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Intelligent Forecasting
In Action
FOR CPG

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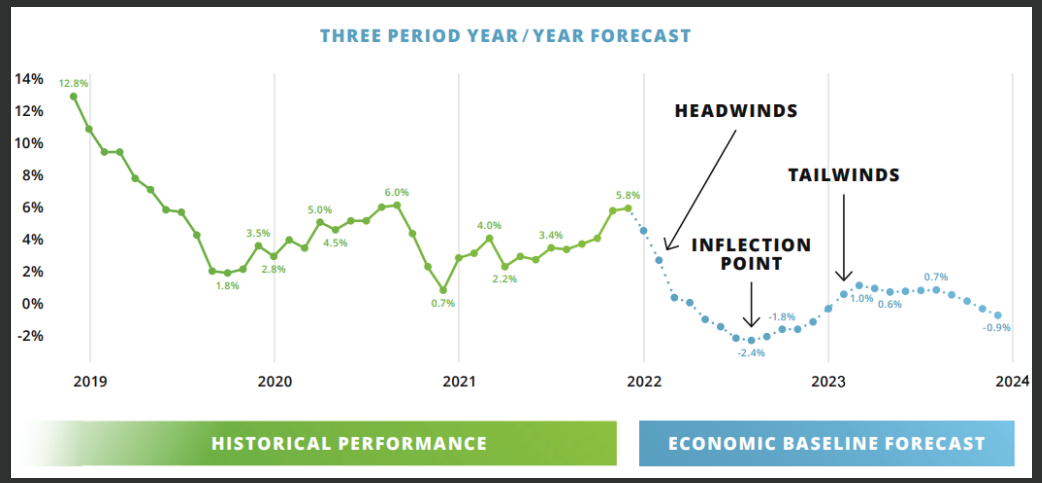
What is Intelligent Forecasting?

"Predict the future, but eliminate guesswork and gut feel"

Businesses are increasingly impacted by outside forces, whether economic conditions, industry shifts, demographic changes, health crises, consumer behavior, and much more.

Intelligent Forecasting is a transformational practice that enables organizations to plan more accurately for the future, by incorporating external volatility into their plans.



This sounds easy, but is now only possible with the combination of big external data, predictive AI modeling and cloud computing.

Starting with a 3-5 year history (e.g. sales), Intelligent Forecasting is able to model and calculate economic baseline forecasts and specific market demand outlooks for a business, whether at total organization, country, brand, channel, or category levels.

"No more sticking your finger in the wind."

Intelligent Forecasting incorporates econometric modeling, a proven and accurate prediction method which eliminates guesswork, gut feel and bias. This data driven method identifies the leading external drivers of business performance, and thru extensive machine learning creates thousands of prediction models, ranking them by quality score. Prediction accuracy is frequently greater than 96%, proven instantly by 'back testing'.

This evolutionary approach augments existing forecasting practices and provides accuracy and agility for executives and planning professionals, whether Office of the CFO, FP&A, S&OP, category management, supply chain, or demand forecasting.

Market Volatility = CPG Challenge

CPG, like many other industries, is facing an increasing challenge from market uncertainty and volatility. Consumer behavior is impacted by events beyond the control of organizations, highlighted by the disruptive COVID pandemic.

Even in our world of data-driven planning, basing predictions and forecasts on internal data is just not going to cut it anymore. While marketing, promotions, and merchandising can affect future sales, consumer behavior is also driven by factors such as health crises, wages, cost of fuel, consumer sentiment, and more.

Without an accurate prediction of our operating future, the ability to gain market share, allocate resources and optimize working capital is at tremendous risk.

So how do we realistically quantify market volatility and external variables into CPG planning cycles?

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How to Incorporate External Factors

Step 1: Which Economic Drivers Impact My CPG Business?

By looking at external factors that directly correlate to your company or category's historical performance, you'll have accurate answers to why certain trends occurred, and with predictive modeling what is most likely to occur.

Was it differences in consumer spending power, or changes in the local economies? Armed with answers to these previously unanswerable questions, you can better explain the past and prepare for the future.

Prevedere is paving the way for CPG companies to identify and analyze millions of economic, consumer behavior and supply chain drivers to find the best leading indicators for your CPG business, product category, and geography.

Intelligent Forecasting starts by correlating millions of economic and industry data sources to your historical performance, e.g. 3-5 years of sales data for the cosmetics category.

Five to ten leading indicators will be identified as most predictive for the layer of business under review, for example:

- Real Disposable Personal Income
- Cass Freight Index: Shipments
- Supply Management New Orders Index
- NFIB Small Business Optimism Index
- Real Average Hourly Earnings
- Prevedere CPG Industry Leading Indicator
- Consumer Price Index (Nondurables)
- Real Trade Weighted U.S. Dollar Index

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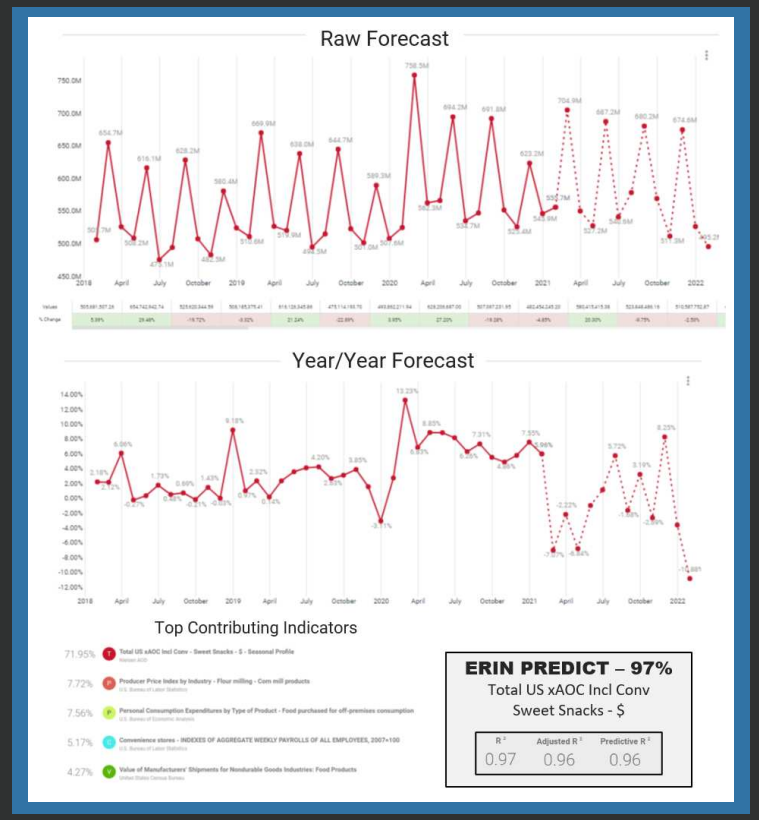
How to Incorporate External Factors

Step 2 - Create Predictive Models from Indicators



By looking at leading indicators you can actually project what to expect 6, 9, 12 and 18 months ahead. Annual forecasts project up to 5 years ahead.

This is where data science kicks in. If you are a R or Python specialist, and understand how econometric modeling works, plug in the leading indicators and start creating predictive models. Incorporate machine learning algorithms to refine, test, score and rank the models. It might take a while to develop.

Alternatively you can leverage Prevedere's global data repository and predictive AI engine, called ERIN (External Real Time Insights). The technology can systematically create thousands of models based on the most predictive indicators.

On the left we see a model for a Snack Food CPG, in this case a forecast for Sweet Snacks in the US. From 60 months of sales data, ERIN identified the top contributing indicators, then created / tested / refined multiple predictive models. The top scoring model, in this case, has a R squared value of 0.97 which was back tested to be 97% accurate.

The resulting forecasts (raw, year over year, CAGR) were then incorporated by the FP&A team into the planning process, benchmarked with the internally generated predictions, and adjustments made. Forecasts, variances and leading indicator projections provided category management and leadership with invaluable insights to refine plans, resulting in increased profitability and competitive advantage.

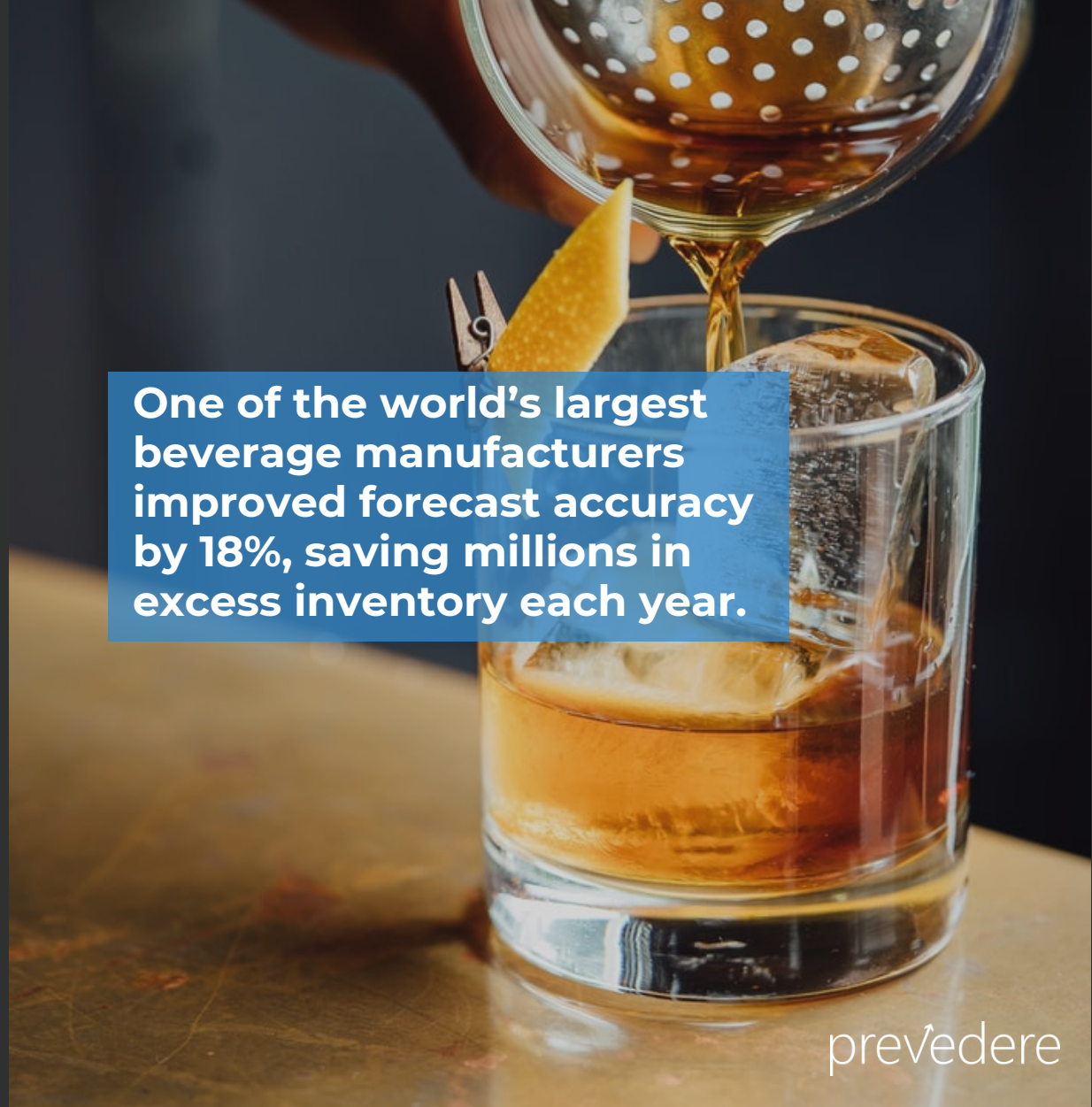
Case Study

A global beverage producer desired to get a better understanding of consumer demand in the U.S. and in China in the hopes of reducing safety stock. With over 400 different brands and over 60 distributors, even small improvements in forecast accuracy leads to significant savings.

Prevedere was able to analyze millions of industry-specific leading global indicators. Real-time forecast models were developed leveraging economic, weather, social, and consumer behavior data sets, per product and market. The result was up to 18% improvement in forecast accuracy across their major products and market. Their supply chain team calculated for every 3% improvement in forecast accuracy, they were able to reduce excess inventory cost by $9 million per year.

“Before, maybe we were getting the one main driver from an end-market forecast we purchased, but we didn’t have any correlations to our direct business. Now we have the five or six key drivers, and it’s a composite view. Invaluable.”

"Before Prevedere came onboard, demand moved quickly, and we didn’t understand the shift had occurred until too late. Now are more proactive.”



One of the world’s largest beverage manufacturers improved forecast accuracy by 18%, saving millions in excess inventory each year.

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Takeaways

With market certainty out of the window for the foreseeable future across almost all industries, accurate predictions of the future are no longer a luxury, but an absolute necessity. An organization that creates forecasts based only on internal data, is living on borrowed time.

External insights married with internal forecasts provides unprecedented foresight into category planning and big picture performance. There are tactical benefits for operational planners and strategic benefits for executives, including:

- Improve forecast accuracy for operational optimization
- Improve competitive advantage and market share
- Maximize ROI on marketing spend
- Determine the top distribution channels and geographies
- Anticipate consumer preferences
- Plan and execute months ahead of competition

Bottom line, Intelligent Forecasting helps CPG organizations make better planning decisions by providing personalized economic intelligence on their industry, their categories, and the demand for their products. Business leaders can use these insights to challenge or defend long held assumptions when planning for the future. By knowing all the factors that influence demand, CPG companies can be better prepared for future volatility.

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Getting Started

Plan and forecast more intelligently in the new world

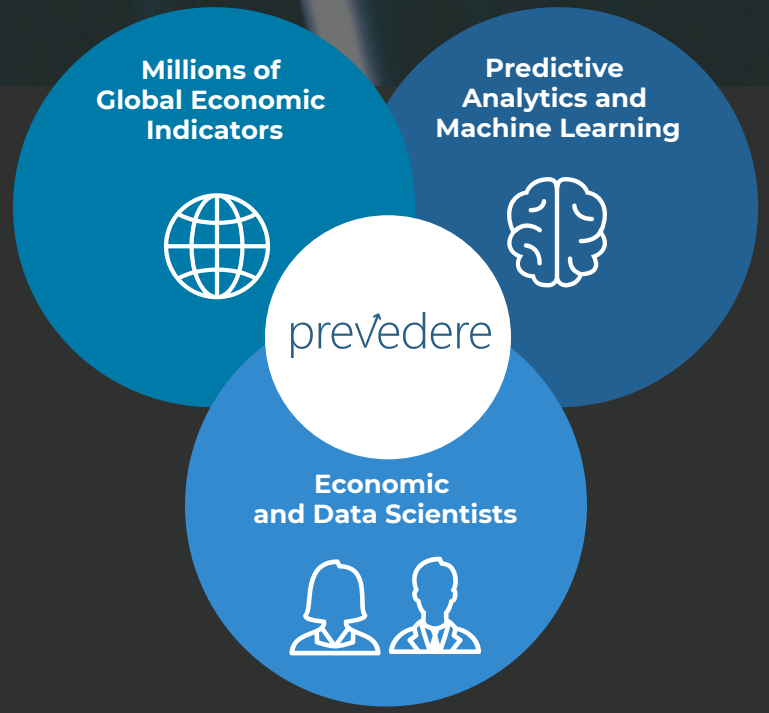
Add predictive analytics and economic intelligence to your business.

Getting started is easy:

- Select a layer of your business (e.g. US Frozen Foods)
- Provide 36 - 60 months of performance data (e.g. sales)
- That is all we need to start Intelligent Forecasting

Talk to Prevedere to identify how Intelligent Forecasting can benefit your organization

For more information, please contact
(888) 686-7746 or inquiries@prevedere.com



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