Paving the way to AI-driven transformation in supply chain management with a smart data strategy

Supply chain organisations in the UK and Ireland are facing significant barriers to the adoption of artificial intelligence (AI) and machine learning (ML) owing to challenges with collecting and analysing data.

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Research from <u>InterSystems</u> finds nearly half (47%) of organisations cite their dependency on manual processes for data collection and analysis as their primary technological hurdle. This can severely impact the success of AI implementations, which hinges on having access to healthy, unified data, while also creating inaccuracies and delays in accessing data.

With almost one in five (19%) organisations expecting AI and ML to be the trends that most impact their supply chain, overcoming these barriers is of critical importance. This requires supply chain organisations to create a solid foundation for the implementation of AI and ML, underpinned by a smart data strategy.

Leveraging smart data strategies

A smart data strategy should capture three things: data collection, analysis, and integration into organisational operations. Technology like the smart data fabric offers supply chain businesses a clear path to

achieving all three to bring their data strategy to life. But what is a smart data fabric?

The smart data fabric is built on modern data platform technology and creates a connective tissue by accessing, transforming, and harmonising data from multiple sources, on demand. This enables supply chain organisations to leverage usable, trustworthy data to make faster, more accurate decisions.

The smart data fabric also boasts a wide range of embedded analytics capabilities, including data exploration, business intelligence, and machine learning, allowing supply chain businesses to gain new insights and power intelligent predictive and prescriptive services and applications faster and easier.

Once these solid data foundations are in place, supply chain organisations can begin to unlock the real potential of AI and ML to augment human decision-making.

Obtaining value from AI and ML

From improved demand sensing and forecasting, to optimised fulfilment, the use cases for AI and ML across the supply chain are plentiful. Many organisations are beginning to extract value from the technology, including SPAR, the world's largest food retailer consortium. In particular, _SPAR Austria_ has adopted ML to streamline and optimise end-to-end fulfilment processes and help managers of its more than 600 stores to control their inventory.

By adopting ML for real-time sensing of demand shifts, SPAR Austria has been able to optimise replenishment and strengthen its supply chain network. This has significantly improved on shelf availability (OSA), demand forecasting, productivity, and time to decision. In turn, it also

helped SPAR increase revenue and efficiencies.

This is just one example of the how ML can help to optimise supply chain processes but is by no means the only use case. In production planning, ML can use different constraints including transportation cost or component inventory allocation to improve fill rate and optimise product shelf-life, productivity, cost, and revenues. Additionally, with access to AI and ML-driven prescriptive and predictive insights, organisations will be able to reroute or resupply at the drop of a hat, helping to maintain operations, achieve on-time in-full (OTIF) metrics, and ensuring customer satisfaction.

The automation and optimisation of these different processes also has a substantial impact on those working in supply chain operations. It transforms their work from reactive to proactive efforts. With less time spent on processing, more time is freed up for strategic thinking to improve fill rates and lower transportation costs, for example, making their role more rewarding and value-adding.

A strategic shift to AI-driven transformation

Companies like SPAR Austria illustrate the profound impact of incorporating AI and ML into supply chain operations. For other supply chain organisations to replicate this success and unlock the transformative potential of AI and ML, adopting a smart data strategy that moves beyond manual processes to a seamless integration of robust data collection, analysis, and application is essential. Embracing smart data fabric technology enables supply chain organisations to address their primary technological challenges, transitioning from dependence on inaccurate and delayed data to utilising real-time, actionable insights that power AI and ML initiatives.

This strategic shift not only enhances operational efficiency and decision-

making but also paves the way for predictive and prescriptive capabilities that dramatically improve demand forecasting, inventory management, and overall supply chain responsiveness.

It will also empower employees by transitioning their roles from mundane, reactive tasks to strategic, proactive engagements that bring substantial value to their organisations. By adopting a smart data strategy and embracing these advanced technologies, supply chain businesses will achieve benefits that go beyond operational efficiencies to include enhanced customer satisfaction, increased revenue, and a stronger competitive edge

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