Adaptive Thinking

Idea In Short

Every decision rests on a model of how the world works, and the world keeps changing. Adaptive thinking is the habit of noticing when your model no longer fits and revising it in time. Research on mental models describes the tension: models must be robust enough to ignore noise but flexible enough to respond to real change. Studies of cognitive flexibility add that changing how you think in response to different situations is essential in an unpredictable world. This article explains how models go stale, what the research says about updating them, and how managers and consultants can build practical routines for adjusting their thinking without lurching from one view to the next.

A retail manager built her staffing plan around one belief: weekends are the busiest days. For years it held. Then a new office complex opened nearby, and weekday lunch hours became the real peak. Sales data showed the shift within weeks, yet the schedule stayed the same for months. Nothing was wrong with her skill. Her model had quietly gone out of date, and nothing in her routine asked it to be checked.

What adaptive thinking means

Adaptive thinking is the practice of treating your understanding of a situation as a working model, not a fixed truth. You act on the model, watch what happens, and revise it when the evidence says it no longer fits.

It differs from changing your mind often. Some changes are noise, and a good model should shrug them off. Adaptive thinking is about responding to real shifts and ignoring random fluctuations.

It also differs from improvisation without a plan. You still hold views and make commitments, but you hold them in a way that allows correction.

Mental models and why they need updating

A doctoral thesis from the University of Waterloo describes how humans build mental models that guide actions and expectations. It says these models need to be receptive to change and updated when they no longer accurately predict observations from the environment.1

The same thesis points to a core challenge: models must be robust to noisy, random fluctuations while staying flexible to real change in the environment. The thesis examines this trade-off by studying the components involved in updating, including the role of unexpected, surprising events in detecting change.

For managers, the point is practical. Surprises are signals that a model may be off, and a team that ignores them keeps running on stale assumptions.

Why people hold on to old models

An economics working paper called Sticky Models describes mental models as subjective frameworks through which individuals perceive and interpret their environment, forming the foundation for inference and prediction. The authors note that people often work from partial models that capture the relationship between a subset of variables, and that as new variables emerge, rational agents should revise their models to reflect the joint importance of old and new factors.2

The title points to the problem. Models can stick even when new information arrives. Habit, attention limits, and the effort of rethinking all play a part, though the paper's exact findings go beyond what this article covers.

In practice, the retail manager's model stuck because the old pattern had worked for years, and no routine tested it.

Cognitive flexibility as the underlying skill

Research news from the University at Buffalo School of Management reports that the ability to change how you think in response to different situations is essential for success in an unpredictable world. The underlying study, forthcoming in the Academy of Management

Annals, analyzed 576 scholarly articles and found that cognitive flexibility involves five thought processes, grouped into three forms: changing how we think about a given stimulus, managing conflicting thoughts, and switching between different ways of thinking in response to changing situations.3

One of the researchers says that analyzing cognitive flexibility from several angles allows more nuance in understanding how it influences creativity, adaptability, leadership, global work, and conflict.

An EBSCO research starter defines cognitive flexibility as the mental ability to swiftly move between different concepts and types of thinking, particularly in response to changing circumstances or complex problems. It adds that people who lack it, often called rigid thinkers, may struggle with complex problems or be held back by outdated approaches.4

Flexibility is not guaranteed by intelligence

An SHRM article on cognitive flexibility observes that while most people agree on the importance of being adaptive, very little is understood about the cognitive capacities behind adaptive behavior. It says that being smart, competent, or educated, or even having strong social and emotional skills, does not guarantee flexible behavior.5

A World Economic Forum piece by two neuroscience researchers argues that workers need high levels of career adaptability in an environment where skills and roles can quickly become obsolete. It describes cognitive flexibility as a function that helps people adapt and solve problems in novel or changing environments.6

The lesson for leaders is that adaptive thinking needs deliberate routines. Skill and experience help, but they do not replace a habit of checking assumptions.

Spotting a model that has gone stale

Look for repeated surprises. If outcomes keep differing from what your model predicted, treat that as data about the model.

Notice explanations that grow more complicated. When you need more and more exceptions to keep a belief alive, the belief may be failing.

Listen for the phrase we have always done it this way. It is often a sign that nobody has tested the practice recently.

Watch the edges of your market. New entrants, new customer habits, and new rules usually show up first at the margins.

Ask newcomers. People who joined recently can see assumptions that long-serving staff no longer question.

Building an updating routine

Write down your key beliefs. For any plan, list the three or four assumptions that drive it, such as demand patterns, costs, and customer needs.

Define disconfirming evidence in advance. For each belief, note what you would expect to see if it were wrong, and decide how much evidence would justify a change.

Set review dates. Check the beliefs at fixed intervals, more often when conditions move quickly.

Separate noise from signal. Look at trends over time before reacting to a single data point, and ask whether a change persists.

Make small adjustments first. Test the revised model on a limited scale, and expand when results support it.

Record what changed and why. A short log of model updates builds the team's skill at spotting the next one.

Adapting as a team

Individual flexibility matters, but teams hold models too. A team's shared picture of customers, costs, and competitors can go stale even when each member would update alone.

Make assumptions visible. Keep a short list of the beliefs behind the current plan in a shared

document, and invite anyone to challenge an item.

Hold regular reviews that ask what has surprised us since the last one. Surprises are the cheapest source of evidence that a model needs work.

Reward people who bring bad news early. If raising a doubt costs a career, the team's models will lag behind reality.

Rotate who leads the review, so that fresh eyes look at old assumptions and no single view hardens into doctrine.

A hypothetical example

Imagine a hypothetical regional bakery chain that has always planned production from last year's sales for the same week. A new analyst notices that a growing share of orders arrive through a delivery app and follow weather patterns that the old plan ignores.

The team lists its beliefs, including that demand follows the calendar and that walk-in trade dominates. For each, it defines what would count as disproof, such as app orders passing a fifth of sales for six weeks. When the data cross that line, the team adds weather and app volume to its forecast and trims fixed batches for slow days. Waste falls over the next quarter, and the team schedules another model review. The chain and numbers are invented, but the example shows a belief tested against evidence and revised on a rule set in advance.

Cautions

Do not chase every fluctuation. Models need stability, and a team that changes direction with each data point wastes effort and loses trust.

Beware of motivated reasoning. People often explain away evidence that threatens a favored view, so use pre-agreed criteria and outside voices.

Keep core principles steady. Values and goals can stay fixed while methods change.

Finally, remember that evidence on how to train flexibility is still limited. Treat routines as

experiments, and keep what works for your team.

- 1Updating mental models, University of Waterloo thesis
- 2Sticky models, University of Bonn working paper
- 3Adapting and thriving in the modern workplace, University at Buffalo School of Management
- 4Cognitive flexibility, EBSCO Research Starters
- 5Cognitive flexibility: the science of how to be successful in business and at work, SHRM
- 6How cognitive flexibility can improve your career, World Economic Forum

Summary

Adaptive thinking means flexibly adjusting your models as conditions evolve. Researchers describe mental models as frameworks that guide expectations and need updating when predictions fail, and management scholars link cognitive flexibility to creativity, adaptability, and leadership. The balance is delicate, because a model must resist noise yet respond to real change. Rigid thinkers risk being held back by outdated views, while constant switching wastes energy. Choose one belief that drives a current decision, write what evidence would change your mind, and check for that evidence on a set date. Share the belief and the test with a colleague so someone can hold you to the date.