

**Managing to Learn:  
How Lean Leaders Create Productive Problem Solvers  
Part 1 of 2**

**October 9, 2008**

Jim Womack:

Well, thank you, Chet, and hello to everybody. Delighted you could all be here and be here in very large numbers. We think we have something very exciting that we want to share with you, which is a new and better way to think about management. To put that in context, to put John's new book in context, let me take just a minute to talk about the progression of what we focused on as lean at LEI over the last 11 years.

As I think many of you will remember, we started with some principles. The principles were in the book, *Learning to See* -- not *Learning to See* -- the book, *Lean Thinking*, in which we had a very simple way to think about what lean was, in which we said start with value. Start with value from the standpoint of the customer, then look at the value stream; that is, that process, that set of steps that take value from the beginning of the stream, raw materials or whatever, into the arms of the customer. Try to get that to flow and if you can't flow, pull. And then the objective of people working in the system is to pursue perfection.

We've now shortened that in the last year or two. We're always in this period of continuous improvement to a simple mantra, which is what is the purpose of your organization?

I believe for any successful organization it is to help customers solve problems. What is the process you propose to use to develop the products that customers want and to get them to them and to sustain them through the lifecycle? And how do you propose to engage your people -- engaging, focusing, aligning people, of course, being the central task of management.

Now, if you have some principles, well, then, you're ready to use some tools or methods. And we spent a lot of time not looking at point methods, in other words, how to do jidoka, write-up, point, quality, creation, and on our poka-yoke, our set of production, and so forth. Rather, we've looked at process methods, how to create flow or pull through a whole process, looking at cellular layouts, material information flow, at level pull, Art Smalley's terrific book about creating level pull. Value stream mapping, which, of

course, is where John came in 10, 11 years ago with Mike Rother with *Learning to See*. And then with mapping, the extended end-to-end value stream.

Those tools and methods are absolutely essential. Unfortunately, they're not sufficient. And so in recent times we have been spending most of our time and effort looking at management, and at three levels. At a high level on how an organization reaches agreement about what problems it's going to solve, what its purpose is. That's three-strategy deployment. Pascal Dennis has done a very good book summarizing the lean approach to strategy deployment.

And then at the bottom level, standardized work through standard management in kaizen, and those top and those bottom levels are critically important, but it's the part in the middle that we have felt has been so under-examined and where we are weak. And that is how managers -- let me say that again -- how managers solve problems, evaluate proposals, and deploy initiatives that are agreed to be the right thing to do, and the mechanism that we've gotten from Toyota is A3 analysis.

The objective here is to answer a couple of questions. First off, to explain to managers what they do. What do managers do? A great question for you to ask yourself as a manager, or to ask about what managers -- what management is about in your organization. And then how are new managers, we hope lean managers, created? Does it just happen? Do you go shopping? Do you call a business school? Or does your organization actually have a way to create managers?

So, what we're going to spend our time talking on -- talking about today is the area in the middle between strategy deployment at the top and standardized work at the bottom, which is the territory where most of us spend most of our lives as managers. And we want to do that by talking about A3. It is a method. It is an excellent method or tool for solving problems, evaluating proposals and implementing. But that's really not what A3 contributes to the conversation.

The real contribution of A3 is to help us understand what it is managers do, and to explain how new lean managers can actually be created through gemba learning by solving problems using A3.

So, today we're talking about, and John's talking about management, what managers do and how new managers are created.

John, as I say in the chart here on the slide, is our sensei for this. And John really has a unique resume that he was hired by Toyota in Japan in 1983, and given the job of helping to manage the transfer of Toyota's management system across the world.

So, as a manager at Toyota, and really the first American, I think, given the lifetime job in Toyota in Toyota City, his job was to manage the transfer of the management system and to help in that, of course, is a vast endeavor, still underway. But to do that they had to teach John what lean management was. And that was through the A3 process that was part of his life starting from his very first day, in which his mentor presented a blank A3 with an issue and said tell me what we should be doing, if anything, about this issue.

When John joined us, after leaving Toyota, and John's been continuously affiliated with LEI for the last 11 years as our senior advisor, he co-authored with Mike Rother in *Learning to See*, a wonderful tool. Wonderful method for portraying the current state and

the potential future state of a value stream. And that has been to this point the most important volume that we have produced.

But I think the new volume, *Managing to Lean -- Managing to Learn*, but of course it is managing to lean -- *Managing to Learn*, is going to be a more important contribution. Because it puts VSM in context. You don't always need to prepare a value stream map while doing an A3, although often you do. Many, many times you do.

But what the A3 process does is put that value stream analysis in context, in a management context of asking what is the problem, of asking what is the current state, of asking what are a series of possible alternative states that would make things better, of asking who is going to do what, when, where to get to that state. And then the final step of reflecting and adjusting based on the result of this experiment.

So, it's, I think, a wonderful volume. I've learned an enormous amount from simply being a sometime editor that in fact is fair to say most of what I know about management I have learned from John.

One final thing just to say about the book as you get into it is that it is a unique format, because on one side of the page we have what the mentor, boss, is thinking, and what he believes needs to happen. And on the other side of the page we have what the pupil, or the owner of the A3, is thinking and what he thinks needs to happen.

And we start with a young man who is what I would call a modern manager. He has a very conventional view about what managers do and how you solve problems.

And in the course of the book, going back and forth in dialogue first with the mentor and then with all the people touching the process, this young person not only solves a very difficult, complicated problem, or at least he comes up with the best counter-measure that can be devised at this point in time. He also learns how to be a lean manager.

It's a rather magical journey, but for those of you who are looking at the book or will look at the book, just to warn you that it requires a little bit of effort to do two things at once. Your left eye is looking at one side of the page, your right eye is looking at the other. To synthesize those and pull them together, that's the magic. And so I just urge you, give it a try. I was a little bit challenged myself at first, but now it has actually been incorporated into my own thought process.

So, with that, let me click the cover here, the cover to *Managing to Learn*, and let our sensei for this journey, John Shook, take over. John?

John Shook:

Thank you, Jim, and hello, everyone. And, Jim, you know that I don't actually like to be called sensei, but it has been a lot of fun to work on this particular project. I always hesitate to do something that could be misused or misconstrued as rolling out yet another tool, but I think we've been able to do this in a way that focuses on how we use the tool, and tools properly used can indeed be worthwhile things.

What I would like to do is to begin with -- if I can get to the next slide here -- with a question that I often hear, and that question is, I think I may have to ask LEI to help me with the slides. I'm not sure what just happened. I was able to forward them myself just a moment ago and now I don't seem to be able to do so.

But I'd like to start with a question I often hear, and in fact this entire process we're calling "Managing to Learn," with the A3 there. It seems to be backed up. Maybe I wasn't the only one that couldn't see the slide there. But a question I often here amongst the many that I hear is, "John, I can't get my people to do this," followed by the question, "How can I get my people to do this?"

Now, I have the good fortune, as does Jim and as do many of you, of being able to visit a lot of operations, many industries in numerous countries. And no matter where I go, a question that I hear from leaders at all levels is this one. And in response to this question, of course I ask some questions back, some questions in response. The first one I think you could imagine, which is why? Why can't you? Why can't you get your people to do this?

Following that one, because we know before we can even score how to fix something, we have to understand what the underlying problems are, the root cause. So, why can't you get your people to do it?

That quickly has to be followed by a question, just what the "this" that you want them to do? And very often that's not very well defined. And that ultimately leads to a discussion of the question that you see here, which I'm actually asking in response. And this one usually takes quite awhile to explore. In fact, it probably is an exploration that probably never really ends.

How do you want to manage? And we can put some emphasis in this question. How do you -- so, not as a general management theory discussion that we might read about in all the wonderful management books, but how do you, sir, want to manage? And by "want," what I mean is not the way you're forced to everyday because of all the problems that come to you that you wish weren't there, and all the chaos. How do you want to manage? Usually, folks have not taken the time to actually identify that with a great deal of specificity.

Now, however you decide that you want to manage and lead, you'll need to take specific steps to do so. Further, if you find it -- you will definitely find it easier to manage the way you want to manage if you design some work process, some tool, if you will, to assist you, to enable you to be able to do that. Next slide.

Now, let's just dive right into just what is an A3? Let's talk about what we're talking about here. I'm going to spend a few slides here kind of defining it before we actually take a look at one. But A3, as many of you know, I think, it's just a paper size. It's roughly the international 11 x 17 inches. A3 planning, or use of the A3 in this way, began in the 1960s as a quality circle problem-solving format. I think many of you have been through that in the past.

At Toyota, it evolved to become the standard format for problem solving, for proposals, for plans, for status reviews, and for just any kind of discussion. We would often sit down, when I worked for Toyota back, starting in 1983 in Toyota City for several years, with them totally for 11 years. And certainly those early years and the use of the A3 is something I'll never forget. And usually for any discussion, someone would take the lead by jotting down some notes and saw us jot down what we knew on a piece of paper, and we would use that for discussion.

What's important is not the format, but the process and thinking behind it. And this is something I want to be very careful of as we go forward, not just focusing on the format, but the process behind it, its purpose.

The A3 process. An A3 will lay out an entire plan. It will be a report. It can be very large or small on one sheet of paper, this is a key point. Everything on one sheet of paper.

It should tell a story laid out from the upper left-hand side to lower right-hand side that anyone can understand. We would write these thinking if even a very complex business problem we might be working on, you would say write this in a way you could take it home and explain it to a family member in 10 or 15 minutes. If you understand an issue well, even something very complex, you should be able to break it down in that way.

To do that takes us to the third bullet, which is to do that it must be visual and extremely concise. It's the only way you can tell a complex story in one page.

The next slide will take us through some of the potential benefits of the A3 process. I'm sure every day for most, if not all of you, someone comes to you and they need something. They want you to do something, they have a request. No doubt, also, every day you go to someone else and you need something. You need something for them, something for them to do.

Imagine if you had a standard process that both you and the folks who either you're going to or who are coming to you, had a common process you both understood. It would standardize, you've been through training. But imagine how great it would be to be able to actually understand each other, understand what someone wants of you when they come to you. It happens all day, every day.

And for you, when you need something elsewhere in the organization, for you to be able to go and get understanding to help you persuade others. I think you can imagine the power of that.

The next thing that happens from that is the fact that everyone has this tool, this process and understands how to use it. Imagine the dialogue that would foster within the organization. It becomes kind of a currency. Someone calls you up to say, "Can you help me with something?" I say, "Sure, come over. Bring your A3 and let's go through it." And usually in 10 or 15 minutes we can basically understand what we're talking about.

The next thing that happens from that is if you can imagine the dialogue that's coming about by people taking that sort of initiative to take their ideas through the organization for dialogue does in fact encourage frontline initiative.

So, that's indeed what we want in a lean organization. It's not people passively waiting to be told what to do, it's people taking initiative. That's what we want and we need to be proactive to give people the skills and the tools that enables them to do that.

The next bullet reflects something I think that's maybe more well known or more straightforward about the A3, which is, since it's used as a problem analysis tool or at least a way to frame problems, it will develop thinking problem-solvers.

I've never written one of these -- and I couldn't count the number I've written -- in which I did not halfway through realize that what I thought I wanted, the solution I wanted to propose in the beginning doesn't actually match up exactly to the current state of the real facts. Every single time it would drive me back to thinking about what is the real problem here?

And so we can have everyone working in the same process, we'll be developing thinking problem-solvers.

In line with that, what it does is encourage PDCA. I think most people listening know what plan-do-check-action cycle of Deming and Shewhart is. If you don't, we certainly go through it in the book, *Managing to Learn*, but there are also many, many more sources as well. But not only does the A3 process encourage PDCA, it almost forces it. It's embodied into the A3 itself, and it's embodied into the A3 process.

That brings us, then, to be able to get the next aspect of what's key about this, which is it will clarify your A3, will clarify the link between true problems, root causes and the countermeasures. We so often get confused about these as we're rushing and going through fighting fires every day. This will allow us to put on one piece of paper, so that when there is a disconnect between the problem and the countermeasure, once you learn how to read these, it will jump off the page at you. It becomes very easy to identify and see when there's a disconnect between the proposed countermeasure and what the real problem is.

Another thing it does, which is kind of nice nowadays, since one of the biggest wastes we have out there in the office in most businesses today is there is simply too much information. There is a waste of information that's everywhere. When you force yourself to put an entire story on one sheet of paper, you have to select only what the essential information that tells the story. So, it enables us to go through kind of the 5S of information.

The next thing it does is it becomes a way to achieve this wonderful thing that we've all aspirationally been chasing now for quite a while, to become the learning organization. This serves as really down in the front lines, down and dirty organizational learning tool.

I believe the organizational learning is not really about best practice sharing and collecting best practice in a database, which often happens. This actually, in a very front line way captures what organizational learning is all about.

Finally, this is the last bullet that goes through this list of benefits. It leads to effective countermeasures based on facts. Now, what I like about having this list of benefits is this last one is the one you would ordinarily go to first. That's what we want out of something like this, is simply effective countermeasures, solutions to problems based on facts and data.

What this does is give us this, but look at all the other soft things that come along with it at the same time. Not only would you get those countermeasures, but get all those other organizational learning benefits to go with it.

So, the A3 process, in summary, I think it does these three things and no doubt some more, but here are three I'd like to highlight here, which structures effective and efficient dialogue. And I can't stress how important I believe that is. Effective and efficient

dialogue in which people actually talk to each other and communicate that will then foster understanding leading to agreement.

And if there is any single thing that I've seen over the years as a cause of failure in a lean transformation is lack of agreement. People involved in a lean transformation either at a broad level at the highest levels of the company, or down on the plant floor, they simply don't agree on what it is they're trying to do. They don't even agree on what the problem really is.

And it accomplishes those things through developing people and engaging them to accept reasonability and to take initiative.

The final bullet I think is so important. Let's examine just a little bit of how the A3 process can help create employees who think and who take initiative.

Chet Marchwinski:

Oh, excuse me, John. Before you get into this, I just wanted to note I've gotten a few questions from people who said that the sound has dropped off, so maybe you can help them out, raising the volume or holding the mike closer. Sorry to interrupt, just wanted to let you know.

John Shook:

Okay. I apologize for that. I'm doing this from a hotel in Virginia, where I'm attending the Shingo Public Sector Prize Conference, and I apologize. I'm using the hotel equipment. I'll try to speak up and hold the phone as close to my mouth as I can.

Continue to follow along with me, if you can. To repeat, if you want employees who think and take initiative, the A3 process can help because it's more important to give people the right question than the right answer. And the A3 process provides a standard structure to be able to ask good questions.

So, here we have now -- drum roll, please -- and, again, I hope you can hear me okay, but this is an A3 template. Now, there is always a danger in showing a template like this. I don't want anyone to rush out and say, okay, every A3 has to have exactly seven boxes, and this has to be the title of what each box is. But it also does help to have something that we can actually agree, that we can take a look at and talk together and understand from.

This is the template that we use in *Managing to Learn*, and it goes through these different boxes, if you will. As you can see, they're organized around questions, because essentially the A3 is a communication tool.

And so the communication begins with the title, which is simply, "What are you talking about?" So, if I'm taking this to you for some reason, I need to clarify beforehand what I'm talking about, why I'm talking about it, why I need you to listen.

If you bring it to me, the first thing is, what are you talking about? The second, the background is why are you talking about that? The background also includes the business purpose, the business context that we're engaged in that bring us to raise up this issue.

The next thing is, as anything with lean, before we know where we're going, we need to clarify exactly where we stand, and that's what we do with current conditions. We want to show that visually, using charts, maps, anything.

And here's where we'll usually make a clear problem statement, somewhere between the background, the current conditions and goal and targets. We want to make it very clear just what's the business problem that we're facing?

From there, then, we can go through the analysis, and this is where the actual problem-solving or problem analysis comes in. And interestingly, this is where you can plug in any of your problem-solving tools.

One of the things I like about the A3 process is it's so inclusive. It can fit in with whatever management structure you have in place already, and also any of your problem-solving tools, DMAIC, LAMDA, PDCA, Six Sigma, the old QC, 7QC tools, they can all fit in here. This is where you plug them in to do your problem analysis.

What the A3 does is frame that problem, present it in an organizational context and allow you to get that agreement amongst everyone whose agreement you need.

Then we can go to how we propose countermeasures, how we can go through perhaps a set based approach, listing various countermeasures and decide which one is the best, and be clear about how this countermeasure will actually affect the root cause.

And, finally, to the plan which will usually depict in the form of some kind of Gantt chart, some sort of timeline, where we outline exactly who will be responsible for what and by when.

And the last box is one that's a little bit unique possibly to this thinking as well. In follow-up, we want to anticipate problems. We know, because we've been around for a while, that problems occur. As we put our plan into practice, things will occur. And what we want to do here is leave open different mechanisms by which we can be looking for those problems as we go forward.

Next, this is where we can take a little bit of a look into the new book, *Managing to Learn*. The word "deshi" means someone who is a learner. And as Jim described the book earlier, *Managing to Learn*, tells a story of two individuals, a learner, or deshi, named Porter, and his boss, his mentor, named Sanderson. And the deshi then immediately jumps ahead of himself. He gets an assignment from his boss, which is to identify what's going on with the situation and make a proposal.

The first thing deshi Porter does is shown in this A3, and he goes through all the boxes that we saw before. It's got the background, which is the issue is Porter works for the North American manufacturing arm of a Japanese manufacturer, and they have decided to expand North American production. They're going to double production. To do that, it is going to require a tremendous amount of translated documents from the head plant, head factory in Japan.

Porter, as it turns out, didn't know anything about this particular problem before, but now this is his challenge. Sanderson has asked Porter to propose his solution. He comes back, then, with a quick look at what the situation is, current conditions, which is there's a lot of cost overages, comes up with some goals, which is to simplify and to standardize the process, to reduce costs by 10%. His analysis is very rough and vague, as you can see.

Then he goes quickly through the proposed countermeasures, which his going to simply and improve the process by choosing one vendor based on a competitive bid. His plan is

to develop the bid package distributed and choose the winning bid, and then monitor cost proposal.

So, as Porter submits this, he's quite proud that he was able to come up with something quickly, and this is his idea. He has jumped to a conclusion.

So, the next slide shows Porter's second A3. This is after he has had a dialogue with his mentor, Sanderson, who has used the A3 process to stop him from getting ahead of himself. What happened is that Sanderson refuses to get into a discussion of what countermeasure, what proposals to implement until Porter has gone to the gemba, gone to the real side, try to analyze and understand exactly what is going on.

So, that's where you'll see now, he's turned the background, the understanding into something visual to start telling a story. And he's done a couple of pie charts, where he started to understand better the current conditions. And only after he's done that can he go to the next box, as he starts to identify the goals and do his analysis and go from there, all the way through.

So, in the book we take the reader through Porter's entire situation as he first grasps the current conditions. The next thing, of course, he has to do is analyze the problem. Now, there are again many problem-solving, problem analysis tools. There are several that are presented in the book, just a few.

One of them revolves around a very venerable old lean problem-solving tool called the problem funnel, where we begin with some sort of perception of a problem at the top. It's often very vague. What we want to do then is really grasp the situation to understand the business problem. What problem are we facing in performance? We have to clarify that to understand the real business problem. We're losing money. Employees are quitting. Morale is low. Quality problems are leaking through to the customer. What is that real problem?

Then we need to break that problem down. Understand the way the work is done by going to the gemba to get the facts firsthand, to analyze them thoroughly and objectively.

And it's really after that that the five whys begin. Often people will jump ahead even with the five whys and start applying those before they've really broken down the problem as much as they can.

We want to go to the root cause, understand why the problem is occurring, and we want to develop our countermeasures based on that understanding.

So, here we see, after Porter has gone through his particular problem and put it through the problem funnel, now there are more aspects to the problem that Porter identifies that are laid out in the book. What he finds out is a lot of the documents get lost in translation, and that getting lost in translation, with apologies to Bill Murray and others, has a lost aspect, literally would get lost. And the other, the fact that not only do they literally get lost as translation goes from Japanese to English, the meaning gets lost. And as it turns out, there is a lot of rework that comes from errors, actual errors in the translation.

Well, Porter assumed, of course, his first assumption is whether the translators aren't doing a good job of getting -- of translating the documents, which is true. He assumes they need to do a better job. As he goes to the gemba, he finds out to his surprise and to

everyone's surprise that the problem was us. It turns out the original Japanese documents were so incomprehensible that no one would be able to translate them well. So, it was our own internal problems and document creation that was causing a lot of the problems, not all of them.

So, he realizes that its variation in the language learned used by the document creators in Japan that is actually causing a lot of the problem. And, as a countermeasure therefore, developing standard vocabularies. Instead of having different engineers in different shops at the plant in Japan using a different word for the same thing, develop some standard vocabulary.

So, this becomes one of the key countermeasures that the deshi Porter comes up with. And that's one of the things, then, that's represented in his final A3, which is finally authorized and for the first time you see in the upper right-hand corner. Until now you saw the initials of the deshi, who was deshi Porter. Now, finally, he gets his boss, Ken Sanderson's signature to say this is authorized; now, let's go forward.

And what you can see in a very visual way he's captured the current conditions with his earlier pie charts, also now current state map. He's identified specific goals and targets. He's broken it down in his analysis with some -- you see some bar charts there. And here you see a summary of his more detailed problem analysis tree inside the book. And as Porter goes through his problem, he develops process analysis trees, he develops problem breakdown for both items getting lost, and also for the rework and errors that occur.

Then you see his proposed countermeasures. And, again, this is after having gone through and evaluating many possible countermeasures. He's landed on the top ones, and this is through extensive dialogue with others in the organization to get agreement. And his future state map, and finally his plan, which you can see the Gantt chart and the responsibilities laid out, so again we know who is going to do what, and his follow-up plan as well.

So, there you have his completed A3 as he's gone through it, as he worked it through the organization. And that's the part I think that's very important. It's not so hard to teach someone how to write an A3. That's something that can be done, and you can take whatever your problem-solving background is and apply it to a one-page format such as the A3.

What makes this tremendously powerful is when we realize this becomes the means by which individuals can identify problems themselves, can take the initiative to go throughout the organization to get understanding and agreement for their proposal, for the things they want to do to make the organization better.

So, instead of thinking authorization, authority as something that descends from on high, instead of thinking of authority as something that's a matter of a line item authority on an organizational chart, it becomes much more dynamic so that anyone can become the entrepreneurial owner of their own project by identifying problems and coming up with their proposals, proposals that they own.

This is the real power of the A3, and this is what we try to bring out in the book as well.

So, with that, let's kind of go back just for a moment to that first question that we started, the question we started with, which I do get -- I can't tell you how often I get this. How can I get my people to do this?

Well, the first answer to that, I think it's one that should be obvious to us. Those of us who have been around lean at all know that this is learning by doing. This is leader-led.

First of all, you must do this. It's not a matter of getting other people -- it's not just a matter of getting your people to do this; you must do this. It starts with you. You must look in the mirror, you must learn the tools. You must learn it so that you can then lead it. That's first.

Then back to my question that I always shoot back to those people who give me the first question, which is how do you want to manage? How do you, Mr. Manager, want to manage? Do you want to manage your people to be able to solve problems, to actually go out and solve problems to develop countermeasures? Do you want to manage your people to be able to gain agreement, get alignment in the organization? So, instead of people arguing up until the very end, so that we have agreement on what the problem is and where we want to go. Do you want to manage your people so that they in turn can lead them into other people, and to do that through asking good questions that focus on real problems?

If you want that, if that's what you want. If you want to manage in a way that develops people to do that, then I suggest you give the A3 process a try. But only if you want to do that. There can be many ways. You may decide that you want to lead. But the A3 process becomes especially effective enabling us to be able to manage in that way.

I'll conclude with this slide here, which many of you have seen before. It is in *Learning to See*. I've added a couple of things here. And it's also in the other LEI product called "Mapping to See," the value stream improvement kit that's available. And the way you read this, if you haven't seen it before, is there are a couple of axis, one along the bottom there that shows the focus between doing point kaizen, where the focus is on eliminating muda, or waste in the work.

The other side, then, is a focus on eliminating -- doing system kaizen, which enables us to eliminate the sources of waste, the muri, or overburden, and the mura, which is the fluctuation or variation that causes the muda.

If you look on the other axis, the vertical axis, what you see is -- you can find yourself there somewhere. We are all either senior management or we are middle management or frontline. I imagine most of the people joining, listening in today are somewhere there in the middle.

Depending on where you are, your responsibility changes. We can't allow -- we can't be able to help folks in the front lines eliminate muda unless we in the more senior management positions are doing the system kaizen to eliminate the kinds of fluctuation and overburden that causes that.

Someone on the front lines who is operating a machine, someone on the front lines who is out searching for better use of new material suppliers, they aren't necessarily in the position to be able to see the overall system and be able to fix the problems that are being caused. That becomes the responsibility of those higher up in the organization.

So, with that kind of understanding of responsibilities and what I see for the most part as we've visited many companies who are involved in lean transformation, most of the effort is still over in the point of doing point kaizen eliminating muda. We don't really have

more senior management and even middle management involved in fulfilling role, which is to eliminate the muri and the mura, it requires system kaizen.

So, along that line, the diagonal line there, I've added a couple of letters that refers to tools, tools that can help us be able to do that. At the bottom you see SW, that standards for standardized work. Certainly, that's the most famous lean tool of all, and that's where we begin with eliminating muda in the front lines, and it's something that can also be standardized work that helps us as we go up the organization, which is especially effective there.

SD, up there in the upper right-hand corner, that's the strategy deployment and, as Jim mentioned, there is an LEI book, *Getting the Right Things Done*, by Pascal Dennis, that goes through how strategy deployment, or in Japanese it's known as hoshin kanri, or policy deployment. That becomes a tool for senior leaders to do PDCA. It becomes an important way of being able to implement systems that can eliminate muri and mura.

In the middle, this all-important middle management role that we have, it's kind of been - - you know, the most important role in this I usually think is really in the middle. In my experience with lean management and the lean system, it's very much middle out. It's middle that's close enough to front lines to see what's really happening, and also in connection with senior management.

So, middle management has to actually lead this. Middle management are the folks whose role probably changes most of anyone, and yet very often they're left kind of floundering and there is often difficult struggle at that first line supervisor and middle management levels.

What the A3 and VSM actually mapping are, then, are tools that can be used at this middle level to help do system kaizen, and also help with the point kaizen of eliminating muda. And used properly, tools like that, such as VSM and A3, can be powerful.

I'm always kind of scared to roll out a tool, because one of the other biggest problems I've seen in lean transformations is there's a lot of the old problem of hammers looking for nails. And I think if we can be very careful and use the A3 properly, we can get tremendous benefit from it, recognizing it's not a matter of just filling out the form properly, filling in the boxes, but how we use it to achieve development of our employees, organizational learning, and actually then focus on getting the right things done for the organization.

So, with that, I'll turn things over to my colleague, Chet Marchwinski, at LEI.

Chet Marchwinski:

Okay, John. Thanks a lot. We've got a couple hundred questions in, including one person who wants you to predict who will win the 2008 presidential election.

But before we get to the other questions, I just wanted to tell people if they want to learn more about A3 thinking, John's new book, *Managing to Learn*, recently went on sale at lean.org. And while you're there you can also check out the free A3 resources that we've assembled online, such as sample A3 reports. I've seen several questions, people looking for templates and examples. They're there online.

There's a Q&A with John, there are some related articles. There is downloadable chapters from the book, if you want to get a taste of the book. And there is also some

related webinars. We also have more sample A3s at lean.org under the Library tab for the book, *Getting the Right Things Done*. So, there are a couple of places you can go.

Next week visit us online for the on demand version of this webinar, along with its slides, podcast, and a free printed transcript. A couple of people were asking about that, too. That will be ready next week.

Next week, next Thursday, as a matter of fact, we're launching online a new Lean Management column by John Shook, in which he'll address the challenges of lean management. So, stop by lean.org next week to access the new column and content, as well as make connections to the global community of lean thinkers.

And now let's get to the questions people have been sending in. Here's one. Can A3 be used to strategize after creating future state value stream map with identified lean projects for hoshin planning?

John Shook: Well, there's a lot in that question, I guess --

Chet Marchwinski: Yeah, I think --

John Shook: -- sort of mixed together. I think a quick answer would be yes. An A3 becomes -- A3 works with value stream mapping. It works with hoshin kanri, or strategy deployment as well. Any time that there has been a problem identified and we can then identify the owner for that problem, then the A3 can come into play.

And let's say I'm a senior mgr, and whether it's through the strategy deployment process or through a value stream analysis using value stream mapping, I've identified a problem. What do I do next? I go to someone and I say, I ask them for their proposal, for them to analyze it and come back and make a suggestion of what to do. That's what the A3 process is for and that's how it can fit in, I think, in response to the question that the questioner is asking.

Chet Marchwinski: Okay. And there's another one related. Can A3 be used as a developmental tool; that is, in product development, in product development or knowledge sharing?

John Shook: Great question. And they kind of go back to my discovery of the tools. Jim told a little bit of the story before, but I began working for Toyota in Toyota City in 1983. And from the very, very beginning, literally the first day after some initial training, I was given a problem. I was coached through this process. basically given a blank sheet of paper and a problem and asked what will you do about this.

From that point I was coached through, then, how to analyze the problem, how to find out what the real situation was, and how to develop some countermeasures, how to engage the organization in helping me understand it and helping me implement some sort of countermeasure.

It turns out, that's the way in Japan, as I learned it there, Toyota developed everyone. Anyone who was a college graduate in any function. If it was accounting, product development or engineering, or anywhere, this was the primary tool for development. And one of the ways I got to also understand the power of it was after -- I spent a couple of years in product development organization at the Toyota Technical Center USA in Ann Arbor, Michigan. And this, when you go into an organization like that, you can't look to the usual lean tools and get kind of distracted by them.

That's what often happens. We go into factory, we see the combine and we see the andon all lighting up, and one of the reasons we start chasing tools is because that's what we see, we focus on the tool instead of the reason the tool was there. Those tools are all there because Toyota was trying to solve some problem.

And when you go into an engineering office, you don't see those things. You don't see the andon, you don't see the combine, you don't see those things happening. The tool that's used everywhere, as far as I have ever seen, is the A3. In fact, my good colleague, Durward Sobek, points that out. That everywhere -- he's researched Toyota over the years. Everywhere he's -- the one tool that he's found that's used everywhere in Toyota, and I can echo that and say the same.

And so it's important, that if the A3 and how it can embody PDCA, it's importance is magnified, I think, when you go into any sort of knowledge-based work into a knowledge-based organization such as product development.

Chet Marchwinski: By the way, there was a couple of questions folks asking what is PDCA. That's plan-do-check-act, the scientific method. And also gemba, or gemba, a definition.

John Shook: Sorry, I should not use jargon or Japanese words much. I think probably the only -- if you want to learn the one Japanese word out of this lean stuff, the only one you need to know is probably gemba. And all it means is, well, it's a short way of saying the real place, the real thing.

So, it means go, see and confirm what is actually happening. No hearsay. What is the truth, what is reality. That's what gemba means. And that's probably the most important principle involved in this, unless you could say respect for people is ultimately the most important.

PDCA is something that anyone interested in this at all needs to understand. And, again, we go through it in this book, but there are many books on it. It is plan-do-check-act, as you said, Chet, that's a way of structuring the scientific method. Come up with a plan, what's your hypothesis. D means do. It means give it a try. C means check, which means, okay, how can you stop and know and learn from your trial. A, then, means act and means doing adjustments you need to, based on what you learn. Put it into standardization and continue to go around the wheel.

As for powerful, if you ask Toyota what their management system is all about, that's what they'll say, is what we do is PDCA, and I agree with that. While I'll also note, that seems to be the thing that we, other companies have not been able to do over the years effectively in a disciplined way. And that is what the A3 enables. It enables us to be able to accomplish these things that sound wonderful and are, once we actually put them into place.

Chet Marchwinski: Okay. Next question. Can we agree that before applying any of the lean tools, in order to make them effective, lean culture must be first developed in the company at all levels. If so, what do you recommend to develop such a culture. If not, then how do we assure that the tools can be implemented correctly? I guess that's like maybe a chicken or an egg question.

John Shook: A bit of a chicken-or-the-egg question. It's an important question and it goes back to my initial experience with this. I was actually, when I went to Japan to work with Toyota in

1983, I was kind of looking for a culture answer. First national, and I realized then that there really is nothing national culture about this, but there is something in corporate culture.

But, Chet, as you put it, it becomes kind of a chicken and egg, but the question is what can you actually do? I've come to believe very strongly in the statement that it's easier to act your way to a new way of thinking than it is to think your way to way of acting.

If you read the book, *Learning to See* -- excuse me, *Managing to Learn*, if I have not been able to articulate it well today, this becomes a tool by which you can achieve that cultural transformation. You can't wait until everyone -- the culture is place and everyone thinks the right thing and therefore they'll hopefully think the right way and therefore they'll hopefully do the right thing.

These are actions that people can take. That's another thing I love about the A3 tool. You can bring it into any setting, any management structure you have in place, and by using it in the way we talked about today, you will start achieving a change in the culture towards the one that I was describing, if you want to manage this way.

If you want to manage in a top-down way or a totally bottom-up laissez fair way, the A3, the way I'm describing it, may not be for you. If you want to have people taking initiative, and if you want to have people then working with that initiative in a way that's helping achieve corporate goals, help the customer do the right thing for the customer, then the A3 can be very, very useful.

It becomes a solution to the other chicken-and-egg dilemma, Chet, of all large organizations are organized in ways to solve the problem, but you can't have one person at the top telling everyone what to do when. That's the old command and control organizations, now kind of discredited. But although it's discredited and everyone loves to slam the command-and-control organization, no real alternative has been offered, in my view. To simply say that a laissez fair culture, where people somehow get aligned and do what they want, it's also not going to enable us to really serve the customer and bring our organizations to longer term prosperity.

What this can do, what I think Toyota has solved is that age old dilemma. If you manage the way I try to describe in *Managing to Learn*, you can have an organization whereby you don't just have people at the top telling you what to do, but also not people at the bottom just doing what they want. I think this actually can make that age-old dilemma of the large organization melt away, and I think that's an important key to success that's still very little understood. I try to go through it as much as I can in *Managing to Learn* both descriptively with some sidebars, but also, then, showing the story of the change in one person's thinking.

Chet Marchwinski: Let's stay with the management style issue, because you hit on it there, and there's a question. Basically, managers trained in traditional management styles, I would imagine would struggle with the A3 process. Where do they struggle -- what part of the A3 process is most difficult for them? In other words, the analysis phase or one of the other phases?

John Shook: Let me just turn it around and say where traditional managers struggle is with trying to do a lean transformation and manage in a lean way. What the A3 does, it gives us something more tangible to focus on to say I will do this.

Remember when I showed Porter's first A3, where he jumps to a solution. And then the next one he's being held back by his mentor, Sanderson, to say, "No, we're not going to go there yet." What this does is makes it easier for us not to do things such as jumping to a solution.

And if it's one of the things that I think a problem with traditional management is that we're expected to always be smart and to be right every time, and to come up with a solution that's your solution quickly. And hopefully it will be the right one. And if it's not, then you tend to -- you can get in trouble and then we start hiding problems, and we have this whole cycle, then, that's a spiral that takes us to a place culturally that we don't want to be.

What this tool enables us to do, then, is to focus in a more tangible way so that we can help each other to exhibit those right behaviors, the kind of behaviors that we want to have.

Chet Marchwinski: Okay. And staying with behaviors, how does a manager best pick up the skill of asking the right question? Do you have any suggestions?

John Shook: Again, a great question, and that again is exactly what I recommend this tool for, and that's why I didn't mind actually doing another book about a tool, if we use it in this way.

Anyone can learn to write an A3 very quickly. Anyone can learn to plug in any sorts of problem-solving tools that they may have found through other methodologies, Kepner-Tregoe, Shanin, anything. They can all be plugged in here.

What this enables us to do, though, is by having the dialogue I talked about. Remember the bullet of all those different -- those bullets of different benefits. This enables the dialogue so that you and I can coach each other. So, if I'm your mentor or just a colleague, it makes it much easier for me to ask good questions.

I've often told the story, I had some wonderful mentors in Toyota that were, I think, maybe geniuses that asking just the right question to get me or someone else to think of a good solution or a place to go where I could start developing my better ideas of how to handle a situation. Some of those people I thought were perhaps geniuses, maybe even born with that skill.

For the most part, most of us aren't. So, if we aren't, that's why we need this tool. This becomes a tool that can help us and enable us to learn to ask good questions.

I want you, if you work for me, to bring me your A3, bring me your ideas on the A3, so I can see it on paper so I can understand your thinking. That helps me, then, from having understood your thinking to be able to develop good questions to come back with you, to take your thinking to another level.

So, this becomes an enabler to ask those good questions. So, fantastic question that you asked. Thanks.

Chet Marchwinski: So, how about -- there was another question about how do you train mentors to help people use the A3 process? But I think what you're saying is that even if you -- you could do this with a colleague, even if there isn't someone in your organization to mentor you right away.

John Shook: Well, this has been a real catch 22 over the years, and it's the reason that I didn't and the reason that maybe others haven't really done a lot -- a book about the A3 before. Because you think about a book like this or a manual and, again, it focuses on how to write an A3. But the point is not that; it's how you use them and how you can -- especially from the mentor's standpoint.

So, that's how we came up with this idea of two parallel columns that show both the learner, the deshi, the learner on one side, and his mentor on the other side.

So, you see the learner struggling through the problem, trying to -- sometimes jumping ahead, jumping to solutions. On the other side, the mentor is thinking, he thinks, "How can I help my young mentor learn better? I don't want to give him just -- I don't want to just give him the right answer; I want to be able to mentor him."

So, that's the thinking that we try to show in this book. That's the reason we went with this very unorthodox format of having two columns showing two sets of thinking, running through the two different columns all the way through the book.

Chet Marchwinski: Okay. What's the difference, if any, between using the term "countermeasure" or "solution?"

John Shook: Well, I think Toyota, anyone, at the end of the day you don't want to -- you'd like to have solutions in the sense that you don't want problems to repeat. I like the word "countermeasure." That's the word we often used -- usually used in Toyota, and just notice the difference in nuance between the two.

The whole idea of countermeasure, and think back to that A3 structure and how there was a follow-up box at the end. The idea is that every situation is one that requires countermeasures. And once you've gone through that set of countermeasures, it's going to lead to another new situation that's going to require its set of additional issues and problems and its own set of countermeasures.

So, it has that very different rich nuance that keeps us going after and keeps going after continuous improvement, as opposed to thinking, well, we predicted a 5% improvement if we implemented this tool. We got it; therefore, the problem is solved, let's move on.

So, there's a difference in nuance there. And we talk about that a good bit in the book as well.

Jim Womack: Chet, Jim here. I just wonder if I could just add one thing on this, that those listening really have two choices here. They can wait until the CEO comes out on the balcony with the drum roll and announces that henceforth everyone will use the A3 method in your company, which eventually that will happen and you'll have to go to classes and be trained and get certified, and pretty soon you'll be an A3 sensei with clusters and so forth. And I don't know whether that's a good or a bad thing.

But I would urge people simply to take this and try it with the people that work with them. That's actually what I've done with a little bit of prompting from John, but here at LEI, trying to convert myself away from a top-down command control manager who I really felt I always had to have the answer to every problem.

And I must say there is a real liberation from being a boss and not suddenly having to have the answer, but instead having a method to create a dialogue with the people who

work with you and giving someone else the responsibility to work through this problem, keep bringing back what you're finding, bring evidence, bring potential countermeasures and let's all talk.

I think it starts with you. And there is absolutely no reason in most organizations why you as a manager couldn't say, gosh, hey, let's just try something new here, folks. The folks that work with me. Let's try A3 and see what happens. You can't be worse off. I suspect you might be a lot better off. And here's what I do know: Good ideas spread. Bad ideas just gradually die out. Tools that have no point or purpose are gradually abandoned.

We think this is an incredibly powerful idea, and I think if we can just get enough people out there to say, hey, I'm not waiting for anybody else; I'm just going to try this. I think it's going to be tough, but I think you're going to have some success. And then I think that success will spread. That at the end of the day is how cultures change.

Chet Marchwinski:

Well, unfortunately, we're out of time. So, Jim and John, thanks very much. I just want to remind our viewers before they log off that if you're listening to this live, you're registered for Part 2 on November 13, when John and a few managers who use A3s in their places will discuss practical applications at their gembas. So, thanks to everyone who joined us today, and on behalf of Jim Womack, John Shook, and everyone here at the Lean Enterprise Institute, we wish you continued success in making the lean leap