

Knowing How to Learn from Failure



The woman ranked #1 on the Thinkers50 list shares insights from her latest book.

Interview by Martin Reeves

In your latest book you make a clear distinction between *failing well* and *failing badly*. Please describe the difference.

There is so much rhetoric out there in business, especially in tech: Fail fast, fail often. Let's have a failure party. It's important to recognize that not all failure is alike. None of those tenets distinguish between the type of failure we should celebrate, and the kind we should not. In my work, I've distinguished three archetypes. Two of them represent 'bad failure' and one represents 'good failure.'

The first type of failure is *basic failure*. These are single-cause, human-error-created failures that occur in known territory and could readily have been avoided through better practices, more vigilance or greater attentiveness. For example, sending an e-mail intended for your sister to your boss or checking the wrong box on a financial transfer—which happened at **Citibank** a couple of years ago, leading to the accidental transfer of principal rather than interest to a corporate client. This resulted in a US\$800 million loss that, unfortunately, was irreversible.

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The second type is *complex failures*, and these are multicausal. They occur when multiple factors line up to create a failed outcome. Any one of the factors on its own wouldn't have led to the failure, but because they co-occur, a 'perfect storm' situation is created. Many healthcare failures involving hospitalized patients can be categorized as complex failures. In such cases, we often see a perfect sequence of multiple process inadequacies coming together in just the wrong way.

The third type is the good kind: *intelligent failure*. These failures are intelligent because they represent the only way to obtain some valuable form of new knowledge that you require to make progress. Whether it be at work or in your personal life, these are the experiments in relatively new territory that you undertake hoping that they will work out — but alas, sometimes they don't.

Are complex failures preventable?

Definitely. The Space Shuttle *Challenger* disaster is a classic case of a complex failure. And by all analyses, it could have been prevented if better practices had been employed, including high-quality conversations. A well-known dialogue took place the night before around making a final decision to launch (or not) in unusually cold temperatures the next morning. This was a classic example of a low-quality conversation. It disintegrated into an antagonistic debate rather than a thoughtful scientific discussion of, 'What do we know for certain? What do we *not* know, and what are the implications of not knowing those things?' This line of questioning just doesn't happen often enough.

What is it about our biology or psychology that makes us prone to behaviours that result in bad failure?

Unfortunately, there is an aspect of human psychology that codes our *perception* of reality as reality itself. We have an erroneous sense that we see what's really going on, and if someone sees things differently, they must be wrong-headed

in some way. This gets in the way of being deeply and persistently curious about things, because we believe we have sized the situation up already.

That lack of curiosity leads us into *execution* mode — we've got to get the task done, we've got to hit our targets — and moves us away from *learning* mode. The fact is, learning mode is not a bad mode to be in, nearly all of the time. You can take a break now and then for the things you can do in your sleep — like empty the dishwasher, for example. But for most of the things that matter in life, like relationships and work, we should pretty much always be in learning mode. We should be doing what needs to be done, but at the same time, remain deeply curious about what is happening.

That sounds so sensible. What stops us from doing that?

Two key things stop us. First, our brain's hard-wiring. Maybe because there is just so much to take in, our brains necessarily filter out a lot, and yet maintain a sense of confidence that they see reality. And second, socialization. From an early age, we are socialized in school and in early work experiences to favour knowing over learning, to believe that the people who get ahead are the ones with the right answer, not those who have the best questions or who take risks and try things that don't work. The combination of our wiring and our socialization leads us to behave in ways that are not optimal for a highly uncertain, complex and interdependent world.

As individuals, how can we hone better learning skills and avoid mistaking our mental model for facts?

We have to do this on a couple of levels, and it starts with a personal, internal stance to actively embrace learning over knowing. Make that an active choice, day in and day out. Remind yourself, 'Hey, as much as I know, I might be missing something here.' That is not a depressing statement; it's a joyful one, because it's always a good day when you learn something new or are surprised by something that expands your awareness.

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Choosing learning over knowing falls nicely under the rubric of the growth mindset defined by **Carol Dweck**, which says, ‘We are better off when we think of ourselves as works in progress, when we think about getting better and smarter every day because of the experiences we have and our ability to pay attention to them.’

The other thing that is really important is to master the art of diagnosing context. That means taking a quick pause to ask yourself, ‘What is at stake here, and how much uncertainty am I facing?’ Consciously doing this is simple, but in my experience, it is not often done. And the result is that we sort of respond similarly in every situation, whether it’s low stakes/ high uncertainty or high uncertainty/high stakes.

I advise people to regularly ask themselves two questions. First, ‘If I do this experiment and it doesn’t work out, will I be “bringing down an airplane,” or will I just be slightly embarrassed at my next meeting?’ What you’re willing to do should be very different based on the answer to that question. The second question is, ‘How much uncertainty am I facing?’ How much is known about how to get the result you want in this context? Is it a high-knowledge domain or an exploratory-opportunity domain?

If leaders want to establish a culture where intelligent failure is predominant, what are the required institutional-level or leadership-level moves?

Let’s start with messaging. Leadership messaging is so important, and in my experience the messaging that is often missing is the acknowledgement of both the challenge and the uncertainty that lie ahead. Again, that doesn’t have to be a depressing statement. It can be a statement of great ambition and opportunity. But make it discussable. Make it clear. Emphasize it. Because that is an implicit invitation to others to be the eyes and ears of the organization — to share what they see and share their ideas.

If you don’t explicitly acknowledge uncertainty or challenge, people will assume you have an industrial-era mindset: ‘We’ve got plans, we’ve got targets, and they are ours for the taking.’

So paradoxically, the way to reduce failure is to acknowledge our limitations and what we don’t know — even though that might be seen as a failure of confidence or certainty. Am I on the right track?

You are spot on — and yes, it can feel like a paradox. Think about inherently risky operations like air traffic control or nuclear power. How do they operate essentially safely all the time? The answer isn’t, ‘Oh, they just don’t think about failure.’ Not so: They are *consumed* by thoughts of failure. They make it discussable, and by doing so, they are first and foremost making it easy for people to speak up.

When you’re sending the message that ‘given the nature of reality, something could go wrong,’ you’re lowering the threshold for people’s willingness to speak up when they’re not quite sure about something. When people are in over their heads or they notice an anomaly that may or may not be important, you definitely want them to err on the side of speaking up.

But of course, there is a cost to pausing to assess a situation. In some cases, people don’t want to waste time. Part of the leader’s responsibility is to make judgments about when to zoom in and when to do the opposite. How does that fit within your theory?

First of all, I’m a big believer in *not wasting time*. And in fact, I’ve seen a lot more time wasted in organizations by powering ahead with wrong-headed thinking. Then you end up having to undo the damage — some of it costly. When I distinguish between an *execution mindset* and a *learning mindset*, I don’t mean to imply that one is doing and the other

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involves pondering and then, maybe later, doing. I advocate for ‘execution as learning.’ This means, ‘We’re trying this out, but with wide-open eyes to what the experience says back to us, so we can pivot as needed.’

The wonderful **Donald Schon** wrote about this years ago in a remarkable book called *The Reflective Practitioner*. He found that among lawyers, physicians and architects — people doing the same job as each other — some were doing their job in a way that he called ‘reflection in action.’ He argued that those who were beautifully attentive to what phenomena were saying back to them were much more effective in the practice of their craft than the others. I am advocating for the organizational or team-level analogue to that. The execution mindset says, ‘OK, here’s the plan. Let’s do it!’ while the learning mindset says, ‘Here’s the plan. It looks pretty good, but remember: it’s just a hypothesis. Let’s be as scientific as possible about the data we receive as we progress.’ Can we have thoughtful conversations in the face of uncertainty that are quick and designed to get us to the best outcome? We can and we should.

Experimentation and learning are undisputedly great things. But with the cost of capital increasing, running 10 pilots is often not an option. How can we make the process of learning more efficient?

This brings me back to my definition of intelligent failure. As indicated, it happens in new territory and in pursuit of an opportunity. It’s driven by available knowledge, and the actual failure is always as small as possible. I think the ‘as small-as-possible’ aspect helps to answer your question. Experimentation is important in an uncertain world, but it should only be big enough to get the knowledge you need.

For instance, talking to one customer is clearly not enough. But how many is enough? What size of pool do you need to get enough data to know whether your experiment is

working? The answer will vary depending on the context, of course, but making sure you have a thoughtful answer to that question is key to making experimentation efficient. There will always be some waste, but the goal is to minimize it and maximize learning by experimenting at the right scale.

How do you apply these insights in your own work?

Being in new territory is the very essence of my work as a researcher. You hope to be figuring something out that hasn’t been discovered before. So, by definition, you’re in new territory in pursuit of a goal. Maybe you have a hypothesis, and the goal is merely publishing a paper. Of course, you have to read all the related literature that has come before. Otherwise, you will not be well equipped to do your experiment. I’ve done this throughout my professional life, and I’ve always tried to make each new study as small as possible while still generating learning.

In my own field of strategy, whenever I feel I understand a situation, I always remind myself that it’s just a mental model, it’s not a fact. How important is that mindset?

That statement is so powerful; reminding yourself it’s a mental model, not a fact. That is something people don’t do naturally. But if we can get into the habit, we will be unleashed — as better learners, team members and leaders.

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