Ascend Webinars

TRANSCRIPT: April 2025 ASQE Ascend Webinar

Lean and Sustainability Framework to Enhance Continuous Improvement Efforts

0:03
Brian Scarpace: Hi! Welcome, everybody!

0:05
Brian Scarpace: We're just letting a few people come into the room now, just we're gonna give it just a minute here.

0:11
Brian Scarpace: Hey, while you're waiting, just let us know where you're from. If you want to put that in the chat. Great to hear where everybody's calling in from.

0:21
Brian Scarpace: If you were just joining us. We're just giving it a minute here to let people in the room.

0:29
Brian Scarpace: I've got lots of, Hi, Leo.

0:34
Brian Scarpace: Alright, I think we'll go ahead and get started. Welcome to today's ASQE Ascend Webinar. Today's topic is "Lean and Sustainability Framework to Enhance Continuous Improvement Efforts."

0:46
Brian Scarpace: And my name is Brian Scarpace, and I serve as the Executive Director of Global Success for ASQExcellence.

0:53
Brian Scarpace: And I wanted to first of all say thank you to all of our Organizational Members who are joining us here today. Thank you so much for your membership, and I know we have some guests who are joining us here today, so thank you for joining us here as well. Couple items I wanted to note is that the presentations for today will be available in the ASQE Events Portal, and we'll have the recording available for you as well. If you have any questions, please put them in the chat, and then we'll get to them at the end.

1:26
Brian Scarpace: A little bit about us, ASQE or ASQExcellence. We are an independent and complementary entity to ASQ, and our mission is to deliver credentialing, quality-driven offerings and insights to organizations in support of their performance excellence journey. And today's webinar is a great example of the type of value offerings we make available to the organizations we serve.

1:48
Brian Scarpace: And speaking of events, we have some great events coming up that you can take advantage of as an ASQ Organizational Member, you have member pricing for ASQ events, so a couple of them I want to note here is the first is the Quality Impact Forum and that's gonna focus on Circular Economy. That's a virtual event. On April 22nd, that'll be great value. And then on May 4th through 7th we will be in Denver for the World Conference on Quality and Improvement, so hope to see you there for that.

2:15
Brian Scarpace: And on June 12th, we'll also have another Ascend Webinar, much like today. We'll have thought leadership and subject matter experts who can go over some of the content that would be helpful to you.

2:28
Brian Scarpace: Also of note as an Organizational Member, your one of your benefits includes the Insights on Excellence benchmarking tool, and that is open now for you and your team to have access to, and if you want access, just reach out to us, and we will set you up with that. A couple items to note if you're not familiar with the benchmarking tool. It is a, what it does is a self-guided survey that helps you identify areas of performance excellence, opportunity, and you can compare your results in the survey or benchmark against industry trends and others around the world.

2:57
Brian Scarpace: A couple items to note that are NEW about the benchmarking tool that we are now offering Recertification Units, or RUs, and we are excited to announce that we have launched the Insights on Excellence Diamond Award, and this will recognize those who take the benchmarking tool, who show high performance with their scores. Again, reach out to us at orgmembership@asq.org, or you can reach out to me, and we can set up your team for access.

3:25
Brian Scarpace: Alright, I'm very excited to introduce our presenters today, Dr. Furterer and Dr. Cudney. I want to first introduce Dr. Sandy Furterer.

3:35
Brian Scarpace: Dr. Sandy Furterer is a professor, but let me go back just one second here.

3:41
Brian Scarpace: Sorry.

3:42
Brian Scarpace: Great! Thank you. Dr. Sandy Furterer is a Professor of Practice at the Ohio State University in the Department of Integrated Systems Engineering. She has applied Lean Six Sigma, Systems Engineering, and Engineering Management tools in healthcare and other service industries.

3:56
Brian Scarpace: She is an ASQ Certified Six Sigma Black Belt, Certified Manager of Quality/Organizational Excellence, Certified Quality Engineer, an ASQ Fellow,

4:06
Brian Scarpace: and Certified Six Sigma Master Black Belt. So welcome, Sandy! Dr. Beth Cudney is President of Cudney Consulting Group, LLC. and a Professor of Data Analytics at Maryville University. She received her bachelor's in Industrial Engineering from North Carolina State University, a master's in Mechanical Engineering and an MBA From the University of Hartford, and a doctorate in Engineering Management from the University of Missouri-Rolla.

4:35
Brian Scarpace: She's a recipient of the ASQ Grant Medal, ASQ Crosby Medal, IAQ Masing Book Prize, IAQ Yoshio Kondo Academic Research Prize, and ASQ A.V. Feigenbaum Medal. She is an ASQ Fellow, IISE Fellow, ASEM Fellow, and Academician in the International Academy for Quality.

4:58
Brian Scarpace: So Sandy, Beth, welcome. We are so excited to have you here. I'm gonna hand it over to you.

5:04
Beth Cudney: Great. Thank you so much, Brian.

5:06
Beth Cudney: Sandy and I are really delighted to be here today to talk about how to integrate Lean and sustainability. together. We'll start with overviews of Lean and sustainability. Then, we'll discuss the Lean Green Sustainability Framework that we've developed. And then next, we'll talk about a few case studies, and then hear from you on where you think you can apply lean sustainability. And then, we're going to open it up for questions. So with that, we'll get started.

5:33
Beth Cudney: So for those of you that may be familiar with lean or may not be familiar with Lean, Lean is an operational excellence approach that really focuses on improving value to the customer by eliminating waste and inefficiencies and processes. So when we say a process is simpler, we mean it involves fewer, unnecessary steps. It's easier to perform which leads to better resource utilization.

5:57
Beth Cudney: When we talk about faster, we're talking about responsiveness. This is reducing delays so that we can meet customer needs in a timely manner

6:06
Beth Cudney: when we talk about more valuable. What we mean here is that we're better aligned with what customers truly want. We're providing higher service at a lower cost.

6:17
Beth Cudney: Lean organizations become more agile, responsive, and competitive

6:22
Beth Cudney: by using Lean tools which really helps set them up for what we're dealing with now, which is a very competitive, fast paced environment

6:32
Beth Cudney: from a sustainability perspective sustainability centers around, protecting the resources and minimizing harm to the environment. All while we're still delivering value to the customer.

6:44
Beth Cudney: The 5 R's are framework for use, for being able to achieve sustainability

6:50
Beth Cudney: with a 5 r's. We have refuse, reflect, reduce, reuse, and recycle.

6:56
Beth Cudney: Refuse means we're making deliberate choices not to use unsustainable materials or methods.

7:03
Beth Cudney: When we talk about reflect, we're encouraging us and everybody around us to evaluate our processes and identify more eco-friendly alternatives.

7:14
Beth Cudney: reduce targets, overproduction, and inefficiencies that consume unnecessary resources.

7:21
Beth Cudney: When we talk about reuse we're talking about how we need to focus on extending the life of products and materials.

7:29
Beth Cudney: And then finally with recycle,

7:31
Beth Cudney: this is where we want to keep resources in circulation, and then out of landfills by reusing and recycling our materials.

7:39
Beth Cudney: With these 5 R's and these principles, they support a long-term view of organizational responsibility and ecological health.

7:49
Beth Cudney: Right?

7:51
Beth Cudney: So part of sustainability is also the 3 Pillars.

7:55
Beth Cudney: Sustainability requires a balance between 3 interconnected pillars: Environmental, Economic, and Social.

8:03
Beth Cudney: Environmental sustainability ensures that we're protecting natural ecosystems and we're reducing any harmful impacts.

8:11
Beth Cudney: Social sustainability supports the well-being and equity of people and communities.

8:16
Beth Cudney: When we talk about Economic sustainability, that focuses on ensuring financial viability so that efforts can continue over the long term.

8:26
Beth Cudney: For organizations, integrating all 3 of these pillars helps maintain responsible operations, and it also fosters stakeholder trust.

8:40
Beth Cudney: When we're moving more towards a sustainability focus, we're trying to get away from that traditional model. So sustainability is really unlike traditional linear models of take, make and dispose of

8:53
Beth Cudney: with a circular economy. We're rethinking product and process design so that we can promote product and process design around reuse and regeneration. So rather than seeing materials as disposable, we're aiming here to keep them in circulation for as long as possible.

9:11
Beth Cudney: To do this, it requires a shift in systemic thinking. So whether we're considering the environmental impact of decisions across the entire value chain from sourcing through in life, we're trying to move more towards a circular economy to support a sustainable, resilient future.

9:29
Beth Cudney: And this is where lean and sustainability really tie in nicely together.

9:35
Beth Cudney: There are 3 core actions when we talk about a circular economy.

9:40
Beth Cudney: The first one is, we really want to aim to design out waste and pollution. We want to prevent problems before they even occur.

9:49
Beth Cudney: Second, we want to keep products and materials in use. So whether that's through reuse, repair, or recycling.

9:57
Beth Cudney: This is how we're going to promote, really using and continuing to use products and services.

10:03
Beth Cudney: And then third, we want to regenerate nature by supporting biodiversity and natural systems.

10:10
Beth Cudney: These 3 key principles are essential in how we're going to reimagine within our organizations how we can operate sustainably

10:19
Beth Cudney: while we're still delivering value through those lean tools.

10:24
Beth Cudney: So, I'd like to pass it over now to Sandy, and Sandy is going to talk about how we've really integrated these methodologies, Lean and sustainability into a framework to help guide organizations.

10:37
Sandy Furterer: Alright, thank you, Beth.

10:40
Sandy Furterer: Alright, and first thing I have to do is apologize to Brian because I was the one that hit my mouse button when we when he was presenting our bios. So sorry about that, Brian. We were warned, too. But anyway, I am incorrigible. Okay, so this is, is kind of the guts of our presentation today, and it it shows a framework that that we developed, Beth and several other co-authors,

11:09
Sandy Furterer: to help people who are already implementing Lean

11:15
Sandy Furterer: in their organizations, and may have been doing this for a short time, or a very long time, to also, at the same time

11:23
Sandy Furterer: to connect to sustainability principles and tools.

11:27
Sandy Furterer: So I'm going to go through the detail in the following slides. But I just want to introduce to you the overview of the framework. So, as you see, kind of in the middle there with with the graphic,

11:39
Sandy Furterer: we we've kind of integrated the Plan-Do-Check-Act that we're familiar with from the quality world

11:46
Sandy Furterer: to those those R's that Beth talked about a few slides ago.

11:52
Sandy Furterer: And we did that in a circular manner, of course aligned with the circular economy, but that you continue, as you go through your lean initiatives, to also consider the the R's of the circular economy and sustainability. There are tools both on the sustainability and the Lean side that you can leverage.

12:15
Sandy Furterer: And there are principles from both sustainability and Lean that we will leverage. The next several slides, I'm going to break down each phase and go through the key tools and principles that we encourage you to focus on in each phase.

12:36
Sandy Furterer: So let's start first with this. You know, how do you? What is the method? What are the activities that you perform as you try to integrate lean and sustainability? So that's where the method of combining the Plan-Do-Check-Act, which, of course, is originated from Shewhart and Deming used it quite a bit and made it very famous, replacing kind of the check with study.

13:01
Sandy Furterer: And then we add in the R's - the refuse, the reflect, the reduce, the reuse and the recycle.

13:12
Sandy Furterer: So we're going to start with each phase, each PCDA phase, and talk a little bit about the most important principles from a sustainability, a Lean, and then the tools from both a sustainability and a Lean perspective.

13:31
Sandy Furterer: Okay, so in the first phase for the Plan-Do-Check-Act, the 'Plan', this is when you're doing the planning and figuring out what are you going to be working on.

13:40
Sandy Furterer: So this is a pretty important stage, as we all know, because this is where we get the buy-in from leadership and from the workers. The people who are going to be engaged on the initiative in the plan stage to be engaged in the project. So hopefully, leadership. You have a lot of leadership, commitment and buy-in, and they are going to be connecting the lean initiatives to the strategic plan.

14:08
Sandy Furterer: and the team will be planning what they're going to be doing. So there'll be project chartering here in this phase they'll be forming the team. They'll be thinking about the culture. So you're going to think about the culture hopefully having an embedded already, a lean culture, the focus on reducing waste.

14:27
Sandy Furterer: the focus on flow customer value improvement. But the 2 key principles that are really important is focusing on the culture and customer value up here in the plan stage.

14:39
Sandy Furterer: and then you get started with a few of the Rs here. But again, start with the concept of the green culture. And what we noticed when we were developing this and doing the research and and actually experiencing these types of projects

14:59
Sandy Furterer: are that

15:02
Sandy Furterer: that there's a very natural connection between the lean concept of hey, I'm eliminating waste. I'm being most efficient. I don't want to use any more resources than I need to be using, and it really aligns very well with the green culture. The you know, being safe with the environment don't overuse water, don't overuse resources.

15:25
Sandy Furterer: And to really think about that when you're designing a product from the very beginning, I teach a systems engineering course. And it's really important, because as we go through the lifecycle acquisition

15:42
Sandy Furterer: programs.

15:43
Sandy Furterer: It's really important to start from the very beginning planning for how you're going to retire and dispose of your system. And that may be 30, 50, who knows how many years out? But you want to think about building that product and that system from the perspective of how can I dismantle it? How can I recycle it? How can I reuse it? And all of that.

16:06
Sandy Furterer: and even extend the life of the product or systems? So that's what's happening. A lot in the plan stage. There are throughout this whole framework there are very good sustainability tools, ISO standards, a couple of them that will be helpful in this plan stage are in the procurement of materials. So you want to think about the sustainability aspects of what materials you're using?

16:34
Sandy Furterer: Are you using materials that are going to easily break. And you're going to have to use a lot more materials in the long run or more sustainable materials and so forth, and then also the Eco- design, designing for the ecosystem in the ISO 14006.

16:52
Sandy Furterer: And then here you're also going to be thinking, like, I said, about the design of your products, your equipment, your processes, how you're leveraging people, how you're leveraging technology and automation. So lots going on there

17:04
Sandy Furterer: and then what a lot of folks have focused on and continue to focus on from a sustainability is the carbon footprint, the energy design? How can we design for low use of energy.

17:18
Sandy Furterer: And then in this stage some really critical lean tools are the value stream map to understand the system's view and understand the key activities that are present. As you're going through your process

17:33
Sandy Furterer: to mistake proof your processes from the very beginning mistake proof in the design of your product from the very beginning. The more preventive you get in the mistake proofing side, the better your product and processes are going to be. We talked a little bit about project selection. This is where leadership comes in to tie the lean and sustainability initiatives to the strategic plan.

17:58
Sandy Furterer: And then Hoshin Kanri is is that policy deployment. Is that, really the strategic planning aspects of Lean that are really powerful, that get everyone engaged through the catch fall

18:11
Sandy Furterer: process.

18:14
Sandy Furterer: that that gets gets all levels of the organization. All of the people, the team members involved in planning

18:23
Sandy Furterer: and the strategic planning and the deployment of those initiatives, and then, of course, Gamble walks where you get out to see the actual processes I love lean projects where you actually, you know, you have those morning meetings where you look at how you did yesterday. What are your plans today? What were some of the quality problems? How are we going to fix them and just getting out to where the work is actually done.

18:50
Sandy Furterer: So now let's move to 'Do.' This is where you're actually now implementing the changes that you're going to be that you've designed in your process or in the design of your product.

19:07
Sandy Furterer: So there's a lot in the 'Do 'where you're really designing where you're figuring out what is the best process, what are the best product designs? And you again from a sustainability 5Rs reducing waste and using the 5S and the waste analysis is really powerful in the do phase.

19:30
Sandy Furterer: Then some of the Lean principles, looking again at the value chain, what are the activities that must be performed to give value to the customer, to make flow happen where you eliminate bottlenecks and inefficiencies in your process, and then pulling what the customer wants, not pushing things through your system from a forecast, really understanding what the customer's needs are.

19:58
Sandy Furterer: from a sustainability tools. That renewable energy is critical here, recycling, setting up already recycling programs as you're getting as you're designing the process or product.

20:11
Sandy Furterer: Putting in best available techniques is in kind of the quality side. That's your benchmarking. And then again, waste reduction identifying where wastes occur and finding strategies to eliminate those. So with the Lean tools, this is probably where you're going to use the bulk of the Lean tools,

20:30
Sandy Furterer: again 5S is very powerful early on in a project, so that visually you get rid of waste. And people start really getting bought into your project and into the initiative that you're performing. It just feels better to people for things to be organized,

20:48
Sandy Furterer: and for people to be able to find things when they're changing over machines, or, you know, even in in a surgical center, so that they that they don't have to go far when they need something for the patient.

21:02
Sandy Furterer: So again, the Gemba walk is important to understand the process. You can design the maintenance program, so that you're having preventive maintenance and making that design happen. So you know when you're going to be maintaining the equipment and and so forth. There again, mistake proofing process mapping really critical and understanding kind of the next level of of the process below the value stream map or the value chain

21:29
Sandy Furterer: is really important doing a lean value and waste analysis. And this is where you're looking at the the activities that you should be performing. Can you perform them more efficiently, or can you eliminate them by redesigning the process?

21:45
Sandy Furterer: Visual management is a fantastic, lean tool, so it helps you to understand your metrics and understand what you're doing in your process, and how well you're doing

21:54
Sandy Furterer: SMED the single minute exchange of die. This is where you can change to to different products, different product lines across a line and so forth. And just the process of organization incorporating a lot of standard work and as well as Kanban, to have signals for when you should perform work.

22:19
Sandy Furterer: And then, once you've implemented, you've actually done what you wanted to do, whether you've you've rolled out your product or your new process, you're going to 'Check' that it's doing what you want it to from both a lean and a sustainability.

22:35
Sandy Furterer: So you're gonna focus on the reuse. Can I reuse products, resources, people on another project that now have this skill set?

22:46
Sandy Furterer: And then perfection, where you're trying to now perfect your process and implement all of those improvements. The lifecycle assessment for ISO 14044 is a great tool in the sustainability area from an ISO perspective.

23:05
Sandy Furterer: And then you have visual management and gamble walk again, getting back out into the work environment so you can know what's going on and how you and how you're you're processing.

23:21
Sandy Furterer: and then the 'Act'. So, the you've now planned everything, you've now identified how you're going to build your product and or your process. You've started to check and test and make sure that things are working well. And then you sometimes pilot before this activity and the kind of the 'Do' and the

23:42
Sandy Furterer: 'Check' but you, and then you roll this out more broadly. So the 'Act' is really standardizing and perfecting your product and or process. So from an R perspective, from the sustainability side, the recycling is important.

24:00
Sandy Furterer: The Lean principles, from a perfection and continuous improvement, and then a lot of these ISO standards should be applied from an end-to-waste statute, the carbon footprint of the product, the water footprint of the process, and we'll have an example of that here. In a few moments.

24:18
Sandy Furterer: the looking at remote communication technologies, the whole supply chain, the shipping logistics, transportation. And then I talked about end of life treatment from a sustainability previously. So hopefully, you've done in the planning stage. You've already designed some of the end of life. But this would actually be implementing more of the end of life.

24:41
Sandy Furterer: And then the Lean tools where you're having control plans, you're documenting a future value stream map. You're documenting standard work so that everyone's trained on the process and performing that appropriately. You're in the sustain phase for 5S. Again, Hoshin Kanri comes back in to make sure that we're doing what we said we were going to be doing. And we're having success

25:06
Sandy Furterer: within our initiatives and our and our strategic plan. And then, of course, the Gemba Walk is always really powerful.

25:17
Sandy Furterer: Now, Beth and I are going to talk about a couple case studies. I'm going to start with health care and a higher education case study, and then Beth's going to wrap it up with a really good agriculture case study. So these were were lean projects that had a whole lot of sustainability in them. So it's a demonstration of how you can do both really effectively if you really keep in your mind those principles and tools of both lean and sustainability.

25:47
Sandy Furterer: So this project was in a sterile processing department related to a surgical center in an acute care hospital.

25:55
Sandy Furterer: So when you know, we don't a lot of times think about when we're going in for surgery. All the things in the background that have to be done to make that surgery successful, safe and hopefully infection free. And so the surgical instruments are those instruments that are reused, and they have to be be decontaminated, and then

26:19
Sandy Furterer: they have to be made sterile. So there are a lot of people working behind the scenes that are getting those those instruments. They're decontaminating them. They're sterilizing them. They're repackaging them, and they're getting them back up to the surgery center so they can be used. The hospital's chief operating officer found that they had quite a bit of surgical instrument loss, and they wanted to streamline the sterile processing of the instruments.

26:49
Sandy Furterer: Another element, not only the getting lost, and between, you know, coming from the surgical suite to the department, which was on a different floor, and then moving it to back through the process, but also

27:08
Sandy Furterer: in

27:10
Sandy Furterer: the inefficiency and also the people. This was was, as you can imagine, you know, not not the kind of the easiest type of process to perform, and so it was difficult to get people that wanted to stay in doing this because it was kind of chaotic.

27:27
Sandy Furterer: And so we wanted to make it less chaotic and then train people better on it and standardize the work. So we wanted to first decrease the count of missing instruments, reduce waste and inefficiencies to enhance productivity, and also surgical instruments, as you can imagine, are very expensive. There's a lot of money in lost or misplaced instruments,

27:53
Sandy Furterer: so the tools that we used from us from a both a sustainability and a Lean, process mapping, 5S, Standard work

28:04
Sandy Furterer: used a lot of change management to implement and make things things happen, eliminating the waste, the waste, reduction, cause and effect analysis to identify what were the causes. Everybody has suspected causes of who's responsible for for losing an instrument, but we wanted to find the real causes,

28:23
Sandy Furterer: use of resources, the ability to recycle and reuse. And, as you can imagine, there's a whole lot of water and environmental impacts of this whole process, so we wanted to also be mindful of that.

28:38
Sandy Furterer: This is a Standard Work Instructions Sheet that was an example of a fairly straightforward process that we implemented a standard work process for.

28:55
Sandy Furterer: So some of the improvement ideas and initiatives that were implemented. The 5S. We got in there with the 5S really pretty quickly to standardize the workspace, the lighting, the flow, the resources, use of water talked about that the time that it takes to perform the activities, how instruments are lost, where are they lost, and then the safety as well.

29:21
Sandy Furterer: We improved the training to remove the waste improve quality communication was a key

29:29
Sandy Furterer: improvement idea, because they just didn't have great communication. And so the so there was a lot of finger pointing between the sterile processing department and the operating room. So we wanted to improve collaboration.

29:42
Sandy Furterer: Looking at better loading the carts in sterile processing, they sat in places. They sat in elevators for a while. So it was in getting getting those those carts to the sterile processing department more quickly, putting a better process in to do that, and then to get them recycled back up to the

30:01
Sandy Furterer: the the surgical center, the storage, the tracking, the instruments, and then also sorting in each of the processes, the decontamination, the cleaning and sterilization.

30:18
Sandy Furterer: So some of the barriers to change, we probably all know this, we've all seen this, is in kind of the cultural and change management aspects. People were comfortable in the process, even though it's chaotic. It's their chaotic process. They're used to it. They might not really want to change. They thought the current process was good enough.

30:37
Sandy Furterer: The surgeons and or nurses were sometimes resistant the way they were doing things they got used to again. The current process was very messy. The current people weren't very well trained, and it was in helping them to see how it could be a lot less chaotic.

30:55
Sandy Furterer: a lot more organized and standardized, as well as improving the impact to to the environment through less use of very expensive instruments, less use of water, and so forth.

31:12
Sandy Furterer: The next example is lean recycling in a university setting.

31:19
Sandy Furterer: the. We looked at this process, and we we 1st looked at, and this was done by a student team

31:26
Sandy Furterer: at a university, and they fist looked at the different places where there were opportunities in the university to recycle, and they found that you know one of the places that you can really leverage students who are going to be probably have more of a drive for the environment

31:49
Sandy Furterer: than maybe others is resource cycling in the dorm. So that's where we first focused.

31:54
Sandy Furterer: But we also saw there were opportunities down the road recycling in the classroom, recycling in the administration buildings, recycling during student move outs

32:05
Sandy Furterer: and move-ins. If you remember, if you were, if you were in college, or if you have ever been around a university when there's a move out, there is trash and furniture and everything everywhere, and you know there's a lot of value in reclaiming that things that some people don't want that can be used for others. This one focused on students in the dorm. So the student normally would locate the trash nearest trash room.

32:34
Sandy Furterer: Take items to the bin. There were a lot of issues around. Do I have the correct bin?

32:41
Sandy Furterer: Is the bin full? Is this recyclable? All of those types of things, and then making sure that they disposed of the item accordingly. So most of the improvement efforts were around that decision of. I got to get it into the right bin, because I know if it can be recycled or not, and the bins not overflowing. So I just, I just abandoned trying to recycle it.

33:07
Sandy Furterer: So within this one, we again use the Why-why diagram to really understand, why weren't people recycling? And we use a lot of voice of student surveys to understand whether there was a desire to to recycle

33:21
Sandy Furterer: and or whether it was just. It was too difficult to recycle. You know you're it's 10 o'clock, or maybe it's 12 o'clock

33:28
Sandy Furterer: at night in the dorm, and you've got a pizza box and the bin's full. You're not going to try that hard. Perhaps.

33:35
Sandy Furterer: We use scorecards. We used a lot of again standard work 5S. And value and waste analysis.

33:43
Sandy Furterer: So some of the ideas that the students came up with increasing the number of recycling bins, increasing the the frequency of the collection of the recycling bins.

33:55
Sandy Furterer: posting flyers and newsletters near the recycling bins, so it could improve information, knowledge about what was recyclable or not

34:07
Sandy Furterer: show locations like stickers on the ground, for where the recycling bins are or the trash cans are, and if a location is full, where's the next closest one?

34:19
Sandy Furterer: Have a separate pizza box bin? Because you know, as soon as you put one pizza box in, that bin's

probably full, so maybe have a separate one to to help with that recycling, and then, better defining the waste bin labels.

34:36
Sandy Furterer: I'll turn it over to Beth.

34:39
Beth Cudney: Great. Thank you, Sandy. I'm excited to talk about the third case study this case. This study was a little bit different. It was looking more at a small-scale agricultural setting. And it was a group out of Iowa. So, in particular, with this case study,

35:00
Beth Cudney: it's really about implementing Lean sustainability principles within this small-scale agricultural organization. The farm itself is in Iowa. It's a good agricultural practice. GAP certified Farm.

35:14
Beth Cudney: The farm operates on 4 acres of land. And it's part of the Johnson County Historic Poor Farm initiative out of Iowa City. What's particularly interesting with this operation is the mission of this organization. It donates 100% of its food production to local hunger relief agencies.

35:36
Beth Cudney: So as you can imagine, if there's anything that goes to waste, then it's not helping the community around them. So they really wanted to make sure that there was no waste from that perspective. And anything that was grown was going to the local community to help them. So a very mission driven approach with this organization

35:56
Beth Cudney: that also align very nicely with the pillars of Social pillars for sustainability, because it really focuses not just again on the efficient farming practices.

36:08
Beth Cudney: But there was also a very strong commitment to food, equity, and community well-being which really made this case study a lot of fun to work on.

36:17
Beth Cudney: The farm itself receives support from a wide range of of different stakeholders, government agencies, nonprofit organizations and also private donors.

36:28
Beth Cudney: So it really had a multi-stakeholder collaboration approach

36:33
Beth Cudney: which also ties in nicely and kind of reflects more of that, as Sandy talked about the systems based view of sustainability and looked at it from that systems perspective. So within this organization, lean principles were 1st introduced to streamline operations and focus more on resource management

36:53
Beth Cudney: and the goal. There was to do this in a way that respected both the farm's mission, but also the ecological responsibilities that that farm had

37:04
Beth Cudney: for that local community.

37:06
Beth Cudney: And what's really, I think interesting about this example is that lean sustainability. Here we're we're not. They're not just part of large organizations. Right? This is a small

37:17
Beth Cudney: organization.

37:19
Beth Cudney: 4 acres. So not huge, but has a tremendous impact on the community. So while this new approach works great for large organization. Even smaller community based initiatives can benefit from using a structured improvement framework like the one that we've proposed, and I think

37:39
Beth Cudney: oftentimes even more so beneficial for these types of operations, because the resources were very limited here, and every improvement that was made made a huge difference to the local community and the people in need in that local community.

37:58
Beth Cudney: Yeah, so as part of this initiative.

38:02
Beth Cudney: the project team began by identifying sources of waste in the farm's day-to-day operations. The focus here was primarily on its paper-based record keeping system. There was a lot of manual documentation which was time consuming anytime. We do anything manual. There's a lot of errors. It's more prone to more errors from the human perspective and a lot of inconsistencies.

38:27
Beth Cudney: This farm is also run by volunteers. So

38:32
Beth Cudney: you're always happy to have volunteers when it's an initiative like this. However, if you're having them focus more on the record keeping and things like that. There's going to be a lot more variability within the system. And when they're focused on that, they're not actually out working the areas to help grow the food, take care of the farms, which is what provides value in sustenance to that local community. So

38:59
Beth Cudney: the inconsistencies that were were there, not only increase the administrative burden. But there was also a lot of risk from inaccuracy in the in the data

39:10
Beth Cudney: from that perspective as well, too, it was hard, because that farm really had to make sure that they were adhering to the the GAP standards that I talked about a minute ago. So from their quality standards. They need to make sure that they were not running into any issues with how they handled the food, anything from the crops right to make sure that they were providing safe food for the local community.

39:32
Beth Cudney: So to address this, the team started using tools like Poka-yoke's mistake proofing devices

39:38
Beth Cudney: and developed a customized solution, which is called Farm Tabs, and you'll see an image of it on the screen. Farm Tabs is a low-cost, open-source digital tool that was developed to automate and really simplify the data collection again, allowing those volunteers to focus on providing value rather than the record keeping and eliminating a lot of those errors. So, Farm Tabs was developed to replace the paper records

40:06
Beth Cudney: by providing digital inputs. This reduced a lot of the redundancies

40:11
Beth Cudney: reduce the transcript transcription errors. It also improved access to the information, because everybody had access to that information rather than having to go to the files.

40:24
Beth Cudney: What's also, really, I think interesting about this, the software that was developed, Farm Tabs, it was built using open source platforms which makes it accessible to other small farms with very limited budgets, and that also demonstrates when we talk about lean and sustainability.

40:43
Beth Cudney: how scalability and replicate replicability of lean sustainability. Tools can be used

40:50
Beth Cudney: really with a focus on simplicity and equity right really in mind from those perspectives.

40:56
Beth Cudney: So by implementing farm tabs, it not only really improved the operational efficiency, but it also supported the environmental pillar of sustainability by reducing paper waste and conserving resources.

41:10
Beth Cudney: And then, from a social perspective, it empowered farm staff

41:14
Beth Cudney: with a very user friendly tool, that improved task management and compliance documentation back to those gap standards. So I think it's a really cool case study in terms of really demonstrating how lean sustainability can be tailored to any context, whether it's a large industrial operation to mission driven agriculture.

41:36
Beth Cudney: It's all about finding a holistic balance. And really the benefit from those social, environmental, and economic dimensions within your operations. And from this perspective, as well, too.

41:50
Beth Cudney: they were able to make sure they were getting crops on time, harvesting when they were supposed to traceability in terms of the packages that were sent out because they also wanted to when they were delivering, you know, fruits, vegetables to the local community. Whatever containers they were delivering them in were also reusable, and they were washed. So visual management was huge from that perspective as well, too. So really, you know, key and focusing on all the operations to make sure that

42:20
Beth Cudney: waste were eliminated from a lean perspective. But then, also from a sustainability perspective of making sure that

42:27
Beth Cudney: fruits, vegetables did not go to waste, because, again, wasted vegetables don't help with food insecurity. Right? We want to make sure we're providing as much as possible. Right?

42:38
Beth Cudney: So, I really enjoy that that third case because it's a lot of fun to me to have been a very small part of it.

42:46
Beth Cudney: right?

42:47
Beth Cudney: So hopefully, that gives you a little bit of an idea of what you know, what Lean sustainability is.

42:54
Beth Cudney: How it really all comes together. And so now, we want to take a moment and really hear from you. So Sandy and I have developed two poll questions that will help us understand kind of where you see potential for applying Lean sustainability. So we've got two poll questions that we're going to open up in just a minute, and you're going to respond to it. Based off of, you know, really what you think. So the first poll question and we'll go ahead and open that up is:

43:21
Beth Cudney: we want you to think about some of the Lean sustainability initiatives that you could implement within your organization. And what are some of the sustainability principles you think would impact you the most.

43:34
Beth Cudney: So if you can go ahead and answer the poll, that would be great.

43:53
Beth Cudney: Alright, wonderful, getting some great responses here.

44:11
Beth Cudney: Okay, if you haven't had a chance to respond, if you could go ahead and respond.

44:17
Beth Cudney: It looks like we've got a clear leader coming in so far.

44:27
Beth Cudney: All right, awesome, wonderful. We'll go ahead and and close the poll, and we'll look at the results.

44:43
Beth Cudney: Great, so it looks like, based on the responses so far, reduced waste seems to be the the biggest principle that most people can see really using within their organization with about 59%. And there's not really a close second here. Second, third are pretty close. second's 14% of you thought reuse.

45:07
Beth Cudney: And then close behind, that was the Green Culture which is interesting, the 11%. From the 5Rs, reduced waste is is definitely the clear, clear leader with 59%.

45:21
Beth Cudney: And

45:22
Beth Cudney: I think, personally, that makes a lot of sense. I think it's oftentimes one of the easier ones, in my opinion, to go after as well, too, because we are used to from Lean professionals thinking about where there's waste within our processes, right? We're already thinking about those 8 waste of down. You know, the downtime, acronym, or Tim Wood, whichever acronym you like to use with, you know, defects, overproduction, motion, waste, right transportation.

45:50
Beth Cudney: So it's easy for us to go ahead and think about, you know, ways that we can reduce waste and then tying in

45:56
Beth Cudney: the sustainability principles. With that, I think, is a nice clear transition for most organizations to start with.

46:04
Beth Cudney: Wonderful thank you for.

46:06
Sandy Furterer: And Beth. I would throw in there, too, I think that's kind of nice, because it used to be that everything was about recycling, right. But this shows, I think, the the next progression of we're doing the reducing waste from a lean. And we can also do it from the impact environment. So that's pretty cool. I like that.

46:24
Beth Cudney: Yeah, absolutely perfect.

46:27
Beth Cudney: Yeah, that's a great

46:28
Beth Cudney: great comment. Yeah. And I see the comment in the chat, too, about when organizations have green culture. They should implement the 5Rs, absolutely Oscar. Great point.

46:38
Beth Cudney: Wonderful, let's go ahead and move on to the second question. Then I'll be curious to see what you all think here.

46:45
Beth Cudney: So our second question is around which area of the product lifecycle do you think you could most impact with your lean sustainability initiatives. So when Sandy was really talking a lot about that whole product, life cycle, right? And how we could look at that

47:06
Beth Cudney: we'll get the next poll question up.

47:11
Beth Cudney: and then we'll have you think about it from your organization and how you think.

47:16
Beth Cudney: within the product life cycle that you could really make the biggest impact.

47:38
Beth Cudney: All right. Are you all seeing the poll? Oh, there we go, perfect. There's the poll question. So think about that perfect.

47:45
Beth Cudney: So the areas are design production, reuse and recycling.

47:57
Beth Cudney: These polls are fun to watch, because I'm able to see them as they're coming in. So I'm kind of seeing that there's there's a couple 2 top contenders that I won't spoil it yet. We'll wait until we get closer.

48:26
Beth Cudney: Perfect. Okay, I think we've kind of stabilized with the results.

48:32
Beth Cudney: Gotta give it one more minute because we're getting a few more coming in.

48:45
Sandy Furterer: That they shared the results. Sorry.

48:47
Beth Cudney: Oh, perfect. Okay, no. That works great. Okay? Well, so we'll go ahead and look at those. So it was funny, as I'm watching the results come in. Design and Production were neck and neck.

48:58
Beth Cudney: And so the results now for production, 39% and design, beat it out just a little bit with 43%, right?

49:07
Beth Cudney: Which I think makes a lot of sense, right? Because if we're thinking about where we can make the biggest impact

49:14
Beth Cudney: within production, we can improve the existing processes right? But

49:19
Beth Cudney: in my mind, thinking about the whole product lifecycle, if we design it into a new design, then we can reap those benefits, and that's going to affect production by thinking about it from the design standpoint to begin with.

49:32
Beth Cudney: So that's you know, in my opinion, kind of where I see both as well, too, if I can design it with sustainability in mind. Great. But if I already have a process. And it's running. And maybe I'm working in an environment that doesn't have a lot of design changes. Then production's a great place that I can go after and start really driving the sustainability efforts.

49:55
Sandy Furterer: Yeah, awesome if you wanna

49:57
Sandy Furterer: no, I was just gonna say, I really like that. I would have expected a lot more in production. But it's very exciting that people are trying to design sustainability in from the beginning. Very nice.

50:06
Beth Cudney: Yeah, that's awesome. Wonderful. Yeah, great. Thank you all for for giving us that feedback. That's really helpful.

50:14
Beth Cudney: Good.

50:15
Beth Cudney: Well, so I'm hoping that you're seeing then, based off of you know what we're thinking about from this lean sustainability framework. You know, I think

50:26
Beth Cudney: one of the things that I love about it is.

50:29
Beth Cudney: it's a fairly simplistic, straightforward approach, right? The framework really ties in the different tools together, but it offers a very structured and integrated path for how you can combine Lean tools

50:41
Beth Cudney: with environmental and social responsibility. And we're hoping that it's really going to help empower you and your organizations to make intentional, impactful changes that are aligned with both the business goals of your organization and the sustainability imperatives within your organization, you know, going back to thinking about production and design, how you can really

51:05
Beth Cudney: integrate those methodologies together. And then going back to, you know, reducing waste these tools from that 1st poll question that we're used to already implementing waste reduction methodologies.

51:19
Beth Cudney: So as we're going in and doing Kaizen events, how can we kind of keep having this in the back of our mind thinking about. Well, it's not just waste, because we've got motion waste. We also can be thinking about what we can recycle or reuse, so that we're not.

51:34
Beth Cudney: We're not putting things into landfills and making an impact from that perspective.

51:45
Beth Cudney: So one thing we'd also like, just kind of to mention, is for those interested in learning more. Sandy and I, along with Chad and Gadganpreet, wrote a book on this. The book goes through all the different Lean tools, 5S. Standard works, med total productive maintenance, visual management. You know lots of different tools that expands on each of these principles. And then we also have more case studies that really talk about. You know how to do this and these tools.

52:13
Beth Cudney: So we're pretty excited about that. And the book really takes you through how to be more of an enabler of circular economy strategies within your lean initiatives. So we work with our publisher, and we have a 20% off discount code that's provided. And I think they've also put that into the chat

52:34
Beth Cudney: so hopefully, you'll take advantage of that.

52:38
Beth Cudney: And through this session we hope, you know, you've had a a good introduction to key concepts around Lean and sustainability.

52:46
Beth Cudney: Understand, you know how we can align Lean and sustainability through that Lean Green Sustainability Framework. We also talked about 3 different case studies to show you how you could apply it and overall. We hope you really have a better understanding of how to apply these ideas in your organization so that you can drive both performance and impact from a sustainability perspective.

53:10
Beth Cudney: So we really appreciate you joining us today. Thank you so much. And then I'm going to turn it over to Brian, who's going to handle the question and answer session.

53:20
Brian Scarpace: Excellent. Beth, thank you, Sandy, thank you so much. We really appreciate how you brought this content to life, especially with the case studies. I think those were excellent. I think audience got a lot of value out of that. We have a few minutes just for a couple of questions, and if anybody wants to put anything in the chat, please do so. We have a couple here, and either Sandy or Beth, whoever maybe wants to take this one when organizations are starting down the path of Lean sustainability. How do you suggest they start?

53:51
Sandy Furterer: I can start with that one. I would say that the first place is to really make sure you have buy-in from your leadership to incorporate both lean and sustainability. Again, our assumption is that you would already be doing Lean. If you're not, I would think you can start the Lean path first

54:14
Sandy Furterer: and get some wins and then incorporate the sustainability. You want to work with leadership. So you get their engagement. You get the resources that can be working on the projects, and it also can connect to the strategic plan for the initiatives. You then want to try to get some quick wins. That's why I mentioned 5S. When we were looking at tools. That's a great place

54:38
Sandy Furterer: to show immediate physical value to your organization and your organization and cleanliness and and all of that. So I think that's where I'd start. What do you think, Beth?

54:51
Beth Cudney: Yeah. And that is a great point, Sandy. The one thing that I will add that when when we were writing the book and really thinking about the methodology. One of the things that we wanted to be cautious of is that organizations most organizations cannot afford to add in a whole sustainability department, right? They don't have the resources that the time, the cost that's associated with that

55:18
Beth Cudney: and since these two really go hand in hand, Lean and sustainability,

55:23
Beth Cudney: finding a way that we could integrate it. So it's not a whole extra, now we've got to do this on top of everything we're already doing. We wanted to find an easy way that,

55:33
Beth Cudney: as Sandy mentioned, you're already doing Lean. Now, we're just adding in some different aspects to think about, right? So if you already have a 5S checklist, for example, we want you to add in maybe a few things on the checklist. So if you've got defects, right? How are you disposing of them when you're cleaning up at the end of every shift? And you've got your 5S checklist.

55:57
Beth Cudney: Are you using cleaning things that you know, cleaning tools that are safe for the environment, you know. Could you get away with just like water and vinegar? Or do you really need a harsh chemical that you have to handle separately.

56:08
Beth Cudney: And, granted, there are, there are instances that you do right with Sandy's surgical case study, those tools have to be cleaned with special chemicals, right,

56:19
Beth Cudney: but can you rethink other ways? And so it's it's expanding what you already have rather than trying to implement a whole new initiative that's going to be that much extra work and expense. So really trying to make it simpler for people.

56:34
Brian Scarpace: Excellent. Thank you, Sandy. Thank you, Beth. I think we have time for one more to squeeze in here. I just want to be respectful of everyone's time. This one's from Richard. It says, you know, just thinking out loud here. But could a new form of waste become not recycling or reusing something that could be like a missed opportunity or unnecessary waste

56:56
Brian Scarpace: any thoughts on that.

56:59
Brian Scarpace: I can read it again too.

57:00
Sandy Furterer: No, I I see in the chat. I think I think that would be a great one to really to to incorporate the a couple of the ours in there is to think about that like that. So it'd be 9 ways. Okay, maybe the 8 waste plus plus the circular economy.

57:18
Beth Cudney: Well, it's so funny, because I was just thinking, why didn't we think of that sooner? Because that would have been great with the book?

57:26
Sandy Furterer: Second, edition. Yeah.

57:28
Beth Cudney: Right second edition. Thanks, Richard. We'll have to add you.

57:32
Brian Scarpace: Okay.

57:32
Beth Cudney: You?

57:34
Beth Cudney: yeah. So it's funny, because we did think about like with value stream mapping, we added in new symbols, like, though, a water drop where there's excess water usage, and then there's like a little footprint for carbon footprint. But no, that's a great idea of how can we? Really, you know, have something that's, you know, an unnecessary waste, or, you know, something that's more around the circular economy. Part of that ties in a little bit with, you know each one transportation has, you know, extra emissions.

58:04
Beth Cudney: When we talk about defects we've got to handle, you know, anything that has to be reworked that causes extra ones. And so I get a part of me, was pausing, as well, you know, first, st because we should have thought of that, but second, because part of it's

58:19
Beth Cudney: somehow integrated already in each of those wastes a little bit that we, you know we did touch on it that a little bit in the book.

58:26
Beth Cudney: because it's almost like a symptom like if I make. If I have defects, then it causes all these other things right, or if I have poorly laid out facilities, I have additional transportation, wasted carbon emissions, carbon footprint, all that stuff that goes into it.

58:41
Beth Cudney: So yeah, that's a great idea.

58:44
Brian Scarpace: Excellent. Thank you, Sandy. Thank you both.

58:47
Brian Scarpace: Well, I'm gonna wrap us up if that's okay, Sandy and Beth.

58:51
Sandy Furterer: Yes, great.

58:52
Beth Cudney: Yeah, thank you. Yeah. Top of the hour. Thank you.

58:54
Brian Scarpace: Excellent. Well, we want to say, Sandy Beth, thank you so much for your expertise content. The case studies were awesome. We really appreciate your time, and thank you for all the preparation for today, and also to our audience and to our members and guests today. Thank you so much for attending. One thing that really helps us out in our events, and informing the content and inviting great speakers like Sandy and Beth to join us is if you could please complete the survey that we'll put in the chat. That really helps us out to find out what's important to you.

59:23
Brian Scarpace: I also wanna mention again that the the presentation today will be available and the recording in our events portal, and we'll put a link to that out. And everybody who attended will get a post-event email, so don't have to, if you forget about it, don't worry about it. We'll, we'll send you an email, so it'll all be packaged up for you. So

59:39
Brian Scarpace: I'm gonna end us here. So, Sandy, Beth, thank you so much. And I hope everyone has a wonderful day.

59:46
Sandy Furterer: You're welcome. Bye, bye, thanks for joining everyone.

59:48
Beth Cudney: Yeah, thank, you.