



## Finding Your Space on the Entrepreneurial Map

**When pushing ideas forward into the unknown make sure you know where you are playing.**

The rise of the “lean start-up” in the late 2000s revolutionised the way entrepreneurs developed their businesses. By highlighting the importance of experimentation and customer feedback it identified a means of effectively and efficiently creating and capturing value in the search process.

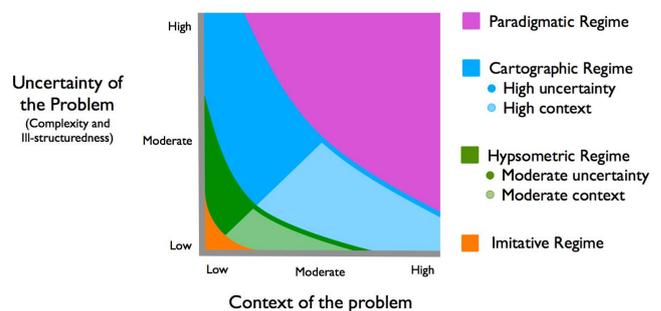
Much has been written about the need for various experimental mechanisms and different designs in this process. What is often overlooked, however, is how the different challenges and biases entrepreneurs face have the potential to limit their chance of success.

The two fundamental dimensions on which entrepreneurial projects differ are the level of uncertainty – how much is known and how dangerous are the unknowns – and the cost of experimentation.

While some entrepreneurial opportunities can be assessed using relatively simple or low-cost tests – Facebook, for example, was developed from a series of online programmes such as Facemash and Thefacebook.com – others require complex and expensive procedures. In the search for the Higgs boson particle, experimental costs were prohibitively high and paradigm-level breakthroughs were refined at theoretical levels for decades before planning and the evolution of technology enabled a testing apparatus – the CERN

Large Hadron Collider – to be built at an estimated cost of US\$10 billion.

In our recent study, "**A Theory of Entrepreneuring**", Jackson Nickerson and Robert Wuebker and I used these dimensions of cost and uncertainty to create a 2x2 matrix to identify four zones of development, into which entrepreneurial projects could be placed, and in doing so identified likely biases and the most efficient search processes.



**Figure 1: Regimes of Search Needs**

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The study used the metaphor of a topographical map – likening the world of opportunities to a landscape in which entrepreneurs could identify themselves as being: on a known hill seeking a better position; trying to climb a new hill; trying to find a new hill on a known landscape; or trying to find a whole new landscape.

### Identify where you want to be

The first zone where both the cost and uncertainties of experimentation are relatively low we describe as the **imitative regime**. An example of this is a cupcake shop where the entrepreneur is looking to make cuter cupcakes or position themselves on a better street. To return to topographical terms, it is the space where companies or entrepreneurs find themselves when they are on a well-known hill but want to get to a higher or more obscure point.

The second zone is the **hypsothetic regime**. Here the uncertainties are moderate and the cost of conducting the search process remains low. In this zone, the hill is recognised on the map but is somewhat obscure, and you still need to climb it to figure out how big it is and where you want to go. Search needs in this regime call for an empirical approach, running many experiments, perhaps in parallel, to assess multiple locations from which to launch a project and the best model to create and capture value.

Examples of companies in this zone would include Netscape, Yahoo, MySpace, Facebook and pharmaceutical firms looking for new compounds using known mechanisms. When Mark Zuckerberg was developing Facebook, for example, he knew social networking was of interest to people but he wanted to find a new or better way of presenting it, and did so using the experimental websites mentioned above.

In the third zone, the **cartographic regime**, uncertainties are high while costs vary from low to medium. Keeping with our topographical parlance, the map is incomplete and entrepreneurs need to figure out where the hills on the landscape are before deciding from which hill they wish to launch their project. Understanding the theory of the metaphorical landscape in this regime is imperative because without it experimental costs grow quickly.

Projects falling into this zone include light-field cameras, the first lithium batteries, SpaceX, and 3D printing. Companies like Stratasys and 3D Systems, had been working on the first 3D printers back in the 1980s using a technique called stereolithography, before trying to figure out whether their industrial technology could translate to the desktop and whether it would be best developed using additive printing or lasering

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sintering mechanisms or something new altogether.

Another good example here is the space exploration space. Elon Musk's SpaceX, Jeff Bezos' Blue Origin and Virgin's Galactic programmes are still trying to work out whether their technology is best developed by pursuing the idea of using reusable rockets for cargo, or offering sub-space flights to passengers.

Finally, there is the **paradigmatic search regime**. Projects in this zone explore paradigm changing ideas, like the transistor or the Higgs boson particle. In this regime, there is no map, just blank paper. Companies or entrepreneurs searching here face very high uncertainties and theory becomes increasingly important as the cost of experimentation ranges from moderate to excessive. Problems are highly complex and may require further development of markets or technology before value creation is feasible. In fact, as history has shown, many people are unable to accept, let alone consider, new paradigms until evidence not only exists but all other alternatives have been exhausted!

### Know your landscape

To increase the efficiency and chance of success of their new project, it is important that before embarking on the search process companies and entrepreneurs are intellectually honest with themselves and assess where on the matrix they want to play. Elon Musk did just this when he noted that instead of chasing little apps like everybody else in Silicon Valley he “wanted to change the world in a bigger way” – thus making a conscious move to take big risks at a hefty cost.

Most of us, however, don't have Musk's money and star power. And all too often entrepreneurs jump into an exciting new project without taking time to understand the uncertainty and context costs of developing the idea, only to discover 12 months down the track it may take years, decades even, to commercialise.

Another takeaway from our study is the importance for entrepreneurs to use all the tools and techniques at their disposal to move a project towards the lower left of the matrix. If context costs are high it is vital to really poll the experts and understand as much theory as possible before running an experiment. On the other hand, if entrepreneurs are operating in a zone of high uncertainty, but where the costs are low, then it is critical to get the advantage over potential competitors by borrowing knowledge, components and experiments to advance as quickly as possible.

### Be aware of your vulnerabilities

Knowing which zone they are playing in will also alert entrepreneurs to the kind of biases they are most likely to face during the search process. When a project has high context costs, the propensity and impact of escalation of commitment and ego-preservation biases are at their highest. When operating in a context with high uncertainty, entrepreneurs will be vulnerable to associative thinking biases, such as substituting data that is easy to get for data that is representative; or confirmation bias where too much attention is paid to data that matches what is already known and too little attention to data that is different and may actually disconfirm a hypothesis.

Corruption of the search process through psychological and cognitive bias is a critical factor constraining, and potentially severely limiting, entrepreneurial success. Entrepreneurs who think they are moving fast or creating lean start-ups can easily fall victim to these biases and totally lose their way.

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