Analytics-Driven Initiatives Can:

Increase forecast accuracy by **10% - 33%**

Increase on-shelf availability by **20% - 30%**

Increase revenues and gross margin by **3% - 11%**

Decrease inventory costs by **15% - 30%**

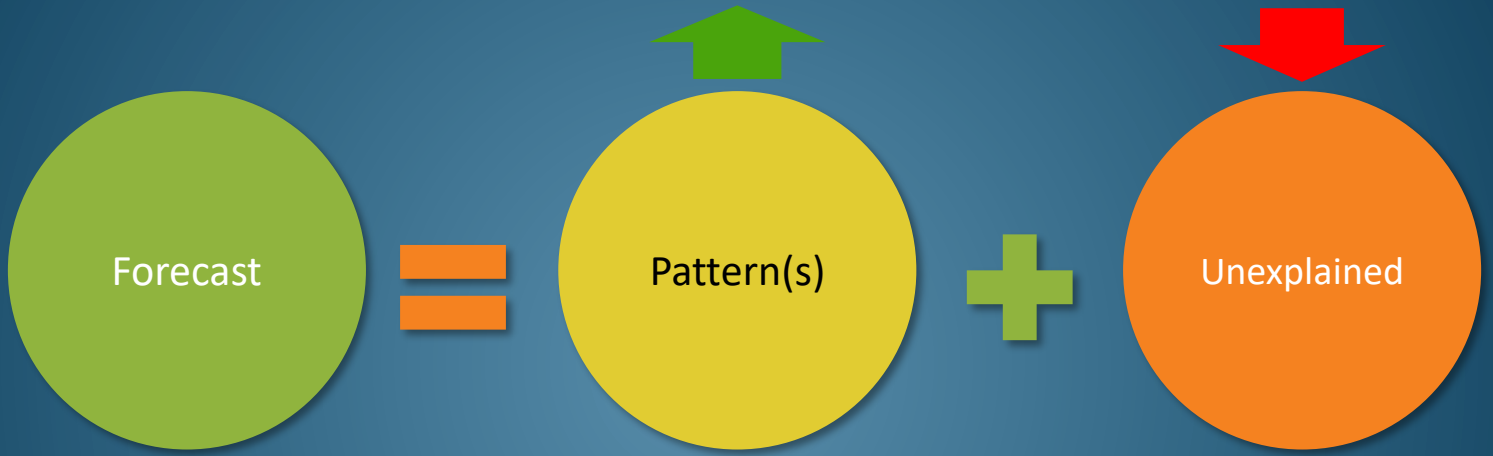
Reduce waste/shrink by **10% - 15%**

Source: Business Case for Demand Planning (Gartner Report)

Note: According to Supply Chain Management Survey, one fourth of survey respondents cited a profit potential greater than 10% through better demand forecasting and planning

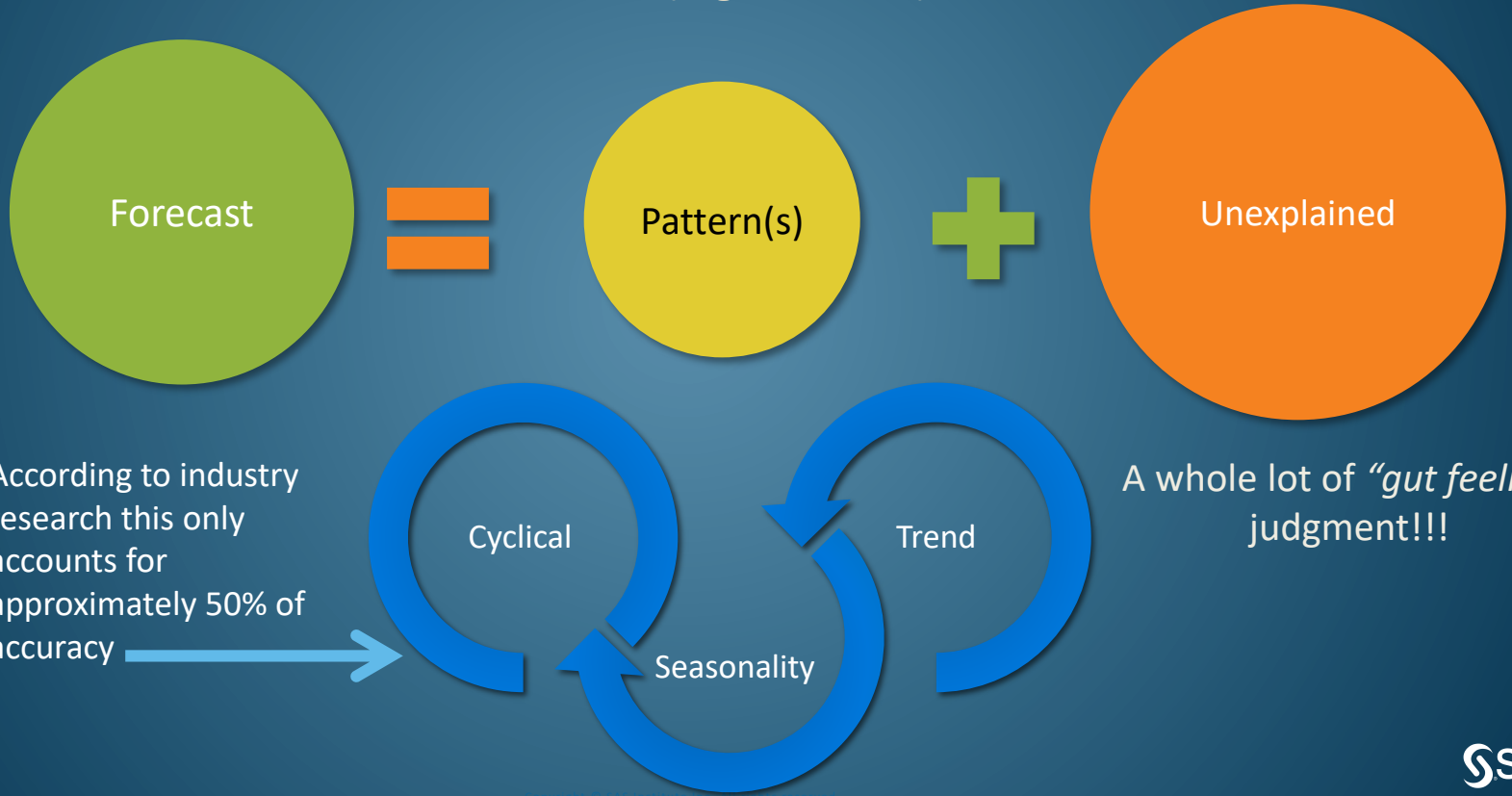
Why Advanced Forecasting?

The Generalized Forecasting Problem



Why Advanced Forecasting?

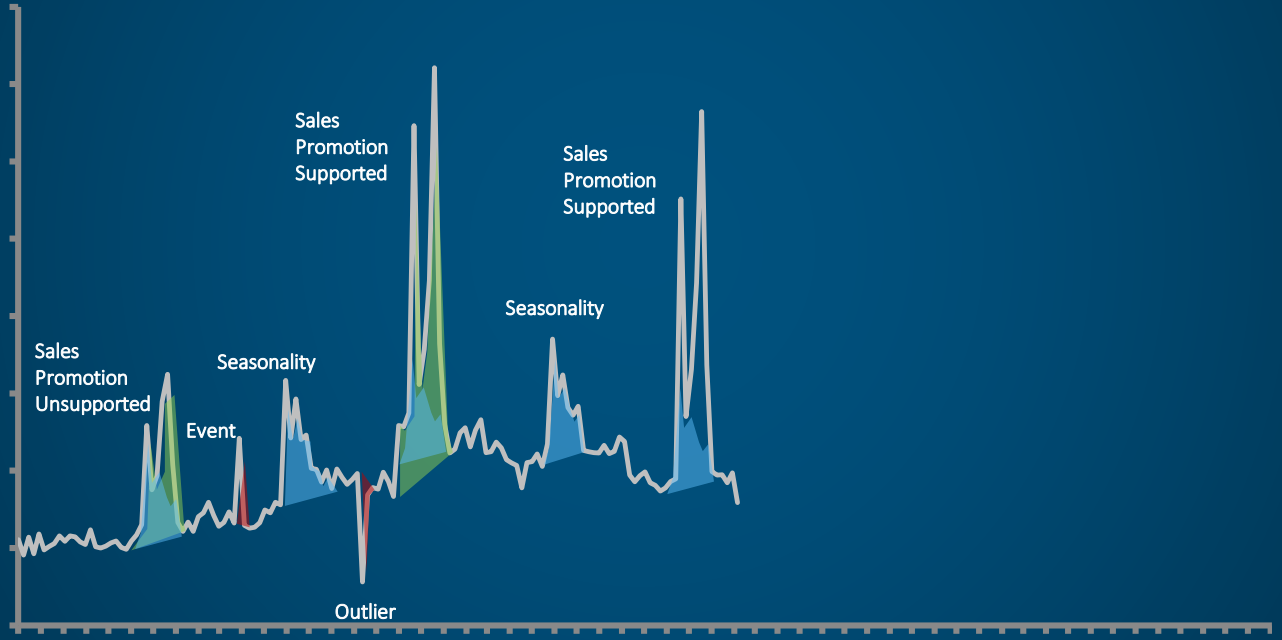
The conventional forecast approach:
Time Series (e.g. Winter's)



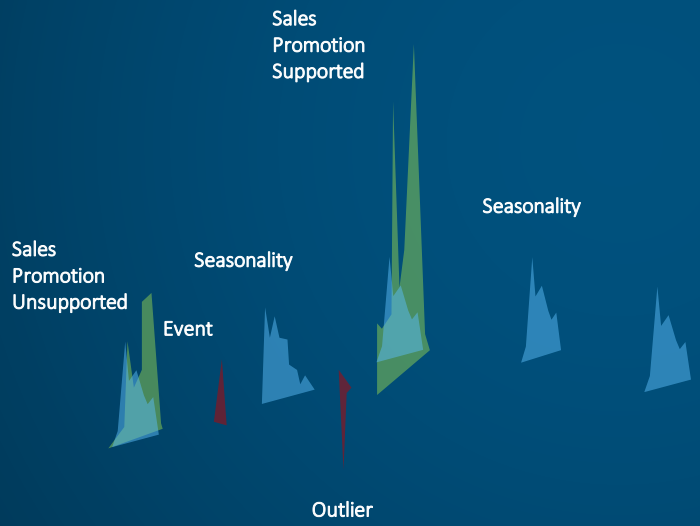
According to industry research this only accounts for approximately 50% of accuracy

A whole lot of *"gut feeling"* judgment!!!

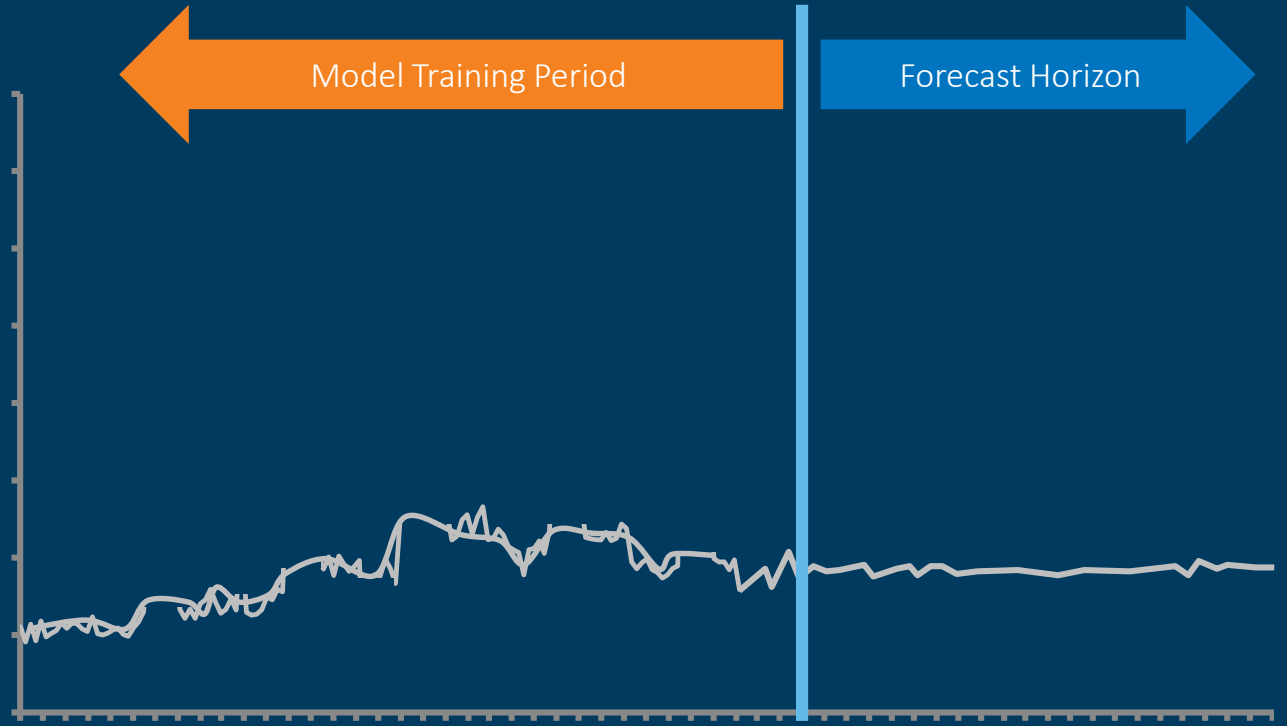
Typical Demand History



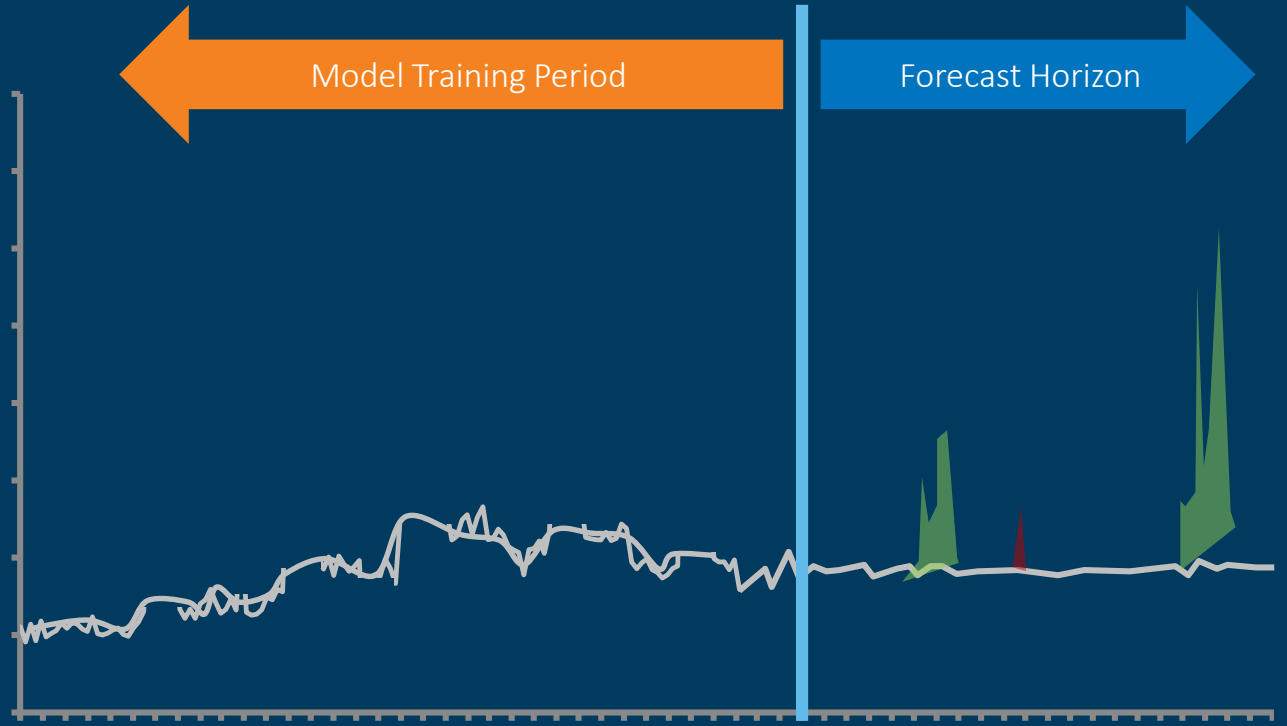
Cleansed Promoted Volume



Cleansed Baseline Data

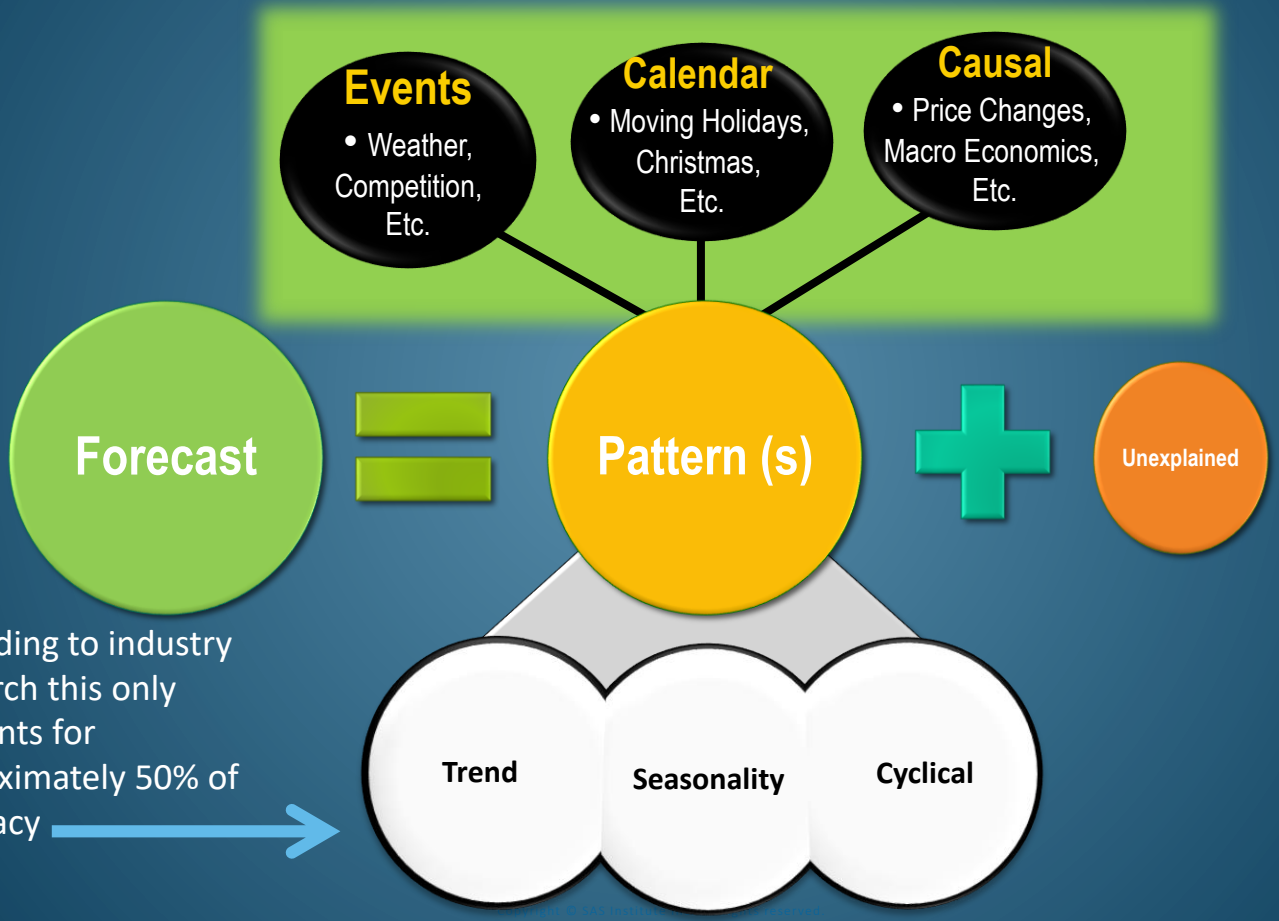


Manually layer Back Promotions



Why AI Based Forecasting?

REDUCING UNEXPLAINED THE RIGHT WAY



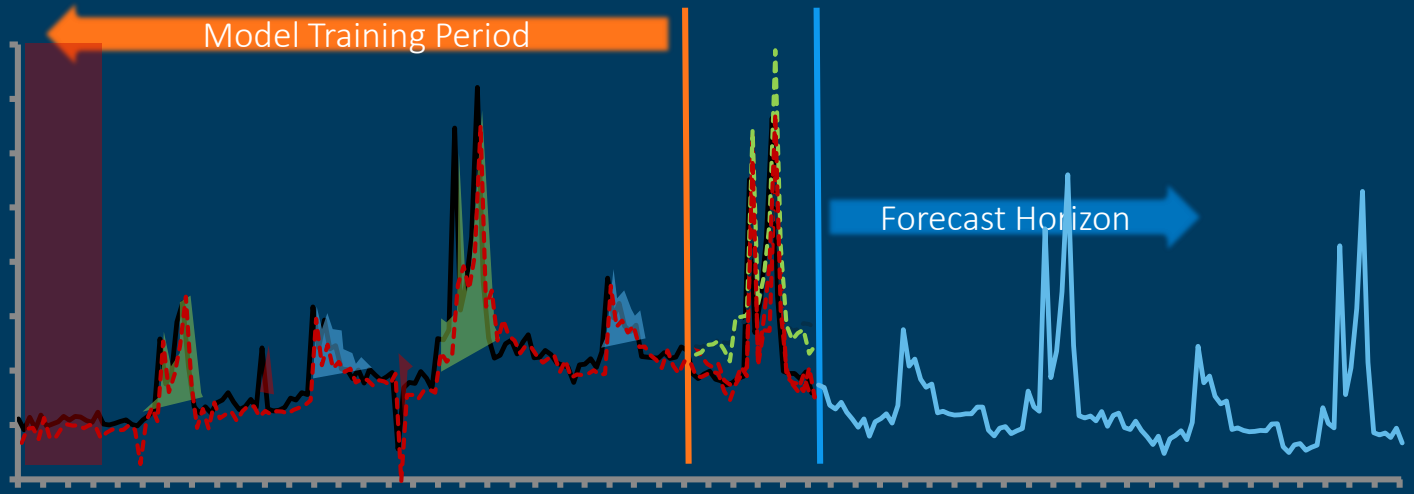
According to industry research this only accounts for approximately 50% of accuracy

Holistic Modeling

Why Advanced Forecasting

Illustration of automatic large scale Hierarchical Forecasting

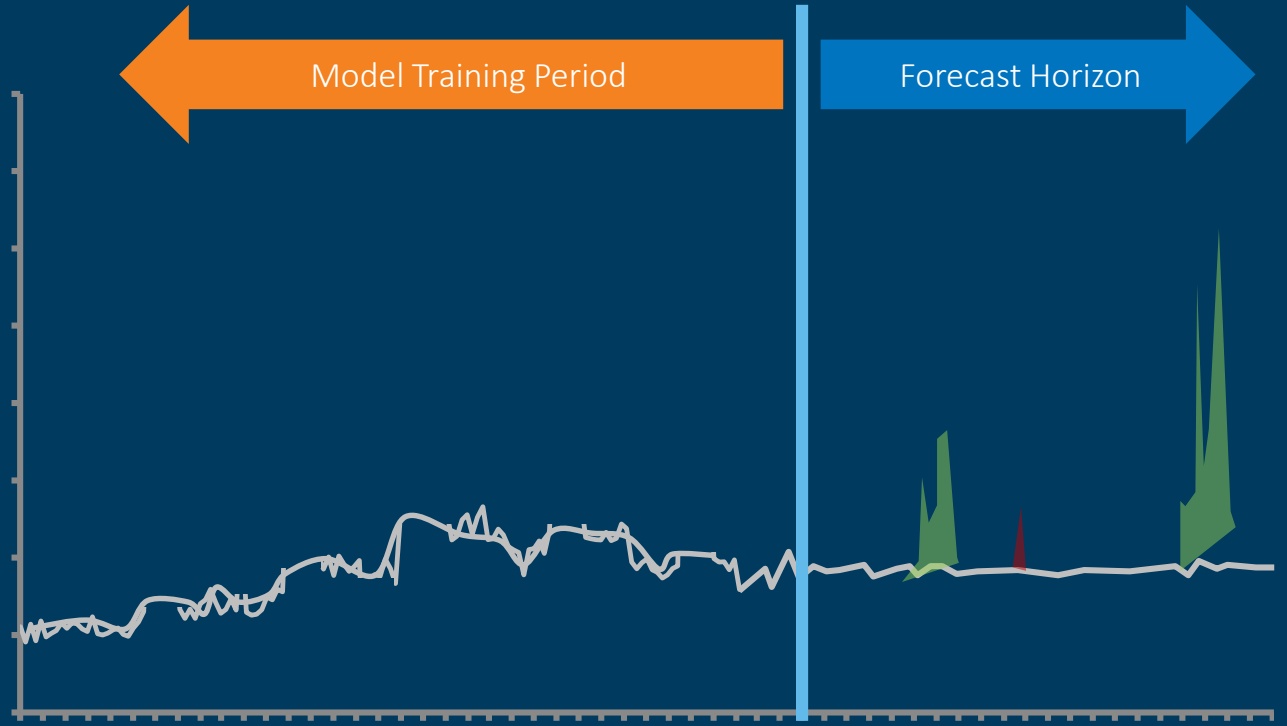
6 [illegible] days



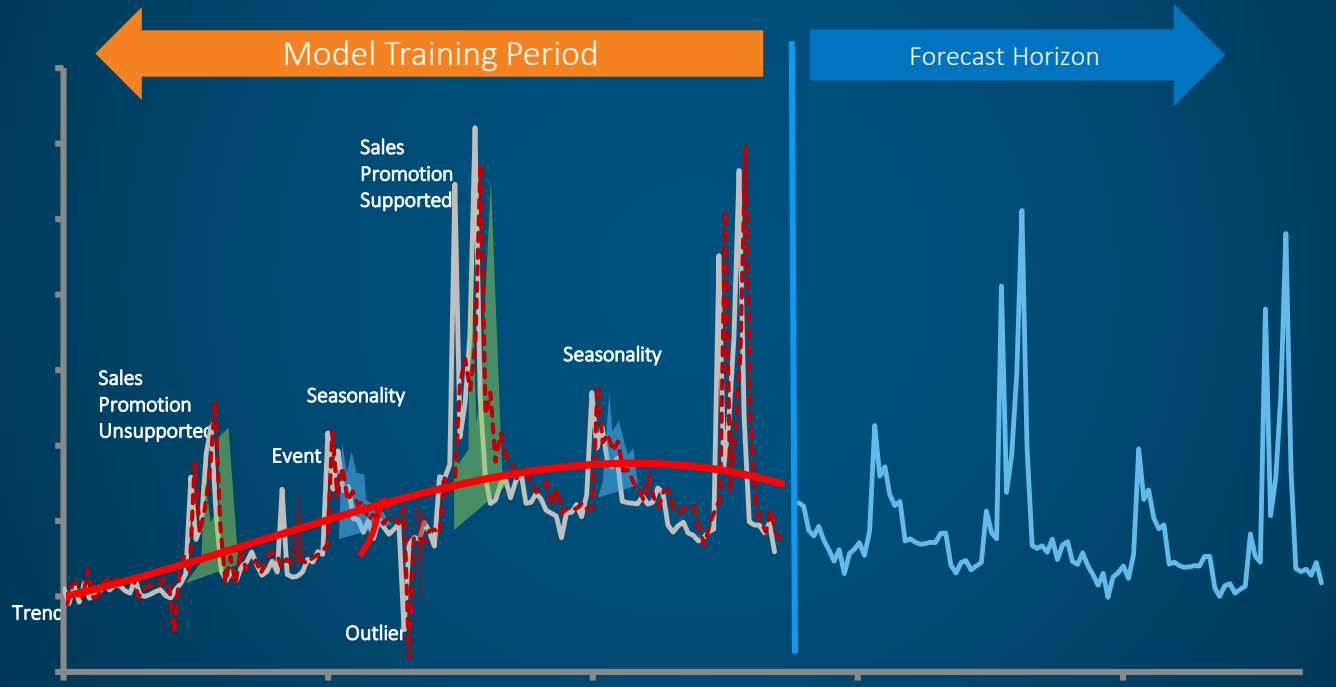
Error	
13.64%	Model1: *ARIMA*, f(History, Outliers, Price, Promotions, Inventory, Christmas, Black Friday, Catalog)
11.05%	Model2: *Exponential Smoothing*, f(History, Seasonality)
8.58%	Model3: *UCM*, f(History, Outliers, Price, Christmas, Catalog)

Trend
Seasonality
Outliers

Would you submit this forecast to Senior Management?



Or, this forecast?



SAS Large Scale Hierarchical Forecasting

Hierarchical Forecasting with automatic reconciliation using AI