Automated Statistical Forecasting

Due to increasing complexity in business processes, volatility has become higher and makes generating accurate forecasts more difficult. On the other side, the innovative automatization and advanced optimization possibilities develop at a rapid pace. The amount of available data has also increased heavily over the last decade, which can be hard to process for a human mind. Automated statistical forecasting is a process where a computer chooses the forecasting method with its optimal parameters to generate an accurate forecast. No human interaction will be needed, since planners can be biased and a computer can detect patterns a human mind simply can't. As long as the margin error (different between actuals and previous forecast) remain low, the forecasting process is sufficient. If not, more data might be needed to increase accuracy for a reliable forecast.
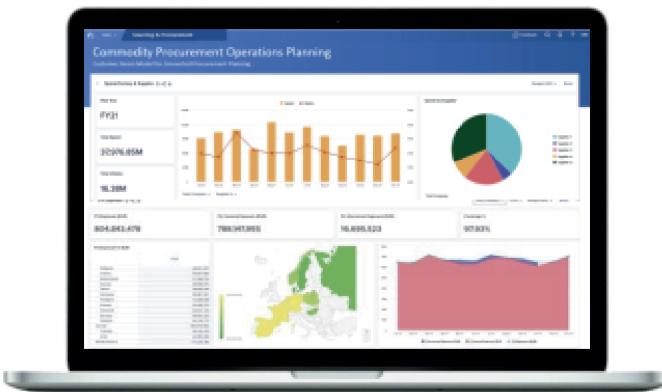
There's a better way to plan

Leverage the combined power of technology and people to ensure the best forecast experience in one connected cloud based Platform. Use the Automated Statisical Forecasting Planning capability in Anaplan,to increase the forecast accuracy, lower the workload for planners and increase the time for high level decision-making processes.

It's Dynamic – Plan and allocate resources rapidly as situations evolve

It's Collaborative – Involve all the right people in decisions – even your customers

It's Intelligent – Leverage internal and external data to unlock predictive insights with build-in automated statistical forecasting functionality.

Key benefits

• Import actual demand data from multiple sources (ERP and spreadsheets) as a starting point for the S&OP cycle (demand forecast).

• Set the assumptions and criteria for the new monthly cycle and Anaplan selects the best forecasting method and its parameters.

• Allowing to adjust the method and assumptions, but no longer the underlying numbers. Strategic discussions about forecasting models should be about missing data, undetected patterns in data, assumptions of the model, statistical forecast methods, but no longer about the numbers.

The company is responsible for a smooth S&OP / IBP process in order to track the company's operations all around the world. With demand planning in Anaplan, a range of statistical forecast methods can be implemented and used as guidelines for the demand planners. Anaplan enables to connect data, people, and plans across 100 countries. Anaplan is the single source of truth for any step in the S&OP process in order to leverage the value of demand, inventory and operational data.

Challenges
- Demand planners spend a lot of time on low level adjustments / forecast number creation.
- The error margin seems high and volatile, which could be a combination of biased forecast input and inability to detect data patterns.

Results
- The system takes over 90% of the demand forecasting process: Anaplan selects the forecast methods with its optimal parameters based on the model's assumptions.
- Error margin analysis are performed monthly, when the error margin is too high, the root cause will be detected instead of quick fixes in the numbers.

Key features

Statistical forecasting

With statistical forecasting, a data-driven baseline of demand can be created. The more data is available, the more patterns might be detected and the better the forecast accuracy.

Statistical forecast methods

Easy / Intuitive:
- Regression (Linear, Logarithmic, Exponential, Power)
- Historical Average / Moving Average (Single, Double)
- Driver-based forecast

Easy / Intuitive:
- Exponential Smoothing (Simple, Double, Triple)
- Holt's Linear Trend
- Decomposition (Additive, Multiplicative / Linear / Logarithmic, Exponential, Power)
- Winter's Additive / Multiplicative

Statistical forecast features

All statistical forecast methods contain at least two of the features below:

- Baseline
- Irregular fluctuations
- Trend
- Cyclicity
- Seasonality

Forecast method selection

Based on a (chosen) weighted average of maximizing the performance and minimizing two variance measures, comparing the last 12 months (adjustable) actuals versus a forecast based on actuals before that, the best statistical forecast method (and its parameters) will be selected and used as forecasting technique to forecast based on all available actuals

Forecast method selection

• Demand data can be managed in Anaplan or imported from any number of external execution systems (ERP, PSP, etc) to help align current and future financial planning. Planning and forecasting can be done on different levels.

• With a tops-down and bottoms-up view of sales data, global business units can collaborate with other stakeholders to discuss optimalizations opportunities across the company

• Forecast quality can be checked each month and could potentially lead to more understanding of predictive underlying value of the available data set.

Optimal parameters used for pre-forecast

Actuals — Forecast

Jan '16   Mar '19   Mar '20   Dec '21

Pre-forecast based on actuals until Mar '19

Compare actuals and pre-forecast
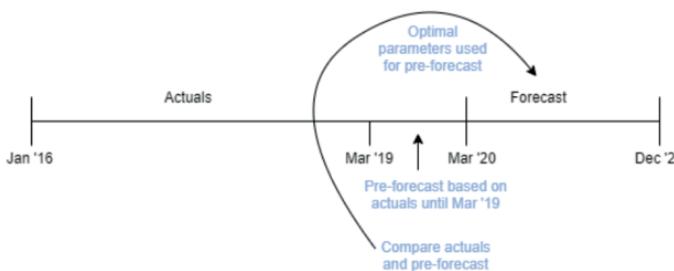
Key features of the Anaplan platform

Planning at scale

Enterprise-grade scale with a cloud native platform and patented in-memory Hyperblock™ engine

Voice to your data

One location for all your planning data that is trusted, connected, and current

Power decision making

Unmatched flexibility to model any scenario for the organization and by the organization

Ease of use

Engaging, collaborative, and actionable user experience

Safeguarding your present and future

Robust protection through user access controls, identity management, and data encryption

Superior visibility

Embedded intelligence and optimization to drive insights that matter

Anaplan
Partner