

ForecastIQ® | Forecasting Same Store Sales

ForecastIQ® is a forecast of same store sales based on consumer purchase intentions and behavior derived from the BIGinsight™ Monthly Consumer Survey, combined with retailers' same store sales data and consensus estimates. This provides a 45- and 75-day forecast plus an enhancement to the consensus currently provided in the marketplace.

The Problem and the ForecastIQ Solution

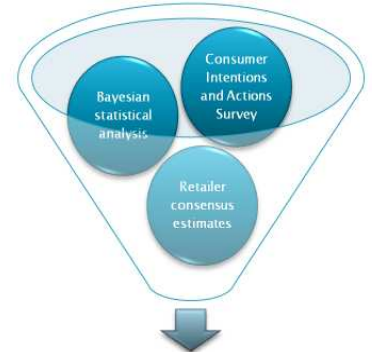
Connecting consumer purchase intentions to actual purchases has been difficult to do. Statistical predictions are often based on extrapolations of past patterns in the data. At the same time, published retailer expectations of retail sales tend to be too conservative.

The ForecastIQ brings in new data to bear on the problem of consumer behavior forecasting by using data that asks consumers what they plan to do before they do it.

ForecastIQ Findings of Interest:

1. When respondents' purchase intentions increase for a product category, upper-tier department stores achieve greater sales and discounters experience decreases in sales.
2. In periods of economic uncertainty (i.e. when the economy is contracting), consumers follow through on their intentions with greater regularity than when times are good.

The ForecastIQ Solution



Enhanced forecasts of same store sales and industry consensus

ForecastIQ Advantages

- Highly sensitive to upturns and downturns in the economy
- Incorporates the perspective of the consumer and combines the signal with retailer expectations
- Forecast periods of 45- and 75- days, and an enhancement to the consensus
- Breakdown of same-store sales prediction by product category
- Model based on unique set of consumer intentions data dating back to January 2002

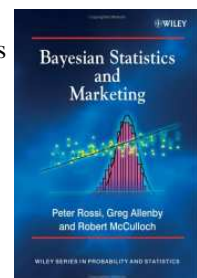
ForecastIQ Inputs

The ForecastIQ automatically integrates state-of-the-art Bayesian statistical methods using the Monthly Consumer Survey of more than 8,000 consumers. The Forecast IQ also uses the historical values of actual same-store sales for the available retailers.

Forecast IQ Development

The ForecastIQ was developed in cooperation with Dr. Greg Allenby. Dr. Allenby currently holds the Helen C. Kurtz Chair in Marketing and is a Professor Marketing and Statistics at The Ohio State University. He is also a Fellow of the American Statistical Association. Dr. Allenby is the co-author of *Bayesian Statistics and Marketing*. A best seller in the Wiley Series of Probability and Statistics, *Bayesian Statistics and Marketing* is used in doctoral programs nationwide. For more information about Dr. Allenby, visit:

http://fisher.osu.edu/marketing/faculty_vitae/allenby/allenby.htm



To receive a free 30-day trial, go to www.forecastiq.com.

ForecastIQ® | Forecasting Same Store Sales

ForecastIQ® Application: A Closer Look

Costco Wholesale Corp. |
 December, 2009 |
 50% IQ Forecast

Over 20 retailers available to forecast same-store sales 45- and 75-days, and an enhancement to the consensus. You can select a 50% or 70% interquartile range.

Enhanced Estimate Calculator

To calculate the enhanced same-store sales estimate for December, 2009, enter the same-store sales consensus estimate for December and click the **enhanced** button.

Enhanced →

Adjusts consensus estimates by comparing it to model output that reflects consumer intentions.

45-days

January, 2010
Range: -2.33% to 3.75%
Midpoint: 0.71%

75-days

February, 2010
Range: -0.71% to 4.52%
Midpoint: 1.90%

Percent (%) change in same-store sales for the next two months. The forecasts are granular by business and by month.

Costco Wholesale Corp. | December, 2009 | 50% IQ Forecast

Enhanced Estimate Calculator

To calculate the enhanced same-store sales estimate for December, 2009, enter the same-store sales consensus estimate for December and click the **enhanced** button.

Enhanced →

45-days

January, 2010
Range: -2.33% to 3.75%
Midpoint: 0.71%

75-days

February, 2010
Range: -0.71% to 4.52%
Midpoint: 1.90%

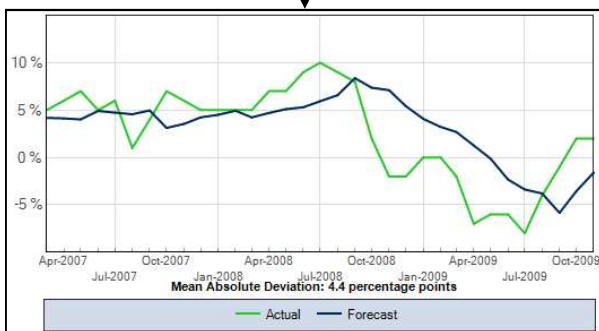
Predictive Performance | Statistical Performance | Enhanced Estimate Performance | Drivers

45 day Forecast vs. Actual

Mean Absolute Deviation: 4.4 percentage points

The chart to the left shows the predictive performance of the monthly 45 day FIQ forecasts for Costco Wholesale Corp. from March, 2007 through November, 2009. The green line plots actual same-store sales while the blue line plots the FIQ forecast for each month. During this period, the average error of the FIQ forecasts was 4.4 percentage points.

Use the drop down above the chart to view the predictive performance of other forecast windows.



View historical comparison of ex ante sales predictions to actual values.

- Granular by business and by forecast period (45 – or 75-day)

Category	Purchase Intentions x BIG Factor = Net Effect		
Children's clothing	+	+	+
Women's dress clothing	+	+	+
Women's casual clothing	+	+	+
Men's casual clothing	+	-	-
Shoes	+	+	+
Health and beauty aids	+	+	+
Going out to eat	+	+	+
Sporting goods	+	-	-
Toys	+	+	+
Electronics	+	+	+
Groceries	-	+	-
Home improvement	+	-	-
Lawn and garden	+	-	-

Drill down into the product categories that drive the same-store sales prediction for each business.

- Purchase intentions drawn from Montly Consumer Survey
- "BIG factor" indicates the impact of increased purchase intentions on the selected business

To receive a free 30-day trial, go to www.forecastiq.com.