THE LEAN STARTUP BY ERIC RIES | BOOK SUMMARY

The Lean Startup defines a scientific methodology for running startups and launching new products. This new approach has been adopted around the world within startups and established organisations. Regardless of your role or company size, this is a must read for entrepreneurs, marketers, developers and business leaders.

This book is organised into three key parts. In 'Vision' the book defines what an entrepreneur and startup actually are and articulates a new way for startups to measure their progress called 'validated learning'. 'Steer' dives into the methodology of the build-measure-learn feedback loop. And in 'Accelerate' the book explores techniques to speed up the 'Steer' process and growth methods.

KEY PRINCIPLES OF THE LEAN STARTUP

- Entrepreneurs are everywhere. Regardless of industry, company size or your role, entrepreneurs are everywhere. You don't necessarily have to be the founder to apply entrepreneurship.
- Entrepreneurship is management. A startup is an institution that needs to be managed.
- Validated learning. Startups exist, not just to make a product and make money, but to learn how to create a sustainable business. This is done using frequent experiments and testing to reach a vision.
- Build-measuer-learn. The fundamental activity of a startup is to turn ideas into products, measure how customers respond and then learn whether to pivot or persevere.
- Innovation accounting. Startups need to focus on measuring progress towards goals and prioritise work. This requires a new kind of accounting designed for startups.

PART ONE: VISION

Start
- The Lean Startup takes its name from lean manufacturing and adapts the ideas of just-in-time inventory management, small batch sizes and accelerated cycle times to the context of entrepreneurship and startups.

- Vision is defined, the strategy is the means to get there (changed by a pivot or persevere) and the product defines the strategy (and is constantly optimised).
- The Lean Startup model is designed to teach you how to drive a startup. Instead of making complex plans that are based on a lot of assumptions, you can make constant adjustment with a steering wheel called the build-measure-learn feedback loop.
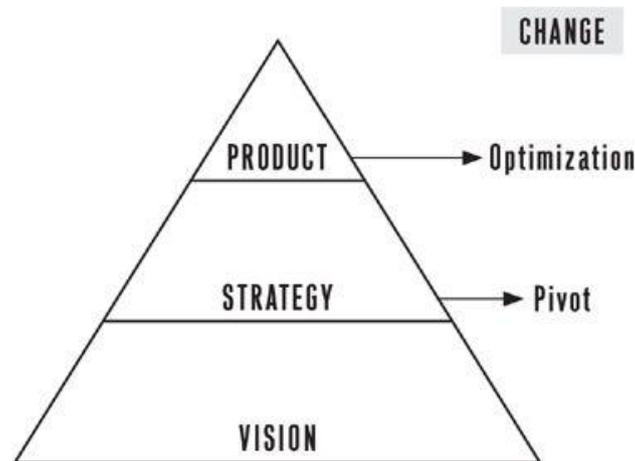
Define
- Entrepreneurs are everywhere. They're in large established organisations as well as small startups.
- A startup is a human institution designed to create a new product or service under conditions of extreme uncertainty.
- This definition has nothing to do with the size of the company or the industry you're operating in.

Learn
- If the fundamental goal of entrepreneurship is to engage in organisation building under conditions of extreme uncertainty, its most vital function is learning. We must learn the truth about which elements of our strategy are working to realise our vision and which are just crazy.
- Validated learning is the process of demonstrating empirically that a team has discovered valuable truths about a startup's present and future business prospects.
- In other words, which of our efforts are value-creating and which are wasteful? This question is at the heart of the lean manufacturing revolution; it is the first question any lean manufacturing adherent is trained to ask.

Experiment

- The Lean Startup method reconceives a startup's efforts as experiments that test its strategy to see what works. A true experiment follows the scientific method. It begins with a clear hypothesis that makes predictions about what is supposed to happen. It then tests those predictions empirically.
- The value hypothesis tests whether a product or service really delivers value to customers once they are using it.
- The growth hypothesis tests how new customers will discover a product or service.
- You then need to set up real tests. Not just survey people, as they often don't know what they want. This means iterating your product or service and testing key metrics to determine if your hypothesis is true or false.

PART TWO: STEER

As we saw in Part One, the products a startup builds are really experiments; the learning about how to build a sustainable business is the outcome of those experiments. For startups, that information is much more important than dollars, awards, or mentions in the press, because it can influence and reshape the next set of ideas.

BUILD-MEASURE-LEARN FEEDBACK LOOP

IDEAS

BUILD

LEARN

PRODUCT

DATA
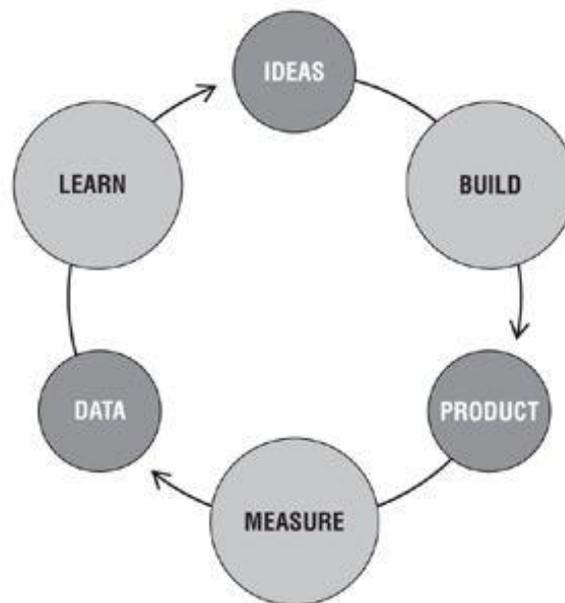
MEASURE

Minimize *TOTAL* time through the loop

This Build-Measure-Learn feedback loop is at the core of the Lean Startup model. In Part Two, we will examine it in great detail.

Leap
- I call the riskiest elements of a startup's plan, the parts on which everything depends, leap-of-faith assumptions. The two most important assumptions are the value hypothesis and the growth hypothesis. These give rise to tuning variables that control a startup's engine of growth. Each iteration of a startup is an attempt to rev this engine to see if it will turn. Once it is running, the process repeats, shifting into higher and higher gears.
- The value hypothesis: The first step in understanding a new product or service is to figure out if it is fundamentally value-creating or value-destroying.
- The Growth Hypothesis: A similar thing is true for growth. As with value, it's essential that entrepreneurs understand the reasons behind a startup's growth.

Test
- Once clear on these leap-of-faith assumptions, the first step is to enter the Build phase as quickly as possible with a minimum viable product (MVP). The MVP is that version of the product that enables a full turn of the Build-Measure
- Learn loop with a minimum amount of effort and the least amount of development time. The minimum viable product lacks many features that may prove essential later on. A minimum viable product (MVP) helps entrepreneurs start the process of learning as quickly as possible.3 It is not necessarily the smallest product imaginable, though; it is simply the fastest way to get through the Build-Measure-Learn feedback loop with the minimum amount of effort.
- Dropbox used a video to demonstrate the value of their service and show people how they have a problem they didn't know they had.
- Food on the Table (delivers groceries to you door based on what you like to eat and cook as well as finding the best bargains in your area) used a concierge MVP. By starting with one customer and a chef manually collecting the ingredients, they were able to test the fundamental value of their hypothesis.
- Even a "low-quality" MVP can act in service of building a great high-quality product. Yes, MVPs sometimes are perceived as low-quality by customers. If so, we should use this as an opportunity to learn what attributes customers care about.

Measure
- A startup's job is to (1) rigorously measure where it is right now, confronting the hard truths that assessment reveals, and then (2) devise experiments to learn how to move the real numbers closer to the ideal reflected in the business plan.
- "I asked the team a simple question that I make a habit of asking startups

whenever we meet: are you making your product better? They always say yes. Then I ask: how do you know? I invariably get this answer: well, we are in engineering and we made a number of changes last month, and our customers seem to like them, and our overall numbers are higher this month. We must be on the right track. This is the kind of storytelling that takes place at most startup board meetings. Most milestones are built the same way: hit a certain product milestone, maybe talk to a few customers, and see if the numbers go up. Unfortunately, this is not a good indicator of whether a startup is making progress. How do we know that the changes we've made are related to the results we're seeing? More important, how do we know that we are drawing the right lessons from those changes?"

- To answer these kinds of questions, startups have a strong need for a new kind of accounting geared specifically to disruptive innovation. That's what innovation accounting is.
- How innovation accounting works: 1) Establish the baseline. Where are you now, and how are you currently performing? 2) Tune the engine. Initiate your experiment to test your value or growth hypothesis. e.g. a company might spend time improving the design of its product to make it easier for new customers to use. This presupposes that the activation rate of new customers is a driver of growth and that its baseline is lower than the company would like. 3) Pivot or persevere. Based on the data, you can persevere with the product/features/process you now know to be correct, or pivot and test your next assumption.
- Instead of looking at cumulative totals or gross numbers such as total revenue and total number of customers, one looks at the performance of each group of customers that comes into contact with the product independently (cohort analysis). e.g. new customer signups by month.
- Measure actionable metrics. For this they need to be 1) Actionable: they display cause and affect 2) Accessible: can be understood by everyone. Each cohort analysis says: among the people who used our product in this period, here's how many of them exhibited each of the behaviors we care about 3) Auditable: We must ensure that the data is credible to employees.

Pivot (or Persevere)
- Everything that has been discussed so far is a prelude to a seemingly simple question: are we making sufficient progress to believe that our original strategic hypothesis is correct, or do we need to make a major change? That change is called a pivot: a structured course correction designed to test a new fundamental hypothesis about the product, strategy, and engine of growth.
- A startups runway is the number of pivots it can still make. 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. Measuring runway through the lens of pivots rather than that of time suggests another way to extend that runway: get to each pivot faster.

- Conduct regular 'pivot or persevere' meetings.
- A pivot is not just an exhortation to change. Remember, it is a special kind of structured change designed to test a new fundamental hypothesis about the product, business model, and engine of growth.
- Zoom-in pivot – In this case, what previously was considered a single feature in a product becomes the whole product. This is the type of pivot Votizen made when it pivoted away from a full social network and toward a simple voter contact product.
- Zoom-out pivot – In the reverse situation, sometimes a single feature is insufficient to support a whole product. In this type of pivot, what was considered the whole product becomes a single feature of a much.larger product.
- Customer segment pivot – In this pivot, the company realises that the product it is building solves a real problem for real customers but that they are not the type of customers it originally planned to serve. In other words, the product hypothesis is partially confirmed, solving the right problem, but for a different customer than originally anticipated.
- Customer need pivot – As a result of getting to know customers extremely well, it sometimes becomes clear that the problem we're trying to solve for them is not very important. However, because of this customer intimacy, we often discover other related problems that are important and can be solved by our team. In many cases, these related problems may require little more than repositioning the existing product. In other cases, it may require a completely new product. Again, this a case where the product hypothesis is partially confirmed; the target customer has a problem worth solving, just not the one that was originally anticipated.
- Platform pivot – A platform pivot refers to a change from an application to a platform or vice versa. Most commonly, startups that aspire to create a new platform begin life by selling a single application, the so-called killer app, for their platform. Only later does the platform emerge as a vehicle for third parties to leverage as a way to create their own related products. However, this order is not always set in stone, and some companies have to execute this pivot multiple times.
- Business architecture pivot – This pivot borrows a concept from Geoffrey Moore, who observed that companies generally follow one of two major business architectures: high margin, low volume (complex systems model) or low margin, high volume (volume operations model).6 The former commonly is associated with business to business (B2B) or enterprise sales cycles, and the latter with

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consumer products (there are notable exceptions). In a business architecture pivot, a startup switches architectures. Some companies change from high margin, low volume by going mass market (e.g., Google's search "appliance"); others originally designed for the mass market, turned out to require long and expensive sales cycles.

- Value capture pivot – There are many ways to capture the value a company creates. These methods are referred to commonly as monetisation or revenue models. These terms are much too limiting. Implicit in the idea of monetisation is that it is a separate "feature" of a product that can be added or removed at will. In reality, capturing value is an intrinsic part of the product hypothesis. Often, changes to the way a company captures value can have far-reaching consequences for the rest of the business, product, and marketing strategies.
- Engine of growth pivot – As we'll see in Chapter 10, there are three primary engines of growth that power startups: the viral, sticky, and paid growth models. In this type of pivot, a company changes its growth strategy to seek faster or more profitable growth. Commonly but not always, the engine of growth also requires a change in the way value is captured.
- Channel pivot – In traditional sales terminology, the mechanism by which a company delivers its product to customers is called the sales channel or distribution channel. For example, consumer packaged goods are sold in a grocery store, cars are sold in dealerships, and much enterprise software is sold (with extensive customisation) by consulting and professional services firms. Often, the requirements of the channel determine the price, features, and competitive landscape of a product. A channel pivot is a recognition that the same basic solution could be delivered through a different channel with greater effectiveness. Whenever a company abandons a previously complex sales process to "sell direct" to its end users, a channel pivot is in progress.
- Technology pivot – Occasionally, a company discovers a way to achieve the same solution by using a completely different technology. Technology pivots are much more common in established businesses. In other words, they are a sustaining innovation, an incremental improvement designed to appeal to and retain an existing customer.

PART THREE: ACCELERATE
Batch
- The small-batch approach produces a finished product every few seconds, whereas the large-batch approach must deliver all the products at once, at the end. Imagine what this might look like if the time horizon was hours, days, or weeks.
- What if it turns out that the customers have decided they don't want the product? Which process would allow a company to find this out sooner?

- The biggest advantage of working in small batches is that quality problems can be identified much sooner.
- Toyota discovered that small batches made their factories more efficient. In contrast, in the Lean Startup the goal is not to produce more stuff efficiently. It is to—as quickly as possible—learn how to build a sustainable business.

Grow
- The engine of growth is the mechanism that startups use to achieve sustainable growth. I use the word sustainable to exclude all one-time activities that generate a surge of customers but have no long-term impact, such as a single advertisement or a publicity stunt that might be used to jump-start growth but could not sustain that growth for the long term.
- Sustainable growth is characterised by one simple rule: New customers come from the actions of past customers.
- There are four primary ways past customers drive sustainable growth: 1) Word of mouth, 2) as a side effect of product use, e.g. luxury goods and status symbols, 3) Through funded advertising and 4) Through repeat purchase or use.
- These sources of sustainable growth power feedback loops that I have termed engines of growth. Each is like a combustion engine, turning over and over. The faster the loop turns, the faster the company will grow.
- The sticky engine of growth – Companies using the sticky engine of growth track their attrition rate or churn rate very carefully. The churn rate is defined as the fraction of customers in any period who fail to remain engaged with the company's product. The rules that govern the sticky engine of growth are pretty simple: if the rate of new customer acquisition exceeds the churn rate, the product will grow. The speed of growth is determined by what I call the rate of compounding, which is simply the natural growth rate minus the churn rate.
- The viral engine of growth – Awareness of the product spreads rapidly from person to person similarly to the way a virus becomes an epidemic. Like the other engines of growth, the viral engine is powered by a feedback loop that can be quantified. It is called the viral loop, and its speed is determined by a single mathematical term called the viral coefficient. For a product with a viral coefficient of 0.1, one in every ten customers will recruit one of his or her friends. This is not a sustainable loop. Imagine that one hundred customers sign up. They will cause ten friends to sign up. Those ten friends will cause one additional person to sign up, but there the loop will fizzle out. By contrast, a viral loop with a coefficient that is greater than 1.0 will grow exponentially, because each person who signs up will bring, on average, more than one other person with him or her.
- The paid engine of growth – As the name suggests, this engine of growth is dependent on paying to acquire customers. If either company wants to increase

its rate of growth, it can do so in one of two ways: increase the revenue from each customer or drive down the cost of acquiring a new customer. Like the other engines, the paid engine of growth is powered by a feedback loop. Each customer pays a certain amount of money for the product over his or her "lifetime" as a customer.

Adapt
- An adaptive organisation is one that automatically adjusts its process and performance to current conditions.
- To accelerate, Lean Startups need a process that provides a natural feedback loop. When you're going too fast, you cause more problems. Adaptive processes force you to slow down and invest in preventing the kinds of problems that are currently wasting time. As those preventive efforts pay off, you naturally speed up again.
- At the root of every seemingly technical problem is a human problem. Five Whys provides an opportunity to discover what that human problem might be. By asking and answering "why" five times, we can get to the real cause of the problem, which is often hidden behind more obvious symptoms.
- The Five Whys approach acts as a natural speed regulator. The more problems you have, the more you invest in solutions to those problems. As the investments in infrastructure or process pay off, the severity and number of crises are reduced and the team speeds up again.

Innovate
- Successful innovation teams must be structured correctly in order to succeed.
- Scarce but secure resources – It is extremely rare for a stand-alone startup company to lose 10 percent of its cash on hand suddenly (compared to a large organisation where a department may have 10% reallocated in an emergency). Thus, startups are both easier and more demanding to run than traditional divisions: they require much less capital overall, but that capital must be absolutely secure from tampering.
- Independent development authority – Startup teams need complete autonomy to develop and market new products within their limited mandate. They have to be able to conceive and execute experiments without having to gain an excessive number of approvals.
- A personal stake in the outcome – Third, entrepreneurs need a personal stake in the outcome of their creations. In stand-alone new ventures, this usually is achieved through stock options or other forms of equity ownership. Where a bonus system must be used instead, the best incentives are tied to the long-term performance of the new innovation.
- Create an innovation sandbox where the changes and experiments only affect

one set of features or customers at a time.