



Forecasts Are Useful, but Decisions Require More

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“A forecast tells you what may happen. A decision requires understanding what to do when it does not.”

1 Introduction

Forecasting has long been a cornerstone of enterprise analytics, providing organizations with forward-looking estimates of demand, revenue, costs, and other key variables. Advances in machine learning and data availability have significantly improved the accuracy of these forecasts, enabling organizations to anticipate trends with greater precision. However, despite these improvements, many organizations continue to struggle with decision-making.

The reason is that forecasting, while necessary, is not sufficient. A forecast answers the question of what is likely to happen, but it does not answer the more important question of what should be done. Decisions require evaluating alternatives, considering trade-offs, and accounting for uncertainty, none of which are fully addressed by a single-point prediction.

This paper argues that forecasting must be integrated into a broader decision intelligence framework that connects predictions to scenarios, actions, and outcomes.

2 The Role and Limitation of Forecasting

Forecasting plays a critical role in informing decisions. It provides a baseline expectation for future conditions and helps organizations plan resources, set targets, and coordinate activities. In many cases, improvements in forecasting accuracy can lead to tangible benefits, such as reduced inventory costs or improved capacity utilization.

However, forecasting has inherent limitations. It is fundamentally an exercise in estimating the most likely future based on historical data and current information. Even the most sophisticated models cannot fully capture the complexity and uncertainty of real-world environments.

More importantly, forecasts are typically presented as point estimates. While confidence intervals may be included, decision-making processes often focus on the central prediction. This creates a disconnect between the analytical output and the reality of uncertainty.

3 From Prediction to Decision

A key distinction must be made between prediction and decision.

Prediction is concerned with estimating what will happen, while decision-making is concerned with choosing among alternatives under uncertainty. The latter requires additional elements that go beyond forecasting, including:

- The set of possible actions
- The constraints under which decisions are made
- The evaluation of outcomes across different scenarios
- The trade-offs between expected value, risk, and flexibility

Without these elements, forecasts remain disconnected from action. Organizations may know what is likely to happen, but they do not have a systematic way to determine what they should do in response.

4 The Need for Scenario-Based Evaluation

To bridge this gap, forecasts must be embedded within a scenario-based framework. Instead of relying on a single predicted outcome, organizations should consider a range of possible futures and evaluate how decisions perform across them.

This approach recognizes that forecasts are inherently uncertain and that different scenarios may have materially different implications for decision-making. For example, a demand forecast may suggest moderate growth, but alternative scenarios could include both stronger-than-expected expansion and unexpected contraction.

By evaluating decisions across these scenarios, organizations can identify strategies that are robust rather than narrowly optimized. This reduces the risk of overcommitting to a single forecast and improves resilience in the face of uncertainty.

5 Connecting Forecasts to Actions

Another critical step is connecting forecasts to actions. In many organizations, forecasting is treated as a separate function, producing outputs that are then handed off to decision-makers. This separation creates friction and limits the impact of forecasting.

Decision intelligence integrates forecasting directly into the decision process. Forecasts become inputs into models that evaluate different actions, taking into account constraints and objectives. This enables organizations to move from passive prediction to active decision-making.

For example, rather than simply forecasting demand, an organization can evaluate how different pricing strategies, inventory policies, or capacity decisions perform under various demand scenarios. This transforms forecasting from a descriptive tool into a prescriptive capability.

6 Trade-Off Evaluation

Decisions inherently involve trade-offs. A strategy that maximizes expected value may also increase downside risk, while a more conservative approach may reduce risk at the cost of lower potential returns. Forecasting alone does not provide a framework for evaluating these trade-offs.

Decision intelligence introduces a structured approach to trade-off evaluation. This includes assessing:

- Expected outcomes across scenarios
- Downside risk and tail events
- Variability and sensitivity to assumptions
- Reversibility and the cost of being wrong

By making these dimensions explicit, organizations can compare alternatives in a more disciplined manner and select strategies that align with their risk tolerance and objectives.

7 The Role of Simulation and Optimization

Simulation and optimization are essential components of this framework.

Simulation allows organizations to model how outcomes evolve under different scenarios, capturing both uncertainty and interactions between variables. Optimization enables the selection of actions that best achieve desired objectives, given constraints and the distribution of possible outcomes.

Together, these techniques extend the value of forecasting by connecting predictions to decisions. They enable organizations to move beyond static plans and adopt adaptive strategies that respond to changing conditions.

8 Enterprise Implications

At the enterprise level, the integration of forecasting into decision intelligence has several important implications.

First, it improves coordination across functions. When forecasts are used within a shared decision framework, different teams can align their actions based on consistent assumptions and scenarios. This reduces conflicts and improves overall efficiency.

Second, it enhances resilience. By considering multiple scenarios and evaluating trade-offs, organizations can design strategies that perform well across a range of conditions, rather than relying on a single expected outcome.

Third, it accelerates decision-making. With a structured framework in place, organizations can evaluate alternatives more quickly and respond to changes in the environment with greater agility.

9 Conclusion

Forecasting remains a valuable and necessary capability, but it is only one component of effective decision-making. Organizations that rely solely on predictions risk making decisions that are narrowly optimized and vulnerable to uncertainty.

The next step is to integrate forecasting into a broader decision intelligence system that connects predictions to scenarios, actions, and outcomes. By doing so, organizations can move from knowing what may happen to understanding what they should do.

The distinction is subtle, but critical. It is the difference between insight and action, and ultimately, between incremental improvement and sustained competitive advantage.