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The Power of Purpose, Process, and People a webinar with Jim Womack

Chet Marchwinski:

Hello, everyone. Welcome to the Lean Enterprise Institute's webinar, "The Power of Purpose, Process and People." I'm Chip Marchwinski, Communications Director at LEI. I'll be your host for this live webinar and Q&A, with our special guest, Jim Womack, Founder and Chairman of the Lean Enterprise Institute. There are just over 8,000 of you from manufacturing and service companies registered for this webinar from every continent except Antarctica. So, depending your time zone, good afternoon, good evening, good morning. Thanks for being here.

I'd like to briefly cover some housekeeping guidelines to make sure you can see and participate in the presentation. Disable popup blockers so you can view the slides and respond to a brief survey that you'll see near the end of the presentation.

Please take a few moments to take the survey. Your feedback helps us improve. Use the volume controls on your computer to adjust the sound. You can enlarge slides by using the button beneath the slides on your display console.

We'll save time at the end of the presentation for your questions. You can submit questions during any time during the webinar. Just click the "Ask a Question" button on the left side of the screen, type your question in the popup box, and hit "Submit."

We'll answer as many questions as we can today, but we typically get hundreds during webinars. We'll review the ones we can't get to, we eliminate duplicates, summarize them, and post answers as soon as we can on the LEI website at lean.org. I'll let you know in my monthly e-letter when they are up. We'll also let you when we post the "On Demand" version of this webinar along with its slides, podcast, and a free printed transcript at lean.org.

In the meantime, please visit our website to check out the new interactive timeline of the breakthrough moments in lean thinking. It goes from the 1500s up to the present. It's free, easy to use, and provides an interesting journey through time to see how lean concepts have developed.

That's it for the housekeeping. Now, it's my pleasure to introduce Jim Womack. Jim Womack is Chairman of the Lean Enterprise Institute, a nonprofit training, publishing, conference and research organization founded in 1997 to help manufacturing and service companies make the Lean Leap. He is co-author of *The Machine that Changed the World*, *Lean Thinking*, the workbook *Seeing the Whole: Mapping the Extended Value Stream*, and most recently, *Lean Solutions*. His ideas on business and management have appeared in the *Wall Street Journal*, *New York Times*, *Washington Times*, *Harvard*



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Business Review, Financial Times, Blumberg Radio, the BBC, CNBC, NPR, leading trade journals, and now here.

With that, I'll turn over the virtual microphone to Jim Womack. Jim?

Jim Womack:

Well, thank you, Chet. You are our wonderful Communications Director. I'm not sure I deserved any of that.

Let me talk a little bit for the next few minutes about the questions that we are often asked. And when I say we, I'm talking about the senior folks here at LEI. There are really just five of us, Dave Logozzo, Dave LaHote, Michael Brassard, Helen Zak and I.

As we walk around, we look at a lot of organizations, not as consultants, but as part of our research, trying to understand what's coming next, what we need to do now. But we discovered that our brains don't work unless we're out actually walking through organizations. And so we do a lot of that.

I was most recently out last Friday for the day going through a very interesting organization. And as we do that, the reason we've been asked, the reason we're there, the question is, well, how can I, how can your organization be, if you will, a Toyota?

Now look, Toyota's not perfect, so let's shoot a little higher. How could your organization be a perfectly lean enterprise? And as we do this, as we take a walk, we ask three questions. They seem pretty simple.

First off, what is your organizational purpose? Pretty straightforward. What processes are needed to achieve your purpose, and how lean are they right now? And then how do you engage your people to agree on what your purpose is, and then to create the lean processes you need? And we're pretty sure as you start to do that, you are going to create fulfilling work for your people.

So, what I was going to do here in the next few minutes is just say what it feels like to take this walk. Let's call it the Big Gimble Walk. And when I talk about a walk through an organization, I'm not primarily, actually, taking about the production part of the organization, that the product and process development activity is the front-end, and note I said product and process development. So many people leave the process development out of product development.

I'm talking about supplier management. I'm talking about customer management and support. And talking about fulfillment from order to delivery, and you might want to call that production. But then that's all wrapped up in your general management system, which is, in simplest terms, what your managers do and how your managers lead.

So, as I take a walk, as the rest of us around here take a walk, we're always asking these three simple questions about purpose, process, people, and doing it in the context of the whole enterprise.

Now, when I ask about purpose, it's really interesting. Most people say, well, what I want to do is make money and grow. And, by the way, that's as true of the nonprofit hospital or some other kind of service activity as it is of a manufacturing activity. I want to make money and grow, and that's completely understandable. But from society's standpoint, the reason organizations exist is to create value for their audience, for their customers, for their consumers.



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And so successful organizations in my view and based on a lot of observation now over many years, are the ones that actually solve customer problems by providing what they want, when they want, where they want cost-effectively. They solve customer problems.

Most of us, if you'll put your consumer hat on for a moment, when you go out into the world and you're looking for the things you need to make your life work, you're looking for organizations that can help you solve your mobility problem or your shelter problem, or your healthcare problem, or your communication problem, or your financial services problem, or whatever. Often the good and services issue obtained in isolation are not what you want. They're a means to an end. The end is to solve that problem in your life.

Now, it's curious that if that's what our organizations exist to do, to solve customer problems, then an awful lot of people are looking in the wrong end of the telescope when they think that the purpose of the organization is cost reduction. And so much of the lean movement up to this point has been focused, I think, in an unbalanced way on cost reduction as opposed to value maximization, which is what the customer really wants.

So, it's very interesting and I invite you, when you get a moment to reflect, whatever you're doing, what is your purpose? Why does the world want you to do this? And if the world doesn't want you to do this, well, then, obviously you need to think even harder.

Well, now, if you can figure out what your purpose is, I guarantee that it will have a process connected to it. All value, every problem that is solved is the result of some process. And a process is nothing magical, nothing complicated. It's simply the actions that have to be taken properly at the proper sequence at the proper time to create value for the customer by solving the problem.

So, the next question that you ask when you start talking about process in an organization is what are your key end-to-end processes that solve customer problems? And usually there are just three. One is to go from concept to the ability to start solving the problem. And then second is the fulfillment activity of solving the problem once the customer asks. And then the third is to support the customer through the lifecycle of the problem. In other words, you don't just sell a car; you need to support that car. You don't just sell an airplane, you need to support that. You don't just do an operation in a hospital, you need to do follow-up care and maintenance to make sure the condition doesn't recur.

So, those are the primary processes and most organizations concept a launch and then the fulfillment process, from order to delivery. And then the delivery to recycling, if you will, process and customer support.

But to make those happen, there are an enormous number of support processes without which the primary processes can't be done. There is a hiring process, there's a training process, there's a payables process in the financial area, and a receivables process. There is an improvement process, because creating better processes is itself a process. First you do this, then you do this, then you do this, then you do this. And much of the debate within the lean community is the best way, the best sequence to improve processes. We'll talk some more about that in a minute.

So, that's process. Purpose, process. But, of course, we're lean, and so therefore the question is what's a lean process? And as I'm walking along, was just doing this last Friday on a rather complicated process, I was asking some very simple questions. First



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off, can we identify all the steps of the process? If we can't do that, we're not going to get anywhere. For this process, can we identify all the steps?

And, by the way, every process is a combination of action and information. I think many of you are probably familiar with value stream maps in which you have the information going from right to left across the top, and you have action going from left to right across the bottom, we hope as a closed circuit.

So, I'm looking at both as I'm walking along. And about each step, including each information management step, I'm saying is this valuable? But wait a second, who judges value? And the answer is the customer.

In the operation I was looking at, there was an enormous amount of toing and froing, picking things up and transporting them, transmitting them to other places for other people to work on and then send them back. And, of course, the first question was, is any of this activity actually valuable from the standpoint of the customer? Has any customer I've asked said they would pay more for your product if you would just move it around or transfer more data while you were getting this product to them? And the answer, of course, is no. No customer has ever asked that.

And so then the question is, why can't we eliminate these steps? And the answer is, of course, because of the way the process is currently configured. So, we just note that. Steps that truly seem to create value, what Toyota would call work.

And then steps that seem to be necessary to let the work happen, and those steps would be called incidental work. And, finally, those steps that, when you think about it, just really don't need to happen at all, and those clearly are waste or muda. I'll get back to muda in just a minute.

All right. So, is this step valuable? Is this step valuable? Is this step valuable? And then is this step capable? And that is, do we get a good result every time? That's quality talk, Six Sigma talk. Do we get a good result every time and do we know immediately whether we've gotten a good result?

The most striking thing about what I was looking at last week was that it was weeks before it became apparent whether a good result had happened in a step occurring weeks earlier. Needless to say, this organization was full of rework loops. And one of the key principles in lean is that through the magic of [shitocum], we know instantly whether or not we have a good result, the self-monitoring process, if you will, that stops immediately if there is not a perfect result.

All right. Now, is the step available? Which is to say, will it run, will it produce a result when you need it to run? In this organization I was looking at the computer system kept going down. And it turned out that when it was working right it produced a very good result, but just when you needed it, for some reason, it was not working. So, there's an availability issue.

As I learned from Toyota a long time ago, you take capability and multiply by availability, and you're measuring what they would call stability, which is to say the evenness of process. Does it really work right most of the time? If processes are too unstable, what we've learned is that you can't fix anything else. We'll talk in a few minutes about flow and pull and leveling, but that has to occur on a base of stability.



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Those of you who know the Toyota house will note that the very bottom foundational element in the Toyota house is stability.

All right. Next question about every step in the process, is it adequate? Is there enough capacity? And what I was seeing --- I love this. On my last trip out at the end of last week was a process in which the management was quite appropriately focused on steps that might become bottlenecks. They were enormously concerned about points where there wasn't sufficient capacity. But what was striking me was that every other point there was staggering excess capacity. How did you get all of this capacity that you don't need at most points and a deficit at one point?

And, of course, it became apparent that they had loved to buy big, big increments of capacity based on forecast. Guess what? The forecaster was wrong, so actually with one exception, the whole operation, the whole process was overly, overly capacitated, and yet all the managers were looking at was one step that might be a bottleneck. And they need to look at that. That's very important. Bottleneck analysis is essential. But the way you get adequacy without bottlenecks is to add little increments of capacity and take away little increments.

And then, finally, is each step flexible? What we have learned is that we live in a world where customers want variety, and so therefore we need to be able to run variety of a product family, green ones and blue ones and long ones and skinny ones, light ones and heavy ones, through a process that involves the same steps, and we need to do that so that we don't have to run big batches. And what that means is that each step needs to be able to switch over ideally, instantly, and with no cost, from green ones to blue ones, long ones to short ones, and so forth.

So, individual steps in the process we ask are they valuable, capable, adequate, flexible? But then how are they connected, and the questions here are, do they flow? That's the ideal, that the steps in a process -- suppose you are processing a loan. All the people touching that loan are actually sitting at a table looking at each other because there's judgments involved in each step, and it just goes instantly from one step to the next around the table and then you're through, as opposed to sitting in queue.

So, ideally we would like things to flow, but much of life can't at this point in time flow, and so there are discontinuities, and so therefore you can either pull or push.

And pull means each downstream step in the process requests from the next upstream step what it needs next, and then gets it immediately, as opposed to push, upstream steps just make a judgment, doing whatever they want to do, and push it downstream quite possibly encouraged in that behavior by a centralized brain. In manufacturing often call it MRT materials departments planning system, that causes each step to push ahead product without any reference to whether the next downstream step is actually needed. And there is where you get the dreaded and fabled over-production that Taiichi Ohno says is the worst waste.

And then, finally, is the process leveled from one pacemaker point? It is amazing to me, as I look at processes, how you will see multiple scheduling systems have a war as you go up and down the process over which scheduling system is actually in control. And the usual answer is that none, because what's actually happening is the frontline managers are actually redoing the schedule in real time, so that you have not just multiple computers battling, but you actually have managers overriding the computers, which produces many types of waste.



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So, that's what we ask as we walk along through a process. And what do you get if you could have every step capable and available and adequate and flexible and valuable, and you could flow in most places, pull in a few others, and you have it leveled from a pacemaker point? And the answer is -- let's go back one here. This little system is not perfect, apparently. Let's see, let's go back one. There we are.

If you could do those things, well, then you will maximize the velocity, which is to say you will minimize the lead time, which is what we want to do in any activity, when you think about it. Whether it's a healthcare activity or whether it's processing insurance claim, or whether it's developing any type of a product, or whether it's responding to the customer's need for service. What we want to do is minimize the lead time.

And as we do that, we would also be minimizing or eliminating muda, waste, those steps that don't create value, mura, which is the variation in the process that's not actually caused by the customer. And when you go inside most processes you see an enormous amount of variation, which is actually internally generated and which we would very much like to remove, because mura causes muri, and muri is that over-burdened on equipment facilities, frontline people and managers that is caused by gyrations in the system that actually are often caused by the system.

So, therefore, the lean process has the highest possible velocity with the shortest possible lead time, and we hope with no muda, mura or muri.

Now, customers do change their minds, and when customers change their minds, organizations need to respond. So, this is not suggesting that life can never be a completely level seat, no wins, no waves, but rather that we've taken all the steps we can to make sure that we don't have some wave generator somewhere that's churning up a sea that otherwise wants to be level.

So, then we get to people, as we get to the end of this walk. And the question, having asked about purpose and having asked about process, is really very simple. How do you engage your people at every level? And the key word is engage, so that actually people feel right and want to dive in to operating and improving the process.

Well, if they're going to do that, first off they have to be able to see what a process is, and there's very little education that really goes on with regards to seeing. That's why we introduced value stream maps some years ago, just so that you'd have a common language for people to see a process. And people need problem-solving skills involving Dr. Deming's PDCA, Plan, Do, Check Act. That is science in action.

You have a hypothesis, you do a test, you check the result, and then you reflect on what to do. It is amazing how little practical problem-solving skill most people -- and I do mean most managers, actually have in today's world. But you have to have the sight and the problem-solving ability at the right level, that the problem is typically solved at the gimba, as Toyota would say. By the way, you can spell that with an "m" or an "n", as you choose, and pronounce it as you like, either.

But the gimba is simply that place, anyplace where a process is creating value. So, the sales organization or the design organization or the purchasing organization, whatever. It's that place where a process operated by people is creating value. And that's where all improvement will take place.



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Now, to make these things happen sustainably, well, of course we have to have end-to-end metrics. What I was looking at last week, which would not surprise you, was an organization full of point metrics, in which the plant and there are many, many plants this project traveled through, had their plant level metrics. And the managers were doing a pretty good job of optimizing performance according to those metrics. But the entire process end-to-end, from raw material to customer, was really grotesquely sub-optimized. So, you had rational people behaving rationally to produce an irrational result.

So, therefore, as you get into this you have to think about what are your metrics and how do you create end-to-end metrics as opposed to point metrics? And then, of course, we all want to be involved in frequent problem-solving loops, because there are always problems.

And then, finally, we want to engage people, we have to be able to see -- that's the managers and the frontline employees, you have to be able to see what's abnormal and tell that from what's normal.

When I was walking through last week, I kept asking. We'd walk into a big room, a lot of people, managers with me. I said, "Quick, can you tell me whether the situation is normal and operating as it should, or abnormal?" And the answer was, basically, we'll know at the end of the week. We have a schedule, we're trying to operate the schedule. But beyond that, there were really no feedback loops.

So, there was this long, long lag response between things starting to go off the tracks and the point at which anybody had any ability to notice and then to take action.

So, how can you engage people when they can't see, when they don't understand how to solve problems, and when they can't tell where they stand? Well, the answer is, you can't.

So, then, having gone through all of that, you say to whoever has asked you to do this, you say what's the difference between the current output of your enterprise and what the customer really wants, the customer's purpose? How well are you solving their problems? And then what's the difference between the performance and the process, assuming you've got the problem assigned, that you've got the customer's need correctly assigned, and what you're actually doing.

And, by the way, this is good news, I guess. There is always a gap, and I guess there always will be a gap. Certainly there's a gap at Toyota. You've probably all been reading about their quality issues as they try to grow the company. Some say faster than they can manufacture managers. They've been manufacturing cars faster than managers. And I'll get back to -- faster than lean managers, and I'll get back to that here in just a few minutes.

All right. So, there is a gap. What can we do about that? Well, the answer, of course, I hope everybody on this webinar wants to transform their business so they can address purpose with a brilliant process which engages their people. And so what do we need? Well, we need some lean management and some lean leadership. So, let me talk about what we mean -- what I mean by those.

First off, there's some simple tools, and they are strategy deployment. By the way, this won't come as a surprise to you, you should know this. Call it (inaudible, call it policy



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management, strategy deployment, they're all the same thing. The question is how does an organization decide what few initiatives are important as they move ahead?

Something I discovered years ago, that Toyota, at least in their English language annual report every year, lists their three biggest problems for the organization, and two years ago it was that hybrid technology was apparently too expensive, once they had convinced everyone they should buy a hybrid. And then, of course, this last year the number one issue was that they were making too many mistakes, that there were too many vehicles getting into customer hands that were just not right.

Now, most organizations, the last thing they would want to do is post in their annual report what their biggest problems are. But the Toyota view of it is, well, if everybody doesn't know what our problems are, well, then now can we solve them? And if everybody's going to know in such a large organization, well, the whole world might as well know. There is no way to keep the secret.

So, their strategy deployment decided what the few important issues are. There is A3 analysis to solve problems cross-organizationally, and then, of course, there is standard work with standard management. Note the term standard management and kaisan, to install, sustain and improve the processes you need at gimba. So, real simple, strategy deployment, A3 analysis, standard work, the question, of course, is how to do this.

Now, there's a thought process in all of these, a thought process at lean management that is very simple but it's different. So, let me just describe it real quickly.

The idea here is to separate authority, which is actually a vertical concept from responsibility, which is a horizontal concept. When you think about it, all organizations, certainly all organizations I've ever seen, are vertical. They have departments and areas, facilities and subsidiaries, business units, which are all organized vertically, pointing up toward the CEO. And that's where knowledge and assets and careers and budgets are located. And that is the way it always will be.

In the book *Lean Thinking* that Dan Jones and I did about 10 years ago, we found a couple of organizations that had completely, totally unrelated product lines, and they could turn those sideways and have a process, if you will, as a business. Well, that's fine. That's great if you can do it, but there are very few organizations that can. And certainly Toyota is a very vertical organization. It took me a long time to realize that.

But what they've discovered is that in a vertical organization, it's possible to get a horizontal focus. And, by the way, all value flows through any organization horizontally to get to the customer. Organizations are vertical, the flow of value is horizontal. We're very good at managing the vertical with authority. This is your plant, this is your engineering department, this is your area. But we're not very good at saying who is going to take responsibility for that horizontal process that flows across the organization.

And so the second point of lean management is that you need to assign clear responsibility. For someone to look at, think about, and take responsibility for the health of every process.

Now, here's the hard part, that you thought I just said matrix. We should now invent or install a whole bunch of matrices, and that's the last thing we want to do. But what's really interesting is I've learned about this -- and, by the way, John Shook has been my (inaudible) -- John Shook from his life at Toyota, in describing to me how you can have



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an organization where you have horizontal responsibility embedded, embodied in a person who actually has no formal authority. And that's quite a magical thing. We're just putting out a book on A3 management, which will be out in just a few weeks. And we're talking about how to do that. It can be done. But this is a new skill that we all need to acquire.

And then, of course, the final point here is that we need to have some metrics and some rewards so that everyone touching the value stream has an incentive to help that person with the horizontal responsibility to optimize the whole stream.

Now, that's management. Let me talk about leadership and start with what I don't mean. I don't mean charisma. The charismatic leader is that person who can convince you, the employee, that you should do something that's in their interest but actually isn't in your interest. And there are people who can do that. There are people who for a while can convince people to do things that support the needs of the leader but not the needs of the follower. But you can't build a stable organization on that.

It's not bureaucracy, which is rule-bound formulas, heavier and heavier layers of authority. It's not the old-fashioned boss. You know, the old-fashioned, sort of theory X boss, was the guy who said, "Do it my way. I came up from the floor, I know what to do, I know how to do this, please do it this way."

But it's not the more modern manager who believes in empowerment and said, "Do it your way." Or the managed by objectives, kind of the GE manager, at least until recently, who said, "Hey, look, I don't know how you're going to solve this problem, just solve it and make your numbers. And if you make your numbers, I'm going to give you a bonus, and if you can't make your numbers, I'm going to give you a pink slip." That's not what we mean.

Rather, we're looking for leadership, lean leadership as the following. It's that person who says, "Let's get agreement by discussion, by dialogue of what our purpose is. And then let's get agreement on the processes that achieve the purpose. And then let's do this together, in which I, the leader, am going to ask questions. And you, the folks who are working for me and working with me, are going to try to find the answers. Ask questions, find answers through dialogue."

Now, to make this work, that leader has to have free attributes, and we summarize them simply as follows: Go, see, ask, why, show respect. Now, by the way, this is stolen from Mr. Cho, Fujio Cho, who is the current chairman of Toyota, a wonderful man. Go, see, ask, why, show respect, the three attributes of a lean leader.

Go see, means you need to visit the point where the value is actually being created. Verify the situation. Go see. This is not management by walking around. That was introduced by Peter Drucker a long time ago, picked up by Tom Peters. You still hear it occasionally. The theory there was that the top leaders can't trust the middle folks to tell the truth, so they should go to the bottom and find out what's really going on. If that's where you are, you've really got deep problems. That's not what we mean here.

But a leader at each level who drops down to the next level to say, "Gosh, I think we have a problem, let's go look at the problem rather than relying on abstract information or talking in a conference room. Let's just go see. Let's take a walk. Let's take a walk together."



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As we do that, we want to ask why. The leader wants to ask why. What is the problem? What's the real problem, not what's the superficial problem, not what's the first thing that occurs to people. What's the real problem? What are the possible countermeasures? And what's the best countermeasure and how do you know?

And in doing that, and this is probably the hardest of these, but let me describe it for you. That is actually the way you show respect for people. Those of you listening in from the U.S., we have people in from all over the world, but, hey, I'm an American and this happens to be a room in Cambridge Massachusetts I'm speaking from.

Here, we've gotten into what I think is sort of a bad habit, that you show respect for your people, for the folks who work for you by encouraging them, by saying, "Hey, you're doing a great job. All we need to do is try a little harder. You can figure it out. Don't myself know what the problem is, but I'm sure you can figure it out. Just keep going. Tell me when you've got it solved. I'm backing you up. I'm supporting you." That's not what we think respect really is.

Respect is saying to your people, if you're a leader, saying to the people that are working with you, for you, "I'm going to ask you some really hard questions because I really respect your ability. I'm going to ask you questions that I, the leader, can't answer because I'm flying too high. I'm on the bridge, and this is a problem in the engine room.

"So, therefore, what I can do is see where we're going, see the big picture, and I can ask you questions about what's the problem and what's the answer, and why do you think this is the answer. And as I do that, I'm showing the highest level of respect, because I've picked you and I believe in you. I think you can solve this problem. And, by the way, this is going to be hard. This is not going to be easy."

We have a lot of fun around the office with the Staples, that's the American office supply company that has TV ads in which they have this red button they push that says, "That was easy" after they deal with the customer's problem. We've made some black buttons around here that say, "This is hard," because, in fact, for managers, all the easy problems have already been solved. I hate to tell you, but where you came into this situation you're in right now is, the easy problems have been solved; all that's left is the hard problems. And that means you have to ask some hard questions that are going to be hard to answer. But that's the highest form or the best way to show respect.

So, therefore, we need some leadership. And, of course, this functions at three levels, to go back to my management slide, a few back, that the senior managers are typically involved in direction-setting. That's where the policy deployment, strategy deployment, policy management, (inaudible), whatever you want to call it, comes in. But, of course, that's done with feedback loops to ask people lower down, "Do you think this is the most important problem, and do you think you can tell us the best way to solve it?"

And then there's the middle management, when you get agreement on here's the problem, we need to do something. You then have to solve things, and most problems are process problems, and processes flow horizontally. And so therefore they're horizontal, cross-organizational problems.

And then at the front line we have the front line management that needs to stabilize the process, and then steadily improvement through what we call standard management, which means that it's just standard work for managers. You come around every so often and ask a certain set of questions. You take that walk. You go see. You ask why.



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Standard management. And then, of course, kaisan is involved in trying to improve things.

So, it's all about plan, do, check, act at every level, what Toyota calls management by science. Not scientific management, but management by science. It is amazing how little science I see in most organizations. Everything is hunches. Everybody is playing hunches, nobody has collected any data, everybody's got an opinion. And the opinion of the powerful takes precedence over the opinion of the less powerful and weak. That, of course, has nothing to do with science.

So, now, what is going to be needed to make lean leadership effective? Well, you need two things: You need an employee who takes responsibility for defining and solving a problem. You need supervisor, their mentor, who can help them on this path of trying to solve the problem. It's all about dialogue. It's about the hardest thing in life, which is a real conversation. Not talking past each other, but talking to each other, in which you have an ability together to solve a problem in which the person up above, the supervisor, can see further, and the person lower down, the direct problem-solver, can actually see the problem because they're right at the gimba. So, we need this dialogue, and it's just hard.

And then, of course, that if you do take responsibility, you're going to need a method for clearly determining the problem, for identifying and evaluating counter-measures for implementing the best counter-measure for evaluating the results. And A3 is an excellent tool if used properly.

There is a new book that Art Smalley and Durward Sobek have done from productivity just out, terrific book on the technical issues of A3. I hope everybody is going to become an A3 manager. But it has to be with the right thought process, and that's what we've been spending our time on here thinking about, John Shook, as our leader, in that area.

And as we think about how you can be a successful A3 manager, let me just leave you with what I call a lean leadership checklist. It's real simple, and then we will get to questions here in just about two minutes.

Think about yourself. Think about yourself, whatever you do. Most folks involved in this seminar, this webinar, either work with people or they have people working for them. And what that means is you're a manager. What that means is you're a leader, or you ought to be a leader. So, ask about yourself. Do you ask the five whys, or do you ask the one who?

The default for most of us in life, when something is not working right, is to say who screwed up, who made the mistake? And that doesn't take you anywhere at all. That it's not a problem of bad people, it's a problem something is wrong with the process. It's not about the people, it's about the process. Let's look at the process and then figure out how to engage the people.

Do you show respect by asking questions, or do you just give answers? Do you make sure that you are a teacher who is creating, I say manufacturing new leaders? It's amazing how little of the typical manager's job description is involved in creating new managers. Send them to business school, hire them off the street. That's not my job.

If you go into the Toyota world, as I have been many times, that's the most important job of a manager, is to create new managers and new leaders.



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Do you dig into the details by going to see, and digging, digging, digging for the root cause? Do you turn hunches and data into facts? It's one of the most interesting things I think Taiichi Ohno said. He said, "I really like data but I love facts." And those are data that you have taken to the gimba and verified and said are these really right, and embed them in the context to see if they really make sense.

And then, finally, on this checklist, do you ask for alternatives or just for one countermeasure? As your people go running off to solve the problem, do you say, "Oh, by the way, what are you going to do when your solution doesn't work quite right?" Because it almost never does.

And then, finally, are you good at assigning responsibility to people to solve problems? And you know what happens when a person with the right tools takes responsibility for a horizontal problem in a vertical organization? They actually end up manufacturing the authority to transform that process by convincing everybody else that they've really figured out through dialogue the right thing to do.

So, that is a simple summary in about 40 minutes of what we mean by the Power of Purpose, Process and People. And we've got 20 minutes, as I understand the situation. The boss doesn't always understand the situation, but I think I understand this one, to see about some answers to some questions.

Now, I've just said that I'm really learning myself how to spend my time asking questions rather than giving answers, so therefore you're going to ask questions. I will try to give the answers, but I may not have enough facts in some cases, and I might need to go to the gimba in others, and I certainly need to show respect.

So, Chet, why don't you take it from there.

Chet Marchwinski:

Okay, thanks a lot, Jim. Listeners have submitted a large batch of questions, so here are some of the -- how they're trending, a lot of questions about the A3 analysis. People are asking what is an A3 analysis? Is it any standard? Is it any problem-solving method using A3 paper? How can you just use it? If you can shed any more light on the purpose and how to use A3 effectively, I think that would help.

Jim Womak:

Right. Well, someone at Toyota a long time ago had an incredibly brilliant insight, and that was any problem in the organization, or any proposal that needed to be examined, studied, or anything that needed to be implemented, it was possible to describe the issue, to characterize the current situation that was causing the problem or that needs to be changed; to envision a better situation, some counter-measure; to figure out who would need to do what, when, to turn this into a reality. And to figure out what the measure would be of whether the problem had really been solved or the initiative had been successfully implemented. To do that on one piece of paper.

We all live in this world, not just with pieces of paper, but of mountains of PowerPoint. What a revolutionary idea that you could state the problem, you could describe the current situation, and you could envision a better situation. You could figure out who would need to do what, when to make it happen, and you could figure out whether or not you had actually succeeded, all on one piece of paper, an A3 size piece of paper. That's typing paper, in European terms. And you could post it on the wall where everybody could see it.



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So, that was the idea of A3. And now there are books out. Excellent book, as I said, that Art and Durward have done, that give the technical methods for how to do A3. But the thing we worry about, our great fear, having seen what happened to value stream mapping, is that people will take the tool without understanding the thought process. Because to make an A3 work, as we say, it takes two to A3.

You have to have someone at a higher level who hands the A3 to someone at a lower level and says, "I think we have a problem here." Or, "You've given me a proposal, I need an A3 in order to act on it." Or, "I think we need to implement something, here is the topic. You figure out, please, how to implement it."

So, you have to have a person at a higher level who is posing what the issue is, and a person at a lower level who is going to use A3 to solve the problem, to implement the initiative, to judge whether an initiative needs to be implemented. So, that's the idea of A3.

To repeat, it takes two to A3. And what I'm afraid is that we're going to have a world of solo A3ers, people earnestly developing pieces of paper that are A3 size pieces of paper that are tacked to walls and that become the newest fad in corporate wallpaper. So, let's not do that. Let's not go down that path. I can see a problem coming, let's head it off right here.

Don't go running off to A3 unless you understand the thought process behind A3, unless you've got someone at a higher level to talk to, and someone at a lower level to talk to. Because trying to do it as a solo project, as a staff activity offline in a conference room or in a cubicle is very unlikely to produce a good result.

We do know this works. This really, I think, is the management's secret of Toyota and how they're able to solve problems, how they're able to initiate new activities, how they're able to deal with proposals and figure out which ones really ought to be moved ahead.

This is something that's now in practically the public domain, we're throwing it out where anybody can see it. John Shook has done a wonderful job of describing that thought process. And so I think it's a very exciting time. I think this is a terrific opportunity, but it's up to the rest of us not to turn it into muda.

Chet Marchwinski:

There are also a lot of questions on metrics, and I think this one kind of summarizes them. Could you please give me an example of end-to-end metric versus appointment?

Jim Womak:

Well, very simple. End-to-end metric is what is the total time through? What's the total lead time? Don't tell me that you have reduced the time right here at one step, and what we see is that now the product has just piled up down at the end of the room or the beginning of the next area, or over at the next company. So that, in fact, speeding up in one place had actually no effect. And so the whole system appears to be on its way to doing better, whereas, in fact it doesn't make any difference.

So that we're looking for simple end-to-end measures. Sometimes we have to turn them into financial measures, but it's so much better if they are physical measures. How much effort? How much time? How much space? How much equipment required to go from start to finish?



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So, end-to-end metrics are really what we want, and ones that we can sort of see, that as you get off into more complicated sorts of financial metrics, well, then, there's a lot of question about just whether this is really measuring the right thing.

And so, by the way, even something as simple as inventory turns. I have gone into a number of companies where the management said what we want is to increase our inventory turns. And, of course, if you're a manager in that system, the smart thing to do is to get the incoming goods out of the plant and back into a third-party warehouse, and then to ship things that are almost but not quite finished onto the service organization so they won't show up on your plant level books. I mean, what's accomplished here? And the answer is, it's not just nothing is accomplished; you've actually made things worse.

So, simple metrics that are verifiable with your eyes as you walk that go from end-to-end are what we're trying to do.

Once you get, by the way, enough people able to see, it turns out they know the right thing to do without having a whole lot of metrics. They know the right thing to do.

Toyota, you know, does do financial accounting. They have to for public reporting purposes. I discovered years ago, it was actually H. Thomas Johnson who explained to me that it really took him quite a while to close the books. And I found that quite remarkable. I thought they could do it in 30 seconds or 10 seconds, or nanoseconds, or whatever.

But then you ask why does it take you so long at the end of the quarter, end of the year to close out? And the answer was, "Well, that's not how we run the company; that's the rearview mirror." And so what you're trying to do is polish the rearview mirror and put a binocular rearview mirror in place or something so you can see further. Whereas, that's not how we run the company, that we're managing every process end-to-end every day. And so therefore the results we get are just exactly the results we expected to get.

So, that being the case, there's no hurry in getting those results, because from minute-to-minute and hour-to-hour, we've been monitoring process that produces those results and we know where we stand there.

Chet Marchwinski: Interesting thing going on. It looks like there are some middle managers writing in from companies saying, "What the heck do I do with my senior managers who just don't get it?" And there are some senior managers writing in saying, "What the heck do I do with these middle managers who just don't get it?"

Jim Womak: Well, Chet, we just need to match them up. They are probably sitting in separate offices. It's the guys on the floor above saying why don't you guys on the floor go get it. So at the end of this webinar, please go out in the hall, meet in the staircase, and have a little talk about why you guys can't have a dialogue.

Chet Marchwinski: With an A3.

Jim Womak: With an A3. And look, the A3 thing is wonderful as a tool, because it will tell you, by the way, very quickly whether you're able to dialogue. If you're A3 effort degenerates or regresses to you in your cubicle doing it all by yourself, well, then, you've answered the question. There is nobody in your company that can talk to anybody else. So, I always say this is the chicken-and-egg thing, and so I say it's the chicken and the egg. What we need to have is the boss and the direct report meet in the staircase, get that A3, put it up



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on the wall there in the stairs, and say, "Hey, let's talk. Is this the problem? Why do we think this is the problem? What are the countermeasures? Why is this the countermeasures. Why is this the countermeasure or some other countermeasure? Who is going to have to change what to make this thing work out?"

And, by the way, how do we know we've won? How do we know we've actually solved the problem? Why don't we get agreement on that up front before we start down the path?

So, come on. I'd listen to these things and I would think in life no progress is possible. Sounds like we've got a standoff here. The fact is, you just need to get the folks from the top floor to meet you halfway up the stairs. Somebody has to start this. How about you? How about now? How do you know your boss can't do it? Have you ever really had a discussion about this? How do you know your direct reports won't do this? Have you ever really talked about this? Or is it all basically just trying to shift the burden elsewhere?

Chet Marchwinski: Some questions about value, too. Here's one. "It's easy for us to be able to identify value when it affects us directly, like waiting in the doctor's office. Why do we have such a hard time identifying value in our operations?"

Jim Womack: Well, I think there are a bunch of things working against you, what we call asset backwardness. That when you think about it, any organization is a collection of assets, and when I say an asset, I'm talking, of course, about equipment. You know, the big MRI or the big machine in the factory, or the airplane that you bought, or whatever. But it's also mindsets, and it's ways of thinking. These are assets that you have bought and, by the way, anything is an asset rather than an expense, because it has to have a long life.

So, therefore, it follows that your organization has obtained these assets, including these mindsets, on a forecast. And what we know about forecasts, we know that forecasts are mostly wrong. That's just a fact.

Those of you who are sitting out there as managers, just be aware that most of the assets you've got are not what you really need right at this point in time to supply the value your customer wants. And that's just the way things are, okay? It's just life.

But then your organization really has a choice. You say, well, gee, we've got the wrong assets to supply the value people want, so therefore the number one objective of the company is to convince the customer they want what we happen to be able to do, okay? And, gee, whiz, an awful lot of folks in marketing and sales are basically -- marketing is supposed to tell the rest of the organization the customers want what the organization is prepared to do. And then if that turns out not to be the case, sales is supposed to convince them anyway. So, you have the whole organization running backwards, and that's why we call it asset backwardness.

So, it's not so hard to figure out what your customer really wants if you just ask. But you have to ask without any preconditions, without any dragging anchors or luggage, and that's really hard to do. Because what you discover is that what they want may not be what you're actually prepared to do, and then you have a real tough choice.

I've just sent out an e-letter today that a lot of you got about private equity, and I probably sounded a little bit hard on the private equity guys. But one advantage they do have as private companies is that they can write-down things without any one but the partners of



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the firm having to agree. A public company starts to do big write-downs which the investor hears (inaudible), management screwed up, we got it wrong. That's hard. It's easier to do it, and there are some virtues to private equity, and that's one of them, that you really can write-down things that are just assets bought and passed on the wrong forecast. But it is a constant threat and problem for organizations to not say to themselves, honestly, what do our customers really want?

And if you can't do that, well, how are you going to fix the processes that are supplying the value if you haven't got the problem or customer need correctly defined? And so you can end up with the leanest organization in the world that is supplying the wrong value, and what have you really accomplished?

Chet Marchwinski: You mentioned mura, or unevenness earlier. There are a couple of questions here. I'll take one. "Is standardization an answer to mura? Can it eliminate mura?"

Jim Womack: Well, look, let me begin, just look at the organization I was looking at last week, and being careful not to identify these folks at all. That in the nature of things, the product they were making cannot have very erratic demand. I'd give something away if I went further. It's just not possible. The amount of their product consumed every day on average hardly varies, and yet this organization was two steps back along the value stream. You've got the customer at the end, you've got the organization that's supplying the product to the customer, and then the supplier that's helping that company get it to the customer. But what they were seeing in terms of their orders were highly erratic.

So, how can this be, that if you go out and walk all the way down to the customer, it turns out the customer is not crazy. That's what they thought. Customers are actually pretty calm and, hey, there's a little bit of change in their life, and as their life changes, they need a little bit more, a little bit less. But how amazing that only two steps up the stream already seeing wild gyrations, what Dan Jones started calling years ago demand application.

And then it all gets into lag responses, long lead times, and battling scheduling systems, so that what they saw was a lot of mura, upstream. It was a lot of mura and it was causing them problems every day, and they had absolutely no trust in the schedule because it kept changing and they were investing a lot of effort in trying to insert spies further down the stream so they could figure out what the real story was, which maybe wasn't such a crazy thing to do.

But the question was, why can't everybody who is touching this thing up and down the stream get together, look at the information flow, and say why do we have variation that's not caused by the customer, and what do we have to do to cut it out?

Remember I said earlier, what you really need for a whole value stream is a single scheduling point, and then everything is pulled from above that point and everything flows from below that point. And if you could do that, life is so much easier.

So, most of the mura out there, not all the mura, but most of it is not caused by customers who, by the way, absolutely have the right to change their mind. And there is something wrong with the world if the customer doesn't have the right to change their mind. But that's not what's driving most of the variation up value streams or up the processes.



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Chet Marchwinski: We just got a couple of minutes left. Time for one more question. This might have come in from a novice to lean. She asks, "What essential items --" or I guess lessons, she means. "What essential lessons would you teach a novice to lean?"

Jim Womack: Well, that's interesting. One of the things I learned from John Shook, and this is really his story, but let me just tell it real quickly, that on his first day on the job at Toyota many years ago, he came around to his desk and the desk was blank, and there was an A3 on the desk, that's all there was. And up in the upper left-hand corner, his boss had written an issue, and said, "Shook-san, please analyze this issue." Well, if you want to teach young people lean, that really is the place to start. And ask yourself very simple, and this could be primary direct work people, what skills and talents do they need in order to get their work done and solve problems? Those are the skills, the lean skills that they need to learn.

And, by the way, it might be quite different from organization to organization. There's no reason to think that what you need to know if you're working in a hospital operating room, and what you need to know if you're doing maintenance on a jet engine, and what you need to know if you're building some sort of a simple manufacturing product, what you need to know as a manager or a worker may not be the same things. But start with what you need to know.

I am so amazed with our educational systems that love to give people enormous batches of knowledge, abstract knowledge, at a point in time when they don't know whether they'll ever need it, when they certainly can't use it. And then by the time you might need it, you've forgotten all of it. So, what we need in just-in-time knowledge including just-in-time lean knowledge.

So, therefore, when you say what do young people, or people just starting need to know, well, what's the work they're trying to do? And then what are the specific tools and particularly lean tools that they would need to do that work and to improve that work? And so therefore you have to work backwards from what is it that people really need to know, and then how can your organization supply those people with what they really do need to know?

Chet Marchwinski: Okay. Thanks very much, Jim. Unfortunately, we're out of time. I'd like to thank everyone who joined us today. Before you log off and go, I'd like to invite you to examine a new feature on our website that we just unveiled yesterday. We've combined a new video of lean community members answering the question, how has lean changed my life, with written answers to the same question that we collected in our *Reflections on Lean* paperback. The result is an interactive unlined book that captures the triumphs, struggles, and the humor in people's lean journeys. It's free and it's at the lean.org home page.

Also remember that we'll send you a link to an archive of this webinar so you can review it or share it with colleagues. We'll review and summarize the questions we couldn't get to today, then let you know when the answers are posted.

Thanks again for attending. On behalf of Jim Womack and everyone here at the Lean Enterprise Institute, we wish you continued success in making the lean leap.