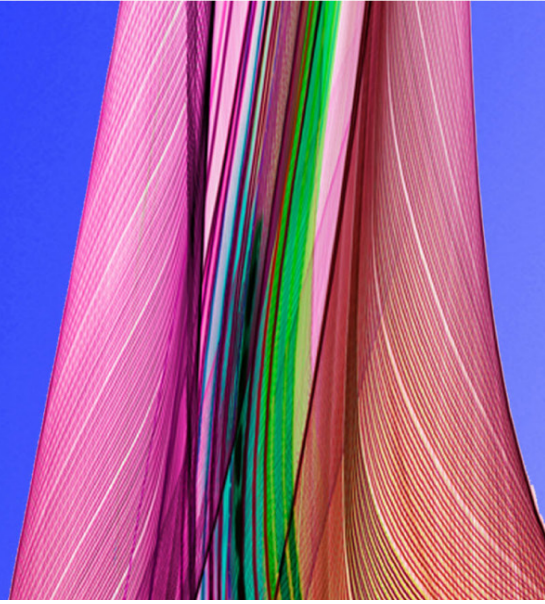
Demystifying intelligent forecasting

May 20, 2022



Webcast summary

With shifting consumer demands and rising economic uncertainty, a data-fueled, AI-driven forecasting approach is key to foreseeing and navigating risks.

The webcast highlighted the importance of integrated intelligent forecasting in successful business planning and decision-making, as well as a practical approach to implementing processes.

The panelists discussed the following topics:

- What is intelligent forecasting?
- Making it real: From concept to reality
- How connected capabilities deliver more value?
- Debunking common myths

What is intelligent forecasting?

Intelligent forecasting (IF) is at the heart of driving business performance and investor confidence. IF is not entirely a technology play. It's a customizable approach based on the core set of foundational components:

Advanced predictive techniques: Building models based on time series, machine learning, and regression techniques helps predict specific business units and profit-and-loss (P&L) lines in scope, which helps maximize the value derived from a purely analytical perspective.

Better data and signals: Incorporating external data and signals along with internal financial and operational drivers into machine learning models helps gain additional fidelity and predictive power.

Scenario planning: Subsets of external and internal signals to build levers can be adjusted to model the impact of different scenarios at key dimensions. This involves creating specific forecasts by P&L line item, geographic region, brand, and channel.

Evolution and integration: As businesses evolve and grow, they need to ascertain that models are integrated across different functions or at different levels of the hierarchy with matching forecasts, giving them consistent, accurate results over time.

Three business values unlocked by IF

IF can enable chief financial officers to shift their focus from operational efficiency to enhanced accuracy, insights, and speed, which can deliver quantum leaps in performance.

Accuracy: Data signals and artificial intelligence (AI) enabled models help reduce human bias and significantly improve accuracy in predictions. This allows for reallocation of revenue or cost savings to other growth initiatives and boosts shareholder confidence.

Insights: Accuracy leads to an additional understanding of the internal and external drivers of business results. This arms business leaders with powerful insights through scenario modeling and can serve as an "early warning" through flash reports, providing value beyond finance.

Speed: Analytical models based on structured data accelerate cycle times and reduce manual effort and costs for recurring forecasting processes. This leads to less time and manpower required for planning.

IF predictive techniques

When choosing a technique, it's important to consider how far in the future you're projecting and then pick the methodology to match. Advanced predictive algorithms include:

Trend-based forecasting involves historical patterns and trends to predict the future. This technique is apt for situations where data is not stationary with the trend and seasonal components, such as forecasting sales or raw-material costs. The Auto Regressive Integrated Moving Average and Bayesian time series models could be leveraged and combined to build a bespoke method of forecasting.

Driver-based forecasting is ideal for predicting the change of an output variable based on the value of input variables, such as change in sales volume based on price changes or external scenarios. It's critical to understand the sensitivity of each driver to quantify how much impact each driver has on the final forecast.

Combining key internal and external drivers

- To forecast with accuracy, it's crucial to know the right business drivers. To understand when to use internal and external drivers, identify the business delivery models that exist. For example, while forecasting sales revenue, you can typically pull data from customer relationship management systems, contracts, or scheduling data to understand the drivers. But for future business, you focus on external signals, such as market trends, planned advertising spending, and new product releases.
- By leveraging internal data, businesses can understand the immediate outlook in a predictive model. Combining high-frequency and long-term external data (such as consumer spending data or mobility data) reveals the full picture.

Making it real: From concept to reality

IF deployment process

The predictive model build process gives you a working forecast model that can be used by the business immediately.

Phase 1a: Working pilot
We do not recommend implementing IF for the whole organization at once. To get started, consider an area to pilot—a P&L item, product, or business unit—and build a working forecast model that can be used by the business and stakeholders immediately. Additional steps may automate or integrate this model into business operations.

Phase 1b: Full deployment
This involves:

- Defining where to host the data—on-premises or cloud
- The user interface—Excel, dashboard, or EPM tool integration
- The ongoing improvement processes—manual yearly or automated
- Planning for user adoption and change impact.

Phase 2b: Scale
Once deployment is done, expand to additional business functions, such as new businiess units, products, or other financial line items.

What does the journey look like?

Starting with the pilot in one area, business leaders can pivot as they move ahead. Choose the right metrics and scope for the pilot in an area that would result in a quick win and make sure to include the right stakeholders up front:

- Get familiar with the data to determine which signals are appropriate and have the highest impact on the forecast.
- Build and test different predictive models to test accuracy and measure against current forecasts. Reduce to a "winning" combination.
- Once there's a functioning model that can show business results, consider how to consume those results.
- Finally, deploy the model and leverage the machine learning to improve precision. Establish process owners for regular data ingestion and model execution.

With a successful pilot in hand, leverage enhanced forecast speed and business insights to expand and scale up across the business.

How connected capabilities deliver more value?

- The most common challenges that businesses face in this space include disparate data sources, different analytical models, different logic sets across different teams, high reliance on manual processes, and utilizing only internal data to determine the external signals.
- The key to successful planning is an integrated, intelligent forecast that leverages a unified dataset, has access to enhance signals, and utilizes advanced analytics and automation with a model that continues to learn and improves accuracy. Integrating all the use cases or successful pilots in a logical way amplifies the value proposition of accuracy, insights, and speed.

Integrated intelligent forecasting—the synergy

- Stringing different use cases together—powered by unified/synchronized data sources—helps produce consistent results and deliver trusted insights across three core forecasting needs: strategic, tactical, and operational decision-making.
- A strong, consistent data foundation consisting of both internal and external datasets is crucial to unlocking these insights across each use case.

Success criteria for an effective IF deployment

- Once a pilot is proven, mature the solution by field-testing and back-testing.
- Build early confidence in data and analytics through strategic change management, which allows the enterprise to rely on the results with more comfort and trust.
- Establish a center of excellence (CoE) to move from pilot to operationalizing across the enterprise. A CoE brings together functional ownership, technical enablement, and digital capabilities.
- Formalize the intake process, pipeline management, and solution build. The right communication with the right stakeholders is crucial to its success.
- Expand the portfolio of use cases to additional business areas in a structured way.

Debunking common myths

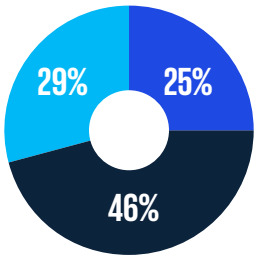
Internal data needs to be in great shape to get any value from IF: No one has perfect internal data across the board, especially with the volatile environment we're in right now. There are so many disruptors. It's all about identifying the right signals, both internally and externally, and integrating the datasets in the right way so that your model has the highest accuracy.

Accuracy is the sole method for measuring the success of IF initiatives: Many businesses develop tunnel vision around accuracy, trying to achieve it continually, incrementally. The value of the forecast is to enable informed decision-making. And these minor incremental changes in accuracy don't always translate into any major change in business decisions.

Real client outcomes

- Implementing intelligent forecasting is a big change and there could be resistance to adopting or trusting a fully automated solution. A successful pilot is all about the right stakeholders, proactive and up-front communications, determining the scope, and delivering a quick win early to develop the trust in data and predictive algorithms.
- It's important to not overcomplicate things. Choose the right stakeholders instead of getting everyone involved at once across all different business functions. Similarly, pick the right area to pilot where the value derived is tangible. Then confirm the right mix of information technology, data, and cross-functional stakeholders related to the project scope.
- Completely evaluate datasets to combine open-source data and see what persuades your customers to purchase your products or services.
- It's critical to keep the momentum up even after the success of the pilot and have clear roles and responsibilities for decision-making. Operationalize the pilot and integrate the use cases into a portfolio to drive capabilities across the enterprise.

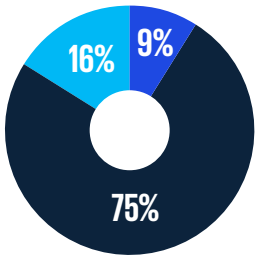
What's the current state of your company's data?



831 responses

- It's tightly managed, with strong governance and generally a single data source shared across the company.
- We have a couple of different data sets that need to be reconciled.
- It's all over the place—there are so many silos on our data farm.

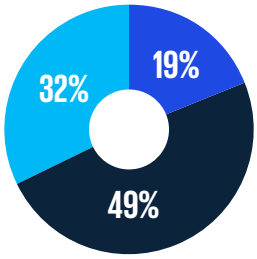
What's the balance today between manual processes vs. automation to generate forecasts?



805 responses

- Most of our forecasts are automated–we're pretty touchless.
- We have a couple automations in place, but there's still a fair amount of manual effort involved.
- We automatically order food for the forecasting teams at least once a week because we know they'll be working late.

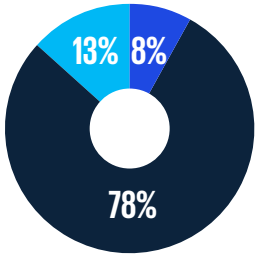
Beyond historical data, what other data do you use?



777 responses

- We have feeds from suppliers that are updated each night, and we pull in external data signals from two subscription sources.
- We've started some discussions about ingesting feeds from external partners and data providers, but we're not there yet.
- We're swimming in too much legacy data as it is.

How accurate are your forecasts—how much do you trust them?



748 responses

- We're at the point where we don't even need to think twice about them.
- We still need to spot-check and do some clean-up—data from different areas doesn't always match up.
- Our team blocks out calendar time every week to redo them.

Note: Percentages may not total 100 percent due to rounding.

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