

Lean Enterprise Institute

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Chet Marchwinski: Hello, everyone. Welcome to the Lean Enterprise Institute's Webinar, A Wall Street View of Lean Transformation. I'm Chet Marchwinski, Communications Director at LEI. I'll be your host for this live webinar and Q and A with our guest, Cliff Ransom. As of a few minutes ago there were about 4,500 of you at manufacturing and service companies registered for this webinar from all over the world. So good afternoon, good evening, good morning depending on your time zone. Thank you for being here.

Just let's briefly cover some housekeeping guidelines to make sure you get the most out of this webinar. Please enable pop up blockers so you can view the slides and respond to a brief survey that you'll see at the end of the presentation. And please take a few moments to give us your feedback. It helps us improve and develop topics that you want addressed in future webinars. Use the volume controls on your computer to adjust the sound . You can enlarge slides at any time by using the button beneath the slides on your display console.

We'll save time at the end of the presentation for your questions. You can submit questions at any time during the webinar. Just click the "ask a question" button on the left side of the screen, type your question in the pop up box, and hit submit. We'll answer as many questions as we can today. We typically get hundreds during webinars, so we'll post the answers as soon as we can on the LEI website at Lean.org and let you know by e-mail when they are up. That will probably take a few weeks. In a few days, we'll have the slides, pod cast, and on demand version of this webinar posted for download in the education section of our website. And by the way, we'll be making available for the first time free printed transcripts of this webinar along with the other downloads.

And while you're at the LEI website, please click on the summit tab to review the program for our 2008 Lean Transformation Summit in

Orlando, Florida, March 5 and 6. As you may know, the summit conferences have unique formats designed to deliver in-depth information. First during plenary sessions, executives describe the business cases for launching Lean transformations. In subsequent breakout sessions, implementers from each company provide detailed descriptions of the how-tos. That's it for the housekeeping.

Now it's my pleasure to introduce today's speaker. Cliff Ransom is the president of Ransom Research, Inc., an independent equity investment research firm serving a limited number of major investment management organizations. He is unique as an analyst for his emphasis on going to the Gemba to see for himself how the organization's work is actually done. In the last five years, he has become increasingly interested in the use of Lean principals in service industries, product development, and back office operations. Cliff is the first financial services executive to become a life member of the Shingo Prize Academy. He also has been elected to the Shingo Academy Board and he is the only investment professional to be named an AME Champion. Cliff also is advisory board chairman of Lean Horizons Consulting and is a frequent speaker at Lean conferences including for us here at LEI, the Shingo Prize, AME, the Lean Accounting Summit, and for Parker-Hannifin, Regal-Beloit, and Terex among others.

With that, I'll turn over the virtual microphone to Cliff Ransom. Cliff?

Cliff Ransom:

Thank you very much, Chet. I would like to start by saying that I am privileged to have been asked by LEI to participate in this webinar. It's a great company, it's a pretty heady role for me to play. I am a dedicated, industrial analyst who works for very large investment institutions basically as an outsourced resource. The essence of what they want me to do is quite simple. To go and visit companies, to get to the point where the real work is done. Those of you who are Toyota fans will understand Genchi Genbutsu going to the Gemba. The -- I have to tell you right upfront that I'm a zealot. My friends have learned not to ask me any questions that have the word Lean in it because I'll bend their ear for hours. And the reason is that I believe that this stuff just works and works very well, so everything we're going to be talking about today will be to try to prove that thesis to you.

Essentially, it's a virtuous circle. I would stipulate that the adoption of a

Lean culture will improve financial performance. And long term, enhanced financial performance will improve valuations. And that is the essence of what makes stock prices go up. My stress today will be on culture. Culture here is how people think and behave and act and respond to problems and rewards on a daily basis. And I could just as easily add on an hourly basis or a minute to minute basis.

I'm going to ask you to think in very Toyota-like terms. I don't know if Jerry Bussell, a Medtronic business executive and the current chairman of the Shingo Prize port thought up the word thoughtware, but I use it to be able to distinguish between culture and tools. And I would stress that it is not tools, it's about culture. What makes the really great senseis, the real masters of Lean? I think it's two things. One is the ability to quickly size up a problem and then two, to deploy the one, two, or three tools out of the Lean toolbox that represent the countermeasures to correct that problem. It's the rapid identification and rapid solution that's important and that's not about tools, that's about mindset.

The -- it's probably worthwhile, even -- this is a little bit like coals to Newcastle given this crowd, but it probably makes sense to go back to Taiichi Ohno, that farsighted production engineer who worked for Mr. Toyota who was really the father, if you will, of the Toyota production system. I usually genuflect when I say Ohno San's name. But the two core value propositions of Lean were, one respect for the individual, something that companies often forget, and then the constant, perpetual, continuous elimination of waste.

Well I said two tenets, but maybe it's five tenets. You have to be driven at all times by the voice of the customer. You want to utilize empowered and resourceful people. You want to create one piece flow and create true demand pull. You want to focus at all times on the value stream and that's across the entire value stream from raw materials to ordering to production to delivery to the collection of cash to aftermarket services. And the pursuit of perfection is indeed continuous. You do it over and over and over and again and again and again. I will argue that what Lean really does is foster and finance growth. It's not about cost cutting. The elimination of waste is a way to provide the resources, the space, the mindset for growth. The strategy of Lean is growth.

Let's not kid ourselves, however. When it comes to Wall Street, there is good news and bad news for managements and investors. High -- if you're a public company, I think it's important that you understand that the overwhelming majority of Wall Street is essentially clueless on this subject. There are a handful of analysts and a handful of (inaudible) four fingers and a thumb who are really well informed on Lean. But it doesn't mean the Lean can't still reward you, and we'll talk about that a lot today.

I'll start by saying that Lean has to be lead from the top. From a historical point of view, Lean often starts in the middle or even close to the bottom, but I've never seen it succeed in a sustained way without the boss as a champion. I've also seldom seen it succeed without deep board involvement. I do speak before a lot of different groups from LEI to AME, etc. The constant question is always, how do I make my bosses get it?

This is one of the central questions of Lean. Why Lean? It's the creation of true business value. Every company, public or private, has to be concerned with creating value. Every organization, whether for profit or not for profit, needs to minimize waste in order to serve its end users most effectively.

I do believe that there are lots of ways to get to heaven, and I'll come back to that. But I think those bullets on the left-hand side of your screen are really important. As I look at companies, I think that 85 % of the companies that I come across, and I probably look at 150 companies a year, and have working knowledge of, I don't know, 1,000, 85% of them are clueless. Another 10% of them know what words to use and what phrases to use but aren't really doing it. And I think there's really only 5% who practice the art skillfully in a world class master practitioner kind of way. I'm actually mellowing in my old age. I used to say only 2 to 3% of companies did it.

The issue of lots of ways to get to heaven, I mean there's the Toyota production system, there's the Danaher business system. Toyota is the granddaddy of them all. Danaher is the paragon. Six Sigma, Lean Six Sigma, EVA, 80/20, -- I think however, my two biggest role models are Toyota and Danaher both of which are in probably the number one and number two Lean companies on the planet. Here is a slide of Toyota's

share price back as far as my charting service will take it which is to the ADR back in '91. You do see some variation and a trough in the '99 to '01 recession and the aftermath of 9/11. But generally a good price chart slopes upward and to the right and Toyota's certainly does.

There's a concept in my business, in the investment management business, of relative performance which is the performance of a stock against its peers or against the market. And this is a chart that puts Toyota against Ford and General Motors. I used to be able to do this with Chrysler, or Daimler Chrysler, but the changes in ownership make it hard. But basically what you see here is that Toyota has been eating their lunch and it's been reflected in their stock prices.

Danaher, my other archetype, the headline on this slide is pretty straightforward. It's easy to love Danaher. That little line underneath the price variation line, the line on top, is the relative performance against the S&P 500. And I will just tell you flat out that when you outperform the S&P by 8,500%, you've had a pretty good investment over the last 20 years. Danaher started its run at something under \$1 a share, recently trading over \$80 a share.

There's a dilemma when you come to benchmarking. This is one way to look at it. Here's Danaher's relative performance against two fugitive tool companies, Cooper and Stanley Works. Now I would also tell you that neither Cooper nor Stanley are tool companies 100%, maybe not even 30%, but Wall Street often thinks of them that way. But the real point of this slide is that Toyota teaches outfits you don't benchmark against your competitors, only against world class companies. So here's a slide of Danaher against some pretty impressive companies. I use kind of as a rough parlance four companies as super achievers in my industrial universe. Danaher, GE, UTX, and ITW. I have a second list, kind of why I used to call them the next generation Danahers (inaudible) list about ten years ago. More recently I've added Accuent and Anapex, Parker-Hannifin and a couple of others. Also on this slide is Amerson, a once mighty company that may be getting its act back together again.

But in any event, the principal point is, that even against these super achiever companies, Danaher has outperformed them all.

The issue of investor mindset, my bullet here says we should like everything about Lean. Inventory reduction, physical room, avoidance of capital, cycle time, but the real stress to me is that final bullet and I've got it down three times on purpose -- cash, cash, cash. Why does Lean start very often? Well often it gets sold by consultants. I'm the chairman of the Lean Consulting Firm so I'm not going to be too hard about the industry, but Lean start often comes with a billable hours Kaizen in a box approach, gets sold on the remarkably consistent metrics of 90% reductions in WIP, 75% reductions in physical footprint and cycle times that are multiples of previous cycle times.

The crux of it all, however, and this is the real reason to undertake Lean, these four reasons are key. First is customer intimacy. When you create true one piece flow, demand pull, you both delight the customers and present huge barriers to competitive entry. Number two, capital avoidance. Truly Lean companies don't just build bricks and mortar anymore. They don't have to buy equipment anymore unless they're relocating for other reasons. Enhanced valuations are important. You do Lean long enough, Wall Street gives you credit for it in your price earnings ratio. We'll go into that more in a moment. I would argue that that takes five to ten years. But the real reason is to sustain Lean culture itself. When you create a self sustaining, self reinforcing, self policing culture, you have a potent business organism.

At the end of the day, we go back to thinking about growth. It's about sustaining the growth in revenues and earnings and cash flow and it really is that simple. My dirty little secret is, when you set out on the Lean journey, are you satisfying yourself or are you trying to satisfy Wall Street? You better be trying to satisfy yourself and your customers. Wall Street is not well informed on this subject. Now I don't want to be unkind to my colleagues, because frankly they're driven by GAAP income and GAAP financial statements and SEC rules and regulations and the metrics of Lean, the initial sort of first derivative of Lean, you can't read those on a balance sheet or a cash flow statements or an income statement. You can't see decreased cycle times, you can't see increased enhanced quality. There's no GAAP measure for takt time, there's no GAAP measure for increased customer satisfaction.

If you, however, do this long enough, you get a premium valuation. Look,

it's all about the intersection of math and psychology. What is a PE? What is a price earnings ratio? Think of it as the inverse of a discount rate. You all know that the surer a bet is, the lower that discount rate is. So the less perceived risk, the higher the PE, all other things being equal. Yeah, I know, I know, I was trained as an economist so I start talking like that. But the point here is that when you -- my mantra for a successful valuation is when the company can show consistency of results, sustainability of results, and then most importantly, predictability of results.

The -- I find I need to say this because Lean is a terribly fragile thing. It is not robust, it can fail, it needs constant feeding and watering and reinforcing and scrutiny. And quite frankly I think it probably fails much more often than it succeeds. It's counterintuitive, it's innovative, it forces new ways of thinking. I think that empowering employees can be scary for both bosses and employees in some instances. There -- I talk about the failure rate of Lean and I guess this slide would be better why companies fail at lean, or fail to even start at Lean. Change is threatening. You never get fired for doing business the way your successor did. Very often, Lean requires a definable catalyst. It requires a crisis, a champion or a leader. The issue of stupidity is politically insensitive, but I don't think anybody in the investment business ever went broke underestimating so-called business leaders.

Danaher I have here as a shining star in the earnings category. Here is the last dozen years at Danaher, with a look through the next couple of years. Some very nice progression. They managed to even eek out a modest gain in the sort of immediately post recession 2002 period. There's no one metric that defines Lean but the issue of cash flow conversion, I just called it the Golden Rule. Maybe somebody else thought it up, but I use it anyway. It is the ratio of free cash flow to net income. Danaher is here shown against a pretty tough peer group, some pretty good companies down there on the bottom. Hard to read, but that's Danaher over there on the far right. It's about to go -- this company is about to close it's sixteenth consecutive year at a conversion ratio of greater than 100%.

But it's more than earnings and cash flow. I've adopted the old political saying, if the economy is stupid, the stress hits the multiple stupid. This is how shareholders get rich, the positive double whammy of rising earnings

and rising multiple valuations that lead to truly superior stock performance. And that's why Danaher is also a king of industrial valuation. On the left-hand side of this you have the absolute price earnings ratio of Danaher with the forward numbers down there at the bottom, 20 times the '08 estimate. If you look, however, at the relative valuations on the right-hand side of the graph, you'll see that Danaher went from being a sub par PE, a sub average PE to a premium PE. This valuation shift is a huge lever for stock price appreciation.

And it's not just about the multiple. It's about being early stupid. Investors gain best when they act early on perceptions of changing circumstances. I'm privileged to work for a very large account and they can often take months and even years to build positions. So head starts in building positions can be very valuable.

Here's a chart on ITT Industries. Now this company, in my short 35 years of investment history, has probably changed its stripes more times than any five other companies that I know. Before it settled into its current configuration dealing with defense and with water industries, you see here the earnings progression was really quite solid over the last dozen years and looks to be double digit continuing in at least the near term of the future. This has not gone unnoticed by Wall Street as evidenced by the steady climb in both the absolute price earnings ratio and the relative PE for ITT.

And this is what I call the intersection of psychology and math. This is the price chart for ITT. It's a darn nice price chart. That's a dozen years of stock performance, most recently over this timeframe about three times the overall market.

Let me just run through a couple other examples. Here's Parker-Hannifin. Over a very long period of time, Parker-Hannifin has been quite a successful company. But in the late 90s and the early 00s, the stock price went about flat. The company took a new direction under an internally promoted but really visionary chairman who's made Parker-Hannifin in my book one of the real Lean implementation winners amongst mid cap companies. On the other hand, they shouldn't get too jealous, not yet, because here I've tracked Parker against a couple of my super achievers, Danaher, Roper and UTX. They're still doing much better than the

market, but it's always nice to have a challenge.

I suspect that the end result in Parker will be in the next couple of years we'll see this chart, the PE chart, the multiple chart, the valuation chart taking on more positive characteristics. Can't promise that, but that's my best guess.

Here's a look at Belden. This is a company that really had nothing to brag about for about a half a decade. It has on the other hand more recently hired another Danaher alumnus. They brought in John Stroop who's changing essentially all the aspects of the company. We're still in very early innings, but that price chart has certainly looked better in the last couple of years.

A more seasoned Danaher alumnus in terms of longevity at his new company is at IDEX. Again, you see that extended period of flatness with very nice acceleration from the mid 00s on when another Danaher alumnus began transforming the company. Circor, this is a mid cap, small cap company really. We have pretty good visibility on its end markets in oil and gas and offshore and LNG. It's part of that whole energy and petroleum infrastructure build out that is a global super cycle right now. Circor was built on an acquisition model which it learned from its original, its previous parent, Watts Manufacturing. But they've got a new team, long steep in Lean and Circor is also useful because as a personal note, means I'm not completely Lean horizon centric since I'm using another group of consultants in whom I have a lot of confidence.

One of the sad parts about today's presentation is that we probably are not going to have a lot of time to talk about one of my favorite topics which is transactional Lean. This is the new frontier of lean. The back office, administration, service, financial Lean. This is the extension of the Lean change methodologies into order processing, into supply chain, into S&OP, into strategic planning. I believe there's far more muda in the transactional world. There's far more waste, i.e., non-value added work in the transactional world than there is in the manufacturing world. Those folks, God bless them, really don't know how to measure waste. You go to an engineer who's on a floor and you talk about inventories or speed or footprint, and he can understand it. You go to somebody who's in a call center and you ask him what his metrics are, he's likely to say the length

of call or number of dropped calls, or number of rings before the call gets picked up. I would say that's not his mission. His mission is to one, solve the problem of the caller, but two, to identify what created that problem so that it can go be remediated so that customers never call with that problem again.

So at the end of the day, we wind up with -- you know, my favorite half empty or half full glass picture. As an investor, I have to focus on these bullets. When I think about companies, I want to think about leading market positions, innovation, working capital, cash flow. As business managers, you have to decide if you have the stomach to embark on the Lean journey. It's rewarding but it's surprisingly difficult to sustain.

I have -- the title on this slide is a great deal more high falutin than I really intend. Ransom Lean Adoption Model is really what makes a successful company and I just put down two pages worth of bullets. It's worth touching on some of them. I think before you get big attention from the street, you've got to prove that you can grow organic revenues between 6 and 8%. With acquisitions you ought to be able to get into double digits. Margin expansion is something which has to occur annually. If you do that, you're going to have income growth mathematically between 12 and 15%. Again, I think cash conversion greater than 100% is good. I think that in aftermarket our service capability is generally a plus. The issue of operating globally can be controversial, but I think increasingly it's important.

These next set of bullets are really all about what kind of servants of stockholder assets is the management. Have they demonstrated an ability to utilize cash effectively? Have they figured out how to investigate, price, finance, and most importantly, integrate the right acquisitions? Have they been able to make acquisitions a seamless, repeatable and predictable process? The key word here is the integration of assets. According to data from all the big consultants, the Baines and the BCGs of the world, most assets, most acquisitions do not add value for the acquirers. In fact, most -- well many acquisitions wind up destroying value. I know that the leanest companies buy and integrate many acquisitions and do it very successfully. The dividend issue, I'm a little old-fashioned here. I don't like special dividends, I'm not part of -- I'm in the tiny minority of Wall Street today because I'm opposed to the current

obsession with massive stock buybacks. As I say, we pay our leaders the big bucks to know their businesses intimately so that they can find internal and external acquisitions to make.

If one big company out of them all is the role model, other than Danaher, other than Toyota, it's United Technologies. Again, over this 15 year timeframe, UTX has outperformed the market by more than 1,000%. And they fit almost all of the characteristics of pages one and two of the Ransom Lean Adoption Model.

As I get down to the last couple of minutes of this speech, I'm just going to say, it's a question of -- it's an issue of asking the right questions. And then listening. It's the issue of looking for the right stuff and then trying to internalize it into your own valuation scheme. If you'll permit me, I'm -- Herb used to say I tell companies that there are really three steps to how I look at them. If you give me a half an hour in your factory, I'll tell you whether it's a good plant or not. If you give me an hour, I'll tell you whether you know if it's a good plant or not. That sometimes causes some embarrassment when I'm visiting companies. And if it's not a great plant and you give me a couple of hours to wander around and talk to people, I'll probably be able to tell you if you know what to do to make it a good plant.

That third condition is probably the most important from an investor's point of view because it can lead to the right results. The ability to see change beginning to occur and have confidence that it will occur on an effective timetable is the essence of good investing. I think that's the central mission that I wanted to make today, the central statement that I wanted to make today. I put up some contact data here. I am easy to find. I travel probably 200 plus days a year, so I'm a bit of a moving target that's hard to hit, but my Blackberry is my umbilical cord. I usually ask people to give people their homework which is tell me where to go next. Invite me to come visit your facilities, I'll show up. Chet, are there any questions that you'd like to get into?

Chet Marchwinski: Oh yeah, There's -- I think you hit a chord or maybe a nerve with Lean thinkers. They've been typing away and submitting large batches of questions as a matter of fact. So in fact, there's one here, a gentleman from Australia, I thought maybe we should take his question first so he

can go to sleep. Do you know of any managed funds that have stocks only in companies employing Lean?

Cliff Ransom: No. I'll expand on that. But the answer is no. There are one or two buy out firms, i.e., private funds, but there are no, to my knowledge, public mutual funds or pension fund organizations that are driven by Lean.

Chet Marchwinski: Do you think it would be a good idea if something like that worked?

Cliff Ransom: Well, Chet, the answer there is what I think and what the market will support are two different things. If I am accurate in my perception that Lean is not yet well appreciated on a visceral and intellectual level by Wall Street, it ain't gonna happen, as my mama used to say. I think it would be a great idea. There are portfolio managers who understand the benefits of Lean, but you also have to remember that you probably don't want to have all your assets just in Lean companies. Again, I don't want to beat on a horse here, but the essence of investment is diversification and diversification of risk across multiple markets and multiple end users. It would be hard to build a Lean, in my opinion, a Lean mutual fund and I'm not aware of any that exist.

Chet Marchwinski: Okay, in your experience, what do you encounter as a major concern, I think they mean obstacle, in changing a company to a Lean culture?

Cliff Ransom: Two items. One is time and two is endurance. Again, to quote my mama, stick-to-itiveness. There is nothing about Lean that's rocket science. Some of it is counterintuitive, some of it is directly countered to generations of manufacturing attitudes about overhead absorption. You tell a traditional manager that labor is fixed and not variable, he'd probably look like you have two heads. But I think the answer is time and endurance is all it takes.

Chet Marchwinski: How about -- we chatted about this a little bit just before we came on air -- it's about quarterly revenue. And the question is, how hard is quarterly, the quarterly reporting system impeding Lean implementation in the U.S.?

Cliff Ransom: I don't think it's a big influence at all. I think that the press has made a big deal about quarterly results. I know that the street can punish people when they miss by a penny or reward them if they make it by a penny, but those

are not what create lasting asset enhancement in stock prices. I don't really care what happens over the next week much less in the next two hours to a stock price. I work for long term investors and they want to know that they're buying into something that's going to last, be something that can hold for a year or three or five, or if they're lucky, for a decade or longer. And on that basis, quarter to quarter, obsession is I don't think a big deal for most of these companies.

Chet Marchwinski: You also have an opinion about companies that don't give guidance.

Cliff Ransom: Yes, I have a very simple thing. When companies say they're not going to give guidance, I tell them, okay, I assume if you're not going to give guidance, that you don't know what you're going to make. If you don't know what you're going to make, how the devil am I to know what you're going to make? And therefore, I'm going to haircut your price earnings multiple by two or three points. It's your decisions, guys, I say. You don't have to give me guidance, you don't have to say that's too high or that's too low or you're not considering this, you're not considering that. You tell it to the street, you have to have disclosure to be public and thorough and know selective dissemination. But if you don't know what you make, how the devil am I going to know what you make? So I'm kind of in the minority there, too.

Chet Marchwinski: This is an interesting question. Someone wants to know how you got your start in Lean. If you're a zealot, was there a time when you were a concrete head or when you thought differently about Lean principals?

Cliff Ransom: Well, I don't know that I was a concrete head, but I didn't understand it until George Sherman went to Danaher from Black & Decker where I'd known him for quite a long time and had a lot of respect for him. Danaher had begun the Lean journey under a group of fairly courageous managers in a division that was having a terrible time back in the late 80s, the Jake Brake division. And Jake Brake is today still a role model for darn near every company out there. You take the number of people who are alumni from Jake Brake and they've transformed probably a dozen other companies. Wiremold, Lab Tech, Lean Horizons Consulting, the list goes on way too long. And they began, George began using all these Japanese terms. And I went to him and I said, George, you can't -- well I can't use the phrase that I want to use -- I said you can't fool a fooler. What is all

this Japanese all about?

And he said, come with me to Bloomfield, Connecticut. I'll make this a short story, but I walked into a UAW facility in the middle of the Connecticut rust belt, one of the worst industrial depressions we'd had since the 20s and 30s, and I saw my first cells and I saw these guys implementing one piece flow and the scales fell from my eyes. It was like Saul on the road to Damascus. And that was probably in 1990. And my line is, I was poisoned by Toyota and Danaher in 1990 and I'll never be the same.

Chet Marchwinski: Good point. This is a related question. What's the ideal way to start Lean at a company? Bottoms up or top down? I think you got into that a little bit, I would guess that you would say top down, at least in the beginning.

Cliff Ransom: Both. Both. I believe the most important tool in the Lean toolbox, the biggest arrow in the quiver, I don't know what metaphor to use, is the hoshin kanri policy deployment, strategy deployment tool. Very few companies use it and even fewer ones use it effectively. But as I say, how do you know what to Kaizen if you don't know what the priorities are for your own firm? So I think you want to start top down, but you have to execute on the floor. Everybody says, don't try to get Lean until you get stable. Start with 5S and learn how to keep it clean and neat and tidy and paint lines on the floor and put tools where they belong.

I met with a large company I'm going to leave nameless yesterday, and they're starting with safety and quality. And they'll worry about flow and pull next. So there's multiple ways to get at it, but I think you have to do it from the top down and the bottom up.

Chet Marchwinski: Safety -- would you agree that safety and quality could be particularly good ways in a union environment to gain trust and introduce --

Cliff Ransom: Well I think safety and quality are good tools anywhere. I've seen too many transformations with unions that are supposed to be ugly and recalcitrant and aggressive. I don't think it's relevant. I think when you have respect for the worker -- go back to Ohno's first point, respect for the individual. Empowerment. There's nobody out there with a very small percentage of the true concrete heads, who don't want to do well. There's

certainly nobody out there who wants to work in an unsafe environment. They don't want to have a hand chopped off or a hot metal to spill or sharp edges to be dangerous. And so when you start with safety, who's not going to want to make their job safer? When you start with quality, who's not going to have increased personal satisfaction for turning out a quality product? So I agree with you, I think they're great ways to do it and I suppose it's better in a union environment, but I frankly think it's irrelevant whether it's union or non union.

Chet Marchwinski: And here's a question from the Netherlands. What can we do -- I hear this a lot -- what can we do from middle management to convince the executives to get going?

Cliff Ransom: This is, as a zealot, the hardest thing for me to understand is why only 5% of companies do this in a world class way. And the second thing is, is there a template, is there a process by which middle managers can influence their bosses? And I don't think I have a good answer to that except to start doing it because when you begin to show it in your results, I think that's really the key. And there are a lot of things you can do that may not be profound and they may not be sustainable without senior management support, but there's an awful lot that you can do in any level of an organization. So the answer is start.

Chet Marchwinski: You can pick your area, start in your area and get some results?

Cliff Ransom: Absolutely. As an investor, I'm sure I've bought 50 copies and given it to clients, of *The Machine That Changed the World* of Jim Womack's. And I'm sure I've bought 75 copies of *Lean Thinking* and given it to clients. And I've bought -- I've told people to read Matthew May's book on the *Elegant Solution* and I've told them to read Jeffrey Liker's book and read all the (inaudible) and read the [Bylies] and everybody else. The fact of the matter is, you've got to do it. You've got to actually do it. And the clients of mine who are doing this right and the competitors of mine who are doing this right, are taking courses, and they're going to Shingo events, they're going to AME events, and they're going to the University of Kentucky and they're going -- they go and they do Kaizens. You've got to -- and it's hard to get a week out of a life of most investment professionals, particularly when you tell them you're going to turn off your Blackberry and you're -- they all work 14 hours a day anyway, you say you're going to

work 14 hours a day on something else. But you've got to do it.

Chet Marchwinski: You mentioned -- I want to take up -- you mentioned some books there and there was a question that came in asking you for a reading list that you would --

Cliff Ransom: Well this is not pandering to the crowd here, but start with the LEI website. There's a great bibliography on there. You can buy them from them. I think I named the ones that I seem to hit on the most. I think at some point you have to go back and read the kind of root text, Ohno's books and Shigeo Shingo's books and maybe some of the early stuff that EMI did 20 years ago. They're not the most elegant English in terms of the translations, but you get the point.

Chet Marchwinski: A number of people have asked for stock tips of companies and I just want -- can you help them out any?

Cliff Ransom: Sure. The answer there is no. And there's two very simple reasons and it's not selfishness or anything else. One is, I add value -- I mean, I'll be direct with you -- when I was asked by LEI to do this, I went back to a couple of my clients and I said, how does doing a webinar for 1,000, 2,000, 4,000 people add value to you? Because otherwise, why would I take the time to do it? Because I do practice what I preach. And they said, no, penetration of this overall community is probably useless, so go ahead and do it. I am required from a compliance point of view, a legal point of view, to only work with institutions. I work with no individuals. I say I run two accounts, mine and my son's and that's it. There were times in the past when I worked with individuals but there's a bigger issue because it's not just being afraid of the law. I cannot make a recommendation to anybody about anything until I really understand their personal risk profiles, what they're capable of standing and withstanding. I mean, it takes hours of interviewing before a responsible investment professional can make recommendations to somebody. Nobody should buy a stock off a webinar from LEI, period.

Chet Marchwinski: That's a fair point. A number of questions have come in from people in the service sector. For instance, one of them is in a transactional environment -- how do you select the most appropriate place to begin? Can you address that?

Cliff Ransom: Yeah. I think it starts with hoshin kanri, with policy deployment. But I've also said that most people don't do that. I think you have to learn value stream mapping. I think you have to learn how to put those starbursts on there. I think you have to figure out how, what priority you go after them. It's all about process, folks. The process really is quite explicit. And I think that's where you start. You start in the places where you have bottlenecks, you start in places where you have quality problems. They may not be, in the first instance, really strategic issues to do, but it's always great having some early successes.

If people want to see how this stuff has been applied in the transactional area, I would point you to public documents available on the General Electric website. Under investor relations, there's a series of presentations on various divisions. There was one done last year, I'm sure it's still on the website, I think it's called Margins and Growth. It has a lot to do with the what I call the fusion of Lean with GE's ten year preoccupation with Six Sigma. And they give lots of examples of where they've used Lean to greatly improve transactional processes.

Chet Marchwinski: That -- there was a question that came in asking if -- what is it in your opinion that separates Lean from other process improvement strategies such as Theory of Constraint and Six Sigma?

Cliff Ransom: Well, let's just put it right out front. Six Sigma is one tool. There are probably 50 in the Lean toolbox. And it's great, Six Sigma is a powerful tool, but it's just one tool. Theory of Constraints, I don't want to pick on anybody else, I've said there are lots of ways to get to heaven. In my estimation, in my humble opinion, Lean is the most -- Lean, broadly defined, call it PPS, call it the Danaher business system, call it the comprehensive elimination of waste and respect for the individual, is a very powerful process. And it is all encompassing. It touches every part of an organization and I don't care if it's a hospital or a Navy ship yard or an airplane manufacturer or the claims department in an insurance company, or a steel mill. Lean is applicable to all of those.

Chet Marchwinski: You referred to the over reliance on tools. What do you mean?

Cliff Ransom: Well, I don't know quite how to put this -- just because you can do something doesn't mean you should do something. And what's the line my ex partner used to have -- if the only tool you have is a hammer, every problem looks like a nail. And you walk around the plant with a hammer and you hammer on stuff, well maybe there's times you need a screwdriver and sometimes you need grease and sometimes you just need to change a design and you're not just hammering. And I watch companies get totally preoccupied, they go 5S in a plant for two years before they ever really attack flow. That doesn't make a lot of sense to me.

Chet Marchwinski: And there's -- it's probably not being looked at as a system in a facility like that?

Cliff Ransom: Yes. Systems, process, way of life, culture, mindset -- those are the phrases that resonate with me as an investor.

Chet Marchwinski: Do you have any thoughts on where you see the global Lean movement in 20 years from now?

Cliff Ransom: Well let me see, I'll be dead in 20 years, so I'm not sure it's relevant. I said it in the speech, I'm frustrated -- well there's two sides to this. Part of it is that I'm frustrated that I can't find more Lean companies. The other side of the coin is, when I can find one, I can typically make quite a lot of money for my clients by getting them to buy it. I put up charts on Danaher. I could do it on a company like Accuent, I could do it on a company like Parker-Hannifin, I could do it like a company like IDEX or - - so if I can find ones that are doing it right, I can usually tell before it shows up in the cash flow statement and the balance sheet. As Jim Womack says, the indicator that does not lie is inventory. But that tracks back quickly to operating margins and competitive position and customer satisfaction and gosh, you know what? You do all those things, you wind up making a lot more money.

Chet Marchwinski: There are a couple of questions about capital avoidance. Can you -- and basically it says, can you expand on how Lean affects capital avoidance?

Cliff Ransom: Well, you take any given set of assets, if you can increase the flow through those, you're going to make more money. So it's a question of leveraging existing operating assets. If you can -- one of the GE examples, in GE real

estate, a public example, they used to take ten days to process a particular kind of loan, I don't remember what it was. And they learned value stream mapping and they value stream mapped that process and they discovered they have eight minutes of value added work. And the fellow that was in charge of that division said, you know, we don't take ten days to process a loan anymore. Now if you can tell your customer in five days that he can or can't have that loan and your competition is still at ten, you have a huge competitive advantage. If you can tell them in two hours and your competition is at ten, you have an insurmountable competitive advantage.

So you generate more income, more cash flow, which is always good, and you get higher returns on assets by increasing the flow over, through, across those assets. And that of course -- I mean I worked on -- and this must have been ten years ago, [Weshinga Jitsu] and TBM at a Masco Tech division, they had a big hobber milling machine, it's a huge \$18 million investment, makes gears. I'm probably wrong as to what the product is, but a product that makes gears. And they were going to have to buy another machine, they were going to have to blow the back wall out of the factory to make room for it because it's a huge piece of equipment. And Weshinga Jitsu and I think TBM went in there and in a week so rapidly increased the flow through the two existing hobbors that they were able to defer the purchase of a third. Man, \$18 million, that's a big check. That's capital avoidance in my book.

Chet Marchwinski: How long should it take from a start of a world class Lean implementation until improved stock performance?

Cliff Ransom: Well should is a tough word. Is there a rule of thumb? All I know is that when I look at companies that get better at how they do business -- you know Jack Welch was at GE for 20 years. First ten years, nobody cared. The second ten years, the kinds of value that was created exceeded that of many sovereign nations. Danaher was working on Lean probably for five years before the street figured it out, that it was a positive effect. They didn't get respect for at least five or six years into their implementation. Okay, now they serve as role models today. And so it takes less time than it used to, but it's still taking five years into the process for Parker-Hannifin to get respect in their valuation. Stock price has gone up because the earnings have gone up and the cash flow has gone up. From a dead start, I don't know any company that shows influences that those of us on

the outside, i.e., those of us who look at public financial statements, the very earliest effect is about 18 months. It's usually 36 months. And as I say, I won't tell you that a company is truly Lean until they've been doing it for five or ten years. That discourages some managers, but the fact of the matter is, that's what the data says, data say, sorry.

Chet Marchwinski: Here's a question from someone who sounds a little desperate. It's please, please, please talk about the people aspect. I've invited several execs to listen in on this. What -- can you address that? What's the --

Cliff Ransom: Sure. I go back to that first slide about the two tenets of Ohno's of the Toyota production system. Respect for the individual, which means training the individual, giving the individual the tools, giving the individual the responsibility, the accountability. Frankly the requirement that he be responsive, he or she be responsive. And then the elimination of waste. The pact with the individual worker, employee, service technician, sales person, back office person, is absolutely essential. Here's a wonderful -- I don't think he'll mind my telling this story, but John Shook who is associated with -- John Shook is in my book Mr. Value Stream Mapping. He worked with Mr. Cho at Toyota for something like 20 years. They worked together at Numi, the General Motors joint venture. I think they worked together in Georgetown, I think they worked together in Michigan and back in Japan. And he said to me, I've known him for 20 years and I don't think I've ever heard him tell anyone what to do. He just asks questions. He just asks questions. And to this day, if he's near a plant, he goes down every day and he walks the floor. He walks alone. Here's the chairman of the most successful auto company in the world and he walks the floor without a retinue, without handlers, and he goes down and he goes down to see.

When Autoliv was a terrible company in terms of quality of product and delivery, some years ago, not quite a decade ago, Toyota came to him and said, we have to buy from you. There are really only two companies in the world that can make these explosives that we use as the igniters for airbags. They said, you're at 60% complete and on time delivery, we can't not buy from you, we need you. But we need you to come up to our standards. So they sent a sensei, Toyota sent a sensei from Japan. I believe the gentleman's name was Hirata. He was in Utah for three years on Toyota's nickel, and one of the senior Autoliv guys said, you know, in

those three years, I never heard him tell one person what to do. He just asked questions.

Chet Marchwinski: And that's a good way of showing respect to people, too.

Cliff Ransom: Absolutely. And frankly, it not only shows them respect, but you get a lot of really good ideas. And that's why I said toward the end, ask the right questions and then shut up and listen.

Chet Marchwinski: Unfortunately we have to shut up. We're out of time. I think the questions are still coming in, so unfortunately I think we could go on a bit more, but I just want to let everybody know that in a few days we'll send everyone a link to an archive of this webinar, the slides and the audio so you can refer to it, download it, or share it with colleagues. And we'll also review and summarize all the questions we received, the ones we couldn't get to today included, and post the answers on our website at Lean.org in the Education section. And we'll let you know by e-mail when they are up. And while you're at Lean.org, please review the program for the 2008 Lean transformation Summit in Orlando, Florida March 5 and 6 and the pre summit workshops March 3 and 4. Jim Womack is the keynote speaker this year and we'll have plenary sessions by executives from Boeing, Wells Fargo and Barry-Wehmiller. Most of the breakout sessions and free conference workshops are new, so please check them out on the web. And help yourself to the growing selection of resources including success stories of Lean implementations, articles, manufacturing and service forms. And if you click on the library tab on the website, you'll find free downloadable chapters from our books and workbooks. Thanks again for attending, and on behalf of Cliff Ransom and everyone here at the Lean Enterprise Institute, we wish you continued success in making the Lean leap.