



Adapt

Why Success Always Starts with Failure

Tim Harford
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Rating

7 7 Applicability
7 Innovation
8 Style

Focus

Leadership & Management

Strategy
Sales & Marketing
Finance
Human Resources
IT, Production & Logistics
Career & Self-Development
Small Business
Economics & Politics
Industries
Global Business
Concepts & Trends

Take-Aways

- Every product, business or practice generates its own complex processes.
- Greatness doesn't last. The only constant is change, so survival requires adjusting to evolving circumstances.
- Businesses walk a tightrope between being able to enact change rapidly, and trying to digest and consider deviations from normal routines.
- No leader is always right, so firms must develop ways to cope with leadership mistakes.
- For an organization to learn and adapt, all levels must respond to change.
- Nature finds solutions by running many possible variations at the same time.
- When different parts of a complex system are tightly linked, a problem in one part spreads quickly.
- Failure is a good teacher, but to learn well you need the right mind-set.
- To lower the risk of failure, trust your people.
- Let them take initiative and give them time to work.

Relevance

What You Will Learn

In this summary, you will learn: 1) How business survival operates very similar to evolution; 2) Why you need variation and adaptability; and 3) How to think about complexity, experimentation and failure.

Review

No single, simple solution can solve the complex problems of today's almost inconceivably complicated, interconnected world. Economist Tim Harford understands that evolution – gradual adaptive change – breeds far more success than revolution. In this thought-provoking book, Harford draws examples from multiple disciplines, illuminates the gap between how things work and how people think they work, and maintains reader interest with his entertaining style. *getAbstract* recommends Harford's tactics for dealing with complexity to anyone who wants to think more clearly, assess policies or plan for the future.

Summary

"Biologists have a word for the way in which solutions emerge from failure: evolution."

"At its most basic, adapting requires variation and selection."

Adaptation Lies at the Heart of Survival

Even something as cheap and widely available as a toaster contains incredible complexity. To build one calls for expertise in several disciplines. Multiply that by 100,000 to imagine the complexity on hand at your average Walmart. To build products in the modern world, every decision involves the interplay of complicated forces, all of which must cope with constantly evolving change.

Change itself presents another layer of problematic intricacy. In 1982, Tom Peters and Robert Waterman studied the best organizations in business and held them up as model companies in their book *In Search of Excellence*. Within two years, 14 of the original 43 companies "were in serious financial trouble." Greatness doesn't last. Survival requires adjusting to changing circumstances and welcoming adaptation and experimentation as necessary aspects of evolution.

Leadership Error

Corporate organizational charts present the schematic of a widely held ideal of what leadership should be. In a perfect world, this model says, all information flows to the leader, who uses perspective and good judgment to make sound decisions with the backing of a trained supporting team. Then, decisions flow back from the leader to the troops. The problem with this model is that it doesn't work. Few leaders are great, and even great leaders can't "make the right decision every time." Napoleon was an unbeatable general, until he lost more than 90% of his "half a million men" when he invaded Russia. Because even the best leader errs, every organization needs processes to correct leadership mistakes. Organizations must walk a tightrope between being able to enact change rapidly, and to digest and consider deviations from normal business.

Nature Embraces Variations

When an organization invests in research, its leaders want to know what they're going to get for their money. However, with "blue-sky research" in a new field, no one can estimate the return on an investment. Indeed, most inventions fail, and "most original ideas" turn out to be "useless." Even when ideas prove workable, return on investment can be difficult to

“Corporations have become such a fixture of life that they seem more permanent to us than they were ever intended to be.”

“Traditional organizations are badly equipped to benefit from a decentralized process of trial and error.”

“One of the main difficulties in attracting Howard Hughes Medical Institute (HHMI) funding is convincing the institute that the research is sufficiently uncertain.”

“Failure is both necessary and useful.”

assess. Rather than attempt to identify your best prospective innovations and focus on those, learn from evolution. As scientist Charles Darwin observed about wildlife in the Galapagos Islands, nature finds solutions by running many possible variations at the same time. These variations are nature’s way of adapting to changing circumstances. Successful adaptations thrive; unsuccessful ones die out.

In an organization, that means protecting those who experiment in search of new ideas. In society, it means that trying to underwrite innovation within a system almost ensures that no real innovation will occur. Grants from institutions such as the US National Institutes of Health go to projects that seem most likely to succeed. That’s paying to avoid failure instead of embracing risk in hopes of a rare breakthrough. Alternatively, the Howard Hughes Medical Institute (HHMI) supports insightful individuals who can’t say ahead of time where their research might lead. HHMI reviews funded projects for “convincing signs of effort.” Studies show that HHMI’s approach leads to more innovative work. Free your brightest workers from the burden of predicting the results of their efforts. Give them time and money to experiment.

Experimentation

Generating new ideas is an essential component of the evolutionary principle of adaptation, but new ideas alone are not enough. You have to find out which ideas work in specific circumstances, because no idea works in every situation. Identifying the exact cause of change is difficult in economics or the social sciences because multiple possible causes always appear and, for example, researchers cannot control the parameters of experiments on economies, the climate or societies. The subject is too vast and self-determining. Instead, to lead among complexity, you must learn to adapt to circumstances you can never predict or foresee.

Since resources are almost always limited, you must find a way to select among ideas. Muhammad Yunus, the microfinance pioneer who founded the Grameen Bank, tried taking a “worm’s-eye view” to see how an economic solution works at the lowest, most intimately engaged level. Archie Cochrane, a Scottish epidemiologist who supported using scientific methods to test medication, tried controlled experiments on humans in prison camps during World War II. Cochrane maintained that while controlled experiments can be ethically disturbing, the alternative is to perform “uncontrolled experiments” on unwitting populations and persist in failed methods.

One option is to try a number of small experiments to improve a narrowly defined situation, rather than trying to solve an entire problem at once. Another is finding better ways to represent problems and solutions. When Cesar Hidalgo developed new ways to visualize data about trade among countries, he let people see how and when various nations expanded trade into new market categories. These visualizations showed that government funding for expansion often flops, because governments tend to fund large but failing organizations and seldom understand the real results of the aid provided. Relying on top-down change often is a recipe for economic failure.

“Unintended Consequences”

John Tyndale discovered “the greenhouse effect” in 1859. Building on Tyndale’s early discoveries, scientists now understand that some gases are “16,000 times” more effective at retaining radiated heat in the atmosphere. The more of these gases that stay in the atmosphere, the more heat they maintain. Before the Industrial Revolution, the atmosphere held about “280 parts per million” of carbon dioxide; now it holds 390 ppm. Scientists

disagree about what level of carbon dioxide is too high and what should be done. They disagree because the situation is unprecedented.

Industrial civilization is running a huge, uncontrolled experiment on our entire ecological niche. Society has no past models to use to judge the danger. People disagree on what to do because even a clear goal, like reducing greenhouse emissions, takes part in a complex economic context. No one can define which actions can best cut these gases. Evaluating the carbon footprint of any one item is difficult. Science has yet to create a “carbon calculator app” that consumers could use to guide their actions. Instead, a carbon tax might lower greenhouse gases since it would raise the costs of goods for manufacturers that consume excess energy.

Addressing climate change is daunting because laws meant to guide good behavior always produce unintended consequences. For instance, the “Merton Rule” required that new buildings in southwest London generate at least 10% of the power they consume. Most new buildings installed cheap fossil fuel energy generators, which emit even more carbon dioxide. View this unintended consequence through the prism of adaptive evolution: Any rule can force adaptation, but adaptations find or create loopholes in every rule.

“Decoupling”

A fire on an oil rig is always bad. However, when the Piper Alpha North Sea rig blew up in 1988, the effects were far worse than they should have been. One planned safety system after another failed, each failure causing the next, resulting in tragedy. A similarly linked series of disasters occurred among the companies that insured the rig, and these severely damaged the insurance market. The systems on the oil rig and in the insurance markets guaranteed that damage in one area would affect another. Insurance companies try to redistribute risk through reinsurance, wherein one company shares another’s risk. However, in the Piper Alpha case, the insurance loop doubled back on itself, and the same syndicates insured the rig more than once.

The financial panic of 2008 represents a similar episode of accidental risk multiplication. Just as past experience had falsely let the insurance industry believe that its experts understood the risks of reinsurance, so the institutions slammed by the credit crunch thought they knew what they were doing. They were wrong, in part, because their system was “complex and tightly coupled.” When a system is complex, a lot can go wrong in different ways. When a system is tightly coupled, an event can trigger unintended consequences that move through the system too quickly to identify and counter.

Another compounding of risk occurred during the same credit crisis, when those trying to react trusted their safety systems too much. They thought existing governmental regulations and inspections would keep institutions from overreaching. The banks also thought that, because they had “insured some of their gambles,” they could take on more risk elsewhere in the market. The result of these poor, linked judgments was a system that didn’t give problem solvers enough information or indicate clearly enough that things were as bad as they were.

Preventing this from recurring requires several kinds of adaptive change in response to circumstances, including greater transparency within the financial system and a more accurate and useful representation of financial information. Ideally, experts could update the financial markets daily, worldwide, in real time, continually showing stresses on the system. Governments could require banks to carry more capital, or to try alternative structures like

“Return on investment is simply not a useful way of thinking about new ideas and new technologies.”

“Any large organization faces a basic dilemma between centralization and decentralization.”

“Peer monitoring...offers a subtlety and sensitivity that monitoring from corporate HQ simply cannot match.”

“The defining characteristic of a tightly coupled process is that once it starts, it’s difficult or impossible to stop.”

“Doing foolish things in an attempt ‘to correct the past’...isn’t unusual at all. It’s part of being human.”

“Being willing to fail is the essential first step to applying the ideas of Adapt in everyday life.”

“Even with better data, the truth is not always apparent.”

“contingent convertible bonds,” which convert from bonds to bank shares during times of economic difficulty. The US needs to improve its procedures and guidelines for handling bankruptcy, and its regulators need greater authority during crises. Society should protect and even reward “whistleblowers,” those who report violations or systemic weaknesses. In general, decouple risky systems whenever possible, while remembering that a future crisis will never resemble today’s crisis. Problems adapt to changing circumstances, and solutions are always slower to evolve.

Learn from Failure

Failure is a great teacher. To learn from failure, try something new that only you can do, perhaps something with fewer possible negative consequences. Choreographer Twyla Tharp premiered *Movin’ Out*, her original ballet musical based on Billy Joel’s music, in Chicago rather than New York so she could test the show before taking it to Broadway. The show failed in Chicago. Because of Tharp and Joel’s high profiles, the media reported the failure more harshly than it would have in dealing with other preview shows with less-famous backers and creators.

Simple denial is a common initial response to failure: You are right and others are wrong. Trying to “chase” your losses is a second common response: You keep trying the same things that didn’t work, in an attempt to do it right and earn back your lost money or reputation. To avoid that trap, Tharp separated herself from the specific failure of *Movin’ Out*. Then she could acknowledge that her show failed without thinking of herself as a failure. In establishing that mind-set, Tharp relied upon her “validation squad.” She turned to this supportive group of friends with good judgment who she knew would tell her the truth about her work. Do as Tharp did: Re-evaluate your attempt, reinvent it and find something that works. After listening to intelligent feedback and reviewing her own mistakes, Tharp adapted *Movin’ Out* in accordance with what she learned, and it eventually became a hit. Rather than wallow in failure or insist that she was in the right, Tharp evolved the show.

Adaptation

Though experts may advise companies to change and adapt with the times, in reality, adaptation might not be a conscious act that you commit. Instead, circumstance might force you to adapt. You don’t need a sweeping vision of the future into which you’re leading your company. Instead, let each branch or unit of your organization take responsibility for meeting its own challenges as they arise. Make the risk of failure as low as possible, and let employees try new things. If they fail, they learn. If they succeed, harvest the idea and share it with other parts of the organization.

Give workers specific criteria for performance, and make your shared goals clear; then trust your people to rise to the occasion and handle any situation. Consider “peer monitoring” so that everyone in your organization monitors quality and hierarchizes ideas. Learn from Google’s example and give employees paid time to research their own interests. Thus you follow your workers’ innovations, rather than trying to dictate where the company should go. This means acknowledging the evolutionary forces at work in business: Try a lot of things and follow up with those that perform.

About the Author

Tim Harford is the author of *The Undercover Economist*.