it's a catch-22

An early-stage startup can be busy across every function without becoming more certain about what to do next. Sales holds hundreds of conversations. Product sets direction. Engineering ships quickly. Each function can improve its own performance while the company's ability to identify valuable actions remains unchanged.

For engineering, product direction is a serial dependency upstream of implementation. Local improvements can increase the rate at which decisions are executed, but they cannot improve the decisions themselves. When a direction does not rest on agreed fundamentals, software accumulates inertia instead of producing compounding gains. Globally, this creates a sense of stagnation and misalignment.

For sales, conversations create observations, not knowledge by themselves. The difference is critical. Unless each new observation updates the organisation's knowledge, the torrent of evidence does not accumulate into sharp alpha. A thousand conversations can therefore produce a thousand requests for features while leaving product direction no more certain than before. This creates a sense of stagnation and misalignment.

There is an apparent catch-22. The value of a product decision is impossible to know until something is shipped, yet something must be selected before it can be shipped. More selling, planning or implementation capacity can improve local throughput without producing anything valuable.

The problem is not any one function or person, or the flow of information between them. It is the absence of an overarching process connecting evidence to shared beliefs and shared beliefs to action. Without that global updater, locally rational decisions do not compound into organisational learning.

it's not a catch-22

The process of identifying and introducing valuable actions has a name: innovation[1]

The claim above is that successful innovation is a catch-22. A company cannot know whether an action will add value until it takes that action, but it must decide which action to take before that value can be known. This assumes that the company returns to the same position after every action. It does not have to. Every action can leave behind useful evidence.

The beliefs before observing reality are the **prior**. The revised beliefs are the **posterior**. That posterior becomes the prior for the next decision. For now, the exact probabilities are not important, nor the specifics of capturing the prior or refining a new posterior. It is possible to become progressively more informed about what actions to take next. That's a sequential decision problem, not a catch-22.

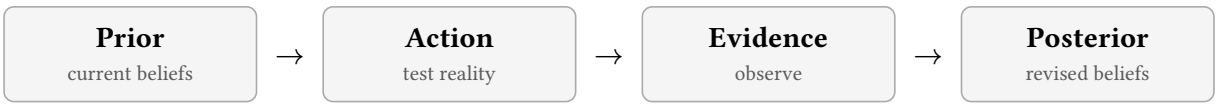


Figure 1: The posterior becomes the prior for the next decision.

[1] "Before the uncritical institutionalisation of innovation theory made the word into a marketing tool it meant introducing a new idea, product, method or system that adds value. The same theory predicted that such a new idea had the capacity to unseat existing solutions. It's demonstrably true that successful innovation is the main goal of any startup company."

Each action pays in two ways: immediate results and information.

	Low information	High information
High immediate result	Exploit	Ideal
Low immediate result	Avoid	Experiment

Figure 2: Actions can create immediate value, information, both or neither.

A feature that produces no revenue but kills an expensive hypothesis may be extremely valuable. A feature that excites one prospect but teaches nothing may be nearly worthless.

Uncertainty itself creates a reason to explore. An action with uncertain but potentially high value may be worth testing because its result could materially improve every subsequent decision. Actions that repeatedly disappoint become less attractive.



Figure 3: Confidence narrows as evidence accumulates.

Shipping is one relatively expensive way to obtain evidence. A demo, a few deep conversations with prospects or existing customers may resolve the same uncertainty more cheaply.

By updating its priors as it goes, the company can plough through the catch-22-ness of innovation!

my own posterior

> I walk around the house butt-naked, and I stop at every mirror just to stare at my own posterior
> — “Thot Shit” by Megan Thee Stallion

This is not a silver bullet. Experiments are expensive, feedback is sparse and delayed, the environment changes constantly. Refining a posterior from new evidence is complicated. It requires trust, a shared language and constant communication. Collecting new evidence requires very specific conversations with customers and prospects, rigorous software development and testing.

Excellent work is necessary across all functions. But no amount of excellence at the local level can compensate for a missing mode of organisational learning. Without it the company will move through uncertainty without reducing it.

Guesswork is inherent in startups. Correct guesses are rewritten as legendary strokes of genius, or dismissed as right-place-right-time flukes. Neither explanation is useful. Successful innovation does not require clairvoyance. It requires taking command of uncertainty.