

Episode 168: AI in Sales Forecasting with Implement

Mike: [00:00:00] The future of supply chain planning is the art of separating prediction from judgment. AI can handle the prediction but becomes a critical skill, both for planners and for leadership. And here it's about the judgment of the assumptions going into the plane. Because in planning, the most expensive mistake you can do is treating your assumptions as facts.

Richard: Hello and welcome to the Future of Supply Chain, a podcast where we discuss hot topics, best practices, and the latest innovations in today's global business. 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 joined by Mike Weisberg from Implement to discuss how AI is transforming sales forecasting in supply chains. We will be covering the challenges of volatility, practical implementation tips, and the future role of planners. [00:01:00] Mike, great to have you on the show. Would you mind telling us about your current role, and share a little bit about Implement?

Mike: Thank you for having me. My name is uh, Mike. I'm a partner in Implement consulting group. And I work with supply chain planning, AI, and decision making. I'm based in Denmark, but I work for companies across both Europe and us. Very short implement that's a global management consultancy, but with Nordic roots. And you can say we strive to aim to combine both subject matter expertise and change management. So we both are there to solve the problem, but also to make it happen. And you could really say that both skills are important during supply chain transformations.

Richard: So let's get into the meat of the conversation. It's great to have you on by the way. Everyone knows the old joke that the one thing we know about the forecast is that it's always wrong. But now more than ever, we are seeing unprecedented volatility and fluctuation [00:02:00] everywhere in the markets in demand, just in the environment that we live in. So why have traditional sales forecasting struggled to keep up with the day's volatile markets, and what specifically changes when AI is introduced to the equation?

Mike: So first of all, I, I've also heard that quite a lot and I always reply by saying, well, all forecasts are wrong, but some are useful. AI forecast, I see that as a supplement in the beginning, not necessarily a replacement of statistical forecast, but there is no doubt that AI forecasting is being used more and more. You really need to have the best possible forecast to make the best decisions because you can say many companies, they are global, but a lot of trends are happening local. The changes in trends, in domain pattern are having more and more frequently. So the ability to react to those changes locally as a global company is very important. So [00:03:00] that is one, one angle that is the change in the consumer pattern and in company size and adaptability. But there is also a big pressure on reducing cash flow build up in inventories, and usually their AI forecasting is also a good starting point to, to make better decisions.

Oyku: Nice spin on the George Box quote. Your take on input planning over baseline forecast really resonates in especially today's volatile markets, So how can AI improve forecast accuracy beyond historical trend analysis and human judgment?

Mike: I believe that AI alone can't do it, right? So when you're doing this implementation, you must follow the three fundamentals, which we say is trust. Purpose and accuracy. So first of all, for the trust part, that means that planners, they need to trust the forecast. So the way to do that is to avoid doing black box modeling. That doesn't mean that the planners need to be able to redo the calculations [00:04:00] in Excel, but they need to understand what data goes into the model and what impacts the forecast, right? So that is a way to build trust. Another important point is also that the forecast should be fairly stable. So if a forecast changes all the time, jumping up and down after each cycle, then it will create distrust to the forecast. And that is true both for AI models, but also if you have more traditional, statistical approaches, then there is the purpose part. So what are you actually using the forecast for? What decisions does the forecast drive, right? And you use that to help identify what is the right level to do the forecast at. Because if you take AI forecast, often you need many data points. But there are some companies, for example, in the spare parts or in other industry sector that doesn't have all those data points, but AI can still [00:05:00] help during and more aggregated forecast. And then just break it down with some desegregation rules. And then finally it goes without saying, of course, accuracy is also important, right? But what is more important is not necessarily only accuracy, but also bias. Because bias is the expensive part in supply chain that drives either additional inventory or CAS problems, right? So back to your question, right? How AI can actually improve accuracy, right? And you can say the thing about AI is that you can apply additional data input to the model, right? So instead of only historical sales, you can use a lot of other data or features to improve it. That could be your stock out the prices or other

parameters as well, right? And what we see when you're using AI forecast. can get a range of five to 10 percentage points improvement in your [00:06:00] accuracy, of course, depending on the starting point. but we also see that there are some companies that when they implement AI solutions that don't reach the same level of improvements as expected, but instead it frees up a lot of time. And then the planners can spend that time on the input. So what is driving the plan? So that can be face interface out decisions of products. It could be promotions or campaigns tenders, because that is also a big driver of accuracy. So if they can improve that part, that then can say over time will also improve the accuracy.

Richard: Many years ago, when I first started working in the planning space, one of my bosses said that your business based on historical data is like driving, looking in the rear view mirror. You've gotta have updates, you've gotta have more data. That's providing realtime visibility, realtime data [00:07:00] feeds to improve that historical data. And I want to talk a little about, the importance of data. Because you mentioned two really important things when you talked about those three areas. You said trust and accuracy. And when we talk ai, we always get into this discussion about. The importance of accurate and timely data. Can we trust that data? 'Cause we need that data foundation. So what types of data, whether it's internal to the business systems and external data, which we're increasingly getting, are the most valuable for AI driven demand forecasting, and how do we ensure or at least improve the quality of that data?

Mike: First of all, you say bad data is not an excuse to wait by doing this, right? Because if you're never using your data, you don't have a reason for improving it. So that's maybe the first plan. And then. When you are looking at your sales [00:08:00] forecast or demand forecast, then of course you should look into what data is closely linked to that. So that's your sales history, that's your deliveries, that's your stock out, that's your prices. And there are a lot of internal data which can get you pretty far or very far. And also bear in mind, as you also said that predicting the future, there will always be a margin. We can never be a hundred percent accurate. There will always be an error, right? So a small error or data mismatch is not an excuse because anyway, the decisions you'll make, you'll still account for an error. So don't wait until your date is a hundred percent accurate. And then you also need to consider that there is, depending on how you use the forecast, you also need different data types. So right now we see a lot of companies that are [00:09:00] focusing on the short term forecasting. So for example, demand sensing. And here there are some data points that are more valid to use there, but we also often see that the data accuracy is better. And if you're using. An AI forecast for HOP decision. There are some other data points, and when you're looking 24 months out in a forecast, then these data points, which you can translate to assumptions for the plane will

anyway just be assumptions and can change over time. So that's why it's important to not fall into the suicide quadrant of being in control of everything on a very detailed level 24 months out. In today's world with generative AI and , where models are trained on the whole internet, you cannot imagine how much data you have right. But it's just different when you're using AI. For forecasting in your [00:10:00] own supply chain, right? Because you don't have the same amount of data. It will basically be the same. To ask a ChatGPT to write a novel when it is only allowed to learn from one uh book.

Richard: That's a fair point. Well, one of the things that we talked about when we did a prep call for this podcast, you talked about the six dogmas, and that's a very European term, a dogma, but six dogmas, which you believe every AI forecasting implementation project should follow. So maybe you can talk us through that, because I found that really interesting. Maybe you can talk us through the six dogmas.

Mike: Yeah, so in true Nordic fashion, we have these darkness when we do AI forecasting projects, right? So, so it's a dogma, it's not a rule, but you can. It's kind of like an initial design, a criteria you could say. and the first dogma is about ensuring the foundation, right? So AI can't really fix a broken planning process. So you need to have a proper demand planning process [00:11:00] in place. You need to have the right governance, but you also need to have the right capabilities, both to sustain the model in the future, but also making sure that the AI forecast is actually adapted into the organization. So that's the first dogma. The second dogma is a bit related to your question actually on data, right? Because we really believe that start with internal data can get you off to a good start, right? Start with your sales, your deliveries. And then you can use simple stuff as calendars, because the good thing about calendars is we know which states it's this Christmas and Easter and back to school week, both in the past and into the future. And often you have sales that are correlated with that. And then over time, of course, you can enrich it with the out data or price or instead of price, then using some discounts, right? So don't dream about point of sales data or social immediate [00:12:00] trends or weather data. That is all nice, but you can get a pretty far get pretty far with your internal data first. So that was document two. Then we have docdocumentary and that is benchmark against Simple model. So it probably goes without saying right, that you need to prove that the effort you put into an AI model is actually worth the investment. But I have met surprisingly many teams. That couldn't really explain what accuracy improvement it was with something. They have spent six months on that. In theory, you can implement in two hours with a symbol model. So the benchmark is, is also really important here, right? Then we have dogma four, you need to build trust and also measure AI adoption. So basically building trust part, again, comes back to you need to make sure that the AI forecast is used out

an organization. And the way to do that is both to [00:13:00] include planners when you develop the models, but also making sure that you can track override, percentage. So basically, when you're live, how many percentage of the combination are overwritten by manual forecast? Because that gives you an indication of whether the forecast, AI forecast lives in organization, but also measure forecast, value add. So that is basically both what is the accuracy gain you get from AI compared with a simple model, but also the accuracy gain you get with the different steps in the process. So with demand enrichment or sales enrichment, right? For dogma five, that is build explainable features. So basically feature is ways you can enrich the model with either transforming additional data or do other feature engineering, And here are dogma is only do feature engineering that you can explain to sales in one sentence. That goes back to the trust, right? And then [00:14:00] dogma six is start with gradient boosting model. So gradient boosting has proven valuable, both you can say in our projects in literature, but also in various forecasting competitions. So start there. And of course, if you are Amazon and you're having a thousand of data points and a huge team around it, of course you can do more advanced models and doing neural networks but start with great and boosting models and spend the time on feed engineering and data listening and not on the model selection.

Richard: I think it's great practical advice for a logical step by step process as well. Thank you.

Oyku: But I'm also curious how this shifts the planner's day-to-day role. I mean, where is AI best suited and where is human critical? And looking ahead, what skills and mindset shifts are required for the planners to fully benefit from AI forecasting?

Mike: Where we see the shift, first of all, is the role of the demand planner. Because the demand [00:15:00] planner should no longer be responsible for model selection or historic cleaning, right? We see more the demand planner as being kind of a business partner, being the link between sales and then a data science team that are responsible for the model development and then the demand planner instead should, as today, focusing on facilitating demand view meetings and so forth. But then they should also bring insights into the data science team of what other features should be developed or help testing some of this. And then the time that they get freed up, they should then spend on the assumptions going into the plane. So the phase in and phase out the promotions, the campaigns, tinders and so forth, right? So the mindset, and that is maybe the most tricky one, is. That demand planners and the leadership, they should not track forecast accuracy, but they should actually track the assumptions going into the plan.

Richard: And it elevates the role of that [00:16:00] job as well. They're not doing the busy work of making sure the data, the making sure you've got all of the data. They're actually adding value and making judgements based on the results of that plan, which I think is pretty cool from a job satisfaction standpoint as well.

Mike: Yes and then you can say, we're also discussing with many companies, right? Who should own the forecast and so forth. And from my perspective, sales should own the forecast because it is a commercial process. And then you have your data science team, and then they should own the forecast accuracy of the AI model. But then demand planner, they should actually own the AI adoption because that is basically then the link between the AI forecast and how it's used in the business. So that should be the role of the demand panel owning the AI adoption, ensuring that the AI forecast is used.

Oyku: So Mike, how should companies measure the success of AI driven sales forecasting [00:17:00] beyond forecast accuracy alone?

Mike: So that's the right question to ask, right? Because the benefit of doing AI forecast is only there if you actually use the forecast for decision making, right? And one very typical benefit is inventory reduction, right? Because if you link your inventory decisions through your forecast and the forecast era. Then there is often a lot of benefits here. So the typical outcomes we see is that you have reduced working capital in tied of inventory. We also see less scrapping or fewer sell off with rebates and also improve top line because you have improved the material availability. So there will be a reduced loss sales, right? And then of course, you have a better foundation for allocating, scarce resource in your S&OP process, being it, money [00:18:00] or critical components or capacity, right? so these are the benefits, we typically see.

Richard: Mike, I've been working at SAP for 22 years, and one thing that's been constant in all this SAP supply chain events I've been to in those 22 years is that implementable always been there, whether they're talking about. And it's usually talking about supply chain planning, from the APO days, right through the early days of integrated business planning, and now in this new era of AI. So with all these years of experience, how can implement health companies in this latest AI infused planning era?

Mike: From my perspective, things hasn't really changed, right? Because you still need to have business knowledge. You need to understand the business and the processes around that. You need to have the IT skills or IB IT capabilities to support the [00:19:00] technical implementation. What is new is on top of that,

you need AI expertise. And AI expertise. You'll only get when you get your hands dirty, right? And then we have from various implementation projects. But we also have, you can say, our own tech house called the Tech Collective, where they do, for example, agen workflows. So basically you'll have both. Yeah. Business knowledge, IT skills and AI expertise. So it is the same formula as always.

Richard: Yeah, it's just AI with a bow on the top.

Mike: Yes, exactly.

Richard: We're coming to the end of the discussion and, if you've listened to the podcast, you know the next question, but looking ahead, how will AI reshape the role of supply chain leaders and planners over the next few years? And in a sentence or two, what's the future of supply chain?

Mike: The future of supply chain planning is the art of separating prediction from judgment. AI can handle the prediction [00:20:00] but becomes a critical skill, both for planners and for leadership. And here it's about the judgment of the assumptions going into the plane. Because in planning, the most expensive mistake you can do is treating your assumptions as facts.

Richard: Thank you. Great summary. Hey Mike, thanks for a great conversation. It's been really interesting. I've really enjoyed it. I'm sure that there'll be lots of people who are very interested and want to learn more about implement as well. with that in mind, thanks everyone for listening. Please mark us as a favorite. You can get regular update and information about future episodes. We'll also share information about Mike and implement on our show notes. But until next time, from Mike, Oyku and I, thanks for discussing the future of Supply Chain.