Bosch Rexroth Lean Manufacturing Audio Series

Episode 6

"Daily Problem Solving in a Lean Organization"

Welcome to the Bosch Rexroth Lean Manufacturing Audio Series, where you can hear about new approaches in using lean techniques and principles. We'll discuss how to apply lean concepts in some fresh and perhaps unexpected ways to help you transform the performance of your company. Our lean expert today is Jamie Flinchbaugh, a founder and partner of the Lean Learning Center, and co-author of the popular book, The Hitchhiker's Guide to Lean. As both a practitioner and facilitator, he successfully helped many companies in their quest for lean transformation.

In this episode, we want to explore the principles and work practices that businesses, that have already become lean, need to follow to both solve common everyday problems and still stay lean.

(0:50) QUESTION 1:
Jamie, help me understand something: If a business has successfully adopted lean, haven't they eliminated most of their problems? Why do we need to focus on them every day?

Jamie: Well lean is a process and a culture, it's not a project. And continuous improvement is one of those core ideas. So, in other words, we're never done with lean. Even once we've done the work and our processes and operations become more lean, waste and errors continue to creep back in. So when that happens we really have two choices. One – let the processes deteriorate until it becomes a significant problem and then make the big efforts again. Or the second choice, which is better, get a process in place that manages those little problems before they become big problems.

(1:31) QUESTION 2:
Fair enough, but how do we define a little problem? I mean, how do we know the difference between those normal, day-to-

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day slight variations in a process or operation, and something really more significant?

Jamie: Well the hard part is that we won't know in advance, and that's why we need to pay attention to those little things. When a process is unstable, it is really impossible to tell the difference between normal variation and real deviation from the standards that point to those problems. So, we need tools like visual management and standard work to help us elevate those problems. So our goal is to keep those little problems from adding up and becoming big problems later.

(2:07) QUESTION 3:
So if waiting until the deviations and small differences add up is too risky, what do we do instead?

Jamie: Value small problems, we have to treat them as just as important as large problems in the organization. And this isn't easy. Valuing small problems means that we have to pay attention to them and take care of them. We have to value the time we spend everyday looking at the issues and the causes and asking the questions about them. Every big problem that we have today started out as a small problem, and the only way to work on tomorrow's problems is to work on the problems today while they're still small.

(2:42) QUESTION 4:
Okay, so valuing the small problems can help us sustain lean. But now once we've established that small problems are valuable, what do we do to address them?

Jamie: What we have to do is build both the skills, and the tools and systems to deal with those problems. The tools can help us surface those problems, and we can spend time dealing with those causes that underlie those problems. So, the tools can also help us get to those root causes, which is where we start asking the five whys.

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(3:09) QUESTION 5:
And what are the five whys?

Jamie: Well the five whys is the process of asking 'why' to dig deeper into the cause of a problem. It doesn't have to be five, it could be three, it could be ten, but we essentially have to keep asking 'why' until we get to the fundamental cause.

(3:22) QUESTION 6:
Can you give us an example?

Jamie: Well imagine you have a piece of equipment failed in your operation. Well why did it fail? Because the circuit board burned out. Why did the circuit board burn out? Because it overheated. Why did it overheat? Because the enclosure didn't have proper ventilation.

So, we stop there and we say, 'oh we need more ventilation.' So a very common place to stop – we open the control cabinet and point a fan at it, and now it's got ventilation, but that's only halfway.

So you're saying we haven't gotten yet to the root cause, so we keep asking why.

Yes, we have to keep asking why. So why is there poor ventilation? Because the filter is clogged. Well, why was the filter clogged? Because we didn't have a preventive maintenance schedule in place.

Now we actually get down to the system which is the root cause. So we have to take much more time to use this technique to get down to the root cause and keep asking why. We need to develop the skills so people can use that tool effectively.

(4:16) QUESTION 7: Sure, so once we've surfaced the source of the problems within a lean operation, what is the most effective way to respond to them, and do it on a daily basis?

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Because it seems like we need work practices that are relatively simple to implement and easy to use day by day.

Jamie: Well a simple way is Plan-Do-Check-Act, or PDCA. Been around forever, and this is essentially how scientists really look at their work, and this is how we need to become scientists about our processes.

So the first step is 'Plan'. This is our hypothesis, which means if we do X, we expect the result will be Y. Then we 'Do', which is testing the hypothesis. And 'Check'ing it, which is finding out what the results are. And if our results actually match the hypothesis, then we can go ahead and implement our solution.

(5:00) QUESTION 8: And if your results don't match your hypothesis?

Jamie: Well, then we have to go back and understand that our understanding was somehow flawed, something was missing. So if it falls short from what it was expected, certainly we go back and understand the cause. The harder part is when our results are better than we expected. We tend to celebrate when instead, we're still missing some understanding, and we have to go back again.

So if we don't really understand the cause of what's happening in the situation, we won't have kind of the control in our process in order to sustain lean.

(5:31) QUESTION 9: So to sum up, Jamie, it's almost as if you're saying the smaller the problem, the more we should value it. Especially if we want to keep sustaining the lean improvements we've already achieved.

Jamie: Absolutely, we have to value those small problems as a valuable contribution for future results. We need the mechanisms and skills for that daily problem solving for continuous improvement and a way to improve those results based on what we find. And

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that's how we keep waste from creeping back in, and problems from returning to our processes.

Well thanks, Jamie, some very practical advice today

Jamie: Thank You

(6:02) WRAP-UP: You've been listening to Jamie Flinchbaugh from the Lean Learning Center, talking about how valuing the small problems, and solving them each day, keeps big problems from developing, and keeps your operations lean.

In our next episode, we'll discuss a topic that generates a lot of discussion in the lean community: automation technology, and its role in lean manufacturing environments. Please make sure to listen.

For Bosch Rexroth, I'm Liz Cohen. Thanks for listening and best wishes for success with your next lean project.

Visit the Bosch Rexroth Lean Manufacturing Center on the web at www.boschrexroth-us.com/lean. You'll find all kinds of downloadable guidebooks, lean kits and other resources. And if you have questions about lean manufacturing, please, use our link and send them in – we'd enjoy hearing from you. Once again, that's www.boschrexroth-us.com/lean

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