

THE LEAN STARTUP

How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses

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MAIN IDEA

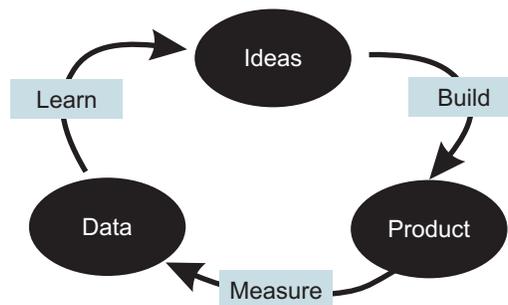
Why do so many startups fail?

The business myth says: A lone entrepreneur – beaver away in a lab or a garage somewhere – through hard work, grit and sheer perseverance develops a great product which then becomes a blockbuster hit. That sounds appealing but the reality is most startups tend to burn through their resources and then disappear because they never get around to seeing what their potential customers think of what they're developing. They worry about the product first and assume customer demand will be there automatically.

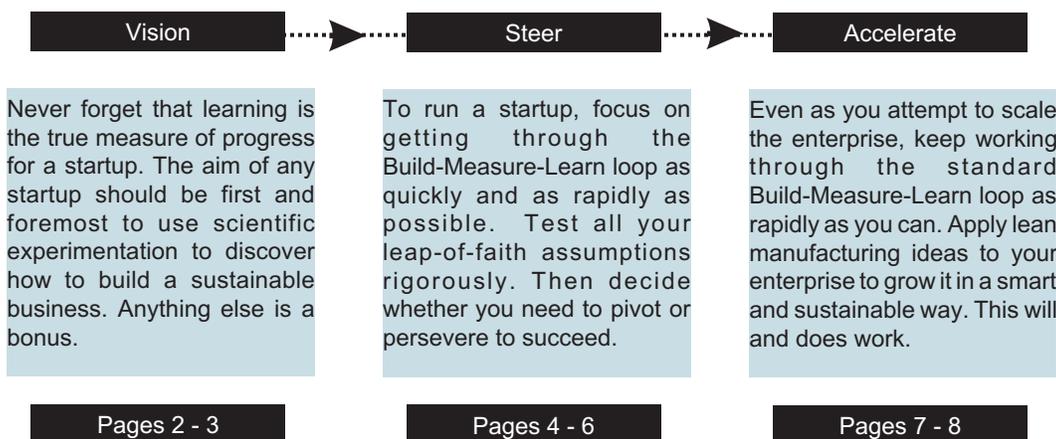
To succeed with a startup, you've got to manage it differently. Instead of developing a business plan, find ways to accelerate your learning and validate customers demand. The best way to do this is to build a prototype (with minimal features) and sell it to some early adopters. Then change the product repeatedly – daily if necessary – and keep supplying your customers with the new and improved versions. Listen to their feedback and use those ideas to make a better version and then get more feedback on that. Keep iterating until you get a fully featured product which your customers love.

In other words, go through the Build-Measure-Learn loop as often as you can. If you make validated learning the real aim of your startup, you stand a better chance of success. Focus on what customers want, utilize an extremely fast cycle time and take a scientific approach to making decisions. That's the essence of the Lean Startup approach.

The Build-Measure-Learn Loop



The Lean Startup methodology



The Lean Startup methodology – Vision

Never forget that learning is the true measure of progress for a startup. The aim of any startup should be first and foremost to use scientific experimentation to discover how to build a sustainable business. Anything else is a bonus.

The standard approach to building a startup usually goes something like this:



- Someone comes along with a vision which is often a variation of “Let’s go build a thriving business which produces a world-class product that consumers love.”
- To achieve that vision, a strategy gets developed along the lines of:
 - This is the business model we will use.
 - Here is our planned product and service lineup.
 - We’d like to work with these partners.
 - Our competitors will be these firms.
 - Our target customers will have these traits.
- The end result of that strategy is a product or service then gets made and sold in the marketplace.

Using this model, the conventional view of an entrepreneur is someone who is hard driving, not easily distracted by detours along the way and who has a “Just do it” attitude and determination. Entrepreneurs come on board and steer the startup through to where the product is in the marketplace and marketing is working its magic. Setbacks are merely learning opportunities along the way to ultimate success.

In real life, being an entrepreneur is more of an exercise in management skills than anything else. Any startup is a portfolio of activities, all happening simultaneously. At any time:

- New customers are being acquired.
- Existing customers are being supported.
- The innovation initiative is happening in the background.
- Fine-tuning of the marketing is going on.
- A decision is being made on whether to change the strategy.
- The product is still being optimized.

It’s safe to say the emphasis for most startups is on results achieved more than on anything else. Any learning which arises out of the startup is just a happy by-product of the process but it’s getting a product made and then to market that constitutes the measure of success for most startups.

Therefore it should come as no real surprise many startups end up accidentally building something nobody wants. If that happens, it really doesn’t matter whether your startup has hit its targets and come in under budget or not. Those items are just of passing interest in the bigger picture view. Job #1 for any startup should be to figure out what customers want and will pay for as quickly and cost effectively as possible.

In talking about startups, it might be useful to define the term first. A good working definition of a startup is:

A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty

A few key points to note about this definition are:

- *Startups are institutions or bureaucracies whether they like the term or not* – they develop processes (often haphazard) for hiring new creative employees, for coordinating their activities, for developing their product and for putting together everything else which will be required to get results. Successful startups are good at processes.
- *Startups focus on creating new products and services* – by making use of scientific discoveries, new technology, or perhaps repurposing an existing technology for a new use. Sometimes startups will develop new business models which unlock previously hidden value, bring products or services to a new location or to serve a different set of customers. Innovation can take many forms and startups can be formed to commercially harness any of these forms.
- *Uncertainty is a given for any startup* – which is a challenge because it means most general management tools will not work all that well. These tools are typically intended to be used within an established management structure rather than in the extreme uncertainty in which startups operate. Standard tools like forecasts, yearly budgets, product milestones and detailed business plans don’t work at all well with startups. Different tools are needed when growing a startup.

It is often assumed startups have to happen in a garage or in a skunkworks operations separate from the established business. That’s true often enough but the reality is startups can happen inside established companies as well. To illustrate, look at the example of Intuit, America’s largest producer of finance, tax and accounting tools. Intuit has more than 7,700 employees and billions of dollars of revenue. Yet for all its success, Intuit’s management team were aware Fortune 100 companies like it were more likely to make incremental changes to existing products rather than come up with radical next-generation ideas for new products and services. Intuit has worked hard to build innovation and risk taking into the way the company operates.

In 2009, a five-man team working within Intuit came up with an audacious idea – that people should be able to file their tax returns using just their mobile phone. This team came up with a way to make that happen. Customers can take a photograph of their W-2 form on their cell phone and send that image through to Intuit who then go ahead and do the rest of the paperwork and file a 1040 EZ tax return. The new product was called SnapTax.

To establish whether or not there was consumer demand, the SnapTax team did something unusual. They released an early version of SnapTax which worked only for consumers in California who were filing very straightforward tax returns. The team got all the bugs worked out that first year in a limited release setting and then the following year went nationwide. SnapTax has turned out to be a great success story for Intuit and the software has been downloaded more than 350,000 times in the first few weeks of the 2011 tax return season.

SnapTax has been a real success story for Intuit but the company refuses to rest on its laurels. Intuit runs multiple consumer tests on its flagship product TurboTax as well. During the two-and-a-half month tax season, Intuit will test about five hundred different changes. Up to seventy different split tests will run each week where changes are made on the Intuit Web site on a Thursday, the new tweaks are run over the weekend and then the results analyzed on a Monday. Other changes are then tried the following week and so on.

“Boy, the amount of learning they get is just immense now. And what it does is develop entrepreneurs, because when you have only one test, you don’t have entrepreneurs, you have politicians, because you have to sell. Out of a hundred good ideas, you’ve got to sell your idea. So you build up a society of politicians and salespeople. When you have five hundred tests you’re running, then everybody’s ideas can run. And then you create entrepreneurs who run and learn and can retest and relearn as opposed to a society of politicians. So we’re trying to drive that throughout our organization, using examples which have nothing to do with high tech, like the website example. Every business today has a website. You don’t have to be high tech to use fast-cycle testing.”

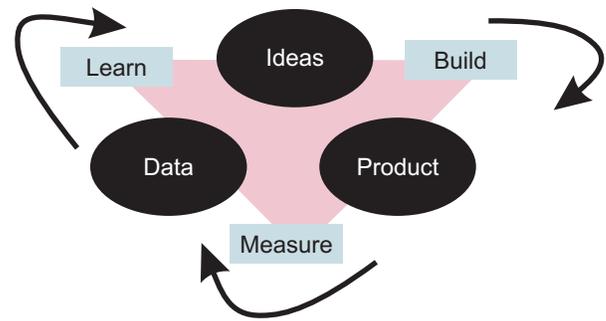
– Scott Cook, founder, Intuit

As a result of this kind of approach, Intuit has developed several new products which have generated \$50 million in revenue which didn’t even exist a year ago. It used to take about five-and-a-half years for a successful new Intuit product to reach \$50 million in sales but today’s new innovations are getting there much faster thanks to the company’s rapid learning cycle.

“It goes against the grain of what people have been taught in business and what leaders have been taught. The problem isn’t with the teams or the entrepreneurs. They love the chance to quickly get their baby out into the market. They love the chance to have the customer vote instead of the suits voting. The real issue is with the leaders and the middle managers. There are many business leaders who have been successful because of analysis. They think they’re analysts, and their job is to do great planning and analyzing and have a plan.”

– Scott Cook, founder, Intuit

The whole essence of the Lean Startup approach is you learn what customers want (and don’t want) by carrying out experiments which provide validated learning. You get early version products out to customers and see what they think and then make the changes they suggest. In this way, you have the antidote to the lethal business startup problem where you end up successfully executing a plan which leads nowhere.



The Build-Measure-Learn loop at the heart of the Lean Startup methodology also answers the other issue many startups have which is an attitude of: “Let’s just ship a product and see what happens.” Many companies have succeeded in seeing what happens but have failed to learn what customers want and will pay for. Build-Measure-Learn is all about validating your learning as you move forward. The goal of every startup should be simply to discover what will be required to succeed in building a sustainable business.

Zappos is a good example of the Lean Startup approach. Zappos is the world’s largest online shoe store with revenues exceeding \$1 billion a year. Founder Nick Swinmurn took a different approach to building Zappos than that of other high profile Internet startups like Webvan and Pets.com. Instead of building massive warehouses and infrastructure first, Swinmurn asked local shoe stores if he could take pictures of their inventory and post them online. In exchange, he promised he would come back to buy the shoes at full retail price if a customer bought them online. In this way, he was able to validate the notion consumers would in fact buy shoes online which was an important element in his business plan. By running this experiment, Zappos placed itself in a position where it could interact with customers and partners and learn from them what they wanted and what they did not. Zappos could then take those insights and use them to develop a sustainable business plan.

“After more than ten years as an entrepreneur, I have learned from both my own successes and failures and those of many others that it’s the boring stuff that matters most. Startup success is not the consequence of good genes or being in the right place at the right time. Startup success can be engineered by following the right processes, which means it can be learned, which means it can be taught. Entrepreneurship is a kind of management.”

– Eric Ries

- The Five Principles of Lean Startups**
- ▶ 1 Never forget entrepreneurs are everywhere
 - ▶ 2 Entrepreneurship is management pure and simple
 - ▶ 3 The aim of any startup is validated learning
 - ▶ 4 Successful startups accelerate the Build-Measure-Learn loop
 - ▶ 5 Innovation requires accountability metrics and measures

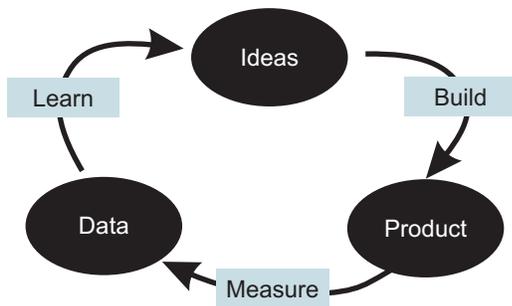
The Lean Startup methodology – Steer

To run a startup, focus on getting through the Build-Measure-Learn loop as quickly and as rapidly as possible. Test all your leap-of-faith assumptions rigorously. Then decide whether you need to pivot or persevere to succeed.

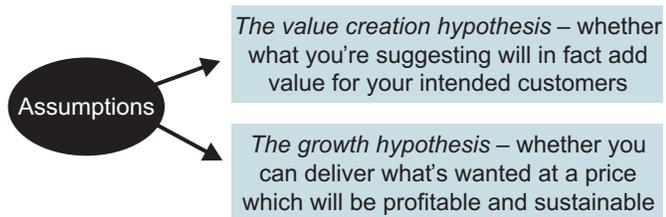
A startup is a catalyst which transforms ideas into products, and then generates data and feedback as customers interact with those products to generate learning. Or put another way, a good startup will generate the answers to four key questions:

1. Do consumers recognize they have the problem which we are trying to solve for them?
2. If there is a solution available, do they feel enough pain to actually buy it?
3. Would they buy a solution from us?
4. Can we build and then continue to deliver that solution profitably and therefore sustainably?

The way to answer those questions systematically is by applying the Build-Measure-Learn loop:



To apply the scientific method to a startup, you first have to figure out what hypotheses you need to test. For most startups, the two most critical assumptions are:



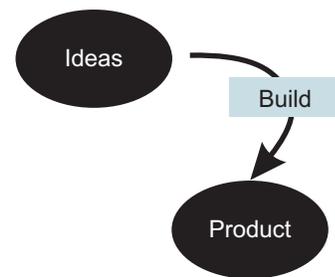
These assumptions can be termed “leap-of-faith” assumptions because any startup’s viability hinges on them. If you can get these leap-of-faith assumptions right, everything else will come together. If you can optimize these two assumptions and fine-tune them correctly, they become the engine for growth of the enterprise in the future. Therefore, each iteration of the Build-Measure-Learn loop should be aimed at fine-tuning and improving these leap-of-faith assumptions.

Toyota’s famed lean manufacturing system uses the Japanese term *genchi genbutsu* to describe how these leap-of-faith assumptions can be tested. The English translation is to “go and see for yourself.” Usually, the best way to test your underlying assumptions is to get out and interact with some real-world

people and see whether or not they struggle with the problem you’re proposing to solve. To illustrate this idea in practice:

- A Japanese Toyota manager Yuji Yokoya was assigned responsibility for revamping the Sienna minivan for 2004. To figure out what improvements he should make, Yokoya went on a 53,000 mile road trip to all fifty U.S. states and all thirteen provinces and territories in Canada. In every city, he rented a current-model Sienna and spoke with real customers firsthand. He learned that kids rule minivans and came back with ideas on how to make the Sienna much more kid friendly. The 2004 Sienna was a huge hit with sales figures 60 percent higher than those of the 2003 model.
- When Steve Cook first envisaged the idea of Intuit in 1982, he made the leap-of-faith assumption people would someday be willing to pay bills and keep track of expenses using their personal computers. To test that assumption, he picked up a phonebook for Palo Alto, California where he lived and one for Winnetka, Illinois. Cook then started calling people at random and asking them a few questions about how they managed their finances. It was only after he became convinced people found paying their bills by hand to be frustrating that he started working on a solution.

When it comes to testing these leap-of-faith assumptions, two problems frequently crop up. Many times, entrepreneurs are impatient to get started and would prefer to just do it. They might have a few cursory chats with some customers but then they’d rather get busy than spend more time talking about what to do. At the other end of the spectrum is the second potential problem – analysis paralysis. Other entrepreneurs spend so much time refining their plans they never get around to doing something. Both these errors can be avoided through using the Build-Measure-Learn loop.



To start the loop going as soon as possible and to begin learning what customers want, you need to build a minimum viable product (MVP) and get that in front of customers for their feedback. This is the opposite to the traditional product development process where you work on your product until it is perfect before you start shipping. Lean Startup thinking suggests you should get a bare bones MVP out into the hands of future customers as soon as possible and see what they think of what you’re working on.

“Minimum viable products range in complexity from extremely simple smoke tests (little more than an advertisement) to actual early prototypes complete with problems and missing features. Deciding exactly how complex an MVP needs to be cannot be done formulaically. It requires judgment. Luckily, this judgment is not difficult to develop: most entrepreneurs and product development people dramatically overestimate how many features are needed in an MVP. When in doubt, simplify.”

– Eric Ries

To actually build a product and see how customers react to it is really quite counterintuitive. Most people assume at first this would lead to a lot of waste, but the reality is if you end up building something nobody wants, a lot more time and resources will ultimately be wasted. By getting an early prototype product with minimal features into the hands of your customers, learning starts and speculation about what they're thinking ends.

Obviously, your first product won't be perfect. It will be much more like a learning experiment and much less like the polished product you have in mind but getting a minimum viable product in front of customers and gauging their reaction is invaluable. There are several ways you can do this:

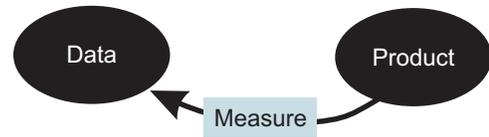
- If you have a complex product and it's hard for people to visualize what the finished thing will look like, you might consider making a video which you can then share. The video can describe what your end product will do.
- Another approach is to give any early adopters the concierge treatment – each week have the CEO of the company and the vice president of development personally visit that customer and solicit their feedback. Once you solve that person's problems, you then invest in automating that solution and scaling it up to the broader customer base.
- You might manually have people working behind the scenes performing the functions you will build into your product when it is finished and on the market.
- You can develop mockups, simulations and prototypes.

Admittedly, getting an early prototype product out into the marketplace will conflict with your aspirations to build a high-quality, world-class product. That's true, but don't forget until you really know what customers want and will value enough to pay for, you don't yet know what quality is. A low-quality product can act in the service of the great high-quality product of the future by providing solid evidence about what customers want and will value. Prototypes lay a solid foundation for the future because they put your assumptions to the test.

"The Lean Startup method is not opposed to building high-quality products, but only in the service of winning over customers. We must be willing to set aside our traditional professional standards to start the process of validated learning as soon as possible."
 – Eric Ries

The most common reasons people are reluctant to get an early prototype out into the marketplace are:

- **Legal issues** – you may not be able to file for a patent once the product reaches the marketplace. Seek legal advice.
- **Fears about alerting the competition** – which are possibly valid. Keep in mind, however, if you can't outperform a competitor over the long haul, your startup is doomed anyway. If you learn quickly what customers want, it doesn't matter what the competition knows.
- **Branding risks** – a prototype product may damage a well-known brand. You can always launch a prototype product under a different brand name and then re-brand it and relaunch it with fanfare once it's finished.
- **Impact on morale** – you may worry that having an early version product out there will make your people lose their confidence. While that's a concern, a healthy dose of reality is not a bad thing to have either. It can punch through any reality distortion fields your team have inadvertently put in place. Remind them your prototype is only the first iteration, not the polished version of your product.



Once you get a minimum viable product out there in the marketplace, you then need a way to systematically figure out whether or not you're making progress with successive iterations. Standard accounting won't work here because startups are too unpredictable for forecasts and milestones to be accurate. Instead, you need innovation accounting.

Innovation accounting involves three steps:

- 1 ... You use a minimum viable product to establish a baseline on where you now are
- 2 ... You attempt to fine-tune so you move towards your ideal outcome
- 3 ... You make the judgment call whether you should persevere or pivot in a new direction

The good thing about innovation accounting is it aligns with the three learning milestones every startup needs to know:

1. *Are our business plan assumptions correct?*
 To establish a baseline, some companies have a single prototype, others have multiple prototypes which gets compared while a third approach is to perform a smoke test – have customers order from a brochure and only build if there are enough pre-orders. All of these approaches work because they allow business plan assumptions to be validated.
2. *What will be our key drivers of growth?*
 Once you have that baseline, you can then test how changes will affect growth by running experiments. You can learn what you need to do to grow the business.
3. *Is our business model sustainable?*
 If your real-world baseline is near break-even, you will be able to tell you'll get there with a little more fine-tuning and improvement. If your real-world results are far below expectations, that's a good sign you should pivot and try something different.

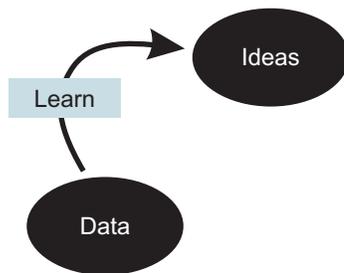
These learning milestones are important because they prevent the possibility that you end up executing a nice sounding business plan that doesn't make sense. Innovation accounting will signal loud and clear when your company is stuck and needs to change direction. Either you can build a sustainable business around what you're doing or you should go do something else instead. The rigorous use of innovation accounting avoids the situation where everyone suggests they will be alright if "marketing works a bit harder" or if the "engineering team get their act together." Innovation accounting will signal loud and clear when tweaks are needed and when a fundamental change of direction is required.

In business, it's easy to get distracted by "vanity metrics" – measures which bear little or no relation to what you're trying to achieve. A vanity metric might be something like total registered users. Steady growth in that number may look nice on a chart but from a sustainable business model perspective, total registered

users is far less important than the total number of profitable customers. If you focus on a vanity metric number, you may think great progress is being made but in reality you're not getting nearer your sustainability hurdle.

When it comes to running a successful startup, you need to focus on metrics which are:

- A **Actionable** – that is, which demonstrate a clear cause-and-effect. Without this, all you are left with is a vanity metric.
- A **Accessible** – which are so simple everyone understands them and can use them to make decisions in the future.
- A **Auditable** – which have been gathered in a systematic way so people don't try and shoot the messenger when bad results are delivered. You need transparent data gathering systems.



“Every entrepreneur eventually faces an overriding challenge in developing a successful product: deciding when to pivot and when to persevere. Startup productivity is not about cranking out more widgets or features. It is about aligning our efforts with a business and product that are working to create value and drive growth. In other words, successful pivots put us on a path toward growing a sustainable business.”

– Eric Ries

Entrepreneurs throughout history have made a habit of betting the farm on their vision. The classic Hollywood perception of an entrepreneur is he forges ahead when everyone else says the effort is fruitless and ultimately gets vindicated when the company or product becomes a huge blockbuster success. The reality is loads of companies get stuck in a “land of the living dead” where they are making enough to stay alive but not enough to be genuinely successful. These companies hang in there because they feel success is just around the corner if they can tweak their marketing or their product.

The Lean Startup methodology makes the persevere-or-pivot decision more obvious – and therefore more likely to be made. It does this by suggesting you should get multiple versions of a minimal viable product or prototypes out into the marketplace and then compare results. By returning to your leap-of-faith assumptions and seeing how they play out in the real world of customers, you then position your enterprise to make smart decisions on the basis of solid innovation metrics.

Put a different way, as you get different versions of a prototype product into the marketplace and gather empirical data, you can learn definitively what customers value enough to pay for. Comparing the results achieved by one version of the prototype product with those generated by a different version will signal whether or not your assumptions are correct. If they are, you keep improving what you're doing to deliver more value. If the data shows your assumptions are in fact incorrect, then you want to be heading off in a different direction or pivoting as soon as possible.

Business plan pivots come in at least ten different flavors:

1. **Zoom-in pivot** – you can take what was previously just a single feature and expand that so it in fact becomes the entire product you offer.
2. **Zoom-out pivot** – you can take what was previously thought to be an entire product and make it just one feature of a much larger product.
3. **Customer segment pivot** – you can start building a solution for a different customer than was originally envisaged.
4. **Customer need pivot** – you can discover other problems to solve for your existing customers which are more important than the problem you first targeted.
5. **Platform pivot** – you can change what you're developing and selling from being an application to where it is an entire platform others can use or vice versa.
6. **Business architecture pivot** – you can change from being low-volume/high margin to mass market or vice versa
7. **Value capture pivot** – you can change the way you attempt to monetize your products or the revenue model you use.
8. **Engine of growth pivot** – you can change from using a paid growth model to a viral growth model or to a sticky growth model.
9. **Channel pivot** – you can deliver your product or solution to customers through a different sales or distribution channel.
10. **Technology pivot** – you can seek to achieve the same solution by using some completely different technology which offers superior price and/or performance.

Pivots are a fact of life for every business, not just startups. From a Lean Startup perspective, a pivot can arise whenever you have a new strategic hypothesis you test with a minimum viable product. Unless a company pivots on an ongoing basis, it will become out of sync with the ever-changing marketplace. Having said that, however, the ability to pivot is no substitute for sound strategic thinking and planning which should also be going on in the background as well.

Today's managers are deluged with books and consultants who exhort them to adapt, change, reinvent and otherwise upend their business all the time. Managers have to sort through these suggestions and match those theories to their present realities and apply what makes sense while rejecting what does not. The good thing about the Lean Startup methodology as a whole is whenever an enterprise pivots, it will have a new hypothesis which can be tested immediately. The Lean Startup approach provides tools which will readily signal when a wrong turn has been taken.

“The decision to pivot is so difficult that many companies fail to make it. The decision to pivot requires a clear-eyed and objective mind-set. The telltale signs of the need to pivot are the decreasing effectiveness of product experiments and the general feeling that product development should be more productive. Whenever you see those symptoms, consider a pivot.”

– Eric Ries

“Seasoned entrepreneurs often speak of the runway that their startup has left: the amount of time remaining in which a startup must either achieve lift-off or fail. The true measure of runway is how many pivots a startup has left: the number of opportunities it has to make a fundamental change to its business strategy.”

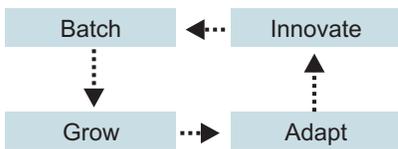
– Eric Ries

The Lean Startup methodology – Accelerate

Even as you attempt to scale the enterprise, keep working through the standard Build-Measure-Learn loop as rapidly as you can. Apply lean manufacturing ideas to your enterprise to grow it in a smart and sustainable way. This will and does work.

In theory, the Lean Startup methodology looks slow, clinical and simple. In the real world, almost all of the decisions startups face are not clear-cut and circumstances change rapidly. Startups frequently run through the Build-Measure-Learn loop quickly and then make decisions on the fly.

So how does that all come together? The Lean Startup methodology works best if you:



Taking each of these phases in turn:

Batch

The Lean Startup methodology clearly works best when applied to small rather than large batches. This is because you're undertaking validated learning experiments rather than trying to optimize what's going on. If any hypothesis turns out to be wrong, you don't want that mistake to be so expensive it is fatal for your organization.

The Lean Startup approach is not about trying to produce stuff more efficiently than someone else. Remember, you're trying to learn how to build a sustainable business. If it turns out the customer does not in fact want what you're starting to make, it's far better to figure that out now rather than down the road when you've sunk millions into warehousing finished products.

The smaller your batch size is, the faster you can get through the Build-Measure-Learn feedback loop. If you can get through that loop faster than your competitors can, then it stands to reason you will learn more than them. With today's rapid prototyping tools, it's feasible and desirable to get prototypes in front of potential customers very quickly to see what they say.

Small batches allow you to form a hypothesis about what customers want and then test your Idea in a low-volume experimental setting as quickly as possible. You can figure out what you need to know, put together an experiment that will provide that learning and then move on. Small batches are inexpensive plus they allow you to discover the truth much faster.

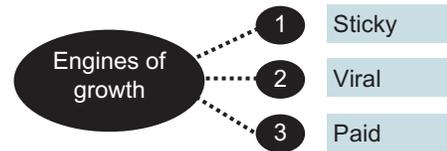
"It is insufficient to exhort workers to try harder. Our current problems are caused by trying too hard – at the wrong things. By focusing on operational efficiency, we lose sight of the real goal of innovation: to learn that which is currently unknown. The Lean Startup movement stands for the principle that the scientific method can be brought to bear to answer the most pressing innovation question: How can we build a sustainable organization around a new set of products or services?"

– Eric Ries

Grow

To stay in business over the long haul, startups have to figure out ways to both keep their existing customers and bring in new customers year after year. In other words, startups need to develop what can be termed "engines of growth." The better and more powerful those engines of growth are, the faster the startup will grow.

The three engines of growth are:



1. *Sticky engine of growth* – where a customer is expected to be around for a long time because of high switching costs or their desire to buy the latest items. If you're building a business which intends to be sticky, you have to watch your customer churn rate (where they switch to an alternative product) carefully. If you're building a sticky engine of growth, then you should be focusing on making your product progressively more engaging over time. Run experiments around what you can and should be doing to make your product more attractive to your existing customer base.
2. *Viral engine of growth* – where awareness of your product is driven by word of mouth or as a side effect of normal product usage. Hotmail is one of the most famous examples of the viral growth engine. The company was struggling to gain new customers until it started adding a message to the bottom of each piece of e-mail Hotmail handled which stated: "P.S. Get your free e-mail at Hotmail" along with a clickable link. Within six months of adding this signature line link, Hotmail signed up more than a million new customers. Eighteen months later, Hotmail had 12 million subscribers and the company was sold to Microsoft for \$400 million. If you're building a viral growth engine, you need to show your feedback loop is working and run experiments around how you can make that loop happen more consistently.
3. *Paid engine of growth* – where you generate new customers through paid advertising or by opening new stores in different locations. When you're paying for growth, you increase that growth either by increasing the revenue from each customer or by lowering your customer acquisition costs. The key dynamic you've got to test with the paid growth engine is lifetime value of the customer vs. the cost of customer acquisition.

Most startups have found the best approach is to focus on just one growth engine at a time. There's frequently just one growth engine which will be a good fit for an enterprise and for a product. And just to make this selection process even more interesting, all engines of growth eventually and naturally run out of gas. They run their course and then growth slows or stops. This is why smart companies have a portfolio of startup teams working in the background to keep developing the next generation of sources of growth. Those teams should be putting a number of minimally viable products into the marketplace and figuring out how to make them work. Even established companies should be using the Lean Startup methodology on an ongoing basis.

Adapt

While it's true a startup is usually in a life-or-death struggle to build a sustainable business before running out of resources, there's also the need to build in some speed regulators which help people do their best work as well. Without this, it won't be possible for your people to do high quality work as they will be constantly obsessing over getting new stuff out the door. You have to achieve both scale and quality to succeed.

To figure out if you're going so fast that you're in danger of causing more problems than you're solving:

1. Whenever you're confronted by a problem, stop and ask why at least five times. Repeating "why" five times will help you get to the root of a problem rather than just describing what is only a symptom.
2. Plan on making a proportional investment in a solution – meaning you make a small investment if the problem is minor and a large investment only if the problem is painful.
3. Link your company's rate of progress to your learning and not just to your execution. Be prepared to respond to problems as they appear without overinvesting or over-engineering your response.
4. Have the mindset that while you're going to be tolerant of first-time mistakes, you will never allow the same mistake to be made twice. Make sensible investments in prevention.
5. Be careful not to replace the five "whys" with the five "blames" – where you point the finger at everyone else all the time when things go wrong. That's not helpful and it's not at all productive. If everyone's trying to blame someone else for the problem, get everyone who is affected in the same room and hash the issue out. Focus on the systemic changes which are needed rather than the personalities involved.
6. Consider appointing a change master – someone senior enough to run these get togethers where problems are hashed out and solutions are developed. This change master needs to assign tasks and then follow up on what was done. He or she assumes ownership of the problem and measures whether the investments which have been made to address that problem are paying off.

"As Lean Startups grow, they can use adaptive techniques to develop more complex processes without giving up their core advantage: speed through the Build-Measure-Learn feedback loop. In fact, one of the primary benefits of using techniques that are derived from lean manufacturing is that Lean Startups, when they grow up, are well positioned to develop operational excellence based on lean principles. They already know how to operate with discipline, develop processes that are tailor-made to their situation, and use lean techniques. As a successful startup makes the transition to an established company, it will be well poised to develop the kind of culture of disciplined execution that characterizes the world's best firms, such as Toyota."

– Eric Ries

"Science is one of humanity's most creative pursuits. I believe that applying science to entrepreneurship will unlock a vast storehouse of human potential."

– Eric Ries

Innovate

Today's most successful companies face competitors, fast followers and scrappy startups all aspiring to steal market share. Therefore, great companies innovate and seek operational excellence at the same time. Doing both simultaneously is a challenge and one good way to achieve that is to borrow an idea from venture capitalists and use what can be termed "portfolio thinking."

Portfolio thinking means lots of different innovation experiments are underway all the time. To make this work

1. The innovation teams need to have a secure level of resource funding which cannot be diverted elsewhere.
2. Innovation teams need complete autonomy to develop and test their own hypotheses without requiring excessive management approvals.
3. In-house entrepreneurs need a personal stake in the outcome in terms of stock options or bonuses tied to the long-term performance of the innovation.

The Lean Startup methodology is the ideal way to create a good platform for experimentation. What you can do is create an "innovation sandbox" where in-house entrepreneurs can develop their ideas in the open rather than being sent off to a distant skunkworks or other remote location.

How would an innovation sandbox work? A cross-functional team can be formed to develop some innovation. That team is then permitted to:

1. Create and run true split-test experiments which compare how customers respond to the innovation as opposed to how they respond to the current offering.
2. The experiment will run for a specified amount of time or only for specified customer segments or territories.
3. The split-test experiment will then be evaluated on the basis of between five and ten actionable metrics. The same metrics are used for all innovation projects so there is consistency of measurement.
4. While the split-test is underway, the team must also be monitoring customer reaction and the underlying metrics. If something catastrophic happens, the experiment can be ended immediately and the status quo restored.
5. The same team must see the split-test through from beginning to end rather than being changed in midstream.

By using Lean Startup ideas and systems in this way, even large corporations can have a sustainable culture of innovation. An innovation sandbox approach like this would allow rapid iteration to be ongoing. Verdicts would be delivered quickly and feedback accrued. The management could have a number of these project teams testing new tweaks and enhancements as well as radical breakthrough ideas at all times. By using small batches to validate what's going on, a robust culture of innovative thinking would result.

"The Lean Startup movement seeks to ensure that those of us who long to build the next big thing will have the tools we need to change the world."

– Eric Ries