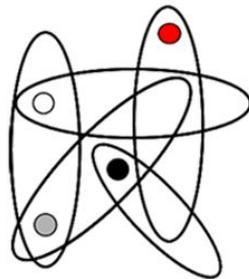


ENTREPRENEURSHIP

Just Do It: Lessons from the Startup Space

by California Management Review



An interview with Boris Fain, CTO of a biotechnology startup in Berkeley, California.

✔ **INSIGHT** | INTERVIEW 30 Mar 2015

Boris Fain, CTO of InterX, Inc. (Berkeley,CA)

The head of a growing biotechnology startup discusses the entrepreneurial process, the role of innovation, the relationship between academia and private industry, and the importance of “good science.”

InterX, Inc. is a biotechnology startup working to enable highly accurate biochemical simulations. With advanced software providing approximations of the inherently quantum mechanical processes underlying biochemical interactions, the company hopes to develop a novel and reliable means of predicting the real-world outcomes of such chemical processes before they even occur. If they succeed, the technology could revolutionize drug design, holding broad implications for the pharmaceutical industry, along with other biochemical and materials science applications. But perhaps most interesting about InterX is how the company seems to reject the prevailing public image of the technology startup: instead of a lavish corporate headquarters, the small team works out of a former steel mill near the waterfront in Berkeley. Instead of discussions on “growth hacking,” you’re more likely to hear discussions on advanced topics in physics, like polarization and force fields. It’s all part of what CTO Boris Fain describes as one of the company’s fundamental goals: to make an enduring contribution to science.

In this installment of the CMR Executive Spotlight interview series, Dr. Fain speaks with California Management Review’s online editor Jae Park about his company.

Now that InterX is established and funded, do you have a sense of what the startup scene is really like?

In the startup scene – especially when it becomes a “scene” – there’s a lot of fluff. But because some of these ventures become so successful, offering 1000x return on investment, people put up with the fluff. A lot of the things [in Silicon Valley] that people roll their eyes at are totally true; but ultimately we get a lot of benefits from having a startup culture because it allows for more experimentation.

If Google goes under tomorrow, or ten years from now (which it may, at least in the way we know it today), we might just be left with Space X ¹ and some self-driving cars. But hey, that’s kind of worth it. I don’t really care if the ads stop selling after a while.

What is it like to manage a startup company?

It’s extremely important to have good management. It is probably the most important thing. And it’s a skill – you learn it. One suggestion to managers interested in the technology sector: learn to code. Write a program; you’ll code badly at first, but try to build

something. You'll become much better at managing tech people.

For all of the discussion of innovation, I think it is often overemphasized in management. The aim of management should be to keep things running smoothly. You set things up, you work with people, and you make little corrections. But really your aim should be to do nothing; ideally you should try to almost work yourself out of a job. Obviously that will never happen, because new things come up all the time and you have the responsibility of handling them.

Innovation is fantastic, but the normal running of the business is equally important.

What is the startup's role in fostering innovation?

I think that innovation is difficult to define. It's difficult to read a Harvard Business Review article that says: "All you have to do is put up a sandbox with some toys, put some people in there, maybe send them to Burning Man, and the next thing you know you'll have innovation." It's just not that way. But I think there are certain conditions for innovation which the startup model provides.

One condition is freedom, and the stability to simply think your own thoughts and pursue your own ideas. And the second condition is almost the opposite: anxiety, urgency, and necessity can also create innovation.

Can you tell us a little more about InterX?

We're a little unusual. We're a company that would usually have been an academic endeavor. Our founders² discovered a promising kernel of technology in Russia. Namely, the idea itself is called a "force field," and it's a Newtonian approximation of what is inherently a quantum mechanical system. The founders decided to pursue the idea, and tried to get money academically, but it didn't work. Instead they found an angel investor / co-founder, and formed the company.

We really started in 2009, and [are] at the forefront now. We've created our first model, and all of the surrounding technology that defines the rules that govern how molecules interact. And we have hired a talented group of people. We have a strange company

because usually super tech talent can be bought. But in our field, there is no [such] market: there are maybe twenty people in the world who are already excellent and do this well. So we have to rely on training. Adding people would not make it progress faster; it's weird that way - the nature of this field.

Our key client is Cocrystal Discovery (COCP); we're helping them with drug design. Because we have [the technology] working, we are now in the stage where we can work to make improvements. And another goal is to do some really good science, which we will publish.

What do you envision for the future of the company?

Well, okay. Not the typical speech: If we want to make a lot of money, I think we're going to have a hard time. We have to overcome a lot of prejudices within the drug design world, and there are a lot of obstacles. If I had to put a number on it, I would say that we have a 20% chance of becoming successful – self-sufficient, making money, having many clients, continually developing new technology, having a research wing to improve it, etc. But that's actually a big percentage considering the true success rate of other startups, which is more like 1%.

Why do we do what we do, when there's only a one in five chance of success? Well, there are always other exit strategies. The company could be absorbed by a larger company, and I think that option is very possible. But what I'm much more sure about, and I would give this a 60-70% chance, is that we have a unique opportunity to really advance this field scientifically.

How do you view the relationship between government, academia, and private industry in developing and commercializing new technology?

I think that the U.S. Government should be more adventurous in funding science and art. Right now people get grants for stuff that's sure to be done. It's very hard to get a grant for something that you don't know is going to work. And in academia oftentimes the incentives are wrong – it's more a matter of how much you can publish. So I think that places like Bell Labs, Xerox PARC, and Google X inherit the DNA of their companies and can really get things done.

Any parting wisdom?

Whatever wisdom I have, I have more non-wisdom. I've made a lot of mistakes. My advice to startups is to "just do it." A lot of people sit in cafes and say: "I don't want to take that [funding] offer" because the VC will take too much equity, etc. Well, your first time around it's just an amazing process to go through. It doesn't matter if it fails, because you'll learn a ton. You can discuss things forever, you can go online and talk about your idea, but ideas are cheap. Just do it. You'll learn from the experience. Especially when you're young – there's nothing to lose. It will be fun, you'll meet a bunch of great people, and you might even work on future startups with them. Push yourself out of your comfort zone... You know, I go to the pool and I don't think I ever want to get into the water. Even though I always like swimming. But every time – and it's been 20 years – I still think "I don't want to get in." But I always get in!

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1. Google and Fidelity led a \$1 billion round of investment in SpaceX (1/2015). ↩
 2. Dr. Michael Levitt and Dr. Roger Kornberg, Stanford University ↩
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