



## The Double-Edged Sword of Being a Lean Start-up

**Experimentation is vital in early-stage start-ups, but it involves a set of trade-offs that can influence a firm's ability to adapt to future technological change.**

“Move fast and break things” was the oft-quoted motto of Facebook’s early days. This ethos of speed is replicated in the lean start-up methodology, which emphasises getting to market as quickly as possible and learning from multiple, rapid iterations of a start-up’s product market offering. While experimentation is a cornerstone of the lean start-up approach, how does the process of learning – which occurs hand-in-hand with experimentation – influence a start-up’s longer-run viability? In particular, can learning and experimenting also have some say in whether a start-up is able to adapt to future technological advances?

Entrepreneurs often experiment until they hit upon a product or service offering that works. After this, exploration generally ceases, because the more time spent experimenting, the longer it will take to get a product to market. Yet, while time spent exploring may hamper firms’ short-term performance, such experimentation can have longer-run benefits in the form of what we call adaptive capacity – the innate organisational capacity to adapt to technological change.

In a recent article in *Strategic Management Journal*, **“Adaptive Capacity to Technological Change: A Microfoundational Approach”**, co-authored with Hart Posen and Maciej Workiewicz, we argue that the capacity of an organisation to adapt to different

types of technological change is an untapped characteristic that arises from the same process through which the organisation develops its routines. We show that routines evolve over time, starting early in a firm’s life cycle. As nascent start-ups experiment with different ways of doing things – as part of a lean start-up approach – this same process of experimentation then endows the firm with varying degrees of adaptability to different types of (future) external change.

What is particularly interesting about these properties of adaptability is that managers have the ability to tune their development early in a firm’s life cycle. Managers can do this by influencing the degree to which individuals in the organisation are incentivised to engage in explorative behaviour, for example. Ultimately, managerial choices made early on to shape adaptive capacity can have an effect that lasts well into the future.

### **From the individual to the organisation**

Our paper develops a stylised model of a simple organisation (akin to a nascent start-up), in which a small number of individuals come together, jointly developing a set of ongoing routines. As part of this process, individuals learn about the environment they are in, influenced by their interdependencies. We show that this individual-level learning process

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then leads to a number of interesting organisational properties. For example, an “organisational memory” develops, in which knowledge is embodied not only in the minds of individuals, but also in their interconnections. This is inherently a property of the organisation: If one individual leaves, a new worker who joins with little understanding of the organisation may ultimately come to act like the individual who left.

Another key property of the organisation that arises as routines develop is adaptive capacity. We have long known that organisations tend to become more **cautious and conservative** over time. What we hadn't necessarily understood, however, is that the routines that lead to this inertia are themselves equipped with the capacity to change. This organisation-level change can occur as a response to different types of external technological change.

We examine three such forms of technological change, which we call incremental, discontinuous and entrapping. These differ along the axes of difficulty, i.e. how hard is it for the organisation to change in response to the new environment; and inducement, i.e. firms' perceived rewards from engaging in the change effort. We show that not only does adaptive capacity differ among these various forms of change, but also that there are trade-offs: In developing adaptive capacity early on, start-ups cannot optimise across time horizons and across the various types of change. In some cases, for example, start-ups may have to sacrifice short-term efficiency for long-term adaptability. In addition, they may have to resolve to be more adaptable to one type of technological change as compared to another.

### Managing for an unknown future

Adaptive capacity arises as an outcome of the experimentation process in a start-up's early stages, and is embodied in the collective knowledge and beliefs of individuals. But there is another important way in which individuals matter, namely, through effective forward-looking strategising. Managers have an important role to play in this regard, because choices that affect the incentives of employees to experiment early on also affect the existence of particular forms of adaptive capacity further down the line.

There are a variety of levers managers can use to guide the degree of experimentation that leads to different levels of adaptive capacity. They can hire employees with certain characteristics, e.g. some people may be more naturally inclined towards experimentation than others. They can also engage in structural initiatives, such as incentive programmes that reinforce the need for experimentation, like Google's **20 percent** time which allowed engineers to spend a fifth of their

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worktime on projects they are passionate about.

Ultimately, from the perspective of a manager, there is a strategic trade-off, because it is impossible to be certain what form of technological change may be coming in the future. Managers must therefore do their best to anticipate the particular form of environmental dynamism that will occur, often relatively far into the future, and then adjust the balance between short-term performance and long-term adaptive capacity accordingly.

### Adapting at the right moment

As organisations mature, even over the medium-term, there will be technological shifts that cause a firm's innate adaptive capacity to kick-in (or not). Facebook, for example, **nearly missed** the opportunity in mobile, because its focus was firmly on the web-based market. Yet it did ultimately adapt. As an organisation, it had the capacity to morph itself to match the realities of the mobile era; by doing so it maintained its dominance of the social media market.

Managers of start-ups need to continually evaluate what the future is likely to hold. Doing so will enable them to continue to guide the development of their firm's adaptive capacity. As Facebook considers its responses to virtual and augmented reality, for example, their management will need to evaluate whether their employees collectively have the capacity to adapt to these impending technological changes.

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