

iLLUminate Blog Transcript: Zach Zacharia on 3rd Quarter Supply Chain Outlook

Recorded July 2, 2025. Listen to it [here](#).

- ANNOUNCER: 00:07 [music] This podcast is brought to you by iLLUminate, the Lehigh Business blog. To learn more, please visit us at business.lehigh.edu/news.
- STEPHANIE VETO: 00:18 Welcome to iLLUminate, the podcast for Lehigh University's College of Business. I'm your host, Stephanie Veto. Today is July 2nd, 2025, and we're talking with Dr. Zach Zacharia about the Lehigh Business Supply Chain Risk Management Index third quarter report. Dr. Zacharia is an associate professor of Supply Chain Management and director of the Center for Supply Chain Research. He teaches graduate and undergraduate courses in supply chain operations management and logistics and transportation. Dr. Zacharia is a regular guest on the show. Hi, Zach. Welcome back to the iLLUminate podcast.
- ZACH ZACHARIA: 00:54 Hi, Stephanie. Thanks for having me back.
- VETO: 00:56 You launched the Lehigh Business Supply Chain Risk Management Index or LRMI in August 2020. So that was almost five years ago. For anyone that's not familiar with it, mostly me, can you give a high-level overview of what this index is?
- ZACHARIA: 01:14 Sure. We launched that in 2020 to help supply chain professionals understand, monitor and maybe benchmark risk across 10 key categories. Each quarter, we have supply chain professionals rate the expected change in risk for each category, and they go from does the risk increase, stay the same or decrease? The index ranges from zero to 100 with 50 representing no change and numbers above 50 signaling growing risk. So, in a way, it's a decision support tool. At least it gets an idea for which areas across the supply chain are increasing in risk. And so that gives a greater understanding for people in the industry to be able to sort of make decisions.
- VETO: 02:00 So, second quarter results showed that the supply chain risk was at its highest level since the LRMI began. It rose over 13 points from the first quarter. How does this third quarter index compare to the second?
- ZACHARIA: 02:15 So, it's kind of interesting, and I identified that in the executive summary, that we've never had a number that high, because nine out of the 10 risk categories increased. In quarter three, there has been a significant decrease in that eight out of the 10 risks actually declined, but the average risk just went from 72 to 70.32. So overall, the trend is now reducing risk. So, in a way, it reflects that there's still a lot of risks, and so we're over 70. But in some sense, I think because the risk is decreasing, it suggests that maybe companies are getting more familiar with what's happening in the business environment, and they're able to sort of plan for it.
- VETO: 03:08 Do you think that these higher numbers are becoming perhaps the new baseline for things in terms of measuring the risk? Or do you think it'll go back to the way it was five years ago, ever? [laughter]
- ZACHARIA: 03:21 I definitely think that risk will decrease. I mean, risk in some sense is somewhat related to uncertainty. The more uncertain you are about what is going to happen, in theory, the more risk that you have. It's when you can predict what is going to happen, then you have less risk because you can plan for it. But when there's a lot of

volatility in the business environment, then there is greater risk. So, I'm completely confident that risk will continue to decrease as businesses get more creative in being able to have ways to be more resilient in the business environment.

VETO: 04:04

We discussed this previous to recording through emails. And when you're looking at the report, why are the head-to-head risks different from the ranking?

ZACHARIA: 04:18

Oh, that is a great question. So, in the ranking of risk, I'm asking you whether this particular risk, for example, supplier risk or government intervention, is that risk going to increase, decrease or stay the same? And that's fine because you're looking at every single risk. And then it's possible that people, because they're just looking at one risk, more people might give that a higher value. The head-to-head risk actually presents a different scenario for the respondents to actually select. And that is they say-- I ask them, given all 10 of these risks, pick the number one risk that you are most concerned about. And so if you look at just this report for the third quarter, the number one risk that we actually had was supplier risk. So numerically, it was supplier risk, then government intervention, then economic risk and cybersecurity. But when you went head-to-head and you asked them, select what is the thing you're most worried about, or there's the greatest risk, government intervention became the number one risk. And then supplier risk, and then economic risk was third. So, in a way, the numbers are somewhat similar, but head-to-head forces the supply chain expert or business person to select what they are most worried about. And I think that's a better indicator of actual risk.

VETO: 05:45

It's funny, when I was learning about the supply chain or the LRMI, I saw that there are comments and you leave comments open to it. And I'm curious what you get out of those comments.

ZACHARIA: 05:59

So, the comments are there because it allows people to actually further elaborate on why they think the risk is either increasing, decreasing or staying the same. And the comments actually provide a nuance, more depth to what they're actually seeing. And I think that there's a huge value in this. We keep the comments that everybody has provided us on the website. The report only contains, let's say, six or seven comments and typically we might have 15 or 20 comments depending how many people actually write something. So, the beauty of the comments is it gives you a more clearer picture of what the actual business professional was thinking about when they suggested that supplier risk was increasing or government intervention risk was increasing.

VETO: 06:56

On the iLLUminate podcast, we work really hard to remain as objective as possible, and discussing tariffs can sometimes be politically tricky. At any given time, tariffs will affect the supply chain. So how are tariffs affecting things in the US right now?

ZACHARIA: 07:13

Some of the executives that I'm talking to have really actually said uncertainty is one thing because they're not sure if a particular tariff is going to stay or whether that is just used as a negotiating tactic to be able to bring other factors into play. But the companies have said that the tariff is there and many of the products that they're bringing into the US now are facing tariffs. They're looking at not sticking it in China, for example. They're looking at other places that you could possibly manufacture that does not have those kinds of tariffs. And just today, you saw that Vietnam has come to some sort of agreement with the government. And so that was one of the places that was identified that it's possible to manufacture. And I think that there is some

sense of trying to bring some of that manufacturing back here to the US because that would avoid the tariffs. So, there's a lot of stuff in play. But in the short term, right now there's just a lot of uncertainty.

VETO: 08:28

How do you see supply chains adapting to shifting needs, demands and the overall landscape? I mean, I feel like with things happening in tariffs, there's a bit of whiplash. So can they even adapt?

ZACHARIA: 08:44

Absolutely. Absolutely. One of the things is, is that businesses survive by being able to adapt to changing conditions. And the more resilient you are-- that's a term that we use in supply chain, which tells you the ability to adapt if demand drops by 10% If your suppliers cannot deliver when you would ask them to, what are other things you could do? Do you expedite the shipment process? Do you come to another supplier? So, companies will, of course, adapt to the changing situations. And good companies have multiple ways that they could adapt. It's the companies that are unable to change. They get very stuck in a particular paradigm. They're the ones that suffer because when the environment changes, they're not ready for that change. And I think most companies have learned that there is greater value in building in that resilience and a bit of redundancy so they can adapt as needed.

VETO: 09:45

I think about years ago, when you'd go to the doctor's office and they would have a whole room of shelves of files of people's information on it, like their medical files and all of that data. And then universities did the same thing. Everything was in paper. And then it switched to digital. And now AI is heavily involved in so many aspects of our lives that we don't even realize. How is AI changing supply chain in terms of just the business itself, but also the inner workings of it? And do you think it helps or hurts cybersecurity and data risks?

ZACHARIA: 10:27

Wow, that is a very big question. I'm going to unpack that slightly. [laughter] First of all, you're absolutely right. AI is definitely transforming the supply chain. I mean, it is definitely impacting all the businesses that are out there. It's impacting the way that we actually teach classes. And Lehigh is very forward-thinking. We want our students to be capable of being able to use AI for their own benefit and to be able to make decisions. One of the ways that AI could really transform the supply chain in a way is getting access to large data and then being able to improve decision-making. Things like forecasting, demand planning, because the more data you have, then you can use AI models to be able to predict better. Maybe you can look at ways to improve maintenance factors. The beauty of AI is being able to take a lot of data and trying to find patterns that might not be that straightforward for a human to perhaps comprehend. There could be ways that you could actually manage labor better. How do you root shipments much more effectively? What are some ways to reduce waste and optimize processes? So definitely AI does have an impact on the supply chain.

VETO: 11:52

I feel like those are really exciting changes that can help, like it's a tool. It's not replacing anything. And it could really take a lot of things that could take years and years to try to figure out down to instant information at your fingertips. And I am a videographer by trade, and we're seeing a lot of that happen in post-production where certain programs are using generative AI to help just in the workflow, just in transcribing video interviews. And it's such a great tool to have. It's not taking my job away. It's helping me do better and work more efficiently. So, I feel like with the rose-

colored glasses on, of course, AI can help supply chain that way. Is that sort of correct?

ZACHARIA: 12:43

Yes. Yeah. I mean, as you said, it's another tool and it's very good. It's the last few years that we've been awash with big data. And data without being able to actually analyze it is of very little value. It's the ability to take that and analyze it in such a way that you can provide information that you can actually be able to make decisions. And I completely agree that AI is very good at dealing with a lot of data. But realize that, and I tell this with my students, it's great that AI can give you results, but we're still looking at maybe 80% accurate, which is fine for a Google search. You're not making a huge lifetime decision. But I always tell students, you should be able to identify and have enough understanding that you could say, "Well, this doesn't make sense." And there's a 10% or maybe 20% where there's error, or you just don't know which 20% is wrong, right? So I think there is a lot of risk of over-reliance on AI, but definitely AI can be used in providing information that allows you to further analyze. And then you can always check it. And I think you should always have the capability to understand what is being given to you, and then being able to make sure that what is provided is relevant and somewhat accurate.

VETO: 14:10

Do you think that AI is going to hurt cybersecurity and data risk or create data risks?

ZACHARIA: 14:19

Absolutely. I mean, one of the things you talk about how efficient AI is, well, it can just as easily be used by cyber criminals to be more efficient in their phishing attacks. As they say, the email seems to be the number one source of some of these attacks. And it becomes harder and harder to identify what is a real email versus what is a phishing email. I think that AI would make it much easier for cyber criminals to be able to impersonate real emails and cause you to make wrong decisions that they can get into your system and hack it. I mean, pretty well all the professionals will tell you that you can have very, very good systems in place, but it's typically a human who makes the wrong decision and clicks on a link or provides something that allows this malicious software to enter. So, I think that AI, unfortunately, will help them become even more crafty and more capable of being able to perhaps breach your system.

VETO: 15:25

Yeah, ChatGPT is so friendly. [laughter] It's so kind when you ask it a question, you're like, "Can we be friends?" I'm just kidding. [laughter] The fourth quarter will be right around the holiday season. We're going to jump back to the LMRI real quick. Do you have any predictions or are you spotting trends for the fourth quarter?

ZACHARIA: 15:46

Well, the thing is, as with the kind of lead times that you have to bring products, if you're planning to sell in the near the end of the fourth quarter, you're already looking at ways to have that product manufactured and brought over here, let's say, even September, or early October. So I do think that people are taking into account, but there is still-- that's why the risk is over 70, is that there could be still port congestion, transportation delays. There could be problems with getting enough labor and the uncertainty. Also, economic uncertainty could affect demand. So far, customer demand has been relatively resilient. Stock markets are increasing. People are still somewhat buying things. But if inflation continues to a higher level, then that's going to slow down spending, and then that's going to slow down the Christmas retail boost that you actually have. I do expect people are going to be placing their orders earlier for quarter four and probably not carry as much inventory, and just be a

little bit more willing to expedite shipment if they think that the demand is going to be there.

VETO: 17:06

I remember reading a headline early on in the year that Halloween will be canceled because-- I was like, "I think it's-- I mean, spirit Halloween or companies like that have that stuff in boxes and trailers already for years. I think we'll be okay." But there is that general concern that there's not going to be enough of something from the general consumer still. Do you see that being a potential risk?

ZACHARIA: 17:32

I don't think so. I mean, businesses have gotten good at trying to do that. I think more often than not, they might have too much. I mean, we still have some companies who have bought stuff during COVID that they have finally been able to unload. I think, though, that there might be always a craze for one particular item, I mean, where there was some specific thing that just sort of takes off. You can never predict those kinds of things. And I actually use this to talk about supply chain risk and how there could always be that hot item that you might run out of. But for the most part, companies have really gotten good at trying to predict. And obviously, AI will help them predict what they think the demand is going to be for their products, and they'll make sure they have enough inventory to meet it, but not overdue on the inventory side.

VETO: 18:30

The annual Center for Supply Chain Research at Lehigh Fall Forum will be coming up this November. What's this year's theme and what can attendees look forward to?

ZACHARIA: 18:41

Well, the theme for this year is innovation in the supply chain. We have got Michael Rivera has already agreed to speak about the application of AI in the supply chain. I think AI is going to have a couple of presentations on that because everyone is interested in how to apply AI in the supply chain. So, I think you're going to see that. I've got some test projects that we're doing with companies. And we hope that some of them will be sharing some of their secrets of how they've applied AI in their own companies. So that's going to be a hot thing. But the broad theme is innovations in the supply chain. And I would love to invite our listeners. It's November 6th and November 7th, with 7th being the actual date of the main presentations. And please come to our website. We'd love to have you attend and participate.

VETO: 19:39

Before I let you go, you just started a new project. Do you want to talk about that just a little bit?

ZACHARIA: 19:47

Oh, yeah, I started a new project. Again, it's [inaudible], trusting in AI to make supply chain decisions. We're talking to some companies and we're talking to business leaders about how they're actually using AI in their companies and how confident are they on the kind of output that AI is providing and what are some of the checks and balances that they use to make sure that AI is necessarily providing relevant information. I mean, like I said, I tell students, "80% of it is absolutely accurate. You've just got to have some understanding of what the 20% is that might not be accurate." So don't take everything that ChatGPT says. And itself, if you read anything whenever you enter something, it always says, "Be aware that AI makes mistakes." So I do think that's something to consider.

VETO: 20:45

So don't ask ChatGPT who's going to go to the World Series, basically, [laughter] [inaudible] you're saying. I didn't do that or anything. [laughter]

ZACHARIA: 20:54

I'm sure it'll come up with a prediction based on some things.

VETO: 20:58 Yeah, it could go either way, apparently.

ZACHARIA: 21:00 Absolutely. Absolutely.

VETO: 21:02 OK, Zach, thank you so much for taking the time to be on the show. It's been really interesting getting to know about the world of supply chain. And I can't wait to have you on again.

ZACHARIA: 21:12 Thank you so much, Stephanie, for inviting me. I look forward to coming on when we have another report to discuss.

VETO: 21:20 That was Dr. Zach Zacharia speaking about supply chain and the Lehigh Business Supply Chain Risk Management Index third quarter report. If you're interested in being a part of his new project on trusting AI information in the supply chain, you can email him at zg208@lehigh.edu. This podcast is brought to you by iLLUminate, the Lehigh Business blog. To hear more podcasts featuring Lehigh Business Thought Leaders or to follow us on social media, please visit business.lehigh.edu/news. This is Stephanie Veto, host of the iLLUminate podcast. Thanks for listening.