going around “making people before making things”—implementing lean means training people to practice business using the lean system, every day, on the shop floor. So teach your people to fix your quality problems, reduce the batch sizes, work with the operators to improve their work stations, and you'll learn many things you didn't know about your own production processes.

Q. How would reading the novels help an executive to progress in their lean journey?

A. Lean is an incredibly powerful business method because its originator, Toyota, has learned how to apply the scientific method of experimentation-and-reflection to business issues. The drawback is that the "barriers to entry" to lean are high: just as it's very hard to teach oneself calculus, without a teacher and set exercises, it's incredibly hard to learn how to do lean right (have great results through the right process) without a sensei. The original lean sensei are a small group of people who collaborated with Taiichi Ohno, who then trained a next generation of "sensei"—and so on; current sensei typically have two or three degrees of separation with Ohno (they've been trained by someone who's worked with Ohno, etc.) Not surprisingly, access to a sensei is both rare and difficult. We were incredibly fortunate inasmuch as Freddy, through his early contacts at Toyota, has had many experiences of visits and kaizen activities with the old guard from OMCD (Toyota's lean office) in his own plants—and this is a large part of what we wanted to transmit with the books, the vicarious experience of working with a sensei. *The Gold Mine* is more system-focused, and *The Lean Manager* tackles more the management aspects of running the system, and we hope both books can help readers to better understand the lean thinking system by experiencing the Socratic method of challenges, experiments, reflection and more challenges, and so on. This lean learning experience has a definite feel to it, which is unique, and which we have tried to convey. It's radically different from traditional training because the responsibility for understanding lies with the student: the sensei points the way, and the student makes the effort to understand by doing and doing and doing it again. I was discussing recently with David Meier, who co-authored [The Toyota Way Fieldbook](#) and [Toyota Talent](#) with Jeff Liker, after working for ten years as a supervisor at Toyota, and he shared how he was taught lean: during all his time there, he had a coordinator (not the same person over the period, obviously) whose full-time job was to invent lean exercises for him to solve. This problem-solving training was on top of David's main job of running the line. There's no real way to explain this way of thinking, but we did our best to share this experience through the story—the challenges, the arguments, the people who can cope with being taught, and those who cannot, and so on.

One of the greatest thrills about *The Gold Mine* is that I've met people who've told me they loved the book and they got a copy for their management team, and they would read a chapter at a time, discuss it, and then apply it to their activities and try to figure it out. I know one Chinese plant that did so with the Chinese version of the book! This is purely anecdotal and I have no real "check" on it—but it's really exciting because that's exactly what the book set out to do. Tom Ehrenfeld has also produced a great Study Guide to support this learning process. To be honest, as authors, it's hard to know what people really make of the book, but I hope that readers can see better that it's about the people, not the tools. If there's one thing *The Gold Mine* tries to encourage is to see lean transformation not as the number of processes that have been hit with lean tools (through Rapid Kaizen events, or roadmaps and so forth), but the number of people who are developing a sense of lean: a gemba attitude, the kaizen spirit, a sense of challenge, open mind, and teamwork. People run processes, and can choose to do so rightly or wrongly. People can be endlessly creative, if they're taught how.

Q. Is that why you wrote a sequel, *The Lean Manager*? To continue to emphasize the people side of lean?

A. Well, yes and no. The first thing Freddy's sensei told him when they started to work together was that the key to the lean system was the plant managers. As an industrial VP and CEO, Freddy certainly took that message to heart, and learned how to link the visual management system on the shop floor to his budget objectives through a set of key operational indicators. Furthermore, he learned from his sensei to drive the kaizen process to deliver financial results, and to challenge and check to make sure people got the desired results—which meant more pressure on the one hand, and more patient coaching on the other. As we visited plants it became clear to me that for all his fearsome reputation as a boss, Freddy would spend most of his time walking people patiently and carefully through solving problems. This involved everything from simple miscommunication all the way to detailed hypothesis testing. So implementing the lean system on the shop floor was only one aspect of the transformation. Getting the management processes to work accordingly was quite another matter.

At the time we wrote *The Gold Mine*, neither Freddy nor I fully recognized just how critical it was to produce lean managers in the course of implementing the lean system. Freddy had learned to do both, concurrently, while learning the tools, so he never made the distinction. But when he retired and we started coaching other companies in leaning their processes, it became obvious that something was missing. It took us a while to realize that the lack of management reactivity and understanding to the problems revealed by the pull system was not a lack of management brawn at all. It was a failure of understanding. We were teaching people the tools and attitudes of the lean system, but not the corresponding management practices and values. Coincidentally, Toyota must have been experiencing similar difficulties in their global expansion because in 2001 they produced a booklet about the “Toyota Way 2001” that explicitly framed Toyota's main management principles. I distinctly remember an advert for Toyota Turkey saying something like “Toyota builds quality automobiles by using the Toyota Production System, supported by the Toyota Way of management.” This was very exciting because it framed exactly our own implementation problem: we were trying to teach TPS from Freddy's experience with his sensei, but they had also taught him many aspects of the Toyota Way, without ever actually explicitly saying so.

So for the past three years, Freddy and I have been experimenting with ways to convey this other aspect of lean—the management method that goes with the tools. This has led us to change our minds about several things, such as seeing lean programs as executive development programs rather than system implementation programs. Eventually, we decided to attempt to illustrate the Toyota Way in the same fashion as we tried to give a flavor of the TPS in *The Gold Mine*. So we wrote this sequel, which focuses on the experience of managing with a lean system as well as implementing it. Both books are meant to be read independently (you can read either one, in whatever order), but basically they were conceived as a set to describe lean systems and lean management, respectively. The tools are similar, although we've chosen to emphasize different aspects, but the perspective is quite different. In *The Gold Mine*, the focus is on understanding how the tools and principles work. In *The Lean Manager*, the angle is how to work with the tools and principles. In our experience, both perspectives are needed for sustainable results.

Ultimately, TPS is a toolkit, a series of activities one can pursue on one's own job to improve quality, reduce lead-time and cost. But like any kit, the tools are hard to use effectively without the right user's manual. This is what the Toyota Way provides: the right kind of attitude and

practice to make the tools effective. Doing value-stream mapping without seeking out the clear direction just leads to a vast number of improvement projects (some good, some bad, most indifferent). Conducting flow-and-layout redesign without a clear grasp of kaizen spirit can soon become no different than Taylorist “re-engineering,” and so on. The TPS is the *what*; the Toyota Way is the *how*.

Q. Can you describe the plot of *The Lean Manager* and how it will help a reader better understand how to work with these lean tools and principles?

A. *The Gold Mine* is about a business owner faced with a dire cash crisis who needs to turn around his operations fairly quickly. This guy needs to understand the tools, understand how they work as a *system*, and learn how to use this lean system on his own operations. Much of his learning is about how the tools themselves are not solutions, but analytical methods enabling his staff to understand their problems and learn to solve them. This character, Phil Jenkinson, has the power and ability to understand that lean is not about him thinking and solving every problem, and everyone else executing, but about developing people so that they themselves can solve their own problems. Beyond the challenges of dealing with people who resist and struggle with the lean program throughout, Jenkinson fights to understand the principles behind the tools, the impact of these principles on the business case, the relationship between the tools, and how the tools would work in practice, and why some people take to the tools and others not.

The Lean Manager explores the same themes but from a very different angle. Here, the main character, Andy Ward, is a regular plant manager—a cog in a big machine. He's been doing his job well enough, an average performer. And suddenly, he gets saddled with a new CEO (our very own Phil Jenkinson several years down the path) who is determined to push lean throughout his company in a way that lean will be sustainable. This is a very different situation. In *The Gold Mine*, sustainability is not so much an issue, because the leading character has got both the power and the smarts to make things stick once he's got it figured out and has bought into it. His interactions with the sensei dealt with issues like “Why should I do this? What is the purpose? How does it work in practice? How do I involve my people in it?”. But once these questions have been answered, the people can move on and tackle a new topic, because, well, the boss is driving the change hands-on. In *The Lean Manager*, our hero has to understand what the principles and tools do; *and* he has to get his people to do this (and stick to it no less). He is in a very different spot. On the one hand he must respond to his overbearing boss, his boss's insufferable sensei, his boss's imposed consultant; and on the other, he must manage his team of department heads who are willing to listen as long as they don't have to change their minds, and he must try to change the culture of an entire plant that doesn't want to hear about any of it. The narrative is no longer about turnaround, as in *The Gold Mine*, but about transformation.

And so *The Lean Manager* speaks to a very different, though no less universal, experience among individuals who are making a serious effort to create a lean enterprise, and who find themselves in a similar situation. They believe in this lean stuff, their CEO really wants it, but nothing else helps. All the corporate functions lead a rear-guard action against everything he does, local management just doesn't seem to understand, and the shop floor culture is so resistant to change. The lesson Freddy and I learned working with Toyota sensei was that there are certain managerial behaviors required to sustain the lean principles and to change the culture over time.

In the first book, this wasn't so much of an issue because, for all his faults, the leading character was bright, interested, open minded, and very persistent. He was willing to learn. The situation in the next book is much tougher.

So the storyline of *The Lean Manager* progresses along the main lean management values that everyone—starting from the top—has to buy into to make the transformation work. It starts with customer satisfaction (as in: We Mean It!), and then progresses to the overarching goal of engaging everybody every day in solving his or her own problems in a lean way—which means organizing for problem solving. Then the book discusses the practice of “Go and see” in its technical details, focusing on kaizen spirit, establishing clear direction, creating and sustaining true teamwork (not just getting along, but solving problems across functional barriers), and finally the importance of mutual trust between management and employees and developing respect. The book also insists on one key point often overlooked in the lean literature: developing people is about making better products or services. Sustainable lean success in any market comes from delivering better products: products that are cheaper to purchase (for the value they provide) because they are cheaper to make, and products that are cheaper to own (in monetary or “annoyance” terms) because they are better designed to help you do what you want to do with them. People purchase holes, not drills. Ultimately, and we believe that this is a very topical subject considering the upheavals in the automotive industry, sustainable performance is about delivering better products to customers, because of the better thinking every employee in the company has put in them.

Q. So, *The Lean Manager* is really about lean management as opposed to lean tools?

A. I wouldn't quite say it like this. What matters more: the hammer, or the way to swing it (When? Why? How? etc.)? In recent years, there have been many back-and-forth debates among lean experts about whether lean is about tools or management. *The Lean Manager* tries to show that it's about both. The lean tools, and the rigor with which they are applied (for instance, using a kanban queue as opposed to a kanban board makes a real difference—using a hammer to drive in screws won't be as effective as a screwdriver), are essential, because they are how we attack problems in real life. Without a good mastery of the tools, you have no basis to start from. But, then again, without the management attitudes to support the use of the tool in the long run: what is a problem and what is not, what kind of solutions are acceptable and what are not, how to keep people focused on the kaizen spirit day in, day out, etc., hitting processes with tools produces a one-off improvement that soon sinks back into the sand—and just multiplying rapid kaizen events is the equivalent of watering the desert. *The Gold Mine* is essentially a discussion about the purpose of the tools, and their interrelationships. *The Lean Manager* still has a lot about the tools, but is more focused on the management of the use of the tool. At the end of the day, what Freddy and I have learned the hard way, and why we believe we've been blessed with successful lean progress over the years with real-life companies, is *that lean is not applying the tools to every process, but using the tools to develop the kaizen spirit in every employee*. Traditional “modern” management practices are all geared towards applying lean tools to every process (create a lean office, establish a roadmap, hit every process with a kaizen event focusing on using one tool after the other). It simply doesn't work with lean because, as we tried to demonstrate in *The Gold Mine*, lean is a system. If you don't treat it as such, you constantly suffer from the rubber-band effect: pull a zone away from the rest through a successful kaizen (they almost

always are), and a few weeks later it will have been pulled back. In *The Lean Manager*, we try to give a clear path to how to manage in a way that people acquire the lean tools and improve their own processes. This is not about developing the “best practice” somewhere in the organization and pushing it on everyone else. This is about getting every employee to perform lean exercises on their own processes, so that they understand their problems, and can go and visit people who have solved similar problems and then try to figure out how to solve their own problems locally. It's about using PDCA as the main management method in the lean enterprise.

Q. At the Lean Enterprise Institute, we are in constant contact with both managers who have succeeded with lean transformation and managers who are struggling. Those who have succeeded tend to say lean is incredibly simple. Yet those who struggle have difficulties with the complexities – Does *The Lean Manager* suggest an answer to this riddle?

A. That's the funny part of the novel, inasmuch as it is amusing. What you describe explains very well the tension between the main characters. What those who have learned lean in *The Gold Mine* say always sounds like common sense, simple advice. To the guy having to learn it all and do it for real, it's incredibly complex, counterintuitive, and sounds impossible to get right. Our take is that on the one hand, most industrial companies have now learned their lesson from Japanese management that some sort of improvement program is necessary just to keep operations running and to fight the unavoidable entropy without endlessly reinvesting in the same operations. This can be any sort of continuous improvement program, from TPM to six sigma. On the other hand, Toyota has taken kaizen to a whole other level by formulating the TPS. Toyota has expressed an ideal of zero defects, 100% value added, producing parts one-by-one on demand in sequence, low physical and mental ergonomic burden on operators and the engagement of all through kaizen. They have also recognized that one always falls short of this ideal, and that no process can ever be considered perfect, so “leaning” operations means challenging every day the status quo to encourage more kaizen. In this approach, continuous improvement has an ideal, a “North Star,” and a set of principles to give it a clear direction—it's not a random walk. This is very, very different from what people expect from continuous improvement. For most managers, improving means kaizen operations here and there (where it seems sensible), getting good practices from that, and then applying these “best practices” throughout the organization—it's a very different concept from the route highlighted by Toyota. Sure enough, Toyota's path is steep and narrow, and they'd be the first to admit that they often fall short of their own ideal as well, but what makes the difference is that they continuously work at it.

The consequences for lean practitioners are twofold. First, lean does clarify as you practice it, without any doubt. When I'm on the shop floor with my father I'm always impressed by his clarity of vision and how he immediately hits the nail on the head where I had simply missed it. So it sounds simple, but it takes years of experience to get there. Second, I do believe that it takes some sort of “maximizing” personality to stick to lean over time. One has to try to achieve this ideal, in spite of all the very real obstacles day-to-day work throws in your path—which is what we've tried to describe in both books. In *The Lean Manager*, this is more pronounced from the perspective of a working manager who gets squeezed between his overbearing boss, the political shenanigans of corporate, the irritating consultant on the one hand, and his rigid management

staff and disaffected workers on the other, the whole in the midst of a deep industrial crisis. The message here is one of hardship and hope. Hardship, because there are reasons why processes are the way they are and when you try to take the waste away, all sorts of spanners are thrown in the works. But hope because, first, if one sticks at it beyond the difficult start-up period, kaizen becomes fun. It does. Experienced lean managers all express the profound pleasure at working side-by-side with shop floor staff at fixing problems without investment. It's challenging, exciting, interesting, purposeful—fun. It's also humanly very rich and develops a unique relationship with colleagues and staff. Hope, also, because it does transform the workplace. I can think of a medium-sized company with three plants that started its transformation in earnest a year ago. So, they're struggling with endless quality problems and pull systems and kanbans and so on. But on the other hand, they've attacked fully the many ergonomics issues they didn't even acknowledge they had. This is transforming the shop floor, and is also transforming the relationship with employees—you can see it happen visibly, month by month. And, in the process, results improve even in the current disastrous economic crisis.

So there's a kind of miracle going on: every lean activity you run on the shop floor is never quite right, didn't pay as much as we'd hoped, could've been done better, and has disgruntled nay-sayers, and yet, at the same time, the shop floor gets visibly transformed (more ergonomic workstations, moving components in small, lighter boxes, small trains, and so on.), and financial results improve (slowly, sure, but steadily). This is the kind of experience we tried to share in *The Lean Manager*. Running once every other weekend won't make you leaner. But running every day and trying to beat your own time every time regardless of weather or mood will both make you lose weight and get you to *enjoy* running. The ideal is never reached, but practice makes perfect, and as we know better what we're doing, where we're going and we see performance and relationships improve, kaizen becomes fun—and that's the true magic of lean.