The Future of Supply Chain, Episode 157: Self-healing Supply Chain with Westernacher's Sachin Vijayan

Sachin: [00:00:00] The future of supply chain is going to be self-healing, automated, which is high productive, and the key word is going to be accelerate. I don't think there is going to be any supply chain which is going to work without AI. And that be it planning or executional site. And then the humans will be accountable factors for this agent, how we are running it, and how we are driving the entire supply chain. That is how the future of the supply chain gonna look like.

Richard: Welcome to the Future of Supply Chain, a podcast where we discuss latest trends, issues, and opportunities across the global supply chain. My name's Richard Howells, and I'm joined by my wonderful co-host Oyku.

Oyku: Hello everyone, this is Oyku Ilgar. I'm a marketer of course podcast in the supply chain space here at SAP. Today we are going to be talking about self-healing supply chain. To do so, we are joined by our guest, Sachin Vijayan. Sachin, pleasure to have you on the [00:01:00] podcast. If you could take a moment to introduce yourself, give some insight into your past experiences and your current role at Westernacher today.

Sachin: Yes, sure. Thanks for having me guys. My name is Sachin. My journey in the supply chain is interesting, from starting with the pharmacy background, now leading a global planning practice at supply chain at Westernacher Consulting. Lived and work in many regions with unique perspective and to see that how culture and technology intersect with it. And we are in a transitional place at the moment from a technological point of view. And I think that's the reason we are gathered here as well, to make sure to discuss these crazy times we could leave in, in a once in a millennial sort of thing.

Richard: So we came up with this real cool title for the the episode. What if a supply chain could heal itself and the topic of the self-healing supply chain. So maybe you could describe a little bit what you mean when we [00:02:00] say the self-healing supply chain. What does it mean in practical terms and what problems is it specifically trying to solve?

Sachin: We need to look back a little bit on what is our traditional world look like. In our traditional ground reality, something on time or something that we are going to deliver might be stick it on a paper or stick in a box saying that this is on time, delivery is critical, etc., without knowing anything else around it. Does it arrive on time? Yes. In, recently, yes. Most of things are arriving. But if you really look into the traditional side of things, somebody pick up the parcel, go to a truck, and on the way there is a strike or there is some issue, or there could be an air problem. There is an political problem. There could be a weather issue, there could be heavy winter, heavy snow, whatever it is. And that could result in the delay of the same problem. But when we talk about the self-healing and how does it work, it's [00:03:00] automating, understanding the different or connecting to the different neural network. Detect weather patterns, detect what is going on elsewhere, and deciding, okay, yes, it is a critical, thing that we need to deliver. Can it be delivered on time with the route, with the way that we thinking? Maybe not because there is going to be a weather change over happening, so the iot devices might be sensing it and saying: no, we will have a weather issue. We need to move it in a different angle. Maybe we need to do the replenishment from a different site. So these are the different things. I think we are living in a world, or we are moving towards a world where it's going to be more sense oriented, more prescriptive way of thinking than descriptive way of doing it. We need to make sure the promise is kept. And it's at least 99, 99 0.9% met that fulfillment thing, especially if it is critical, etc. So [00:04:00] self-healing is more into making sure that it's automatically sensing, even though we haven't predicted a lot of things, we only have a forecast, we only have certain things, but system is predicting, yes, we need to move this from A to B no matter what. We need to get there on time. which is predicted by system, searching the web, searching wherever it need to be from weather conditions or political conditions, whatever it needs to be to see how do we get there. In a nutshell, we can say that could be a self-healing network sort of thing without manual intervention much.

Oyku: So when we're talking about the self-healing, we are talking about this networks that automatically sense disruptions executing this changes without manual intervention. And I can imagine building this requires several foundational pieces. So what are the core capabilities of supply chain needs before it can self-heal? And which of these is usually hardest?

Sachin: Hmm. That's an interesting [00:05:00] question because nowadays things are changing. A lot of companies are moving towards this direction. But you can see what is happening in the world at the moment itself, right? There is. 80 to 90% of volatility happening, significant volatility happening in the world, especially moving materials from A to B, or logistics from A to B. So we need to get to that level pretty soon. The key thing is to make sure, how does the old

model, like the old linear model and the new neural network model can work? So in the old model, it's, a straight path. It's more or a straight path. We need to get to A to B from this is my forecast, this is my plan, we need to get that done. And that's it. There is no other elements coming from multiple dimension, but when you get to a neural network side of it, need to be resilient. It need to be synchronized across multiple channels. It also need to make sure there is a complete autonomous approach as well through HNDKI [00:06:00] or through the neural network and making decision process much easier because say for example, right now, there might be, I don't know, 10 demand planners, 20 demand planners, a hundred demand planners in an organization. And there could be 10 to 50 or a hundred supply planners based on the size of the organization and procurement planners, et cetera. How many times these all guys working together in an SAP IBP environment way I did quite a lot of implementation, and this is the reason I'm thinking SAP and all of us are moving to this agentic, self-healing automated side of things. So first of all, we need to make sure there is connected network, not a siloed approach. Secondly, making sure it can the system or the tool, or the organization itself can tap into different database across the network to understand what are the independent variables, which can impact [00:07:00] my decision process, my supply process, my demand or supply planning or procurement process. How do we do that? How do we sense it? For example, in IBP, we have demand sensing, right? I mean demand sensing, sense it to see how often we are getting deliveries. What are the days or hours in the week, the delivery is high, or the orders are high, and how do we make sure we have right inventory at the right time, etc. Similar sort of way, once we get to a one more level, it could be hundred or thousands of agents working together in demand planning and supply planning and procurement debate each other, making sure what, what is the sensing? Do we going to make it or not? And take that decision in a fraction of

Richard: You said some really interesting stuff in the last five minutes, and building that foundation of a connected network [00:08:00] accessing data from different databases and getting structured and unstructured data from across the supply chain. Right at the start, you talked about the weather patterns, the traffic patterns can influence delivery. Unspecified disruptions that may be happening across the globe, but where with all of this data, we need technology to help us access that data in real time. And you've started to talk about this when you talk about agents, but what is the role of AI in enabling a self-healing supply chain? And where does AI add the most value compared to traditional automation or analytics?

Sachin: I don't think there is any supply chain system right now in the world, including SAP IBP. If you look at it, SAP IBP, AI Core, I was working on it today, so I can tell you that AI core comes with all the different models from

cloud to Germany to [00:09:00] chat GPT or you name it, it's all there. And the interesting part is on top of it, you can build. This is the flexibility. I find it from SAP point of view. You can use any of these models. You can build what you want on top of an already solid model that we have in SAP IBP, sap, PIVP. The structure is extremely well defined for a distribution planning point of view. And when we are building these agents on top of it and one step back on your question on why enabling the agents as well and why IBP. Sorry. Why AI? Without the flexibility of reading these large datas that sitting in this for HANA or the Cloud HANA database. It's extremely difficult to take that decision. We always connect with SAP IBP, et cetera, but if you just think back and see if you go to Google and [00:10:00] search for I want to know the nearest restaurant where I can get a specific dish, and if it is taking five to 10 minutes to come back with an answer. Do you think you'll sit there? I don't think so. Not anymore. Exactly. And that is the problem. I was with the pharma industry this week. I was with the diary industry this week. It's both are very complex as at its own level. For example in IBP, we have optimizer. An optimizer creates a lot of log dual. Go into that log and analyze that log and say that why certain product is committed or decommitted. And the interesting part is goods. All goods. We download all, this particular pharma customer, they download inter log for last one year and it's a huge database. It's like three or four close to TB database. And because of their product, because they have 15,000 in one manufacturing plant creating [00:11:00] 15,000. So these, volume of data, these volume of products sitting in and this decommit and commit of these optimizer log, they want to analyze with an ai. If there is no j or there is an external AI copilot or SAP AI core is not there, I don't think they will be getting into these millions of lines and identify, okay, why this product decommitted two months back or three months back, or is it, is there a trend on this? It's impossible to figure it out. We are in a, we are in a, we are at a stage right now that 99.9% of the log is decoded. It wasn't possible at least two years back these logs we were trying to do, we look up and identify all these, forget it. I think one month data itself, we were just overwhelming. So without ai, [00:12:00] this is not going to happen. I'm just giving some examples because reading that LA large language models is extremely, extremely important to identify a lot of underlying problem, and the world is moving towards fast. Right now. The trending word for me, at least days accelerate. Everything is accelerating in a crazy speed. So how do we make sure we cope up with it without ai, I don't think so.

Oyku: Like you said, it is changing the way we work, right? And it is becoming a bigger part of how we work and make decisions. So from automating tasks to helping us spot patterns we might miss, for example, or it's changing what the collaboration looks like, human and ai. But as we lean more on technology, I think it's worth asking. Which choices should still be made by people and what

can we comfortably hand over to smart systems? And how do you see humans and AI working together to get the best of both worlds?

Sachin: Very [00:13:00] philosophical question. Maybe I should say what Elon Musk is saying, right? We'll all have abundance. No one need to work anymore. We'll have full money, full everything. Don't need to work anything. I don't believe in that, to be honest. I really don't believe in that i, I have a feeling it's going to create a bit more parity in the world. Eventually that might happen at the largest stage, but then we need to get into the geopolitical and fiat and currency economical side of it. But I have a feeling that's a long way. But I think when it comes to the planning point of view or say supply chain itself, there is always human need I don't think that agents are going to run a hundred percent. That is interesting because again, coming back to an example, we are an optimizer. Forget about agents, forget about everything. I mean right now, and it was there for a long time optimizer and a PO optimizer and IBP, we are an optimizer. And the results, how many people really trust that research? In, [00:14:00] in our ex in our life. I haven't seen anybody who ask the moment you run it, they're like, no, this is wrong. They probably didn't even look, did look at the whistle, but the moment they see the whistle, they're like, Hmm, okay. I don't believe it. I don't think this is true. It's a black box for most of the things. And imagine if AI comes in and say and I have a agent one, agent two, I run it. So I think there is always human needed for sure. But I feel such a way that every layer of the business, the productivity of the human will quadruple. So if I'm doing one project today, maybe I could do three projects at a time using the agents and implementing agents. And so I think the productivity of the same team will really quadruple because we still need to make sure, imagine a 10 billion company or 30 billion company where we are saying we will implement [00:15:00] agents. You trust this thing and we walk out. I can gadi. The next day they switch it off and say, we don't understand any of this. We need to work with people. We need to understand. We need to know what is this number? Where is this number come from? Maybe it is true, but. Even then, it takes years to get that trust and get that built into it. From my point of view, it'll definitely quadruple the productivity and I can personally see in my personal life itself. So I use my own twin as open flow. It's still working while I'm doing the talk with you. It's working for me elsewhere in my phone, in my telegram or WhatsApp, sending me messages looking at the New York Stock Exchange and say that, okay, buy this or buy that. Otherwise, if I need to go out and I need to spend time, I need to do hours of research to get to that level, what is the best option to buy? What is the best talk to buy? What is the best thing to buy? So that, for me, all these research is done [00:16:00] by my digital twin, which is sitting in my phone somewhere. So the short answer is I don't think the humans will go away, but there is a risk factor I also see, which I am trying to avoid in my own industry, to be honest. The juniors. The question always comes in why would

we need to hire juniors? Because I can teach AI much faster than the junior. Why would I need to hire a junior? So I think the nature of business will change for sure. There will be juniors, we will still have juniors, I strongly believe, but the caution of understanding of their aptitude, their intelligence will also be different. They will know how to use the AI tool much better, much faster to get results than when we hire all days, the juniors will be, yeah, I know Excel, I know PowerPoint. I can do a presentation. That mindset will change. I have a feeling it'll [00:17:00] be, I know ai, I know how to work with agents etc. So I think there is going to be a shift for sure, but I think it's only going to enable us to more producting. That's my feeling.

Richard: You've set me up perfectly for the next question. Because you talked about AI will quadruple productivity that the people that we'd be hiring, the younger people that we'll be hiring will have a different expectation. But also the hiring manager will have a different expectation of them coming in.

Sachin: Absolutely.

Richard: So with that in mind, and we've been talking about IBP and planning, what does the planner of the future look like in a self-healing world? What skills, responsibilities, and day-to-day work will change the most for the planner of the future?

Sachin: From my point of view, if I'm a demand planner, I will be less worrying about how the statistics work, how the alpha beta gamma [00:18:00] in the statistical forecast fit. This is all going to be done by an AI agent, but I will still know my customer better than anyone else. I can have a conversation with my customer and say, and negotiate with them and say, okay, what? What do we think? Can we do this? Can we do that? Can we do X promotions? Whatever. Yes, I might get suggestions from AI agents that this promotion could add a lot more value than other XY promotions. That is from a demand planner perspective, but supply planner could be. I have a feeling supply planners number of supply planners will reduce. It's mainly because it can, it's, I don't think it is needed that much because a lot of it is going i'm just gonna add one more thing element to it because so far we were talking about AI agents, [00:19:00] but imagine AI agent put it in the brain of someone which can, who can do everything, which is basically a robot. Right now we are talking anything which can have a digital output. Like anything which sits in a computer, create a digital output will be handled by AI agents. Soon it's gonna be in a head of someone, something moving around, something which can physically do things that also will change the game I mean, you can see it in Amazon warehouses, right? Or in China, I think you might have seen quite a lot

of videos, reels or shorts or whatever in warehouses. The robots handling these parcels and all these. So imagine that has two legs and two hands and started doing, started having a real good brain, which can think what it need to be, do what it need to do. So that will definitely change. But does it mean that the day in the life for a planner will be [00:20:00] different than today? Partially, yes. But it's going to be, we are going to be making, or the planner's going to be making more. Decision oriented process because agents will say that, okay, this is, these are the three options, which one you need to choose. I think there still need to be a human element. This is my feeling.

Richard: There's still a trust factor at the moment.

Sachin: Correct. Absolutely. There need to be a trust factor. There need to be a feeling that, okay, this is my decision. The biggest question is gonna come is agent take it decision that I will ship 1 million product to this site to this site. Who is responsible? You can go in and say that, okay, I'm gonna fire this agent tomorrow. Doesn't matter, right? There need to be an accountability. There need to be a responsibility in any industry, otherwise business don't flourish very well. Yeah. Yes, as I mentioned the previous question as well, the productivity will quadruple, but the accountability and the [00:21:00] responsibility of people are still going to be intact. So, I don't think it's gonna go drastically, but these, maybe we don't need that many number. If there is 200 different demand planners, maybe we don't need 200 different demand planners. Maybe we need five who is looking after 200 agents, but they are responsible for it. It's my decision that I submitted or I approve that agent's option, and that's the reason. But otherwise, it can be chaotic as well. On the other hand, there is a different tweak to that side to your question is, what happened to our consulting or you know, consulting world or whoever is implementing as well. I have a feeling. With less number of people, we will be able to implement more and it'll be much more shorter scale of implementation. I think we can always see from IBP, right? The implementation cycle is much faster. Traditionally, if you're implementing something, it is a two year implementation. Three year implementation was nice [00:22:00] at that time. But now it is like three months and then we need to find another customer. We have to have another customer. Otherwise it's not sustainable. That is only there and it'll be much more faster. Might be weekly.

Richard: Are there any areas of supply chain that are already self-healing? Or do you have any examples of best practices where companies are already, would already claim to be self-healing in certain areas of their supply chain?

Sachin: Amazon or Walmart and big retailers. And the self-healing means, for example, when there is a shelf emptied out, there is iot, internet of things, which is sensing it and saying, okay, this shelf is need to be replenished immediately, then information is passed and take a decision and it is it's received to whoever it need to go. And then that person or who the team will be replenishing that shelf. That information, that ordering process of the automated [00:23:00] self-healing. It's already happening in most of the places, most of the mega retailers or Amazon sort of warehouses, et cetera. It is, it is a. It is already happening. JD Rocom is doing it, McKinsey is doing it. And most of the consulting companies or partners already having most if you are getting an RFP, if you're getting a proposal, 80% of the proposal is done by, done automatically in minutes, and the rest is fine tuned. So a lot of things is automated already. Can we call it self-healing? Can we call it anything? But this is actually happening, right?

Richard: Yeah. The concept is there.

Sachin: Absolutely this need to happen. And the, because the speed. Speed is essence so far, I can ask something in Google, I get immediate research. Why would I need to wait for a job run over the night to get a result? That's why IBP is now real time. We don't need to wait. It's immediate. So that is exactly going 10 x in in the next five years. That's my feeling.

Oyku: Sachin. Are there any parts of the world that [00:24:00] are already ahead when it comes to self-healing supply chains or regions that have already developed that kind of immune response to disruption? Since we were talking about the selfhealing?

Sachin: 2 regions. Yeah, two regions, of course, I think. I think we all know it's an answer one, but, definitely US and China. That's the two regions which I can see growing like crazy.

Richard: Mm-hmm.

Sachin: I used to remember when I was small and all, you know, Chinese products quality, etc. but that's all changed. That's all different now. Everything is produced in China, and I think the world situation, what is going on et cetera, is a time that people are trying to see who is going to have more energy, who is going to have more AI power that can convince, and that's the war, which is mainly going on the ground in a geopolitical way. And that, of course, requires certain energy, certain rare minerals, all these kind of things. But I think that's not our topic today. But again, this is all connected, right? It's all connected because. When we are planning from a supply planning perspective, [00:25:00]

we need to understand how these geopolitical elements work so that when we go to an organization as well, we can understand their pain points how things move, how logistics work. Because I was with a promoter of a pharma company two weeks back and they were basically saying, When I, we built a massive warehouse, really mega warehouse hub in Greece, thinking that they can ship generic pharma material from India to Greece in seven days. Right now it's happening within 30 to 40 days. It's just the reality is completely different on the ground. What is on the paper as well? See these lead times, especially pharma, we need to think the shelf life is impacted once it is landed, there is going to be the local regulation kick in. There is tests need to be done, it's approved, et cetera, et cetera. Then only they can really sell it. So we need to understand all these factors. [00:26:00] Yes, we cannot take the geopolitical situations out of, the picture, but, I still feel first is definitely US because of what is going on. And then definitely China. From an energy point of view, China is actually even leading all over the world at this point in time.

Richard: Now I'm gonna ask you the hardest question of the day, because we're coming to the end of the podcast and I'm gonna ask you to try and summarize everything we've talked about in two or three sentences. So from your perspective, what's the future of supply chain?

Sachin: I think the future of supply chain is going to be self-healing, automated, which is high productive, and the key word is going to be accelerate. And I don't think there is going to be any supply chain which is going to work without AI. And that be it planning or executional site. So all in all, there is going to be a self-healing neuro network engine, which [00:27:00] will support, run different agents, which is demand planning agents, supply planning agent, procurement agent, so be it. And then the humans will be accountable factors for this agent, how we are running it, and how we are driving the entire supply chain. That is how the future of the supply chain gonna look like.

Richard: That was a great summary to a great conversation. Sachin, thank you very much. It's been really interesting. I'm sure you'll be welcome back anytime. And I'd like to thank everyone for listening. Please mark us as a favorite. You can get regular updated information about future episodes, but until next time, from Sashin, Oyku and I, thanks for discussing the future of supply chain.