

The Future of Forecasting

The combination of a range of forecasting approaches could greatly improve the accuracy of demand forecasting across fast moving consumer goods supply networks.

The accuracy of demand forecasting in FMCG supply chains could be improved by 5% to 15% using methods and technologies that exist today, according to Thomas Bäck, Vice President of NuTech Solutions and an expert in predictive analytics. Excellent forecasts can also be made in areas that are often considered un-forecastable, he says. "It's not an academic process. The results are guaranteed to be better than what exists today."

Evolutionary improvements

One of NuTech Solutions' strengths is the 'evolutionary' generation of predictive rules from data models.

"Starting with the company's data, we take a population of 'solutions candidates' that undergo operators like mutation, recombination and selection," says Bäck. Constantly testing against the data, the best rules are given a higher chance to breed to create offspring rules. The process runs until the rules that evolve generate no further improvement.

"People get nervous because that sounds like a lot of computational effort. The reality is that we have driven evolution to its most efficient working scheme on a computer. You can come up with excellent solutions in a very short space of time," says Bäck.

TUI, Europe's largest package holiday company, is using a NuTech Solutions system to forecast travel demand for their hotel chains and airline. Predictions from 40,000 data models are the basis for TUI's holiday catalogues.

Beiersdorf AG has worked with NuTech Solutions to analyse years of data on formulations development. Roughly 60% of the rules generated by Beiersdorf's data could easily be matched to their scientific knowledge. The remaining 40% taught them some new things about chemistry. The virtual formulation development solution, named ClearVu Formulations by NuTech, was not only faster than traditional processes, it also delivered results they had not thought possible.

Combining forecasts

A step change in forecasting will come from the combination of evolutionary data analysis with state-of-the-art statistical techniques and expert rules for business processes. "Statistical models are limited by the availability of (often sparse) historical data," says Bäck. "Combining statistical models with specialised business knowledge in the form of expert rules improves the forecast accuracy considerably." NuTech Solutions combine forecasting techniques in a highly customised way for individual companies, using what they call 'intelligent business engines'.

Few FMCG supply chains have reached the point where they can take full advantage of the technical opportunities. "There is little point to making a forecast if you cannot improve your business based on that forecast," says Bäck. "You need to be able to take the demand and use it to fine-tune your logistic chain, your inventory and your production schedule." A growing number of FMCG companies are en route to the necessary transparency and coordination across their supply networks, he thinks.

"Some companies I see today are still worrying about relational database integration. It may be in five years, seven years or ten years, a transformation will come. "With more success stories showing that there are solutions to some real nagging problems that could save a lot of money, companies will jump on on this combination of techniques." ●

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