



Overcoming a Fear of Innovation Risk: Data, Prototypes, and Diversification

Innovation exhibits a contradictory nature. Innovative organizations perform better and adapt faster to a constantly changing business environment. They create new fields to play in and new standards to reach for. But innovation is also considered to be very risky and fear of failure often makes us reluctant to innovate. Can we effectively manage these risks and fears in order to implement innovative ideas?

When we take a risk, we act in spite of uncertainty and expose ourselves to danger. Most of us have an innate fear of unexpected events. Is it just a psychological issue? Should we simply practice being courageous, foster risk-taking, and thus overcome this obstacle using brute force? Or are there sound strategies innovators lean on that naturally reduce the fear of poor outcomes?

3-part framework for IT specialists to manage risks in innovation

First, implement **smart risk management**: use mathematical modeling to identify, study, and minimize the risks a company faces. Second, **fail fast**: prototype, test, analyze what doesn't work, and learn from the failure to adjust. Third, take on **multiple risks**: handle innovation as a portfolio, estimate overall profit, and take a holistic approach to innovation activities.

1. Implement smart risk management

Risk-avoidance is a natural human instinct. As for any animal, it's the survival mechanism developed over many millennia of evolution. Our encoded risk assessment system works

automatically. We estimate risks instinctively and don't even notice it. Now that we live in a technologically advanced world, the inborn ancestral risk management system that drives us to avoid risks in our business decisions sometimes leads us to surprisingly false conclusions.

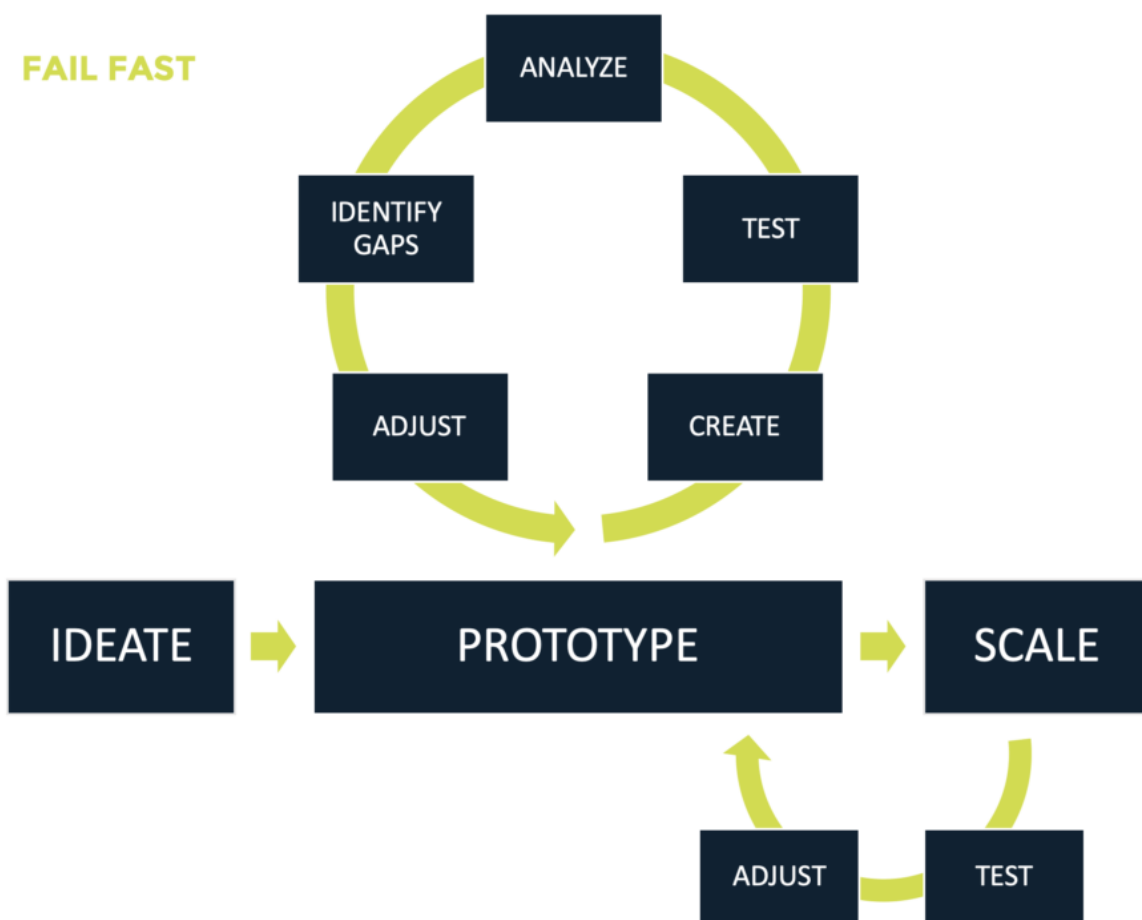
Smart risk management externalizes the analysis of business opportunities and threats and makes decisions about accepting or mitigating the possible risks. Using mathematical modeling to study the data allows us to transparently calculate risk and objectively evaluate potential benefits and losses. This removes the inherent human biases that diminish or enhance our perception of the risk out of proportion with reality.

So, we analyze the available data, convert it into ready-to-use risk management assets, and apply a risk management process. Is that enough to avoid all risks? No. We should also be prepared to minimize risks posed by unpredictable situations.

2. Fail fast

Under uncertain conditions, a fail-fast approach cuts the losses of a risky project and thus reduces overall expenses. To fail fast means to fail smart. We learn and benefit from quickly testing a range of ideas to find the best ones.

First, turn an idea into a prototype, test it, analyze what does not work, identify key gaps, learn, and adjust. Prototyping is a simple and inexpensive way to evaluate an idea in practice. Repeat several rounds of prototyping until an effective solution is found. Then scale up, test again, learn from more mistakes, and iterate again.



The Fail Fast model: *Prototypes are a low-risk way to test an idea.*

I believe that the fail-fast approach is a special practical case,

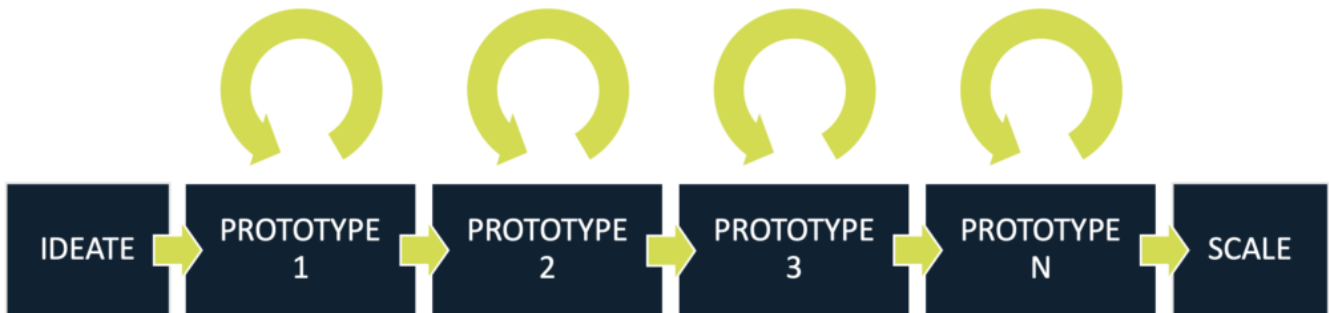
as well as a further development of the [IDEA continuous improvement model](#).



The IDEA continuous improvement model: *Replacing investigations with prototypes (see Fail Fast model, above) helps manage innovation risk.*

Prototyping is a down-to-earth way to investigate (the “I” in [I.D.E.A.](#)) and allows us to make decisions more reliable information. Prototypes may test one of several features of the desired product or may test many features at once. It creates an

opportunity to improve on issues early on and later reconstruct the successful model. In this model, failures and mistakes are normal. They refine the idea in its earliest stages, thus reducing risks that could not be anticipated.



Iterate, iterate, iterate.

So, we are prototyping, iterating, and learning from our mistakes. Is it safe to innovate now?

3. Take on multiple risks

Managing innovation as a portfolio of multiple experiments allows us to take into account the overall result. Diversification helps us find the right balance between potential losses and gains. Thus, we can decrease uncertainty and diffuse risk.

Types of innovation differ in terms of risks, timeframe, resource investment, and rewards.

- **Low-risk, incremental innovation** strengthens existing products, services or processes and sustains profit. These take relatively less time and fewer resources than others.
- **Medium-risk, adjacent innovation** in a growing business that has not reached scale yet takes more time and more resources.
- **High-risk, transformative innovation** needs the most time and resources; its outcomes are less predictable, and it fails the most. However, in the long term, larger risks can result in larger rewards. Moreover, transformative innovation may be a key competitive advantage for a company.

How are we to allocate resources across low-risk, medium-risk, and high-risk innovations, optimizing organizational value and minimizing the risks?

Studies show that companies investing about 70% in incremental innovation that bolster the core business, 20% in adjacent innovation that elaborate their growing lines of business, and 10% in the uncertain emerging businesses are the most successful in the long term. On average, the 70% incremental innovation generates a 10% return, and the 10% transformative innovation can generate a 70% return. These are approximate numbers and companies differ depending on their activities. (Source: Bansi Nagji and Geoff Tuff, "Managing Your Innovation Portfolio," *Harvard Business Review*, May 2012)

Tips for Mitigating Innovation Risk

Define how much you would like to invest in your core, adjacent, and transformative business in accordance with the company's specialization, phase of development, position in the market, and risk appetite.

Do not manage these three innovation types in the same way. Each requires the right skillsets, the right approach, and appropriate execution time.

Systematically track the progress of your innovation portfolio and reallocate your resources to keep it balanced.

Managing innovation in this manner permits you to optimize your business performance and to implement what has been learned—whether it was a success or a failure. That, in turn, strengthens all other processes and therefore the whole innovation portfolio.

Innovation Type	Incremental	Adjacent	Transformative
Risk	Low	Medium	High

Innovation Type	Incremental	Adjacent	Transformative
Influence on Business	Strengthens existing products, services, and processes. Improves profitability and efficiency.	Expands existing business or transfers existing business to a new field.	Disrupts existing products or creates new products, services, or business models.
Strategic focus	Stability	Growth	Disruption
Timeframe	Short-term	Mid-term	Long-term
Resource investment	Low	Medium	High
Average allocation ratio*	70%	20%	10%
Average return ratio*	10%	20%	70%

* Source: [Harvard Business Review](#)

To get the most out of your innovation efforts, don't thoughtlessly embracing risk just for the sake of innovating and don't run from it reflexively. Rather, coldly calculate and manage risks with a level

head, take a fail-fast approach to learn from mistakes early and often, and diversify across a portfolio of innovation types.