SENSE. SHIFT. SEIZE.

Sensing Through Fogs of Uncertainty

Becoming visionary means looking past the data, past what we know

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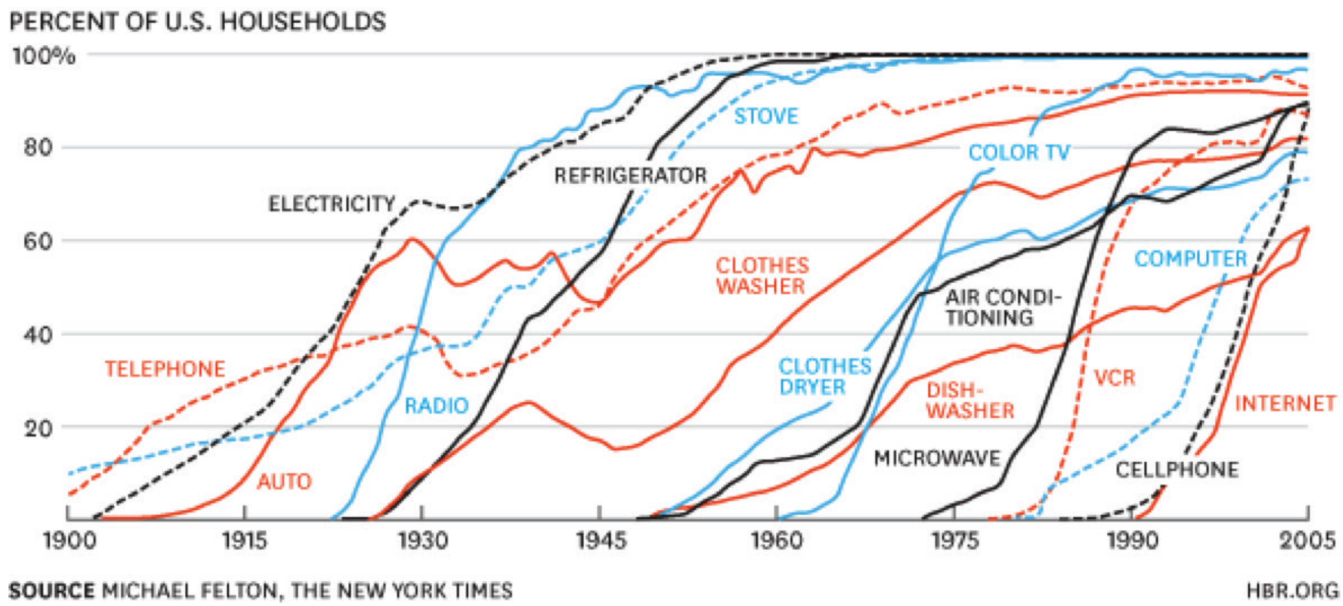
The world is accelerating.

We used to think we understood the order of things, the way that industries work, why our companies succeed, what our customers want and most importantly, what's likely to happen next in our markets.

But, the world is increasingly unpredictable and unknown to us.

The acceleration is rapid and the changes are many, from global political uncertainties and international regulatory concerns to disruptive business models being introduced by newer and newer competitors into once stable industries and markets. The adoption rate of technology is increasing, which means new innovations are being adopted more quickly and product lifecycles are shrinking.

Products Diffuse Faster Today



With this acceleration comes pressure to maintain competitive advantages. Firms must move faster to capture opportunities that present themselves.

These changes mean that markets are being supplanted and customers are changing their behaviors and needs. Even when firm leaders recognize a need to adapt, to shift, they often fail to institute meaningful change, they fail to think forward adequately.

Today's chief executives are stuck in an uncertain realm between running the day-to-day operations of their companies and reshaping their organizations in the face of increasingly seismic and unpredictable changes in their industries.

Our understanding of stakeholders is also changing. Core principles and culture are important. Externally, we're finding our customers are as concerned about the impact our products have on society and the world as they are about price. Internally, we're finding that employees want to work for organizations they believe in, where common values are shared.

We rely too heavily on overly simplistic models of understanding, like statistical averages, the bell curve and standard deviation.

For many executives, the identity of their organizations, who they are and what they represent, is at stake, and their ability to survive or even thrive tomorrow depends on being more adaptive.

Further, our companies have more access and greater ability to analyze data about their firms, competitors, customers and markets than ever before. But, despite these high-tech corporate dashboards, we are still unable to understand change and uncertainty adequately in identifying threats and opportunities. We're unable to forecast what the world will look like tomorrow. We are stuck with overly simplistic models of comprehension, like the statistical average and the bell curve. Statistical models are increasingly inadequate in helping us make the right decisions. Despite this, we tend to put greater and greater emphasis on data analysis, looking for answers.

Yes, the world is accelerating. CEOs rightly believe that to survive, their companies need to become more agile. But getting there is the hard part and when pushed and pulled between the need to make their companies more efficient today and shifting and adapting their firms to survive imminent disruption tomorrow, most CEOs will turn their attention inward and opt for the status quo, with a focus on increasing efficiencies and margins.

Arms Race to Zero Margins

In a recent survey by PwC, CEOs said the biggest internal projects they implemented last year or plan to implement this year are cost-reduction initiatives. CEOs are tightening their belts, doing what they know how to do in order to survive: decrease costs and increase efficiencies.

This is a game that cannot be won. The faster costs are decreased, the faster an organization and market will become extinct unless they branch into new ventures and new markets. As you decrease costs, so does your competitor, and ultimately, the gains become increasingly smaller and smaller, driving margins down until there's no more juice to squeeze out of your organization. Technology has sped up this process beyond measure. It's an arms race to zero margins and it's a zero sum game in the end.

So, on the one hand, CEOs know they need to transform their organizations (we hear them speak about this need daily), but on the other hand, they fall back to a position of trying to increase their efficiencies and failing to develop medium- and long-term strategies.

Why is this?

Fear.

Uncertainty.

Not knowing what to do.

Not knowing how to get there.

Not understanding how customer interests are changing.

Aversion to career risk.

The list goes on.

Evolutionary theorists might tell us that members of a species will minimize the use of energy in the face of uncertainty. Scanning the periphery for signs of change (sensing) and developing a strategy for change takes a lot more energy than maintaining the status quo. It's easier and safer to hide in the middle of the herd than be on the lookout for change (threats/ opportunities) at the edge of the herd.

As these executives refine operational efficiencies and cut costs, the ground is eroding from right under their feet. If they don't act, they will most certainly be caught flatfooted when their industries get upended by volatile and seismic forces.

Tools:

- The Agility Index. The Agility Index will help your company determine if it is prepared to adapt in rapidly changing environments.
- Scenario planning. Use abductive reasoning (See Abductive Reasoning sidebar). Take known values in the present to consider possible futures. This should be a boundless exercise in creative forecasting.
- War games. Red team/Blue team exercises can be used to test possible scenarios. Be sure to make the stakes high for each team (forfeiture of a bonus, possibly) such that they challenge or defend their position with unfettered resilience instead of defaulting to what they sense management wants. Outsiders can often attack with more alacrity than the people who designed a system.
- Apocalyptic scenarios (a subcategory of scenario planning)• Ask countless "What if" questions about the future

Today is No Indicator of Tomorrow

There's a military phrase that's been around since the 1990s, perhaps longer. VUCA. If you've read any popular management publication or studied at West Point or The Yard in Annapolis, you've heard it.

Volatility, Uncertainty, Complexity and Ambiguity

It's probably overused. It's become a corporate buzzword. But, it's still important.

Here's why:

It means, "You can't know what's going to happen next." It describes the real world.

Michael Porter is a well-known Harvard strategist whose seminal 1980 book, *Competitive Strategy*, has defined management strategy for the past 35 years. In it, he outlines a compelling theory of the firm and how competition works. His philosophy is known as the Five Forces.

In it, Porter outlines a method to gain and protect market share against threats from five forces:

1. New entrants
2. Substitute products and services
3. Bargaining power of buyers
4. Bargaining power of suppliers
5. Intensity of competitive rivalry

These five underpinnings make up the foundation of management strategy in every MBA program in the world.

The problem with the model is that Porter's framework doesn't factor in uncertainty and the innovation that often disrupts markets. Not surprisingly, his model doesn't work very well in the real world.

Markets are not like WWII battlefields, easily defined by known parameters and terrains, with an enemy we can see. Markets are amorphous and fluid. They are forever changing. They disappear. New markets emerge. We can't even tell who all our competitors are. We're often surrounded by a dense fog.

Porter assumes all these factors are knowable and defined. They aren't. He confuses uncertainty and risk.

Industries are unstable over the long term and as the world accelerates, they are becoming increasingly unstable in the short term as well.

In today's world, the real world, Porter's Five Forces framework doesn't help much. Strategy, as we've all come to know it, as we've been trained in it, is being transformed. New frameworks account for uncertainty. They account for shifting markets. They account for competitors that we can't see or identify immediately. The new models of strategy are about making our firms agile and visionary, where we can sense opportunities and threats through the dense fog of uncertainty and move quickly to respond.

The new face of strategy is about being agile in a measured way, about peering through the fog of uncertainty, about being able to shift and adapt to the ever changing world.

The New Face of Strategy

In the old world, in the world of orthodox strategy, we built large firms with the tangible assets of production and armies of workers to stay ahead. In today's world, we want trimmed down firms with small workforces built on intellectual property and intangible assets. We can find external providers to manage the manufacturing and delivery of goods. Our capabilities need to be dynamic and smartly allocated. The old world was about being bigger and stronger. Today's world is more about being agile, innovative, and visionary.

Right now, you're either in a market that's already been upended (there are lots of them) or you're going to be in one soon.

This new face is about being agile to react to market shifts, being able to sense shifts quicker, being able to create and shape markets, and being able to look into the future. To do this, we must be visionary. To be visionary, we must use abductive reasoning to explore possibilities and distill deep truths about technologies and markets.

Every senior executive in every large, reasonably stable company is on unstable ground right now. The biggest threats are likely not known. If you've read any Nassim Taleb or remember Donald Rumsfeld's famous quote, you've probably heard the term, "unknown unknowns." These are blindspots to reality, to what can really happen. Taleb often invokes philosopher David Hume's swan analogy to illustrate our lapse in logic in thinking about what can happen, "No amount of observations of white swans can allow the inference that all swans are white, but the observation of a single black swan is sufficient to refute that conclusion."

What looks strange is thought improbable; what is improbable is not taken seriously.

Our perception of reality overrides this basic logic. This is our blindness.

In short, despite all the evidence that we can gather about our industries, about reality, we cannot be certain our assumptions are factual. We can never see the whole picture.

Using Abductive Reasoning to Sense Possibility

Charles Sanders Peirce was a philosopher and mathematician, who is considered the father of pragmatism. He was born in 1839 and was a child prodigy. He wrote a history of chemistry when he was 11-years old and read his older brother's books on logic when we was 13. He could write with both hands, writing the problem with his left hand and the solution with his right hand, simultaneously.

Despite his talents, he got bored easily, drank and womanized. When he graduated from Harvard in 1859, he ranked 79th in a class of 90 students.

His efforts to land an academic position at Harvard were thwarted because a former professor of his, who later became president of Harvard, didn't like him and repeatedly interfered with any attempt to hire Peirce.

He lived largely in obscurity and lapsed into extreme poverty at the end of his life.

He developed the idea of abductive reasoning as one part within a three-part scientific method: abduction (hypothesis), deduction (conclusions are drawn if the hypothesis is assumed to be true), then induction (experiments are carried out to test the hypothesis).

Abductive reasoning was created as a way to conceive of possible explanations when there's incomplete information. For example, a medical diagnosis is a form of abductive reasoning, taking the known evidence and applying a diagnosis based on the evidence while understanding that what we know is incomplete. This process of reasoning doesn't guarantee that the conclusion is correct, but it presents a likely conclusion. There can be false positives.

Einstein used abductive reasoning to develop his two theories of relativity. It's the process of taking the known evidence and using creativity and insight to find possible and likely explanations.

It can also be used to predict possible futures in our industries. Abductive reasoning and creative insight can help you explore possibilities based on observed cues from shifting markets, new technologies, changing customer behaviors, global political regulatory changes and many other areas.

Too often, executives mistake uncertainty for risk. They know about risk and they know how to analyze and plot an actionable course that accounts for risk.

The traditional strategic model is exclusively about risk against known factors. It's failure for the business executive is that it ignores uncertainty and possibility, complexity and chaos.

All of tomorrow's major market disruptions are unknown unknowns. You may run an energy company or a financial services firm or a real estate empire or an insurance provider. Will your industry look the same in 50 years? What about in 10 years? Five years? What about next year?

The thing about unknown unknowns and uncertainty is we can't know what the threat is nor when or how it will strike. What we can know about unknown unknowns is that they exist and that they will become known at some point. And when they do, they will surprise most everyone. Then, after the fact, they will seem so obvious that we can hardly believe we missed them in the first place.

What the Fractal!

Benoit Mandelbrot was a Polish-born mathematician who studied at the California Institute of Technology and University of Paris. He worked for 35 years at IBM, where he was a research fellow. Mandelbrot is considered one of the fathers of Chaos theory and he invented fractal geometry. We've all seen colorful pieces of fractal artwork based on his theory. Fractals also occur in nature. Picture a snowflake. Or the British coastline from space.

In talking about turbulent markets in his book, *The (Mis)Behavior of Markets: A fractal view of risk, ruin and reward*, Mandelbrot said people think that if they study and analyze enough of data, they will better be able to predict outcomes. The reason: We believe in the word, "Because." Thus, we think we can predict outcomes. If we know why something happened (cause and effect), we can assess risk and forecast events.

Just like we mistake "uncertainty" for "risk," we also mistake "correlation" for "cause and effect."

The problem, said Mandelbrot, is that causes are usually obscure. "Critical information is often unknown or unknowable."

Despite the information gaps, Mandelbrot says, we have a "human need to find patterns in the patternless."

Thus, senior executives analyze silos of data, trying to find answers. They often interpret modest correlations as cause and effect relationships. These correlations may be related to recognized outcomes or simply, they may be coincidental. It's often nearly impossible to tell, even through heavy analysis.

But looking into the future takes a different skill: creative insight. We use it to explore possibility, to search for opportunities and recognize threats that might seem benign or so distant in unrelated fields that they can't possibly be considered viable.

Sensing Markets and Behaviors

Paul Schoemaker and George Day published an article in Harvard Business Review back in 2005 on how executives could do a better job of sensing threats and opportunities. They called it "scanning the periphery." We've extracted and paraphrased a few of their suggestions.

- How do you identify important market signals?

  It's difficult to separate signals from noise. One approach is take a signal that's been observed and project into the future by scenario planning or mapping possible futures from it.

- What are your peripheral customers really thinking?

  Most executives are focused on their core market. Take some time to find out what's going on around the edges? Why are your marginal customers not moving to the center? Most companies suffer customer turnover. Find out why customers are leaving or why are they hedging commitment.

- What future surprises could really hurt (or help) your organization?

  Imagine apocalyptic scenarios for your organization and market. What are the worst things that could possibly go wrong in the future. Some of these may point to real threats or even to opportunities.

- What emerging technologies might change the game?

  Look broadly at emerging technologies and explore how they might change your market, even if they are only being adapted for other markets. For example, Detroit probably never thought that artificial intelligence type technologies would impact the auto industry. But then Google developed a self-driving car.

Start with these and even come up with your own questions about your company, about your market and about the future. The future will be shaped by periods of slow progress interrupted by sharp, extreme jolts that will change both markets and behaviors.

The Real Threats were Often Previously Ignored Opportunities

The auto industry is learning this lesson first hand. For as long as anyone can remember, it was Detroit against Japan against German and European engineering. The real threats were ignored or never seen. The race was to make better automobiles, more efficiently. It was to divvy up the market by economic, sex and age groups. The field of vision was very narrow. They ignored what was happening at the fringe.

Seven or ten years ago, no one in their right mind in the auto industry would have suggested that Google or Uber or ZipCar or Apple or Tesla might eat away at the very foundation of the auto industry, not only threatening to disrupt it, but threatening possibly to destroy it.

The electric car was something that the mainstream didn't care about. Self driving cars were a fantasy, something out of *The Jetsons* maybe. Worse yet, do people even want to own cars anymore? In 2011, consumers aged 75 and up were buying cars at a more frequent rate than people aged 18-24 and 24-35.

While fringe startups and creative technology companies thought about these numbers and possibilities, Detroit and its siblings didn't. Now, they have to play catch up. For example, in 2016, General Motors, the largest U.S. based auto manufacturer, was compelled to invest $500 million into Lyft, an emerging ride-sharing service.

In his introduction to Roberta Wohlstetter's 1962 book about how the U.S. military and intelligence agencies missed or ignored countless warning signs about an imminent attack, *Pearl Harbor: Warning and Decision*, Thomas Schelling said, "There is a tendency in our planning to confuse the unfamiliar with the improbable....what looks strange is thought improbable; what is improbable is not taken seriously."

We've all seen giant firms play catch up following largely visionary mistakes. Sometimes they are successful and sometimes they completely miss the boat. Polaroid invented digital photography in the 1970s, but missed the creation and profits earned as that industry emerged 25 years later. Microsoft undervalued the impact of the Internet and went to extreme and illegal lengths to catch up. Just about every brick and mortar retailer underestimated Amazon. "Oh, they sell books." That was the thinking.

Why did every last CEO and senior executive in the automobile industry over the last 15 or 20 years miss a shift in their own industry?

Blindspots, the improbable, and the logic of white swans.

We tend to mistake both "uncertainty" for "risk" and "correlation" for "cause and effect."

Those executives didn't take the external threats seriously.

Why do we have these blindspots to reality? Lots of reasons. As Nobel economist Daniel Kahneman tells us, many of these reasons come down to cognitive biases that shape the way we see and interpret and act in the world.

To start, we may be overconfident. Do we tend to over-estimate our abilities and overly attribute outcomes to our own actions? This is one of many biases. Other well-known biases include: Status quo bias. Risk aversion. GroupThink, The framing effect. The list goes on and on and on.

Every one of us experiences many cognitive biases each day and these distort reality. They aren't all bad. They help us function in society and socially with one another. They help us make sense of things. They give us cause and effect answers, they help us to believe in "becauses." Without them, our sanity, everyone's sanity would be in jeopardy. The downside is they make us complacent in the face of reality. They blind us.

How to Sense Opportunity and Overcome bias

So, as senior executives or line of business managers, what can we do?

We have to become better at sensing by creating systems and routines to dismantle our biases, to put them in check, in order to see reality better. We have to disconnect ourselves from the way we have framed the world, from the way we understand the world, and try to glimpse the future through fresh eyes.

John Cage was an experimental composer born in 1912. He was a leading figure of the post-war avant garde movement. Like many artists, he constantly challenged his understanding of things and his own expertise. He questioned the very nature of what music was or what it could be. He said of himself, "I'm trying to check my habits of seeing, to counter them for the sake of greater freshness. I am trying to be unfamiliar with what I'm doing."

Every executive might take Cage's words to heart.

If you want to see better, to sense, to be able to see around corners like Jack Welch, you need to put your habits in check. Unlearn what you know. Try to overcome some of your cognitive biases in order to see reality better and then, try to look forward and extrapolate possible futures.

We have a human need to find patterns in the patternless.

This is not about data analysis, which breaks information down into smaller and smaller bits. This is about synthesis, about unifying, bringing everything together into the whole. This is about becoming visionary.

When we synthesize a pattern and feel the wholeness of it, we experience harmony or kalos. Our awareness is not defined by the rational, by analysis, but by a complete, emotional and intuitive understanding. This is the moment of having a vision, of recognizing truth. This is sensing.

Sensing the future starts by becoming open to possibility, by setting aside our attachment to current patterns and ways of understanding, and then, by recognizing the many human biases that surround you and your organization.

Any executive in any industry can develop routines and activities to see better and to foster values that support a dynamic sensing mindset and culture throughout the organization. Learning to sense better, becoming visionary in the face of uncertainty, is the first step toward organizational agility.

About the Authors

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About BRG

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