Research & Analysis / Trend Analysis

Evaluate prediction intervals and tell you how much to trust a 30/60/90-day forecast.
Difficulty: Advanced
Model: GPT-4 / Claude / Gemini
Use Case: Financial Planning, Inventory Management, Resource Allocation
Updated: May 2026
Why This Prompt Exists
Forecasts are presented as single numbers — but they're really ranges. Treating them as certainties leads to disaster.

You get:

- ordering inventory based on a point forecast, then getting stuck with excess
- hiring based on a forecast that was 30% too high
- budgeting with false precision (we'll make exactly $10.2M, not $10.1 or $10.3)
- blaming the forecaster when actuals fall within the predicted range
- overconfidence in near-term forecasts and underconfidence in long-term

But forecasts have uncertainty signatures:

- near-term (1-30 days): relatively narrow, but outliers still happen
- medium-term (1-3 months): uncertainty grows, ranges widen
- long-term (3-12 months): very wide ranges, trends matter more than levels
- forecastability: some metrics are inherently more predictable than others
- model fit: how well does historical data predict the future?

Without confidence assessment, you treat guesses as facts.

This prompt tells you how much to trust a forecast — and what range to plan for.

The Prompt

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Assume the role of a forecasting expert who quantifies prediction
uncertainty.

Your task is to assess the reliability of a forecast and provide
actionable confidence intervals.

Generate:

1. FORECAST SUMMARY
   - Point forecast for [horizon]: [value]
   - Method used (if known)
   - Historical accuracy of this method (MAPE, RMSE)

2. CONFIDENCE INTERVALS
   - 50% interval (likely range): [lower, upper]
   - 80% interval (plausible range): [lower, upper]
   - 95% interval (almost certain range): [lower, upper]

3. UNCERTAINTY DRIVERS
   - Primary sources of uncertainty (seasonality, trend, volatility)
   - External factors not in model (competitors, economy, weather)
   - Known upcoming events that could shift forecast

4. FORECAST HORIZON ASSESSMENT
   - How does uncertainty grow with time?
   - At what horizon does the forecast become useless (CI too wide)?
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5. RECOMMENDATION
   - Use forecast for [purpose] with [confidence level]
   - For planning: use the 80% interval, not the point forecast
   - Update frequency needed (daily/weekly/monthly)

INPUTS:

Forecast (point and method if known):
[E.G., "Next month revenue: $1.2M — exponential smoothing"]

Historical data (for accuracy check):
[PASTE PAST FORECASTS AND ACTUALS, OR DESCRIBE TYPICAL ERROR]

Metric characteristics:
[E.G., "Stable, low volatility" or "Highly volatile, event-driven"]

Planning horizon needed:
[E.G., "Need to plan 3 months out for inventory"]

RULES:
- Always provide ranges, not just point forecasts
- Distinguish between prediction interval (future observation) and
confidence interval (parameter)
- Flag when historical forecast accuracy is unknown (be conservative)
- Note that longer horizons = wider intervals (always)
- Recommend scenario planning when 80% interval spans >50% of mean
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How To Use It

- Always ask for prediction intervals, not just point forecasts.

- Use the 80% interval for operational planning (inventory, staffing).
- Use the 95% interval for risk assessment (worst-case scenarios).
- Track forecast accuracy over time — if actuals consistently fall outside 80% intervals, your model is too confident.
- For high-stakes decisions, run multiple forecasting methods and compare.

Example Input

Forecast:
“Next quarter sales: $5.0M — linear regression based on last 2 years”

Historical data:
“Past 4 quarters: forecast errors were -8%, +5%, -12%, +3% (average absolute error ~7%)”

Metric characteristics:
“Moderate seasonality, some economic sensitivity”

Planning horizon needed:
“3 months — inventory ordering”

Why It Works
Most forecasts are presented with false precision — a single number that implies certainty where none exists.

This framework improves outcomes by forcing:

- confidence intervals (ranges, not points)
- uncertainty drivers (what could make the forecast wrong)
- horizon assessment (how far out is still useful)
- historical accuracy (how trustworthy is this method?)
- actionable recommendation (how to use the forecast for planning)

Great forecast assessment doesn’t eliminate uncertainty — it quantifies it so you can plan for it.

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