

“Those who ignore history are doomed to repeat it.”

Plan4Demand’s Demand Curve Analyzer™ helps planners improve statistical forecasting, exception processing, and forecast model selection by carefully analyzing historical demand-curve data.

SS057:

Demand Planning Optimization Demand Curve Analyzer™

DEMAND CURVE ANALYSIS

Plan4Demand’s new Demand Curve Analyzer™ statistical analysis tool has enabled multiple companies across a variety of industries to improve demand forecasting capabilities by giving planners deeper insights into their own historical demand-curve data, and thereby a richer understanding of ways to optimize their planning tools and practices.

Demand Curve Analyzer™ provides insight four different ways:

- It analyzes time-series demand data and provides descriptive statistics based on each individual data set, item, or forecast combination modeled. It tests each time series for seasonality, trend, variability, predictability, and level changes.
- It provides an aggregate estimate of forecast error for each item based on an ABCD volume-variability approach.
- It determines the overall data hygiene of a forecast data set and the forecast error associated with bad data. Bad data and the resulting lower-level propagation issues tend to be one of the greatest causes of forecast error.
- It calculates a four-quadrant volume-variability approach to demand classification that can be used for model selection or exception management.

Here are a few ways clients have benefited from Demand Curve Analyzer™.

FORECAST MODELING: FINDING THE RIGHT APPROACH

When broken down into fundamental components, the 118 product lines of this Plan4Demand client represented a total of **three million demand forecasting units**. With such a tremendous volume of DFUs to manage, this client had a pressing need to develop a unique forecasting model — one that could be configured to automatically forecast demand for *standard* DFUs yet flag *exceptional* instances in need of special “hand tuning.”

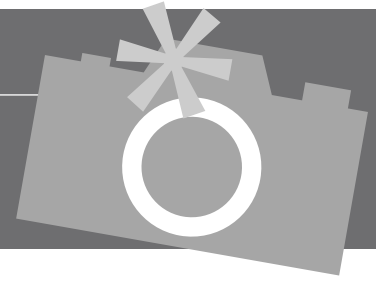
Plan4Demand consultants used Demand Curve Analyzer™ to supplement this client’s installed forecasting engine, identifying an ideal forecasting model based on assumptions driven by demand characteristics and configured to enable planners to fine-tune forecasts far beyond the abilities of ordinary tools. **The Outcome:** An optimized process that reduced the time needed to tune a single-product forecast — from two months to two weeks.

Model tuning represents a classic case for using the Demand Curve Analyzer™, since it supports most of the key parameters or insights you need for model selection and smoothing constant adjustment.

Solution Snapshot

Problem: Driven to enhance profitability and customer service at every turn, demand planners are challenged to find more creative ways of improving operational efficiency – *every day*.

Solution: Developed by Plan4Demand's industry-veteran supply chain specialists, Demand Curve Analyzer™ is a proprietary analytics tool that offers rich new perspectives on historical demand data.



FORECAST ERROR ESTIMATION

In this instance, Plan4Demand consultants used Demand Curve Analyzer™ to help our client, a chemical manufacturer in the midst of a large-scale demand planning process implementation, determine a more realistic forecast error metric. With disparate business units to manage, executives were dissatisfied with traditional benchmarking approaches, since each business unit was so distinct and head-to-head industry comparisons were not considered to be realistic. **The Solution:** A two-tiered error-estimation process that used probability statistics and a “worst case” forecasting algorithm to estimate error. The resulting **precision error statistics** served as more realistic targets for demand planners to achieve.

VOLUME VARIABILITY AND EXCEPTION MANAGEMENT

Volume variability and other four-quadrant approaches are all the buzz at forecasting conferences these days. Demand Curve Analyzer™ enables planners to size four quadrants and then assign items to them, segregated by high volume/high variability; high volume/low variability; low volume/low variability, and low volume/high variability.

Some clients use these results to set baseline thresholds for forecast exception processing. One client, a global beer, wine, and spirits firm, used this vol/var approach to identify which items should be manually forecast vs. automatically forecast, with low-variability items flagged for automatic processing. This approach drives efficiency by limiting forecast management to only problems that can and should be controlled.

DATA HYGIENE

Demand Curve Analyzer™ can identify data issues that hinder performance of your demand planning solutions; for example: items that have zero history over the past year, zero history with forecasts, or zero forecasts with history. It can also identify error levels associated with bad data elements.

The Results: One client that used Demand Curve Analyzer™ to cleanse bad data realized a **30% improvement in forecast accuracy across 12 business units**, dramatically reducing inventory and slow-moving stock.

JUST THE FACTS...

However it's applied, Demand Curve Analyzer™ reduces gut-feel, SWAG, and other non-data-based estimation approaches. More than anything, it provides insightful, actionable data about your demand curve. It enables planners to use pivot tables and multiple dimension columns to analyze forecast data sets in many different ways – to enhance the decision-making abilities of demand planners by helping forecast modelers and tuners derive the answers they need to improve operations and business results.

Plan4Demand is a consulting services firm that helps Global 500 corporations and mid-market companies increase profitability and reduce operating costs by maximizing efficiencies across their supply chains.



People—Process—Technology

By first collaborating with your **people**, we jointly determine the best ways to optimize your **process** requirements. Only then do we move forward with the right **technology** to help you achieve your bottom-line goals.

plan4demand
Global Supply Chain Specialists

Call Plan4Demand at **866.P4D.INFO**
or visit **www.plan4demand.com**.

© 2006 Plan4Demand Solutions, Inc.
Any trademarks referenced here are the property
of their respective owners.