January 25, 2021

Featuring Jeff Liker and Tom Ehrenfeld

One of the qualities of a dynamic system of thought is that over time you can return to it over and over and learn more each time. That aspect certainly applies to great books such as Jeff Liker's The Toyota Way. Since its initial 2004 publication this pioneering exploration of the management principles from what he calls the world's greatest manufacturer has sold hundreds of thousands—perhaps a million copies. And he has just published a completely revised second edition, in which he builds on his insights and research, introducing new ideas and bringing in a more learning-based exploration of the meaning of this rich system.

Tom Ehrenfeld:
Welcome to the LEI podcast, I am honored to have Jeff Liker as today's guest, and we're going to talk about the new, second edition, recently released edition of The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer. Welcome, Jeff.

Jeff Liker:
Thanks. Thanks, Tom.

Tom:
So it's an honor. One thing I deeply admire about this book is that it was not only a classic when it first appeared, and has had huge impact in the dissemination of these ideas,
but you've produced a second edition that reads like a new book. It has so much new material, and so just for starters, hats off.

Jeff:
Thanks, I appreciate it.

Tom:
Please tell us what you consider the most important, salient aspects of the new edition.

Jeff:
First of all, I changed the model, the underlying model. I had the four "P" model, which was a pyramid. And philosophy was at the bottom. Then the next level was process. Then the next level is people. Then the next level is problem-solving. And the rationale for that is that philosophy provides the basis of the purpose of the company, what the company's trying to

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.
We invite your questions and feedback: email us at: pod@lean.org.*

1

achieve, as well as what they believe is their relationship to the outside world and to customers. And that sets the foundation. If you want to learn from Toyota as an example, as a model, Toyota's purpose is to add value to society, and to customers, and to local communities where they do business. And if the goal of the company is make money, and the reason for making money is to make money, and the reason why making money is so you can make more money... If that's the end of the game in dollars and cents, then there are probably other ways to do it besides lean and operational excellence that are a lot easier. Then it becomes transactional, buying and selling.

Tom:
As you say, societal mission is greater than earning a paycheck.

Jeff:
Right. It's greater for the company because the company exists within society, within a world, within humanity. And it's also greater for engaging your employees. So if you were to go to your employees and say, "We want you to work extra hard and we want this thing called continuous improvement which requires that you think deeply and push yourself in your thinking. And the reason we want you to do that is because of these people that own stock, and they're rich, but they want to be richer. We need you to try to help make them richer so they can have an extra vacation home." That's just not very motivating to most people.

Tom:
So this kind of begs the question, what is changed in the broader economy in society that might have influenced you, which has cranked up this message?

Jeff:
In the new version, I changed the message slightly, from long-term thinking...if you're interested in contributing to society, you have to think long-term. Because, for example, you're going to have downturns and you have to decide what to do. Do you just empty the company and lay off people, lay off your suppliers, shut down plants, move them to cheaper wage countries, or do you continue to invest in the company, as an example? So long-term thinking is part of it: a company's reason to invest in its people is because they're thinking about the long-term, and there may not be an immediate financial return for a unit of employee training. But they believe that developing employees is the key to having better products, and customers being more willing to be a customer for life.

And I added to that the word "systems." I call it long-term systems thinking. And if you look at Toyota, like the Toyota Production System, you'll see systems appearing in a lot of their concepts and ideas and models. I make the argument that, in fact, systems thinking might be more natural in Japan, and in Asian countries, than in Western countries. And we're more likely to decompose the world into simple cause and effect relationships, you know, I do this to get that. And so I put in a just-in-time system to reduce inventory, I develop standard work to improve productivity. Whereas, in Toyota, and I think it's more common in Asia, I do this set of things in order to be excellent and innovative, which will give me, in long-term, will make me

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.
We invite your questions and feedback: email us at: pod@lean.org.*

2

more successful and sustainable. Sustainable meaning that there's nobody in Toyota who thinks that if they manage to get in at the right time, and buy the stock and sell the stock, and then the company went bankrupt, they would be successful. There's a commitment to long-term survival of the firm.

And so I thought more about that, about the systems perspective and how important that is, and also how difficult it is. If you read Peter Senge on the learning organization, *The Fifth Discipline* is systems thinking, and, he basically argues, it's hard. It's not natural for most people, so it takes effort. But the other thing is that, as time went on, I'm seeing the world as being increasingly interconnected, and it's really obvious with COVID-19, with a global pandemic and everybody's affected by everybody else. So it's increasingly obvious with climate change, that the world is very interconnected, and we need to think in terms of systems, not in terms of simply a certain outcome that we want to achieve with a specific intervention or implementation.

Tom:
This is a bit of a digression into history, but I'm sure you've read the lovely book *The Birth of Lean*, which traces the evolution of Toyota, and its approach. And it presents the development of this lean production system, Toyota Production System, as a series of countermeasures that were introduced to counteract specific problems at a given point in time. And so the overall system was never really introduced as a system. It kind of emerged, with this emergent quality. And I think the relevance to me is that I fully agree with your argument, I think that it's probably difficult for greenfield situations, for new companies...or perhaps easier. To take a systems approach, you don't invent and implement a full system, you work on, I think, primarily on the pieces of it, while being informed by a systematic viewpoint. And maybe that's not an important distinction but...

Jeff:
No, I think that's an important distinction. I think when you say by a systematic viewpoint, the way I look at it now, more so than I did when I first wrote The Toyota Way, is that that systems viewpoint is really your vision. So I think the problem comes in when we think that this is a system so I need to implement the whole system or I'm going to get sub-optimization, and therefore I need to be able to perfectly predict the future, and come up with the optimal solution that's integrated, and then implement that according to the plan.

A major influence on this new book was lots of discussions I had with Mike Rother and his Toyota Kata model, and he starts with a challenge, and that's the first step. And the challenge is really a vision and a set of goals for what you would like to be in the future. And the assumption that Toyota makes, and it just seems to them like common sense, is that, I don't know what's going to happen in the future. There's too much uncertainty, and therefore, any ideas I have are preliminary and tentative, until I try them, until I rub them against reality and see what happens. But on the other hand...

Tom:

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

3

They're hypotheses to test out.

Jeff:
They've become hypotheses. The vision is not a hypothesis, it's a dream. It gives you direction, and that's all it gives you is direction. The way to get there is unclear. I can develop a plan and the irony of Toyota is that they are obsessive about planning. They plan, plan, plan, fully expecting that the plan's not going to work, and that they're going to run into reality. But the plan gives them another kind of direction, for example, Mike gave you milestones. So that gives you some shorter-term goals on the way to the challenge, which could be three years out, say. And that's on the way to a vision, which could be 10 to 50 years out. Toyota's always thinking about the future, but they don't think the future can be implemented. They think you can evolve your way, but if you have a direction, you have a vision, you're more likely to get toward that vision or close to that vision, than if you just aimlessly just poke around and experiment.

Tom:
One part of the book I thought was brilliant was your discussion of Hoshin Kanri, not as a, primarily for planning purposes, but as a process for learning. And that seems relevant to what you're talking here. Can you explain how something that seems bureaucratic, I'm saying with quote marks, which is Hoshin Kanri, which is a method of establishing goals and articulating how they are to be realized, how is that about learning, as opposed to, say, planning/doing?

Jeff:
Well first of all, Hoshin Kanri was just briefly mentioned in the first version, but now I have, principle 13 is about Hoshin Kanri. And the purpose of the Hoshin Kanri for Toyota is to, again, this idea of direction, is to have a line direction, because they have worked hard at developing people who can continuously improve, who have the skills of continuous improvement. So there's energy and competence to work toward goals. Once you have that, then the question is how do you align those goals like a laser beam, and focus the energy? And that becomes very powerful when it's focused on specific challenges, specific goals.

Otherwise, you are just doing stuff in a scattershot manner. You see companies that introduce lean early on when they're immature, and they're doing 5S every place, and they're setting up kanban every place, and they're doing TPM, and they're using the tools... The purpose is to apply the tools. And when you have a scattershot approach like that, it weakens any impact you have on the business. Toyota will always ask the TPS masters, like Ohno's students, they'll start with, "What is the challenge?" They don't want you to do anything until the challenge is clear because that gives you the direction.

Then once I give you the direction, then the next question is, "What is the current condition?" So, you are bounded now where you want to be and where you are today. And then they'll say, "Well, let's just start trying things." With the end vision in mind. The Hoshin Kanri process, and the learning process is that if I think of each action, like I set up this scientific system the way I think it should work, and then I see what happens, each experiment is something to be learned from. The final step in the experiment, and really the "A" in PDCA, is reflection. And reflection

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

4

means, "What have I learned from doing this?" And you can reflect big picture, like it's been four years and we introduced this new product, what can we learn from that? Or much better is to do it every day. That's the learning process. And the starting point is what are the goals, but we want to align goals.

Toyota wants a goal plus a plan at every level of the organization. And they don't want to dictate the goals and the plans. They want the goals and the plans to evolve through a process of discussion and agreement within each pair of levels in the organization. So I know what you need from me is in my boss, I know what I have promised to deliver to you to help you in your goals, and I also have developed themes. What are the areas that I'm going to work on that I think will get me toward those goals?

I've thought through that, and have areas I'm going to focus on. Again, recognizing that the process of getting there is different than the process of planning. I got this from an executive at Volvo who had read The Toyota Way to Lean Leadership and he took it very seriously. And he got a coach, and he started to change the way he thought about things, and he realized that for Volvo at that time, planning was, "Here's what I need, here's the results, mostly financial, get them for me." And then the vice president level is, "I've got a five percent target, you're all going to get five percent targets, get these for me." And then the five percent targets just cascade down, and then you figure out how you're going to achieve it. And he thought of Hoshin Kanri as more like mountain climbing. And the role of the leader is to be a Sherpa and to guide you, help you, but the Sherpa is behind the student, not in front of the student.

Tom:
And, if I may, it kind of frames the improvement process, not as climbing a series of steep hills starting at ground level, but ascending a mountain and advancing from where you've traveled.

Jeff:
Right, that's a good point. But the other thing about the mountain is it's very uncertain. You don't know what's going to happen. And you can try to anticipate all the things that might happen, so you can go through scenario planning, for example, and that's useful. But, and you can prepare yourself with the right tools and basic training, but unless you're willing to adapt, you might die along the way.

Tom:
I'm struck by how much preparation work goes into making something that's ostensibly simple in practice, that goes into making it succeed. And I think one huge takeaway for me about The Toyota Way, TBP, Toyota Business Practices, and Lean, is the importance, A, of framing problems in an improvable way.

Jeff:
In a measurable way. You have to somehow know whether you succeed or not.

Tom:

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

5

Yes...yes. And the importance of knowledge reuse through a broader process of reflection, a mindfulness about what you're trying to improve and why you're trying to improve it. And those seem to me foundational practices of The Toyota Way or Lean, which is kind of building in this meta skill of learning from the work by being very mindful and...

Jeff:
Right. And that's what is meant by scientific, that you're thinking, you're not a scientist and you're not trying to develop a breakthrough in the next great manufacturing system, to teach the world the correct approach to the next generation of manufacturing. You're trying to solve this problem now.

Another thing you hear about a lot in Toyota is that people development and process improvement go hand in hand. If I believe that my job as a leader is to teach you, and then furthermore, if I believe that the most important lessons you will learn will be in actual practice, actually trying to improve something in your work—then the educational field is the actual work itself. Whenever you're working on improving toward a goal, I have an opportunity to develop you. That's the best opportunity I have. I don't have that opportunity in a classroom, I don't have that opportunity if I just do it for you and show you and demonstrate. My opportunity is when you're doing something and I can give you corrective feedback. And the feedback needs to be targeted and as close as possible to the action. We know that from behavioral psychology. So if I'm around, at the gemba, I have an opportunity to find those teaching moments and give you that feedback.

Tom:
And, again, it sounds simple to do, and yet that's stunningly difficult. And how many American companies actually take such a common sense approach? That's a rhetorical question.

Jeff:
I think the answer is very few.

Tom:
Can you say more about those moments of coaching that you're describing? How does Toyota inculcate this approach to its people? How do they get them to do it?

Jeff:
Well, historically, if you go back to Taiichi Ohno, he sort of figured it out. And it almost seemed to be natural for him, I don't know, somehow or another he was a natural teacher. And he figured out that people are going to learn by doing and struggling. And he would put his students in difficult positions, with a seemingly impossible challenge, and then he'd let them struggle. And then he would occasionally give them feedback, as well as occasionally give them criticism, harsh criticism, when they were not working hard enough in his mind, or if they were off track. He was doing that for some reason, and arguably it's related to Japanese culture and the master-apprentice relationship, and he was just acting out the master-apprentice relationship model that was common for the samurai, or for sushi chefs, or for sword makers.

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

6

Master and apprentice. The dojo is the place where you teach. For Ohno, the only place he thought was worth teaching was at the gemba. Everything else was a waste of time from his point of view. That became fairly natural within Toyota, that, "I'm your boss, therefore my job is to develop you, I'm the master, you're the apprentice." So in Japan, that became natural.

Tom:
That developed when? Just curious, in the 40s, 50s, 60s? It happened immediately, how does...

Jeff:
Well, certainly if you look at Ohno, that was in the 40s and 50s, but if you go back to Sakichi Toyoda, arguably he set the framework 30 years before that. So you could look at early 1900s, but then that was kind of a built-on Japanese culture that's thousands of years old, so it's not exactly clear.

Tom:
I'm asking you because I'm assuming part of this audience wants to do this, or take an earnest effort to manage and lead in this way. And it's not easy. So I'm saying that not as a historical artifact, but as a way of exploring, how somebody today who wants to put these principles into practice, how do you develop a culture where this very generative form of coaching is taught and practiced?

Jeff:
So, Toyota was actually in that position. And the place where it was most visible was NUMMI. So here you have Toyota with this very rich culture in Japan, and all the engineering and manufacturing was done in Japan. And they figure out that, particularly Eiji Toyoda figures out, we need to globalize to get the scale. And one of the best, most important markets is the United States. We need to be able to build the cars where we sell the cars in the United States, with Americans doing the building. That was not simply a tactical decision, that we're going to build cars in the U.S, let's start doing the work, and building the plant, and setting up the accounting system, the infrastructure.

They asked: how do we bring the Toyota Production System to American culture, viewing the Toyota Production System as the complete, living social and technical system that was rooted in in a very important culture that's necessary to make it work. So the people in Toyota are scared to death, because this isn't simply launching a plant in another country and building the building. The most important part is building the culture and they had no idea how to do it, because they had never done it before.

So, in part, they relied on Americans. They hired Americans who were very sensitive to developing people, and Gary Convis was the plant manager, and he had been thinking this way at Ford, and they also came up with the idea that, we need to send our masters to NUMMI, to California, to teach the Americans, who are the students, our way. And therefore they sent an army, hundreds of Japanese relocated, so that anybody who was in a leadership position had a mentor.

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

7

So that was the, the first reaction was, "We'll just do it the way we learned. We'll just send over all the mentors," and it's labor intensive as could be, and then the mentors are thinking, "We don't really know how to teach the Americans." And again, that's part of this uncertainty, this belief that "There are things I just don't know, and accepting that there's things that I just don't know." So therefore, every day was an experiment for each of these mentors. And they're calling in every night to Japan saying, "You won't believe what happened today." And they were sharing and they were trying to learn.

Number one, they had to learn what in fact were the cultural elements that are critical, versus the cultural elements that we think are important but don't make much difference. So what is it we can't give in on and what can we adapt to, so they were figuring that out. They were working with Americans in human resources who were helping them, who understood the Americans, and it really became a learning organization. So for Toyota, NUMMI was not setting up a plant to make cars, it was setting up a laboratory in the natural environment of the United States, in order to learn.

And, in fact, the interesting thing is that, for GM, it was about making cars. For General Motors, it was, the Japanese seem to be able to make small cars with high-quality profitably, we're not so good at that, we're good at big things. Let's see if, number one, we can get some volume of small cars from the Toyota joint venture so we don't have to do it, and number two, we might be able to learn something about how to make these cars. But they didn't think about it as this cultural experiment to learn from.

Tom:
In essence, the challenge was to teach the essence of the system in an organic, as opposed to a mechanistic way, like something you've written about.

Jeff:
Right. I added a preface to the book that focuses a lot on systems thinking, but particularly this distinction between mechanistic and organic. And the mechanistic worldview, which is a way of looking at the world, we see the world as looking like, and organizations looking like, a predictable machine. One you can take apart and put back together in ways, or you can add a turbo charger, and if you design a good turbo charger, and it fits this V6 engine, then my assumption is the mass production, if I make 100,000 of them, they're all going to work in the same way.

So if you take that same approach to Lean, what are the specifications, what are the design features of Lean from Toyota, and then, maybe I implement it once in a pilot, just to learn, like a prototype. And then the assumption is once I know how it works, then I can spread it to all my other plants, and it will work the same way. Whereas in an organic viewpoint, you see the world as very fluid, dynamic. There's systems that interact, and then there's these weird things called people that you can't really predict what they're going to do, and therefore, you start to think about emergent phenomena instead of predictive phenomena.

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

8

Tom:
And it seems to thrive by blending something that our friend John Shook has identified is a sociotechnical system that absolutely incorporates these social dynamics, while at the same time being driven by very concrete processes and tools.

Jeff:
Right, right. So if the world is really complex, you might think I need an equally complex set of tools to address it. Whereas Toyota's common sense is, if the world's very complex, I better have a very simple set of tools, because I don't want to have complexity trying to change complexity.

Tom:
Wow. Well, break it down. What would you say are the complex tools, and again, I'm building up toward some practical takeaways.

Jeff:
Well, for example, if I'm thinking about a system from a mechanistic point of view, if I'm thinking about a complex system where the parts all interact, and we don't know what customers are going to buy, and we don't know how many raw materials to order, then I'm likely to try to solve the problem mathematically. And I'll develop mathematical models and that leads to scheduling. And then as the scheduling doesn't work, I make the schedules more and more complex, the mathematical models more and more complex. And now we're into artificial intelligence, and maybe that can do something.

Tom:
MRP for...

Jeff:
Well, so MRP then became MRP II, and then you had other companies that had ERP systems, enterprise resource planning, that were based on optimization algorithms. So again, trying to develop an increasingly complex model to deal with an increasingly complex world. Whereas Toyota says, "We need to have a basic plan. We need to have some idea of what the customer's ordering. And then we need to order some things in advance, based on those quantities. But the way we're actually going to trigger production and trigger delivery is through this idea of a kanban system, which could not be simpler." It's binary. We divided the world into a binary decision, either I'm ready for this or I'm not.

Tom:
Okay, great...

Jeff:
And we've decentralized the decision-making. So each node in the network is saying, "Based on my condition, my actual condition now, I'm ready for more."

Lean Enterprise Institute lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

9

Tom:
Interesting.

Jeff:
And so their perspective is, "Since it's so complicated, we need to decompose it into smaller pieces, and then treat those smaller pieces with the simplest tools possible."

Tom:
I think it was Jim Womack, who was referring to someone else, but the comparison is to somebody who touches the stove - it's not a question of your finger touching it and going all the way back to the brain, it's like you have reflexes built into the nerves, that cause you to react.

Jeff:
Right. Well, part of that stove analogy also is that, you learn from experience. But I can't explain it to you well enough and enough times, that you should not touch the stove, and have it penetrate and affect your behavior. It's when you actually touch it yourself that you know this is not something I want to do again. That's why someone like Ohno would say, "Just try it." He knows that you are not going to understand how to improve this system, how to improve this person who's putting on a windshield wiper, let's make it very concrete. You can look at it, and you can theorize, and say, "Wow, that's a terrible method, I think there's a much better method," and you'll have all sorts of ideas, but his view is you don't really know, you're not putting on this windshield wiper, you don't know what that person's experiencing, and you don't know all the variations of things that are happening. So try something and then when you try something, there's a pretty good chance you'll fail. And then like the hot stove rule, you learn, instantly, not everything I think is correct.

Tom:
And what I find profound, there's a very important second part to that, which is contextualizing this work within the PDCA cycle, where you have built-in mindful reflection that identifies the learning and builds it in. You develop a habit of reflection and knowledge capture, which sets the basis for subsequent improvement.

Jeff:
Right. So that idea of a habit, so that was another core idea that I got from Mike Rother that I hadn't thought about so much. And there's a lot written now about habits and we often think of habits as being bad habits that we're trying to overcome, so we're working to overcome something that we don't like. We don't eat right so we want to change that habit, start to eat better. And we don't exercise right so we want to change that habit and exercise. But there's also positive habits that we all have. We may be good enough at driving that we've gone for hundreds of days without an accident, because we've developed habits, which are routines that work for us.

Lean Enterprise Institute
lean.org®

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

10

The problem is that, and then we can also connect this to Daniel Kahneman's *Slow Thinking, Fast Thinking*, that's become pretty popular. And what he's saying is that fast thinking means, "I see a problem and I immediately have a solution." And there's a solution that seems obvious to me. And often it's wrong. And it's also impacted by a lot of biases that we know about. Then there's slow thinking, where you stop and you say, "Wait a second, do I really know that?" And then you do the math or you run an experiment, you discover that you don't know it. And that slow thinking is more deliberate, planned, there's reflection. So all the things we talk about as PDCA are really slow thinking.

And the other thing he observes, and other people observe, is that, historically, hundreds of thousands of years ago, if you spent too much slow thinking, you likely were dead, because there were so many immediate threats to the environment, that if you didn't react to the animals, and the other people, and the environment, you were going to die. And your children would die, so your genes would not be passed on. So the people whose genes were more likely to be passed on were fast-thinking. For a variety of reasons, it seems like our default is fast thinking, and that's natural, and then we need to somehow counter that, Toyota uses the word "countermeasures" a lot.

Countermeasure is to do something to practice slow thinking, so that that becomes more natural. And that's what Toyota Business Practices is about. And Toyota Business Practices is, in large part, a countermeasure to the problem they had at NUMMI, which was, "How do we change the way these people think and solve problems?" And they were just poking around and they didn't know anything, but over time they learned more and more and more, and they ended up creating a formula which was, here are the steps at Toyota Business Practices. You have a coach, and the learner is leading this, and then there's also a process called on-the-job development that's complementary to Toyota Business Practices, which is how the coach coaches you.

The coach needs certain skills, and needs to take certain actions to coach you, and the setting for the learning is a real problem. It's the gemba. And in the process of going through the steps, you will try to counter this natural tendency to jump to conclusions, for fast thinking. And when you do that enough times, because we really develop habits through repetition. When you do that enough times, and you start to see success, you experience success, you don't hear about it, then now you're starting to change your way of thinking. You're trying to change your habitual ways of approaching problems.

Now that also is done through A3 thinking before Toyota Business Practices. But A3 thinking really depended much more on the competence of the coach. So they're just good at it, and they were like advanced coaches, and they had their own way of coaching. And the purpose of the A3 was just to make visible the thinking of the student, so that the coach could coach. The coach would see that you jump to solutions when you haven't really defined the problem well. The coach would then make you go back. And that's really what John Shook's *Managing to Learn* is about, is that process of the student wanting to jump ahead to the end, and the coach constantly pulling the student back, and pulling the student back, to... "No, we're here, we

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

11

Lean Enterprise Institute
lean.org®

haven't defined the problem yet. We don't understand the current situation yet. We haven't looked at possible causes yet so how can we possibly know what the solution is?" So that coaching becomes very, in Toyota, the coaching that John Shook received, was very, very intense. And also frustrating and also uncomfortable.

Tom:
And it's a counterintuitive approach that does not initially feel natural, I think, in any way, shape, or form, to most.

Jeff:
Now if I just let you develop an A3 report and I look at it and say, "Good job. Here's a spelling error, could you correct that? Or maybe you should make this kind of chart instead of that?" It will feel very natural, and you won't learn anything.

Tom:
Right, right. Now, I...

Jeff:
And that's, by the way, the basis for Toyota Kata, was the same sort of thing. How do we take what Toyota does through these generations of master-apprentice learning, and make it accessible to ordinary people who haven't gone through that experience. And the key characteristics have to be that you're working a real problem, that there's a coach-learner relationship, that we have an idea of what you should be doing at this stage, and some idea of how it can be done, so that I have some standard to coach you against. And then we need to build in repetition, and we need to build in actions as experiments, and then each experiment follows PDCA. You plan, you do it, you check what happened, you reflect, and we need a lot of repetitions so you meet daily.

And the overall process of saying the challenge might be done once for a project, because it might be a one-year challenge. But the experiments, each of the small PDCA loops can happen very quickly, and we can get a lot of feedback and a lot of repetition very quickly. Mike thinks of Toyota Business Practices as Toyota's Kata. That's their improvement kata, is Toyota Business Practices. Now he developed his model, which is a little bit simpler, and more clearly emphasizes the iterative learning process, of running experiments over and over again. But the other thing we know about developing habits is it takes time.

Tom:
And repetitions.

Jeff:
And repetition. What you're doing when you take the time and do the repetition is, you don't try to eliminate the bad habit, you try to create a new habit, which will eventually replace the bad habit. And they're different things.

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

12

Tom:
Listen, I want to be mindful of time, so I'm going to try to wrap up with a final question - in your book, The Toyota Way, second edition, you share an executive summary of the 14 Toyota Way Principles, the new and revised principles you've developed. It's on page 377, reader, listeners. And beyond that I want to ask if, this is not a fair question but, briefly, what are the takeaways folks should get, what are things they should think about doing, as a result of reading the book and that support this goal of applying the core principles?

Jeff:
Well, first of all, to recognize their principles and not solutions to implement. And the purpose of that appendix, I even went a step further and said... I created an assessment instrument diagnostic for the principles, that said you could be anywhere from one to five, where one is completely mechanistic and top down, and command and control, and mass production, and five is Toyota's ideal, because Toyota's not Toyota like, completely. And then there's some steps in between. There's three which is in between. So I had to find one, I had to find three, which is use of lean tools in a reasonable and sophisticated way. And then five is developing the culture of the sociotechnical system. And for each of the principles I define those endpoints in the middle, and then I say, "If you're between one and three, then you're a two."

So it's a very crude, rough estimate of where you are in each of the principles, and it's just intended to be a self-assessment, not to be a diagnosis like a doctor would do for a disease. And then I suggest, "Why don't you play a song from that same chart where you'd like to be?" So you start to think about a vision, what is the vision for what we want to be?" Now, Toyota's philosophy, as I said, is very purpose-driven. And the company might say, "Well, we're split. We're under a lot of pressure to deliver quarterly profits, but we also want to help the customer."

So you might not want to be a five, on purpose. Maybe you're happy to be a three. And then I suggest prioritizing, again, breaking down the problem. So the areas that we think we should be working on this year are, developing people into effective work groups, we're already pretty good at the tools, but using something like a kanban system for learning, and doing a better job of visual management, and creating effective work groups. That's where we want to focus, like in Hoshin Kanri, that's where we're going to prioritize.

So it's not until you develop a vision, but break it down and prioritize that you have something that you can act upon and begin to plan toward. And then I suggest that the way to achieve that is like Toyota Business Practices, or like Mike Rother's *Toyota Kata*, think about where you'd like to be as your vision, and where you are as your current condition, and think about this as a process of experimentation, rather than a process of implementation.

Tom:
Okay, cool. Fantastic. I think that feels like a good place to stop for today.

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

Lean Enterprise Institute
lean.org®

13

Jeff:
Great.

Tom:
One more mention, it's Professor Jeffrey Liker, his new book The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer, second edition. Get it. And Jeff, thank you so much for your time.

Jeff:
You're welcome, I enjoyed it.

*Listen to new episodes of **WLEI** on your favorite podcast apps.*
We invite your questions and feedback: email us at: pod@lean.org.

14