

### Interview with Rick Murrow, AirAcad.com

#### What is Lean Six Sigma?

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Michael Cyger: Hey everyone. My name is Michael Cyger, and I'm the founder and publisher of iSixSigma.com - the largest community of Lean Six Sigma professionals in the world and the resource for learning to drive breakthrough improvement.

On a daily basis, thousands of people visit either the "new to Lean Six Sigma" page or "what is Six Sigma" page of iSixSigma.com. Today, more than ever, improving the operational efficiency of businesses, organizations and educational institutions is the highest priority; often times, it's an imperative to stay in business. But instead of making you wade through the electronic equivalent of reams of paper to find out what Lean Six Sigma is and how it can help your business, I brought on an expert to help us.

Joining me today to help us understand Lean Six Sigma is Rick Murrow. Rick is the chief executive officer at Air Academy Associates, a consulting company specializing in delivering client results through multiple improvement methodologies, including variation reduction, defect reduction, problem solving, robust process and product designs, and business growth.

Rick, welcome to the show.

Rick Murrow: Thank you Mike.

Michael: Let's start this show at a high level, and work our way down into more detailed questions. My first question for you is going to help my mom out. She gets together with all of her friends, and, of course, talks about what her children do, what we're up to, how the grandkids are; things like that. When she gets to me, she says I'm a publisher, which is true, but then she's always lacking for a description about the content that iSixSigma.com publishes. I told her the first question and answer was for her, and I know

you're going to be able to help me out Rick. So tell me this. What is Lean Six Sigma from a fifty thousand foot level; so that my mom could understand it?

Rick: From a fifty thousand foot level, Lean Six Sigma is a customer focused change strategy. It's a business strategy that helps improve business performance. Inside of Lean Six Sigma is a systematic approach to improving the way people do process improvement. There's a methodology that's involved that allows them to systematically enhance your processes. Businesses are in business for two reasons: one is to satisfy the customer, and the other one is to make money. What Lean Six Sigma does is it helps a customer compete, and answers those two questions or helps satisfy those two goals. Lastly, Lean Six Sigma is an ability, or gives the business the ability to, deliver accelerated business results. From a fifty thousand foot level, I think that's the best way to describe it. It's a business enhancer, and there's tools and techniques embedded inside there that people can learn that allow them to improve their processes.

Michael: So, my mom has done various jobs over the years, including raising the kids and providing for us. One of the jobs that I remember she used to work on was, she was a bookkeeper at a bank. So she actually interacted with people, and explained the books, and did the accounting. When you say customer focused change strategy, how does my mom interpret that? What does that mean from her perspective delivering accounting to people?

Rick: Okay. In any process, and certainly accounting, financial services are processes that have to satisfy the customer in terms of their desires; their needs. You're providing a service or a product, and the customer may want a fast exchange to take place; they certainly want an accurate exchange to take place. They want their transaction to be accurately represented. And so, with that now, your mother who's providing that service - is satisfying that customer - needs to have a process that allows them to satisfy the customer. It's processes that customers look at. You can have the greatest product in the world, for instance, but unless you deliver that product or that service that you're providing in a way in which the customer is satisfied in terms of accuracy, timeliness, and cost to the customer, they won't be satisfied. So, your mother has a process. She deals face to face with a customer. When the customer leaves, they evaluate not only what they got in terms of was it a

proper transaction, but how it was delivered. How your mother did it; she was professional. Those kind of things. So there's many things that a customer takes into account that determines if they've had a good business transaction or if they they're happy with what was provided to them by a company or an individual.

Michael: So it's basically a methodology that helps people that are in process; and it sounds like every single person in business has processes that they do. A set of tasks that they do every day in order to help the business move forward, make money, satisfy customer needs.

Rick: That is it in a nutshell. And you bring up a good point. You say that people provide. Many of our processes are transactional, or services, in nature. And they certainly are provided by the process worker - the individual that's providing that service. What annoys a customer, intentionally, is when there's variation in how that process is performed. For instance, I'm dealing with a company that's providing me something. And one day I deal with, let's say, Tom; and Tom does the process a certain way. And I think now that's how it's performed, and I come to rely on that. And then the next time the business process is performed, it's done differently because somebody else is performing that process. The results may be different. The transaction may be different. How I feel about how that process was accomplished could be different. And that has an impact on how I feel towards that business who has provided me the product or service. So variation in the way a service is performed certain impacts the customer.

Michael: I know that Toyota is credited with being a Lean company, and Motorola is credited with pioneering Six Sigma in their manufacturing environment. I don't run a manufacturing company. What can Lean Six Sigma do for my company if I'm not manufacturing, you know, widgets that are rolling off my production line in the hundreds per hour or thousands per day?

Rick: You mentioned them as two different methodologies, and they were at one point in time. You had Lean. You had Six Sigma. And over the years - and you can subscribe the time frame to maybe six, seven years ago -, the two methodologies basically became one. Because they're synergistic. They're

both out to improve a process in terms of time to deliver the product or service; in terms of the quality in which that product or service is delivered. And lastly, how much does it cost when we produce that product or service. When Six Sigma first started out, they were focused mainly on manufacturing. I spent some time in GE Capital, and surely, GE Capital is a financial services. It's a transactional based business. And all you have to do is have a process. In other words, something that allows you to deliver value to the customer in terms of a product or service. So it doesn't have to be manufacturing. As long as you have something that you're delivering to the customer - and it might even just be knowledge -, you want to deliver that in the best way possible for the customer to receive it. So, Lean Six Sigma, although it's phenomenal with manufacturing and many manufacturing companies throughout the world use Lean Six Sigma, many other transactional services process based businesses, such as financial services, healthcare, and so on, pharmaceuticals; they use Lean Six Sigma to improve the way they deliver that service or perform that transaction with that customer. So Lean Six Sigma is not restricted to just manufacturing. It's anything that any process that provides something that is supposed to add value to the customer; they can benefit by the use of Lean Six Sigma.

Michael: Let me ask you a follow-on question then. You know, I used to work at GE Capital also. You and I have talked about this in the past.

Rick: Yes.

Michael: And I used to be the master black belt in charge of the accounts receivable group, or I'm sorry, the account delinquency group.

Rick: Okay.

Michael: So this is the group that had to call customers that had loans or leases with GE Capital. And we had to call them because they were late on their payments. And we needed to work out a payment schedule with them. In some cases, we needed to track them down. You know, you know how that; you've heard stories about how departments like that work. And those customers do not want to hear from us - from GE Capital.

Rick: No.

Michael: Those are the customers that sometimes need a little bit more stern talking to talk about the significance of being in a financial relationship and having responsibilities to fulfill. And so, would those customers? You know, when you're building that process, and you're trying to contact these customers who owe you money. Is that the kind of process that Lean Six Sigma would work for?

Rick: Once again, Lean Six Sigma will work - it's been my experience - for any process, especially in financial services. To go along with what you just said; I worked at Mortgage. And we had processes all the way from sales and marketing, to capital markets, to servicing, to default. And, certainly, when a loan goes into default, it's not pleasing to have to contact a person and let them know that their house is now being reviewed - their loan is being reviewed - and we need to take the necessary steps to bring about, or get back, the value that we had in the house.

Michael: Right.

Rick: What we did is, we had processes, and we called one workout, and workout was to do was to get with the customer - the person who had the mortgage. In your case, the person who might owe money that has no paid - it might be a person who owes a premium that has not paid whatever -; to get with that customer, and now do all that you can to, first of all, approach that customer with dignity and respect. Secondly of all, now work within the process and make it such that that person understands that you're doing all you can to make it possible for them to satisfy their debt. You know, certainly embedded in getting a loan or in providing something to a customer that requires to look at their financial background, to look at their employment history, to look at the assets and so on. We have a certain knowledge about the customer already. Well, something probably has changed within that for the customer. They may have lost a job, or they might have been hit hardship with healthcare issues, or whatever. We worked within those process; in other words, the process steps allows us to work within that process, and to work with the customer to now try to modify the terms and conditions of what was owed. And maybe that was an extension of

the timeframe, maybe it was a reduction in actually interest rates, and so on. But we would work to now to make that customer understand that, yes, we have an obligation to satisfy the terms and conditions, but we're also trying to keep them as a customer; retain them. And years from now, they will remember that, for instance, GE Capital did provide the ability to work out keeping their home. The last thing we wanted to do was to confiscate, or take over, the home; turn it over to somebody who now had to maintain it; hire a lawyer who did certain things, because that's more costly to our business. You actually have two customers. You have your employer, or GE in this case. They want to get their money. But you also have the external customer you have to consider. And that is, we considered the external customer the most important. So hopefully that, you know, using the mortgage example has helped answer your question. Yes, there are times when you have to approach the customer because they have not satisfied the terms and conditions. But we had a process workout. And so, there is a process for recovering the assets, or what you're owed. However, you still have to. The goal in mind is to retain this customer. To get them so that they're able to pay their bills. To get them so they're able to keep their house, for instance.

Michael: Right. Okay. So we talked a lot about being customer focused. And I think that's easy for people to understand. You know, I run a bakery. The customers walk in the front door. I need to have the bread that they're looking for ready. I need to have a smile on my face. I need to deliver it in a defect-free manner. And you can measure defects from the customer perspective. But what if you have no interaction with the customer - the end customer - who's paying you for that service at all? You work in the back office. You're a programmer that never sees the light of day. You're an accountant that only gets checks coming in on a daily basis and has to reconcile them. You're a lab technician, where the order comes in, you pipette little things and you deliver your, you know, you run in under a microscope, you write how many amoebas you see; I don't know. And so all you do is, you deliver a product internally. Does Lean Six Sigma apply to them?

Rick: Certainly it does. And as you get more involved in Lean Six Sigma, you see that there are certain things that we do look at. We look at, what you call, a value stream. And a value stream is nothing more than a connection of processes that eventually add value to the customer. Now, we look at the



external customer as the customer is the one who's going to feel your product or service and gain value by that. And that's why a company will exist; is to satisfy an external customer. But embedded in the business are processes now in that value stream that support the customer getting the value at the end. They're support functions. They're support functions like HR, IT, Finance. All of those are necessary to keep your processes better, and the value stream running efficiently and effectively. For instance, once again I'll resort back to - since we're on financial services - the mortgage example. You have sales and marketing. You have origination. You have capital markets. You have servicing. Well, many of those processes inside don't necessarily touch the customer in terms of, okay, the process had eventually gives them the money to now buy their house. You have processes in which, for instance, in underwriting; we have to look at all of the information that the customer - or the applicant - has provided us. We look at terms and see if the asset is valuable. We look and see their history and so on; their employment history; their financial history to make sure they can provide that asset. We then have to look and see if we can, if we buy this loan or provide this loan, can we pool it up and put it in like loans that have the same terms and conditions. Okay? All of that is done without the knowledge of the external customer. The external customer; what they will hear is, yes, the loan was approved. And two, when it comes to closing, yes, the cash was there to secure the mortgage for the person. They now can move into their home. But there's many processes that take place that if their inefficient. For instance, setting up the right escrow account, making sure the tax base is correct, and so on. All of that is done, once again, without the knowledge of the external customer. But if it's done incorrectly, and we have many post funding adjustments, or there's an inconvenience that's caused to the customer, that essentially and eventually will have an impact on them. So, to answer your question, all processes within a value screen, or within the business, should run effectively and efficiently, because in the end, they effect at least one of two things. Okay, the customer, or. And the customer can't be the business, and the business is in business to make money. If we're running inefficiently inside the business, then that has an impact on the bottom line.

Michael: Got it.

Rick: So, yes, all processes internal are important in satisfying the customer externally as well as satisfying the internal customer, which is the business.

Michael: Okay. So it sounds like it'll work in any business. So then I have to questions for you that relate to the results that I can see and the cost. So let's take the first question first. What can I expect to see as a result of implementing Lean Six Sigma? You know, what kind of metrics will I see improve, and what may I see to the bottom line?

Rick: Okay. And I'm going to talk high altitude at first, you know. And then we can drill down as we go along. But basically, what you can see is that you are, if you employ Lean Six Sigma, you implement it properly, it's embedded in your processes that satisfy the customer, or deal with the customers, as well as the processes that are working at efficiencies and effectiveness within the business, you will see that, first of all, it adds greater value to the customer. Whether external or internal. The other thing that with Lean Six Sigma, you enhance the intellectual power of your working force - your process owners; your process workers. And when I say intellectual capital, it's very nice if the people know their processes. How they work; how they can be modified to make them run more efficiently to make them run better. It's nice. So they first have to have knowledge of their process. The other thing that Lean Six Sigma will provide them is the ability to take a look at their process and see where waste exists, to see where variation exists, and how they can handle that and improve that. I'm amazed, especially in transactional and service processes, where we really don't know how much it costs us because of our inefficiencies. Those costs are hidden because many times we do rework; we don't record that. All we know is that it takes time away from doing other customers, or working on other steps within the process. So, Lean Six Sigma can give you an intellectual power that will stimulate the process workers to understand they have an impact on their process. The other thing that Lean Six Sigma will do is it grows the top line. In other words, if I have implemented it properly, if leaders and managers are involved, and so, and I'm looking at it strategically, it can grow the top line. I can gain increased revenues. It can enhance the bottom line. In other words, my net income will increase. I'll see things like market share be enhanced over time. And the last thing I'll hit before we now drill down maybe a little bit further is, it enhances your culture. Many businesses that I come across



have phenomenal cultures. They have cultures that have existed for many years and so on. And so, I'm not one that proposes that Lean Six Sigma should totally modify a culture. It shouldn't. It should work within a culture to enhance that culture, and magnify the good things of that cultures. So, when you have people that are working on processes; and I have been in both, manufacturing and transactional processes, where I would go to a process, and I will actually ask people, 'How does that impact other processes?' Or, 'How is that impacted by, or how does it impact processes? Upstream? Downstream?' That kind of thing. And I'm amazed at sometimes that I will find a process in which somebody is producing something. And it could be a manufactured item. In other words, something on an aircraft. And they do not know where that part goes in to the aircraft. And that sounds silly, but I've had that happen. And they don't know what part they play in terms of the safety features and so on. And so, what Lean Six Sigma does is it tries to enhance their knowledge, enhance the culture of exchange of ideas, so that processes upstream and downstream are talking to one another.

Michael: Okay. So you're breaking down some of the silos between process A, which outputs a product to process B, which outputs a product to process C. And that all sounds great and touchy feely, but the business leaders want to know that they're either reducing their costs so their profits are going up, or they're keeping their costs the same and they're top line is growing so their profits are going up. So can you give me a couple examples? Let's start with top line. Can you give me an example of how Lean Six Sigma has helped a top line grow at an organization that you've worked with?

Rick: Okay. And by top line, now, I'm going to refer to it grows our revenue. Okay? And I'm going to say I seen it done with Lean Six Sigma. First of all, there are companies out there that actually require their supplier, or their provider, to be involved with Lean Six Sigma. And if they are not, then the customer, or the person that's being supplied - the company that's being supplied - has a feeling that maybe that business they're working with is not that interested in making the product or service such that costs are reduced, quality is up, variation is down; that kind of thing.

Michael: Right.

Rick: So, one, it enhances your relationship with people that you're supplying if you are a supplier. Enhances the relationship that you have with customers, so there's a strategic relationship that will exist. It also grows your market share. We actually had - and once again, I will refer to the business, but I've not only done it in GE. I've done it in other business - where we can actually, if we introduce a new product or service, or we want to see what will happen if we enhance our customer satisfaction a couple of percent, what does that lead to in terms of increased revenue. When you get your processes very well defined and you have data. Now, it takes time to accumulate it, but we had data which we had, say, acquired over a two year basis, we actually came up with the relationship that existed between customer satisfaction and growing your market share, or increasing your revenues; and so, it helps us there. It helps us in new product development. The tools of Lean Six Sigma are used in new product development. And knowing what the customer wants, being able to come, let's say, with a customer score card, being able to investigate what the customer really has to have, we're able to design products and services that better meet the needs of the customer. And so therefore, when you're able to do that, once again, it has an impact on revenue; because you're selling more of the product or service. It has an impact because now you're building goodwill, and you're increasing your market base, and so on. And so, that grows the revenue. So that's how, when we say it grows the top line, that's basically what we're looking at.

Michael: Yeah. You know, and I'll throw out a couple of examples as well, Rick. We have a cover story coming out about Microsoft's Lean Six Sigma deployment. And they don't call it Lean Six Sigma; they call it quality and business excellence. To your point, they get Lean Six Sigma to fit the culture of the organization. But they've shown, over the years, that taking costs out isn't where they save, you know, the big dollars. That, you know, taking a hundred million or ten million out of a process is dropping the bucket. What they want to do is increase their customer satisfaction.

Rick: Sure.

Michael: If they can increase their customer satisfaction a fraction of the point, that leads to hundred of millions of dollars in top line revenue growth. And so, you know, to your point, you really need to understand your business

and how Lean Six Sigma can help you achieve your business objectives, and then implement it in that fashion.

Rick: Sure. That's a great example, Mike. That goes along with we actually had a relationship that showed us okay, if we grow one percent or two percent in customer satisfaction, what does that equate to in dollars.

Michael: Yeah.

Rick: And we broke it down into in terms of, okay, not only increased originations, but now what's that going to do to our servicing income and so on. And it was nice to have those kind of relationships that existed so that we could see where we needed to grow the business.

Michael: Yeah. Yeah. And I'll throw out one more example. Just because we were on the GE Capital topic. You know, I worked at GE Capital Commercial Equipment Finance. We provide leases and loans to all different types of commercial equipment, one of which was Xerox, or copier machines; any type of copier machines, which usually have a decent price tag for a small business, but not hundreds of thousands at all. But we found if we could reduce our cycle time to deliver a quote to customers that we would win more business. The problem is, a customer came to us and asked us for a quote to create a lease for this, you know, five thousand dollar copier machine. We would have an internal process that would then go through and evaluate whether we want to extend them credit, what their credit worthiness is, what the rate should be; all these factors internal the customer could care less about. And it would take us, I think, two weeks to turn around a decision. A lot of them were yes, because it's not a lot of money, and a lot of our customers were credit worthy. But by that point, one of our competitors was beating us to the punch. And these customers will take the first lease or loan because they need to do their business. So we found if we reduced our cycle time, we were able to operate more efficiently internally to turn around an answer to the customer faster, we won more business. And that was a big top line benefit by reducing our inefficiencies in-house.

Rick: Sure. I think that once you get an example, you give us great. I have two quick examples.

Michael: Yeah.

Rick: One is in oilfield services. Without naming the company, we worked with them, and they were having a problem exactly what you said, providing a tender to a customer. In other words, how much will it cost us, when can we do it, and so on. And they were taking so long in their process that they were losing customers. And what they had to do, and what they did, was go inside. They went internally and looked at their tender process, and realized, you know, ninety percent of that is a process that can be captured and done very systematically and very quickly. Ten percent, which is specific to a company, now they improve that part of the process so that they could now turn around their tenders to the customer very quickly. And they started gaining, as you indicated, more and more business. The other thing, and this is when I first got to GE Capital, we had a visit by Piet van Abeelen, who was Jack Welch's quality leader. And he asked the question, 'How long should it take GE Mortgage to underwrite a loan and to approve a loan, and then fund that loan?' And nobody raised their hand to answer that question. And I was new, and like an idiot, I thought, well, I'm going to answer that question. And I raised my hand. He called on me, and I said, 'Okay. It should take thirty days. No more than thirty days'. And he looked at me like I didn't know what I was talking about, and he said, 'Where'd you get that answer?' And I said, 'Well, back then, that was industry standard'. If we could do it. Ditech was doing it in ten days, but industry standard, if you could do it in thirty days, you were great. And he looked at me and he said, 'You know what? That is a wrong answer. The right answer is it depends on what the customer wants. If the customer wants it in four days, you have to be able to say I can fund it in four days, and have a process that satisfies that. If you can't do it in five days, then you need to be able to tell the customer, I'm sorry, my process is not capable of doing that'. Okay. But, bottom line was our processes need to be flexible enough, need to be efficient enough, streamlined enough, so that we could provide the customer. And flexible enough; the terms and conditions that they wanted.

Michael: Yeah. Great example. So we talked a little bit about the metrics. That we could grow, you know, reducing customer complaints, reducing returns, customer satisfaction leading to more top line growth, removing

waste and non-valuated activities from our own internal processes which can reduce our costs implementing the same product to a customer. Those are all the results that we can expect from implementing Lean Six Sigma, right?

Rick: You can expect, yes, you know, we talked about the top line. The bottom line is equally important to many companies. And those goes into what you just said there. We need to work within our processes to cut down expenses. And we do that by, you know, improving yield rates, cutting down rework, defect rate, improving cycle times. In many cases, time to market, or cycle time, is vital in keeping customers, and getting our process so that it can satisfy the customers time constraints. And when we decrease variation, all of those enhancements there, yield to the bottom line. And in many cases, companies that are suffering with that bottom line figure; they need to see what they could do within their business and processes to improve the yield rates, the cycles times, and those kind of things, which I've just mentioned.

Michael: But Rick, a lot of the people that are doing these back office jobs in companies around the world have been doing these jobs for years. They're experts at their jobs. They know their job inside and out. Why do they need Lean Six Sigma? What is it going to help to do their job better?

Rick: You know, and that's a good question. There are many, I'm going to say. Many of the companies I've been to, the people are certainly knowledgeable about their processes. They've been around for a long time, or time sufficient, for them to learn their process. And in many cases, the process, or I should say in some cases, has actually become dependent upon them. And when they're absent, or when they're sick, or whatever, when they get distracted, that has an impact on the output. When I first got to GE Capital, I hate to keep bring thing up as an example, but many of them, I think, were good examples to answer your questions. When I first got to Capital Mortgage, I wanted to show the VPs that I was new, but I had a fairly good handle on the mortgage business, and I also had a handle on process improvement, and that our master black belts and black belts could help them. Well, I had a VP in Capital Markets who told me, 'Rick, I been in the business for twenty years. There's nothing you can tell me about capital markets that I don't already know. And so, I don't really see how Lean Six Sigma will help me'. Well, I asked him if he would just accept a master black

belt from me for six months for free, and we would go ahead and show him what Lean Six Sigma could do. Well, the amazing the about it was, the first project that we did, actually netted him twenty million dollars. Okay, now, I couldn't have planned it any better. It's just that in capital markets you can do that.

Michael: Right.

Rick: Twenty million dollars, and he was now an advocate for Lean Six Sigma. And when we go to meetings and so on, he would beat my math beat. Because he experienced the fact that lean processes can be improved. That many times we get hung up on the fact that we know everything about the process, and we sometimes get blindfolds where we narrow our focus in and we don't see that there's ways we can improve our process. So I guess my advice would be, people who are embedded in a process, who've been there a long time, who know that process backwards and forwards, need to take a step backwards, take a look at that process, dissect it, see what steps add value, what steps do not add value, what steps over the years - and I find that in many process over the years those steps have now become totally not value added to the new process because based on technology changes, or government requirements, or safety concerns, that no longer exist; those steps can be taken out. And the time can be quicker, the quality of the process can be better, and so on. But they need to first look at it and see what their process is capable of doing today. And then the tools and techniques of Lean Six Sigma can enhance those processes.

Michael: Yeah. Fantastic point. And I'll just throw out, because, you know, I did work at GE Power Systems, GE Capital, Citi Group; some of the best run companies in the world at the times I worked at them, I was fortunate, you know, Jack Welch named CEO of the century, one of the best business leaders of all time. And I don't say those two things to say that Lean Six Sigma drove those. I say that those companies were the best run companies in the world. They had some of the smartest people in world. And they realized they could do their processes better. Regardless of what methodology they used, they could do them better. And they realized that they weren't perfect, and that there were ways to improve it. And so, they used Lean Six Sigma as a way to do that, and a way to enhance their customer products.



Rick: I, you know, totally agree with you on that. If I could, prior to GE Capital - my last five years -, I had time in the Air Force. In fact, I put a career in the Air Force. And my last five years, I was in charge of quality for Air Combat Command, hugest organization inside the Air Force. We had thirty-nine bases, over a hundred thousand people, and we introduced Lean Six Sigma. We first introduced Lean, and then Six Sigma, to the organization. And we were doing things that we called, action workout. And what we found those action workouts, which some people call Kaizen Blitzes and so on. But we used Six Sigma within that, so we cut down variation. Those what they did was say that things like saving the tax payers five million or six million dollars on phase maintenance programs, we could then pump that money into increased, what we call, combat capability. And so, what we dubbed Lean Six Sigma as a force multiplier. Well, now as I deal - I've dealt with GE, and I've dealt with businesses since then -, I look at Lean Six Sigma as a force multiplier, or a business enhancer. And it's to be used with what leadership and management are using within their company to supplement that, to aid that, to help enhance their business processes. So it's a force multiplier.

Michael: Alright. So we talked about what it can do for an organization. What is implementing Lean Six Sigma going to cost an organization? Clearly, nothing is for free. We know that, Rick. What's it going to cost in terms of people working on it, in terms of time away from doing their daily job, in terms of leadership involvement, and just sheer money? What's it going to cost to do Lean Six Sigma; to hire somebody to help you, or to buy the training materials if you hire somebody internally to do it yourself?

Rick: Good question. And that's the question we get from many of the potential customers who contact us. They're certainly interested. They may have heard good things about Lean Six Sigma and so on, but then they're interested in the cost and what it's going to cost in terms of time, resources, and so on. And I'm going to answer that with a caveat. And my caveat is, it first depends; a company must decide why they need to even do Lean Six Sigma in the first place. Is it because warranty costs are too high? Is it because it's taking us too long time to market for our products and services? Is it taking us too long to turn around parts that need to go out to our

suppliers? Is it because our record keeping isn't good? There's many, many reasons. Once management and leadership has decided that the cost of doing nothing - in other words, the cost of just letting business go as we have always done it - exceeds the cost of doing something, it's now time for them to, you know, get on the bandwagon; to decide maybe Lean Six Sigma would help me. But then what they have to decide is, what is their vision. What is the vision of implementing Lean Six Sigma? Do they have some core problems that they need solved? Do they need solutions to those? Because if that's the case, they can certainly hire an outside source to come in and help them solve their problems, and then they can carry on business as usual. Okay? They can also develop the capability within the business to have a team of people that have that capability that now can solve problems. Okay, each of those have different costs. If a company decides that they want to look at industry best standard, or if they want to develop the capability within the company to now solve problems, to grow the intellectual capital so the people are looking at their processes as they need enhancement, they might have variation, they might have waste. I want to have a toolset. I want to have a knowledge base. I want to have people that can solve those. Do they want to now put it through the business so we have alignment at all the levels of the business? In other words, not only is leadership involved, management is involved, and the process workers are involved. Do I want this to be a top down driven improvement deployment, or do I want it to bubble up? Those are the things the businesses are going to have to decide. But I'm going to say, experience has told us that many times companies have to solve - if their hemorrhaging, if they've got key issues - those problems first. And they need to do that most expeditiously. But then they need to look within their company and say, 'Okay, what capability do I want?' And normally, or I should say most of the time, the companies will decide, 'You know what? I want that capability'. And that capability now requires a level of training. It requires a level of involvement with managers and leaders. It involves an organization that might have systems and structures that support the training - that support when projects get implemented -, support the tracking of the projects, or as a minimum, encourage a completion of the project and monitor those projects to make sure they don't get bogged down. And then lastly, many companies even consider, okay, coaching. We want our projects, once their launches - if I'm trying to improve a process -, we want them to be successful. In terms of their output. In terms of what they do to the process.

In terms of how much does it cost me in resources. And so, they would probably want initially, when they start off, they would want coaching to make sure their projects are successful; kind of like a proof of concept. So to answer your question, typically, there will be a form of leadership and management training. And those can consist of anywhere from one to three days of training. So that's the time involvement for managers. In terms of them getting the education, or the orientation, to what Lean Six Sigma is, and also to what their involvement is. There's roles and responsibilities that leaders and managers have to learn. And if they don't learn them, they will see that their deployment will not be as successful as it could be. Then, you decide to develop a core competency within the business. And that might be a level of training, called Green Belt, and then Black Belt. And each of those carry with them a certain skill set. Each of them carry with them a certain level of training. For instance, Green Belt training is typical, I would say, in the industry about two weeks of training. You could receive it online, a blended solution, or in class. Black Belt is the same way. It's four weeks of training, and you can receive it as a blended solution e-learning, or face-to-face with the instructor. And they learn things such as designed experiments. They learn such things as regression analysis. In other words, the statistical tools - the techniques - that allow them to improve their processes. And then coaching comes with, okay, once they launch a project, what type of involvement do I need from somebody outside the team to help make sure that project moves along. So there's time involvement. I'm going to say, if I had to list one of the critical factors in terms of why some companies have infinite amount of success, others don't necessarily achieve that level they were capable of doing, it's because the leaders and the management team feel that, okay, we support Lean Six Sigma - they verbalize that -, and then they launch it and then they expect the business to deploy that down, and then the managers are not involved. Well, we all know that process workers; if they think something's important to management and to leadership, they will stay engaged and they will want to be very successful at it. If they think the management and leadership have just talked it, and they aren't ready to really stay engaged, then they're going to lose the interest, they're going to lose the involvement, and they're not going to have the intensity that they could. So I'm going to say, time involvement is dependent. Time, cost, and output - or I should say the results - are dependent upon what the company first, determines is the need for it, what the vision they see for their company

becoming, and then lastly, the plan. So it's a function of all those things that I've talked about. And cost can be minimized, or they can be optimized. Many companies call us and they say, 'Okay, we just need to solve this problem. How much will it cost us to do that?' Well, you know, providers - outsourced agencies - can go ahead and provide minimum costs, solve the problem, and then they move on the way. But the company does not have the capability the next time a problem arises to now handle that. They have to go through the same routine. So companies finally have to decide what to do, and is it worth the cost associated. Here's the cost that's involved. There's a cost associated with the training, and that certainly is dependent upon, you know, what providers charge for their training. There's a cost associated with time. People have to take time out to attend the class. Now they lead to learn what was taught in the class. They need to practice what was taught in the class. Sometimes that's on the job; sometimes that's done at home, or off duty time. They then have to allow time for the development of a team, if that's what's going to be used to improve for the process. And that takes resources in terms of man power. It takes in terms of some people may find themselves on a team; it takes five to fifteen percent of their time. If their a black belt, the company might decide to engage that black belt full time. Typically, a green belt is engaged part-time. But the company has to decide those. So those are the time involvement. The emotional involvement certainly requires managers and leaders to be involved at a certain level and to stay engaged, so that the projects get moved on and get done, and that they are strategically linked to the business goals. There's also a cost associated with, okay, the structures and the systems that are set up to support that. And each company decides what level they want to be involved at. And there's a cost associated with materials that are now used by the teams - the project teams -; and software. But I think most businesses are savvy enough today to know that software, for instance, is critical in the solution of problems, in arriving at new product development earlier, and so on. So that's the cost associated with it without putting a dollar value on that. Many companies work to minimize that cost, and optimize the results. Other companies say, 'You know what? I want a deployment that eventually will become self-sustaining, and I will have the capability to now hence for after a, let's say, year and a half timeframe to be able to be training my own people to be solving my own problems and so on'. And I'm going to say the cost associated with that is more than the cost associated with a one-time solution of a problem.

Michael: So I can. If, let's say, I'm a director of operations at a, you know, paper mill [I don't even know]. Just a paper mill. And I know that I have inefficiencies in my process. I know that the culture is not one that I feel like I can change. I can't go up to my executive board and change them, or I don't want to; whatever. But I understand that I can improve my process. Can I hire an expert to come in and just fix my processes so that I have lower costs so that I'm producing more product with the same amount of resources that I can, you know. Clearly that's going to have a cost to me, but I'm going to get a lot of benefit for the long term. I realize now that I'm not necessarily teaching my team to fix problems on their own, but I'm fixing a lot of bottlenecks that are going to help our operation. Can I do that? Is that an appropriate implantation of Lean Six Sigma?

Rick: You know, Mike, that's a great question. I'm going to say, we would love it. If every deployment of our customers was top down driven. Leadership and management totally engaged. And, you know, alignment took place with the organization. Every project was strategically linked to business indicators and so on. We would love that. That happens - and I'm going to throw out, you know, a percentage. It may or may not be correct. I mean, it depends on industries and so on, but - I'm going to say twenty-five, thirty-five percent of the time. And sometimes, you know, a customer calls up and says, 'We want a full deployment'. Other times a customer will call us up and say, 'You know what? We have a problem. We have a fueling problem', or 'We have a first pass yield problem', or 'We have a scrap rate that has just gone out of the roof. We can no longer tolerate it', or 'We're getting ready to automate, and we have a process. We're producing defects at this rate, and we know that as soon as we automate, it's not become very efficient at producing defects because now it's a hundred times faster', or whatever. And they will call us, and just in the last, I'm going to say, six months, we've probably had about six companies that have had us come in and specifically help them solve an issue. And you can do that, you know, several ways. We've had a company that says, 'You come in. You do what's necessary to solve that problem. We don't care if that's gets you into design of experiment. We'll get data for you', and so on. And we'll come in and we'll do that; and we'll solve their issue. And they're very happy. They pay their money, and so on.



Michael: They receive their benefit, and everybody moves on.

Rick: Receive their benefit, and you know what? Their bosses - their leadership - are happy because the issue was solved, minimized cost, but they saw proof of concept. So now, leadership knows it works. That's the one benefit. I mean, that's a benefit there in addition to solving the problem.

Michael: Right.

Rick: We've had other companies that said, 'Okay, we want you to come in. We're going to give you a team that is not well versed in Lean Six Sigma, but we're going to give you a team. We're going to give you team members that are now going to be available for on the job training. In other words, as necessarily, real time, you will train them in the tools and the techniques they need at that time as you help them solve the problem'. Okay. And that works, because the problem gets solved. And it's happened most recently with us. Problem gets solved, and now you leave and there's an energized team that now gets credit from the leadership and the management sponsorship for having solved a problem.

Michael: Right.

Rick: The nice thing about this is, they now have a skill set, or a knowledge of some tools and techniques, that will maybe benefit them and help them initially, maybe, identify a problem and start solving it on their own. Okay, they may come back to us again; whatever. So, yes, to answer your question, you can, as a business, decide, you know what? We just need the problem solved and then we'll move on. I don't necessarily want to engage in a full Lean Six Sigma deployment right now. And you can do that. And it can be very, very successful.

Michael: Okay. So, while in the past you only had corporations doing a top down deployment in order for them to be the correct way to deploy Lean Six Sigma, today you see everything from a top down deployment to a training internal resources, to lead the change initiative, to just coming in and fixing processes. Enabling teams to take ownership of their process and do a better job at it, and then being done. And so, anything is correct nowadays.



Rick: And I'm going to say, the company has to decide. I'm going to say, there's an industry best standard. In other words, if somebody were to ask me, 'What would you recommend?' in terms of a company doing to make sure their deployment now becomes self-sustaining, everlasting, qualified people, and so on, there's an industry standard. And I could certainly tell them what that is, but I've learned, over the years, that, you know, companies, even though they say they're unique, you know, many companies have the same problems we talked about. Waste, time, and so on. But every company, or I should say many companies, look at themselves as different. And they'll describe why they're different and so on. Well, to me, those companies have to now take a look at what's available, and determined what's best for them. And yes, just like you described, you can go all the way from just problem solving, to a full deployment, to training, and so on. Now, here is one thing, and then we go on, but I would like to caution. We have had some people, or some companies in the past, who say, 'You know what? We just want training. You come in, and train us in, let's say, Green Belt'. Okay, we go in. And we tell them, 'Okay, here's the pitfalls and so on'. But we go in and train them. Well, they have no leadership or management support, and so they're contained within the team. They don't network, or they don't seek after further knowledge, or, say, 'You know, here's what has happened. We don't understand why this tool hasn't helped us, or whatever'. And then, they don't get the success level that they could have with their project. Because they did it strictly based on the small amount of training that they got; without any oversight; without any support and so on, to build confidence and so on. Well, I have found that sometimes those teams are not as successful as they could have been. So there's caveats probably to any approach. But, yes, to answer your question, a company nowadays should take a look at their need, their vision, and their plan. And they can go all the way from problem solving to full deployment. And I would call all of that Lean Six Sigma.

Michael: The final question is this, Rick. What is your response to the executive at a company that says, "We've tried TQM - total quality management - and continuous improvement in the past. We did it in the eighties. We've did it in the nineties". I'm sure this sounds familiar. What's different with Lean Six Sigma? What's your response to executives that push back on a change initiative like Lean Six Sigma?

Rick: Okay. And I think that's important. Because we have come across companies who will call us and they'll say, 'You know what? We tried Lean Six Sigma. It wasn't successful. We don't know what went wrong' and so on. We've also had companies. I've been in doing a leadership session, and I'll have a VP stand up and make the comment, 'You know what? We're going to embark upon Lean Six Sigma. We're going to do it very cautiously. Lean Six Sigma is no different than TQM of olden days'. And leadership shakes their heads and say, 'Okay, this is going to require too much of us then. And they're content' and so on. Lean Six Sigma and TQM are not the same. Okay. They are not the same. I went through the TQM days. I had my process improvement guide, which we call the pig. And we had our book of tools. And if I wanted to see a control chart, if I wanted to see a run chart, if I wanted to see a regression line, or whatever, I could look in my pig and so on. However, I didn't - and this was back in the, I'm going to say, eighties and so on - see any part of industries, or whatever, really take hold and move out with TQM, and make it really turn around their business if they were in trouble, or enhance their output, and so on, because it was somewhat disjointed. So here's what I'm going to say. These are the differences I found. First of all, Lean Six Sigma; there's financial accountability. There's no sense in embarking upon - and what I tell people and in front a management or a leadership team, or something - Lean Six Sigma unless you're going to have a level of financial accountability in which you now look to see the success of your Lean Six Sigma. Okay. Do you have? Lean Six Sigma as opposed to TQM also has an infrastructure. Now, some people are apposed to that infrastructure. I'm going to say what the infrastructure does is it gives you the capability to support whatever level of involvement you want with Lean Six Sigma. It also gives you a skill set. Because within that infrastructure, you have capability identified. In other words, I want somebody to have a skill set of a green belt. And with that skill set, requires such and such. These statistical tools - SPC -, and knowledge of regression, and so on. There's a skill set required of black belts. And it's basically standardized in terms of, they need to know how to design of experiments, they need to know how to assist green belts, and so on. But with that structure now comes the ability to align the organization so that you can take on projects, so that you can solve problems systematically. The methodology is systematic. Now, once again, it depends on how the company deploys it. But there's a systematic approach to

doing Lean Six Sigma. The methodology we call, we haven't mentioned it yet, I don't want to get into it in too level of detail, but DMAIC. In other words, define the problem; define what the customer wants; define where we want to go. Measure: How good are you doing. What is the capability of your current process? Analyze: What is the route cause for a gap existing between what my customer wants and what I am capable of providing? Improvement: How am I going to improve that process, statistically, so that what I do actually makes a difference, and it's a different process - or I should say, it's an improved process - and it has solved the root cause, not the symptoms? And then lastly, put that process - once you have enhanced it, once you have used the tools and techniques to improve it - in control so you sustain the gain. So that's systematic. The other thing Lean Six Sigma does, as apposed to TQM; TQM was a set of tools and that kind of stuff, but it didn't have the latest techniques. Today, Lean Six Sigma goes well beyond. If somebody were to say Lean Six Sigma is what it was six years ago, I would say they're totally wrong. The latest techniques, today, allow you to optimize your process, validate that it's been optimized, test to make sure it's going to satisfy the customer. And you use the advanced techniques. You use the computer power which we have today, which we didn't have back in the TQM days. Computers are unbelievable. I can do things like Monte Carlo simulation, which I can do a million runs in the matter of thirty seconds and test out something to see if it's going to satisfy the spec limits that I want. Also, the software today is unbelievable compared to what we had in the TQM days; if we did have software back then. So, those are major differences between Lean Six Sigma and TQM. And the other thing I'm going to say is, Lean Six Sigma; if you really want - and I've said it several times. I'm beating a dead horse maybe - to see Lean Six Sigma take hold and get the results that you're capable of getting, leadership and management have to be engaged and involved. And back in the TQM days, I didn't see that level of support from managers and leaders. I got my pig guide and I walked around looking for things to improve with whatever tools I wanted to use, and that was it.

Michael: Yeah. Alright. Fantastic.

Rick: That's the difference in a nutshell.

Michael: If you have a follow-up question, please post it in the comments below this video, and we'll ask Rick to come back and answer as many as he can. If people want to follow Rick and Air Academy Associates, they can do so via their website at AirAcad.com. They're also on Twitter at [Twitter.com/AirAcademyAssoc](https://twitter.com/AirAcademyAssoc). And they're also on Facebook at Air Academy Associates.

And, you know, I'm going to urge the audience right now -- if you received value out of this interview, out of this discussion between Rick and myself, and I know that I did because Rick is phenomenal at explaining concepts -- please go out of your way to say thank you to Rick. You can do so via a Tweet. You can do so by sending an email into Air Academy Associates. You can do so by posting on their Facebook wall. Remember, when you reach out and you do something as easy as saying 'thank you; thank you for explaining this concept' by posting a comment below this show, you're starting to create a relationship. And business is all about relationships. So I urge you guys to do that. I'm going to say thank you again right now by mentioning Air Academy Associates on web at AirAcad.com. On that site, you'll also find some terrific case studies in Manufacturing, in Government, solutions that they've implemented in Financial Services companies, in Energy and Transportation, in Healthcare. You name it, Air Academy Associates has been involved in a lot of different areas. And probably every single area of business. And we've also been fortunate to feature a couple of their customers on the cover story - as the cover story - of iSixSigma Magazine, a print magazine we used to publish with iSixSigma.com. One of those was a private equity company, called Kohlberg & Company, and one of them was a company called Xerox. And those are phenomenal stories. And I encourage you; you can, I believe, download through the marketplace - the iSixSigma marketplace - at [store.iSixSigma.com](http://store.iSixSigma.com).

Rick: Mike, can I just say.

Michael: Please.

Rick: In support of that, I'd also - and I was going to bring up if we got into this -, but there's also articles. There's one on Apogee and there's one on John Deere. And their remarkable success with Lean Six Sigma and designed for

Six Sigma. But Mike, this was great. I appreciate your time today. I appreciate the way you interviewed. You had some good questions as you drilled down and so on, so Air Academy thanks you for having us on. And we look forward to your success with iSixSigma. Anyway, thanks for the interview.

Michael: Thank you, Rick.

Rick Murrow, CEO of Air Academy Associates, thank you for coming on the iSixSigma show, sharing your knowledge, and helping others become more successful change agents and business leaders.

Rick: Thank you very much Mike.

Michael: Thank you all for watching. We'll see you next time.

**Watch the full video at:**

<http://www.isixsigma.com/what-is-lean-six-sigma-video/>