

FOR DECISION-MAKERS IN SUPPLY CHAIN

Supply Chain Effect

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SUPPLY CHAIN ANALYTICS AND AI

MIT researcher Bryan Reimer: "Use AI as a co-pilot, not an autopilot"

AI agents take the step into the supply chain

Planning professor Patrik Jonsson:
"Everyone has S&OP – but few use it fully"

Predictive AI and the need for a synchronized supply chain

BY HANS BERGGREN, AGNETA CHRISTERSDOTTER AND JENS DREMO

Supply chain has always been about coordination. Between demand and production. Between inventory and delivery. Between companies and operations that depend on each other's decisions, but are often governed by different incentives, systems, and time horizons.

That is also why the world of supply chains changes a little more slowly compared to many other sectors and industries. Not because the technology is missing, but because the reality they operate in is complex with many stakeholders and organizations with long and complex relationships. Add to that some legal structures and business critical dependencies, and you get a world where day to day stability is often valued more highly than experimentation.

At the same time, something is happening in our world of supply chains right now. Not in the form of a dramatic revolution, but as a cautious curiosity about how technology can be used in entirely different ways. As the level of digitized flows in supply chains is really starting to pick up the pace, we can begin to use predictive AI as a way to better understand the tempo the market is already setting.

Forecasts are not the problem. Uncertainty is.

In almost every supply chain, there are forecasts. Often manual, sometimes supported by systems, and almost always with significant margins of error. This is especially true for industries with long lead times and complex dependencies, such as automotive, where forecasts have also been used for more than 30 years and the amount of shared data is considerably large.

The problem is the consequences of the uncertainty around those forecasts, which show up in the form of overly high safety stock, capital being tied up unnecessarily, late changes that lead to fire drills in production, or in the worst case, scrapped goods and lost delivery capacity.

This is where predictive AI starts to become genuinely interesting. Not because it removes all uncertainty from the supply chain (that'll will always be there, to some extent), but because in some areas, the uncertainty can be significantly reduced. This reduction in uncertainty becomes even more important when the amount of data is extensive, such as in the automotive industry. When the range of uncertainty in the decision making basis shrinks, even slightly, it changes how people plan, order, and produce. For certain items and flows, that improvement alone may be enough to create calmer, more synchronized behavior across the entire chain.

We have seen this phenomenon clearly in work with supplier tiers in the automotive industry; when forecast signals are analyzed over time, in combination with historical patterns, a more stable picture of demand emerges compared to the forecast often communicated in traditional forecast files. The effect is not dramatic in every data point, but it is enough to influence inventory strategies, purchasing decisions, and production planning.

Synchronization matters just as much as optimization

For many years, supply chain development has been about optimization: lower costs, shorter lead times, and higher service levels. That still matters, but as complexity increases, synchronization becomes just as critical.

A synchronized supply chain is not about everyone doing the same thing, but about everyone moving in sync. About decisions being made from the same view of reality. About changes not arri-



From left to right: Hans Berggren, Agneta Christersdotter and Jens Dremo. Photo: Robert Lipic

ving as surprises, but as signals picked up in time.

A metaphor around is useful here. In an orchestra, not everyone plays the same instrument, but everyone follows the same tempo. The conductor sets the pace. In supply chain, that conductor is the Market, together with the key players that can influence the pace. Demand, economic conditions, customer behavior, and external disruptions all shape the rhythm. The question is how well organizations and networks are able to keep up with the pace.

In that context, predictive AI can be seen as a way to hear the tempo more clearly, rather than trying to rewrite the score.

Trust, data, and human decisions

A recurring question in the use of AI in supply chain is trust. Not in the technology itself, but in the decisions that follow from it.

Many organizations are more forgiving of human error than technical error. A faulty forecast made by a planner can often be explained and accepted. An AI based suggestion that differs from what people are used to, on the other hand, creates concern, even if it is statistically better.

That is why implementing AI is just as much a cultural journey as a technical one. Transparency in how the models reason, the possibility of human oversight, and clear learning loops are crucial. In practice, predictive AI works best when it does not replace decisions, but challenges them, and when the organization allows itself to learn from the outcome.

In PipeChain's work, this has been a core principle: AI based forecasts are good recommendations, not a magic crystal ball. People are still responsible for the decision, but with a broader and more consistent basis to work from. We believe in automation with control functions that ensure the best possible results and value creation over time.

Small steps, real problems

Another important lesson learned is that value

creation rarely comes from large, broad AI initiatives. Value comes when technology is applied to concrete day to day problems and the real cultural shift begins.

Our own AI initiatives are often employee driven and focused on solving specific challenges our customers are facing. It can be about interpreting incoming PDF orders that would otherwise require manual handling. Another initiative might be about automating the compilation of customs documents, and another about gradually improving forecast accuracy to reduce the risk of overstocked or empty warehouses.

What these efforts have in common is that the technology is not introduced as something abstract, but as a way to reduce friction in existing flows. This is also the place where acceptance and culture grows: when people notice that the work actually becomes easier, calmer, and more predictable.

From hype to everyday practice

AI in supply chain is neither a passing trend nor a universal solution. The real change happens somewhere in between.

We believe the organizations that will succeed going forward are the ones that combine realism with curiosity: those that dare to use the technology where it adds value, but do not expect magic crystal balls. The winners will be those who invest in data quality, relationships, and ways of working, not just in models.

In the end, this is about building supply chains that handle variation better. That respond faster and less erratically. And that, as the market changes tempo, are able to keep up without missing important beats.

That is where a synchronized supply chain starts to take shape. Not perfect. But in sync

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