

Superforecasting - The Art and Science of Prediction

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Illusions of knowledge

Avoid

- Explaining or building a cause-and-effect just because of a correlation
- Substituting an easy question for a hard one

As a forecaster, be a Fox, not a Hedgehog

Foxes

- Gather info from various sources.
- Talk about possibility & probability.
- Look at problem from various perspectives and aggregate information.

Hedgehogs

- Ideological
- Forecast guided by one “big idea” or theme.

Tools for forecasting

1. Fermi-ize the problem: When faced with a difficult prediction, break down the problem into smaller manageable questions.
2. Start with the outside view first before digging into details.
3. Then move to inside view. But do purposeful targeted research, not random information gathering.
4. Dragonfly forecasting - Look at the problem through multiple viewpoints - “on the one hand, on the other” - pursue counterpoints, be actively open-minded & create multiple sources of information to avoid confirmation bias.
5. Superquants - Express your forecast as a probability with as fine a resolution as possible.
6. Update forecasts based on new information. This may be challenging as it:
 - Goes against your psychological bias.
 - Goes against your publicly stated position (fear of losing face)

- “Getting people to publicly commit to a belief is a great way to freeze it in place, making it resistant to change. The stronger the commitment, the greater the resistance”
 - Great visual metaphor: Our beliefs are like Jenga blocks. Stronger core ones at bottom, you don’t change them easily for fear of the rest of the thought-structure falling off.
7. Watch-out for over-reaction to irrelevant information. Don’t be quick to update your forecast just because of new information which suits your biases.
 8. Update often and incrementally. Of course, update could change big based on a major change.
 - Bayesian belief-updating equation: Posterior odds = Likelihood Ratio x Prior Odds

Perpetual Beta

- To be a top forecaster, a growth mindset is essential.
- “When facts change, I change my mind” - quote attributed to John Maynard Keynes
- Approach should be “perpetual beta”: Try → Fail → Adjust → Try again

Fail

Forecasters don’t always know soon if they have failed due to lack of high-quality feedback.

- Forecasting language can be ambiguous through use of words such as “probably”, “likely” etc.
- There can be a significant time lag between forecast and actual outcome. Could lead to “hindsight bias.”

Analyze

- Spend time after the outcome to analyze the forecast for improvement — even if it was right!
- Recognize the role of luck in success.
- Grit is important. “Grit is passionate perseverance of long-term goals, even in the face of frustration and failure”.
- Grit + Growth mindset = Personal progress

SuperTeams

- Groups can be wise or mad or both.
- Watch out for “groupthink” - just because everyone agrees doesn’t mean the group is right.
- On the other hand, groups can foster multiple viewpoints, cancel out errors to produce “wisdom of crowds.”
- Watch out for one person dominating the discussion and viewpoints.

- If you are leading the group, remember to leave occasionally so that the group can discuss freely.
- Explicitly welcome criticism: politeness is not useful when you want to get opposing views on the table.
- Encourage people to challenge each other respectfully, admit ignorance and request help.
- Foster a culture of sharing in the group.

The Leader's Dilemma

- Frequent and rapid decisions can be shaped only on the spot according to estimates of local conditions.
- From "Auftragstaktik", the command principle used in WW II : Effective management practice is to blend strategic coherence and decentralized decision making.
- "Great success requires boldness and daring, but good judgment must take precedence" - from the Wehrmacht manual, also from WW II.
- George Patton: "Never tell people how to do things. Tell them what to do, and they will surprise you with their ingenuity."
- Gen. David Petraeus: "You have to preserve and promote the out-of-the-box thinkers, the iconoclasts"
- Jeff Bezos, one of 14 leadership principles: "Have backbone; disagree and commit."
- On humility vs. confidence: Humility required for good judgment is not self-doubt but intellectual humility → a recognition that reality is profoundly complex, that judgment can be riddled with mistakes.

Some watchouts

1. Watch for "Scope Insensitivity", in which the forecast remains the same irrespective of the timeframe.
2. Black Swan events - Nassim Taleb defines these as "highly improbable consequential events."

From a memo communicated to the WH a few months before 9/11:

"I'm not sure what 2010 will look like, but I'm sure that it will be very little like what we expect, so we should plan accordingly."

Eisenhower : "Plans are useless, but planning is indispensable" - Knowing what we don't know is better than thinking we know what we don't.

Our minds crave certainty, and when they don't find it, they impose it.

Summary

- Forecast, measure, revise: Surest path to seeing better
- Reject answers which consist of anecdotes and credentials.

- Move towards “evidence-based forecasting”, instead of decision making based on experience, authority, and intuition.
- Establish accuracy of forecasts through rigorous testing
- Use judgment. “Not everything that counts can be counted and not everything that can be counted counts.”
- A critical element of judgment is asking good questions. Break down the big questions into smaller predictable ones. A useful strategy is to complement “big questions” which may not be easy to answer / predict with predictions to smaller questions which may not directly answer the overarching big question.

Ten Commandments

1. Triage: Focus on questions where your hard work is likely to pay off. Don’t waste time on very easy or impenetrably hard questions.
2. Break seemingly intractable problems into tractable sub-problems (Fermi method)
3. Strike the right balance between the inside and outside views.
4. Strike the right balance between under- and over-reacting to evidence.
5. Look for the clashing forces at work in each problem. When taking on one of two opposing views, list in advance signs that would nudge you towards the opposite position.