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What Large Companies Can Learn from Start-ups

An Interview with Eric Ries

Eric Ries talks with James Euchner about how the innovation strategies he pioneered in start-ups can jumpstart innovation in large corporations.

Eric Ries with Jim Euchner

Many people have remarked on the contrast in new business innovation between start-ups and established corporations. With their resources and assets, large companies should be more innovative, but major new products and services often come from small start-ups with few resources. In this interview, Eric Ries discusses the concept of the "lean start-up" and how the things he has learned about innovation from start-up experiences can be applied inside corporations.

主要的新产品和服务往往来自资源匮乏的小型初创企业

精益创业理念是什么?

JIM EUCHNER [JE]: In a nutshell, what is the lean start-up idea?

ERIC RIES [ER]: The word "lean" comes from a long tradition in lean manufacturing. It originated with the Toyota Production System in Japan. Lean thinking is very much about learning to tell the difference between the activities in an enterprise that create value and those that are a form of waste. But where the Lean Startup idea is different from traditional business thinking is that we are applying that same concept to the process of innovation itself.

但精益创业理念与传统商业思维的不同之处在于
我们将同样的概念应用于创新过程本身

Eric Ries is an entrepreneur and author of the *New York Times* bestseller *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Business* (Crown Business, 2011). He graduated in 2001 from Yale University with a BS in computer science. He co-founded Catalyst Recruiting while still an undergraduate; after graduation, he joined There.com as a senior software engineer, then co-founded and served as CTO of IMVU. In 2007, *BusinessWeek* named him one of the Best Young Entrepreneurs of Tech. In 2008 he served as a venture advisor at Kleiner Perkins Caufield & Byers before moving on to advise start-ups independently. Today he serves on the board of directors for Code for America and on the advisory board of a number of technology start-ups and venture capital firms. The Lean Startup methodology has been written about in the *New York Times*, *Wall Street Journal*, *Harvard Business Review*, *Inc.*, *Wired*, *Fast Company*, and countless blogs.

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The biggest insight that I've had as an entrepreneur, working at many companies of very different sizes, is that the defining characteristic of a start-up is its environment of extreme uncertainty. We often don't even really know who the customer is. In traditional lean thinking, you look at everything through the eyes of the customer. You examine your supply chain, your manufacturing process, your inventory, and ask, "Does the customer care about that?" And if the customer doesn't care, then it's a form of waste.

初创企业的典型特征是其环境极度不确定性

But whose eyes do we evaluate our systems and processes through if we don't know who the customer is in the first place? That really is the crux of the lean start-up question: Can we develop a set of techniques akin to lean manufacturing that are appropriate to a start-up? Can we apply the concepts of lean thinking—faster cycle time, reduction in lot size, bringing customers into the process early—not just to build a product efficiently, but to discover efficiently what the right product to build is

更快的周期时间, 减少批量, 尽早将客户引入个过程, 不仅是高效构建产品, 而且是为了高效地发现应该构建的正确产品是什么

JE: You talk about the two key hypotheses that guide lean thinking—the value hypothesis and the growth hypothesis. Can you explain these hypotheses?

每一项新业务都建立在一系列假设的基础上

ER: The core idea is that every new business rests on a series of hypotheses—we use the word hypothesis to remind ourselves that building a business is actually a scientific enterprise, or it can be—and we conduct experiments to find out whether we are really on the path to a sustainable business.

Imagine that my business idea is to create a diamond mine. There are some very important assumptions to making such a business work. One is, "If I dig in the earth in this spot, are there diamonds there?" That's one thing that needs to be true in order for my business to work. Obviously, if I dig in the wrong place, no diamonds and no business. Another hypothesis is that, if I had a giant vault full of diamonds, I would be able to make money selling them. Could I sell them at an attractive price?

It's important to prioritize the riskier assumptions so that we can tackle and reduce the biggest sources of risk first. In this case, digging in the right location is really paramount.

优先考虑风险较高的假设, 这样我们就可以首先解决和减少最大的风险来源

Once we have the diamonds, selling them is not going to be the difficult part. Let's look at a more contemporary example, the case of Facebook.

Facebook's an instructive example because they had only a few thousand customers using their product and absolutely no revenue at the time that they raised money in Silicon Valley. Why were they able to do this? A lot of people said it was a return to the dot-com era of nonsense business plans, that Facebook had no business model, and all this kind of stuff.

In fact, Facebook is a good example of a business that had addressed the critical risks of its business. Even if they didn't yet have any gross numbers to brag about, they were able to demonstrate that they had a business. They had addressed both the value hypothesis and the growth hypothesis.

对于价值假设问题是: 顾客觉得产品有价值吗?

For the value hypothesis, the question is: "Do customers find the product valuable?" You need to have more than a good story or a few anecdotes, but evidence that customers find the product valuable. In Facebook's case, even though they didn't have very many customers yet, of the customers they did have, 50 percent would use the product every day. So it was a highly addictive, highly engaging experience for the customers that did use it. They had really good evidence that customers found it valuable. Users were willing to trade a scare resource—namely, their time and attention—in order to get the benefits of the product.

第二个问题是既然我们有一个客户认为我们的产品有价值我们如何获得更多?
我们称之为增长假说

The second question is: "Given that we've got one customer who finds our product valuable, how are we going to get more?" We call this the growth hypothesis. In the case of Facebook, because of the viral nature of the product, when they moved onto a new college campus, they would go from zero market share to basically 100 percent of the campus using their product in something like two weeks.

Even though the gross numbers were really small—we call this a micro-scale experiment—even though the scale of it was quite small, the evidence was strong that they were onto something; they had the seeds of a sustainable business. People who say Facebook had no business model are simply wrong. Facebook had the ability to get almost unlimited quantity of people's time and attention, and they could grow for free. They didn't have to buy growth through advertising; they got it for free through viral growth.

Now everybody knows that if you have people's time and attention, you can resell that attention to advertisers. It's a commodity business. So Facebook *did* have a business model; they had mitigated their critical risks long before they actually had any revenue.

I wasn't in the room at the time, so I don't know that investors used this exact framework to evaluate Facebook—a lot of venture-capital decisions are still made by gut and a more intuitive approach. But I can say that the risks had been addressed. What we're trying to do with the lean start-up approach is to take some of the best practices and intuition, the tribal wisdom that entrepreneurs and VCs and managers have about innovation, and apply a little bit more rigor to it. We are trying to identify and test the key hypotheses to discover what's really true about the business.

Eric Ries, entrepreneur and author of *The Lean Startup* advises corporations on what they can learn about innovation from start-ups. (Photo: Nick Wilson)

JE: One of the vehicles for testing that you talk a lot about is the minimum viable product. Can you say more about that?

ER: Once you grant the hypothesis that a start-up is supposed to mitigate extreme uncertainties and find out what's really true in the world, then I think it stands to reason that you want to begin the process of learning as soon as possible, before you've allowed too many assumptions to pile up, one on top of the other. A very common problem—a mistake I've made many times in my career—is to build a very elaborate product over the course of many years, launch it to great fanfare, and then find out that customers don't want to try it.

Think about that: a product that people don't even want to try! We may have spent thousands of hours preparing for what might happen in the fiftieth hour of the customer's experience—in the repurchase situation, for example, or during the referral to friends. But we've missed one of the critical early hypotheses—that people find the product valuable at all, that they find the value proposition credible enough to give it a try.

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最小版本的产品必须开始实验和学习的过程

If they don't, it doesn't really matter what happens next. We've botched the very, very first thing we should have gotten right. In order to prevent that from happening, we encourage start-ups to focus on the minimum viable product: the smallest version of the product necessary to begin the process of experimentation and learning.

JE: In the world of design, people do a lot of prototyping, but I think you're talking about something different.

ER: In a lot of cases, the minimum viable product—we call it the MVP—will look very much like a design prototype, but in a lot of cases, it will look very different. With the minimum

With the minimum viable product, we want to test as much of the core business hypothesis as possible.

用最小的可行产品, 我们希望尽可能多地测试核心业务假设

viable product, we want to test as much of the core business hypothesis as possible. This often means that we're going to charge customers money for the prototype; it's not just about building a mock-up and seeing whether people say that they want it. If our business model depends on people paying us money for something, we need to create as close a facsimile of that purchasing experience as we can, and we need to make sure that they will actually pay us money for it.

But that's not the end of the process. A lot of design consultancies do a lot of prototyping and mock-ups and "learning" in order to discover the thing that customers want. And then they produce a 2,000-page specification document, which is handed off to engineering to build. Once you lock the specification document, there are no more opportunities for learning. If you've made any mistakes or, God forbid, the market changes, or the designers didn't have a realistic understanding of what was actually possible for the engineers to build, then the specification document can become worthless.

So the MVP is the beginning of an iterative process of learning. It's just the first experiment that we're going to run. Every good MVP is designed to be followed immediately by the next iteration. A very common technique we use is called a "smoke test"; we build a mockup of what we think the product will look like and invite customers to purchase it even before it's actually available. Of course, we don't lie about it; this is a preorder. Customers who really want to be the first to get something may be happy to commit to it ahead of time.

The very next experiment you might want to do if anyone does buy your MVP is to make sure that you understand who those buyers are. What's their use case for the product? Where is it going to be used? In the case of a digital product, what kind of computer do the customers have? What level of technical sophistication do they have? All of these questions are important in the development of the product.

If we've done the first MVP properly and had those first customer contacts, we already have a built-in audience to do the next MVP—to do our surveys, or whatever other kind of questions or inquiry we want to do. We use an iterative process of getting closer and closer to an actual operating product.

JE: That's a very helpful description. Another concept I want to discuss with you is innovation accounting. How do you use innovation accounting to make sure you're moving toward your goal?

ER: I really appreciate your asking about that because this may be the least popular concept in the lean start-up approach. It's something no one ever wants to talk about. And why? Because it's accounting, and it's boring. It's the most boring concept ever, but it's a necessary concept for innovation to work properly.

When I was taught accounting, I didn't really think of it as anything more than just keeping track of where the money went. I didn't think it was an important corporate function at all. But when I started to try to formalize the lean start-up ideas into a system that could be used in a lot of different industries, I learned what accounting was initially designed for, and it helped me to understand why the companies I was talking to were failing to innovate.

In brief, accounting was designed to drive accountability for managers. This idea is so ingrained in our modern management culture, that it's obvious to people. Sometimes people don't understand what I'm talking about with innovation accounting, and I have to back up and say, "Listen, we take it for granted that if you beat the numbers, if you beat the forecast, your stock price will go up. Otherwise, it will go down. If you make a plan and commit to your CFO that you're going to deliver a certain amount of revenue this year, and then you do, you get a promotion; otherwise, you don't." That's accountability.

We treat this implementation of accounting as if it is a law of nature, an axiom. But is it always a virtue to beat the forecast? It's only a virtue if the forecast was accurate to begin with. If the forecast was nonsense, beating it is a meaningless statistic. In fact, it could be very harmful to try and beat a forecast that's impossible to achieve. And in a start-up situation, there are no accurate forecasts because it is impossible to forecast demand for a product that does not exist. We get fooled into thinking we can create a decent forecast because a lot of products that companies call new are not new at all; they're just incremental improvements to the previous thing. In those cases, forecasting demand is relatively straightforward, as long as nobody disrupts you. But for anything really new, forecasting is impossible.

Which brings us back to accounting. If we want to hold people accountable for doing a good job, but we don't have a forecast, how do we know who's doing a good job? Comparing actual sales to forecasts won't help; an innovation team often misses its forecast by a huge percentage—they set out to make a million dollars in revenue, and they come back with $100. By the standards of regular accounting and general management, they should be fired.

But successful start-ups often learn the most when they build their minimum viable product, sell it to a few customers, realize that they really screwed up pretty badly, and are ready to pivot to the next concept. From the point of view of general accounting, that person will look exactly the same as someone who accomplished nothing at all, someone who was just goofing off. Both will have a pathetically small number of customers and almost no revenue.

So what we're trying to do is to teach people a new system called "innovation accounting" that you should use specifically when you're in one of these situations where forecasting is not a reliable guide to who's doing a good job.

JE: And what do you do? My basic understanding is that you create the basic business model and then the focus is on the degree to which you are able to reduce the risk of the business.

ER: Yes, that's right. We call it "validated learning." It's not enough to say, "I learned a lot about customers; I have a great story." You have to have evidence that you learned

something of value. If you go back to our micro-scale experiment concept, the minimal viable product can be very simple. Suppose my business plan assumes that 10 percent of customers are going to buy my product. My MVP may just be a brochure. If create the brochure and I give it to 100 customers and I get back zero orders, I've learned something important.

Normally, that would be considered a failure, and you can be in trouble if you fail. But in innovation accounting, it's considered a huge success: we took a number that we had just made up, 10 percent, and we replaced it with a number that's true, 0 percent. We say, "It's better to have bad news that's true than good news that you just made up." Take the zero percent and do the next MVP. Maybe it's a zero take rate again. But maybe the third MVP comes back with a 2 percent take rate. Now, we've improved from 0 to 2 percent; that's really something. Maybe, with successive MVPs, it's improved to 4 percent, and then 6 percent, and then 8 percent. Maybe, over the course of six months, we get it from 0 percent to 8 percent.

From the point of view of the business plan, we're still not where we need to be—we need 10 percent—but we're getting there; we have a sense of progress. Now imagine you're a CFO and you're evaluating different innovation teams. Imagine a second team that has an initial MVP that's gotten a 5 percent take rate, and it's very exciting, much better than the first team. But then imagine that every time they create a new MVP, the take rate doesn't change. The first month it's 5 percent, the second month it's 5 percent, the third month, it just stays at 5 percent. After six months, has the second team actually learned anything? I say the evidence is no.

We're trying to quantify how much the teams are learning, and not just learning in the abstract. We want to quantify useful learning that can be applied to building a sustainable business.

JE: How transferable are these concepts to the Fortune 1000? How have innovation teams inside corporations used these tools?

ER: I'm very surprised that they have, to tell you the truth. I never thought this approach would be applicable in a corporate setting, and I didn't really have a lot of interest in that, personally. But I've been amazed at what corporate people have done with these ideas. I've gotten to meet a lot of really cool entrepreneurs inside companies—and they are entrepreneurs: they're just as innovative, just as creative, just as risk taking as the people I know in Silicon Valley. They just happen to get good benefits with their jobs.

JE: Are they organized as little units that have high autonomy?

ER: That's the problem. In almost every company I meet, with rare exceptions, the entrepreneurs have the same business cards and functional organization as their general manager peers. The business card says Director of Product Management for Energy Solutions or something. It doesn't say Entrepreneur. And they don't have a cross-functional team of five people representing all the five functions that will be necessary to build a business. They operate within an *ad hoc* waterfall development process where the requirements are handed from the designers to the hardware engineers, to the software engineers, to the supply chain and sourcing guys, one department at a time.

At each handoff, the department does its evaluation of how to allocate resources to the project based on ROI. For each function, this is like business school 101: I have a bunch of products I have got to get done. I'd better stack rank them by which one has the highest ROI, and then do that one first. I teach the lean start-up concepts often in MBA programs, and people are always nodding along; "Of course, ROI is the most important thing."

为什么strart-up的绩效评估要单独进行?:

But for a start-up, how do you evaluate the ROI? The R is completely unknown and the I is completely unknown. So, unfortunately, start-up projects get stack-ranked to the bottom every time, because no one knows what to do with them.

初创企业评估不了ROi, 所以很不幸刚起步的项目被排到了最后每次都是, 因为没人知道如何处理它们

This is classic innovator's dilemma stuff. The company wants to pursue innovation, but it actually can't. It's prevented from doing so by its structure. The companies that I've seen be successful with this create real start-ups inside the company. It's an organizational structure that works. We call these internal start-ups semi-autonomous teams. They are cross-functional teams with people who are dedicated full time to the start-up. They have bonus and accountability targets that are denominated in innovation accounting, not the general accounting of the main company. And they're given what I call a "sandbox for innovation": a set of rules to operate by for innovation.

I'll give you an example from one of my clients. Their innovation team was allowed to affect no more than 1 percent of the total number of customers the company had. That was the sandbox. So if the company had 100,000 customers, the internal start-up could mess with a thousand of them, but only a thousand. And within the sandbox, they could do whatever they wanted. Even if the start-up completely screwed up, they would have cost the firm at most 1 percent of its customers. That's such a small number, that the company could not only afford the hit to the bottom line, but could also afford to make it right to any customers that were adversely affected.

If there's any apologizing to be done, the internal start-up is going to do it. And if there are any customer support calls to take from the customers, guess who's going to take them? Not the regular support organization. The start-up team, personally, will take the calls. It's kind of a bargain between the start-up and the main company. It says, "If we follow the

We want to quantify useful learning that can be applied to building a sustainable business.

rules, you will give us the freedom to do whatever we need to do within those boundaries. And we will handle any issues that we create." The teams that work that way I've seen be incredibly effective.

JE: Do they have an issue when it comes to scaling the business or integrating back into the core? If the start-up is successful, you may want to leverage more than 1 percent of your customer base, or you may need real funding to build the infrastructure to make it grow. How do the semi-autonomous teams manage that?

ER: It's a huge issue. Funding is a classic conundrum. The best way to do it is to grow the sandbox—relax the rules—over time. What you're doing with a start-up is not just building a new product; you're actually piloting a whole new way of doing business, especially in companies that don't have a history of continuous innovation. It's an opportunity to grow a whole new way of working.

随着时间 逐渐扩大沙盒

I try to urge companies who are doing this to be clear from the beginning about their plans for success. If the start-up really takes off, do you want to grow a whole new division of your company around it? That's the best outcome for an internal start-up, rather than trying to integrate the start-up into an existing division. Where do new divisions come from, anyway? They're not handed down by God. They're not pre-existing internal Platonic forms.

Sometimes we create new divisions through re-orgs, but we all know how well that works. The scheme that I think is the best for companies that want to be the most *avant garde* is to say, look, our default assumption is that a new start-up is going to become a new division. If one of the existing divisions wants it to become part of its division, they have to buy it back from corporate just as they would in an M&A process.

JE: That's interesting. Suppose the start-up wants to leverage an asset of the parent corporation. How do they manage that? Do they pay for it as they go?

ER: I wouldn't go so far as to make them write checks to all those departments as if they were outsiders. That doesn't work very well as far as I can tell. But the thing that never works is for the start-up to have to go to a foreign department and ask for something as a favor. That's tough.

If you're willing to allocate resources from other functional organizations to the start-up, do so as an allocation of people rather than as some kind of generic resource allocation. That seems to work pretty well. The truth is, however, that it can be pretty difficult even if you do this. It's hard for a traditional sales team that's selling your mainstream products, for example, to take on selling this crazy new product.

对于正在销售你的主流产品的传统销售团队来说, 销售这种疯狂的新产品是很困难的

I'll give you a real world example. Intuit developed a product called SnapTax that they built via an internal start-up. It lets you do your taxes on your mobile phone. It's really cool. That product is a direct competitor to their main TurboTax product. It's obvious that a sales person who could sell TurboTax for $50.00 or SnapTax for $2.99 would want to sell the thing in a box.

Your existing organization, like your sales team, is your way of doing the old thing. You can't just tell them, "Hey, can you just tack on a little extra sales for the new thing that has the ROI problem?" Everyone's prioritizing by ROI. So what you have to do is permanently reassign one sales person full time to the start-up team and let their compensation and their performance objectives be related to the start-up objective, not to the main sales organization. If you want to scale, you just do that more and more.

JE: On a more global level, how does a CEO evaluate whether innovation's working at his company?

ER: All modern CEOs are portfolio managers, whether they know it or not. And that's weird because a lot of CEOs do not have a finance background. They didn't come in to do portfolio management; they think of themselves in terms of running a business. But once your business gets to a certain size—and I think that size is actually quite small—you already have a tension in the organization between investing in new things and servicing the old things. As soon as you say we're going to do both, you have a portfolio issue. How much do we allocate to the new versus the old?

If it were just percentage allocation, like in your 401K, it wouldn't be so bad. But unfortunately, the way you hold people accountable in the two halves of the portfolio is fundamentally different. The kind of person who thrives as a manager, the career path, everything is really different on the other side of the looking glass. So the modern CEO has to be able to hold innovators accountable in a different way than he holds the operating managers accountable.

Unfortunately, a lot of the companies that I have seen have no accountability built into their innovation functions at all. The lean start-up approach is all about driving accountability, but doing so using the metrics that matter for a start-up business.

We are still at the cutting edge with this stuff within corporations. We are just learning about the right way to make start-ups work in that context, but I'm very excited about the possibilities.

JE: Thank you for your time and your insight. I've really enjoyed learning more about how to make the lean start-up concepts work.

What you're doing with a start-up is not just building a new product; you're actually piloting a whole new way of doing business.

对于一家初创公司, 你要做的不仅仅是开发一款新产品; 你实际上是在尝试一种全新的经营方式