How to Get Big Ideas Off the Ground

Tech innovator Sebastian Thrun shares insights he has learned pushing a number of high-profile technology projects

Sebastian Thrun, CEO of Kitty Hawk and chairman and co-founder of Udacity, at the WSJ Pro Artificial Intelligence Executive Forum this week.
Photo: The Wall Street Journal

By John McCormick

Sebastian Thrun is an innovator with the reputation of getting big projects off the ground - sometimes literally.

He's a co-founder of online learning platform Udacity Inc. and, more recently, chief executive officer of flying-car company Kitty Hawk Corp. He also worked at Google, where he oversaw the company's self-driving car efforts and other projects.

On Wednesday, Mr. Thrun shared some principles for innovation and talked about how big ideas can achieve lift-off at The Wall Street Journal's WSJ Pro Artificial Intelligence Executive Forum. He was interviewed by WSJ Pro's David Uberti. Lightly edited excerpts from that conversation follow.

Be Persistent

Mr. Thrun: We often go in and say, "Okay, let's try a thing and see where this ends up." And very frequently, we come to a dead end and say, "That didn't work."

And I am not afraid of being in these dead ends. Because if the vision is correct, then you can't expect to know everything on day one. You have to admit that you don't know. And that means you will make choices that are poor choices in hindsight.

But if you take these choices to learn something about the problem, it's still a good choice. You might build something that doesn't fly, but yet you've learned something. You made a mistake, and you'll never make that same mistake again. And in doing so you're eventually going to make the right choice. So for me, when people talk about Silicon Valley and talk about failures, these are not failures, these are moments of insight, moments of learning. And if you celebrate these moments of insight as much as the real progress, you will eventually win.

Don't Fall in Love With Technology

Mr. Thrun: I'd say the most important thing in Silicon Valley for us, and it's probably different for the rest of the nation, is just don't fall in love with technology. Never fall in love with technology. Technology is a tool that lets you accomplish goals. The technology is the shovel you use to dig for gold, and it's the gold you're after, not the shovel. And that's where some people fail.

With Google Glass, I got so enamored with Google Glass, and was so excited about it, I didn't quite understand the privacy concerns that would come up. But if I look at things like self-driving cars, for example, it's not about technology. It's about what we can do with this concept in the world … the safety we can bring to people, the 40,000 lives we can save every year, the ability to empower blind people to drive it in a self-driving car that otherwise couldn't drive. That's what really matters.

Start Small

Mr. Thrun: At Google, the recipe that we adopted was to have a very small unit … almost like a Lockheed Martin Skunk Works-type unit. A small unit with, say, five people, the best in the world, secretly just build it and prove it to us. And they didn't get immersed in PowerPoint presentations, or trying to talk to everybody. Because when you talk to everybody, eventually there's people that hold you back. They either want to take credit—because most of us live to take credit. Or they want to torpedo you. That sounds pretty brutal, but I've seen this all over the place. So if you're able to have an innovation unit that can do things—try it out at small scale— you at least get a much better answer as a leader of what's possible.

Believe in What You're Doing

Mr. Thrun: In about 2010, I was involved in deep learning at Google. And back in the day, I did the loops and asked various business leaders: "Would you be interested in this?" And the resounding answer was. "No.... You have no clue how search works, or how video works. Please don't bother us."

And then we spent about two years or three years working on deep learning. And the first result was actually a system that could recognize cat and dog images in YouTube videos. And I can't describe to you how much we were the laughingstock of the company. They said, "You're in this for three years, and you find you're able to recognize cats."

But we saw the potential to really change things like video indexing, machine translation, speech recognition. And it took a few years to push it to a level where we're actually competitive in these areas. And when that became clear, the company was very open to adopting it. That's the perennial challenge for anybody who wants to be innovative. It's easy to be incrementally innovative in the existing business models. It's very hard to be disruptively innovative, where you do something fundamentally radically new that actually might even tear down your business model. I think that's the challenge today.

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