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Unleashing the pragmatic power of the Lean Startup

How to directly implement the Lean Startup in practice: an extended model

by Hanneke Gieles



Abstract

Before investing large sums and amounts of time into new ideas, it is beneficial to prove first that there is indeed a demand for them in the market. Experimentation is a way to validate the likelihood of success of a new product or service resulting from new ideas. Investors are scarce and demand a reduced risk of failure of their investments. This holds true for large companies, as well as for small startups.

This paper introduces a practical extension of the original Lean Startup Model, by distinguishing 4 sequential phases in experiments. Furthermore, it adds an enrichment to the original model. For example, by overlaying specific methods, and by adding implementation practices. These additions to the original Lean Startup model provide practical handles for direct implementation, with the aim to prevent bad (or overly expensive) investments. The goal of this paper is to unleash the full power of the Lean Startup method, by translating the original model to concrete and practical steps.

Using the steps and practices of the model introduced in this paper, helps you to reduce the risk of failure directly. It serves as a practical toolbox that suggests tools for the different phases of experiments and connects it to other relevant and already proven methods and techniques.



Introduction

The current attention for the Lean Startup cannot be seen as a surprise. Organizations are searching for ways to innovate and experiment. Nowadays the speed of innovation is so high, that it does not make sense to wait for customers to dream up innovative products and services by themselves. Instead, most organizations take initiative based on their own ideas and expectations for future needs and possible opportunities. It is, however, very hard to use traditional market research approaches on these ideas because it is unsure what the market is, where it is, and how big it is. Traditional market research would be too slow to create real and valuable data. With such uncertainty, experimenting seems a much better and more effective and efficient solution. A good strategy is to build simple versions of a product and test it with real customers first, before investing largely into further development. Based on real feedback, it becomes possible to change the product and test again. This (iterative) process can be repeated until the product sells well and continuous investments are only done when there is a proven business model (or even better: when a healthy cash flow is already coming in).

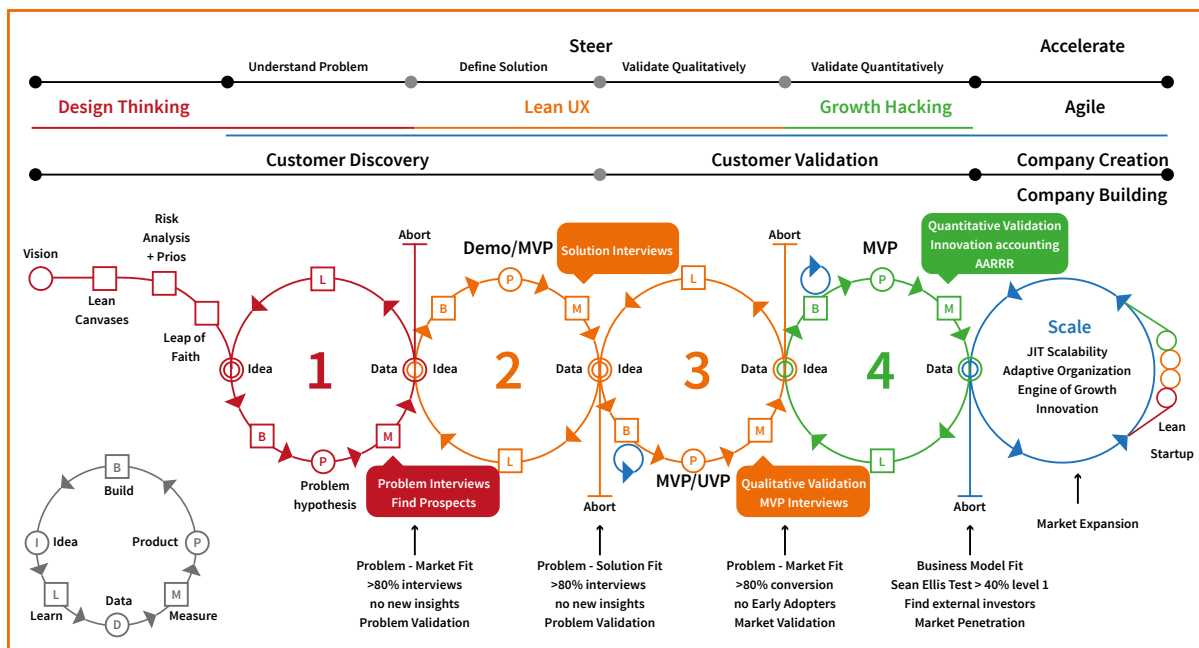
The goal of the Lean Startup method is all about learning *how to build* a business. In fact, that is the real deliverable of the experiments: discovery of a working business model. Traditional management usually ignores that learnings are a valid deliverable too. Therefore, we found a new management approach in the Lean Startup. A new approach that embraces uncertainty and tackles this with rigorous experimentation. Management is crucial to make this work in practice, because Lean Startup is a disciplined, measurement-based and hardworking approach.

Extended Lean Startup model

This paper looks at ways to practically implement the Lean Startup Model developed by Eric Ries¹, by extending the original model. Giving it concrete and pragmatic steps. A short explanation of the original model can be found in appendix A.

The main contribution of the extension presented in this paper is that the steer-phase has been split up into 4 separate phases, where each phase matches a phase in the experiment. Additionally, our approach extends the original model with practices and other methods. The references listed below the picture give an overview of the different sources of these practices and methods.

The starting point is the vision and the Lean Startup Canvas (Appendix C) that represents the vision in a one-page format. The goal is to validate all parts of the canvas and, as shown in appendix B, each part of the canvas corresponds with one of the phases. The canvas is divided in three areas: market, product and customer. Each phase results into concrete verifications in all these three areas in order to move to the next phase. Our extension provides practical guidelines and actions to build up the level of experimentation, and as such gives four separate phases of hypothesis-testing. The main benefit of this is that the amount of investment and thus risk is reduced without major impact on speed, because each phase provides learning that accelerate subsequent phases.



Referenced practices and methods 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

Lean Startup Model

We can distinguish the following phases, as shown in the overview graphic to the right:



1. Problem validation

In this phase the Problem, Customer Segments and Existing alternatives of the canvas are validated. The goal is to establish a Product – Market fit by interviewing potential customers. Only move to the next phase, when being reasonably sure of having defined a significant problem in the market. A rule of thumb used often is that 80% of the interviews give no new insights and confirm the hypothesis on the canvas.

2. Product validation

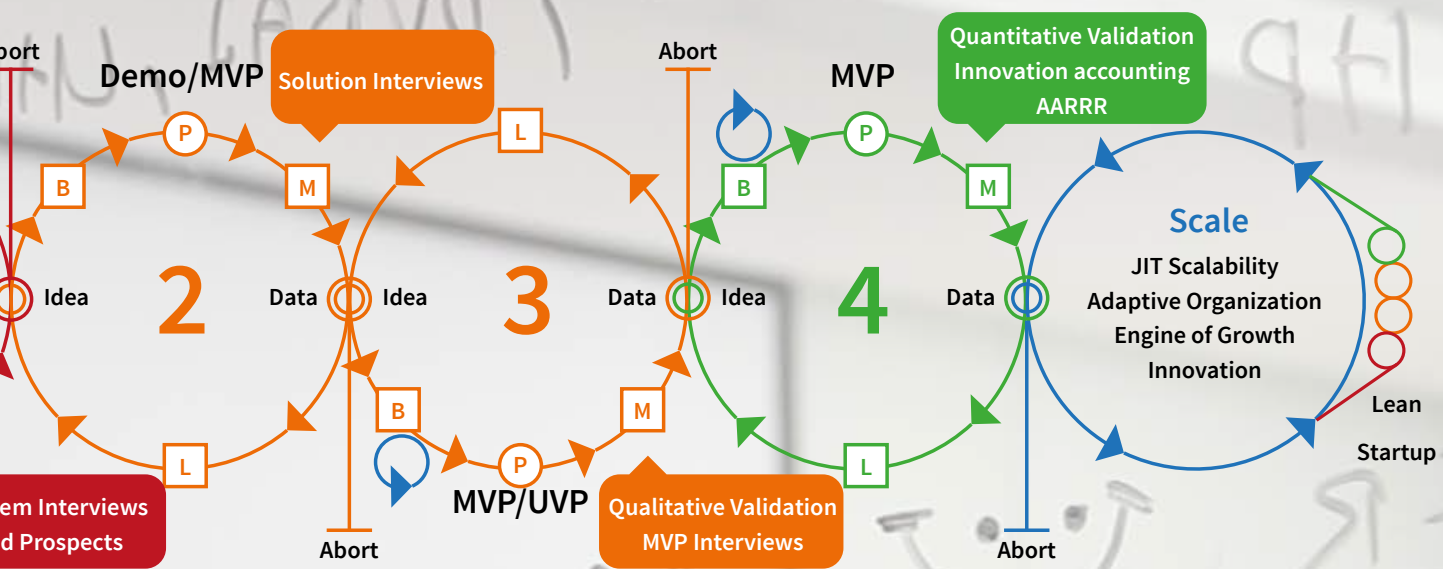
In this phase the Solution, Early Adopters and basic Revenue Streams parts of the canvas are validated. The goal is to establish a Problem – Solution fit by building an Minimal Viable Product and keep improving it based on customer feedback. Once the MVP meets the predefined criteria for success, the experiment can move to the next phase. Here the same rule of thumb, regarding 80% of the interviews confirming the canvas, could be used.

Matching the appropriate methods and practices to the different phases allow a more detailed look at a suitable implementation for each phase. At the top the overlaying methods, that also have their own practices, are plotted on the phases where they are most applicable. Other practices are placed throughout the model.

Below the circles, the generally accepted thresholds are depicted. These thresholds are determined in advance and it is not possible to move to the next phase without meeting the threshold value on the three areas; market, customer and product. This guarantees that continuation is only possible

when the predetermined conditions for validation are reached. Thus avoiding the pitfall of continuing to develop a product of service that does not fit the market. If it is not possible to meet the threshold value, there is still the option to circle back to the previous phase or abort the experiment. Validated learning and innovation accounting provide the data for making these decisions.

Once having reached the scaling part, the experiment has ended and becomes a growing regular business. To take this business to the next level, a new hypothesis can start up and function as an accelerator on the existing business.



3. Market validation

In this phase the Unique Value Proposition, basic Channels and detailed Revenue Streams parts of the canvas are validated. The goal is to establish a Product – Market fit by building yet further improved MVP's and selling them to real customers to get more feedback. Again once the MVP meets the predefined criteria for success, the experiment can move to the next phase. A rule of thumb used often is that 80% of the early adopters that showed interested, end up buying the product.

4. Market penetration

In this phase the Key Metrics, detailed Channels and Cost Structure parts of the canvas are validated. The goal is to establish a Business Model – Market fit by doing much the same as in the previous phase with a further improving MVP, but with a focus on quantitative feedback. Innovation accounting and marketing are important aspects of this phase. Again there is a rule of thumb emerging from research amongst successful start-ups. If 40% or more of the customers, that are using the product are unhappy when losing the product (Sean Ellis test), the product or service has a large chance success and can move to the scaling part.

The products created in each phase of the experiment are built with the least costs and effort possible. These are called Minimal Viable Products (MVP). Be aware of the term: these are real products, meaning they are complete and working, though at the minimal viable level. This could be as simple as a webpage with a description of the product and a button that says: more information. The clicks on the button will give a good indication of interest in phases 2 and 3. There is a large amount of techniques and practices behind this model and you can have a look at books in the references list for more information.

Also, note that the Lean Startup is not only suitable for startups. Especially larger

companies can benefit hugely from this method as they too operate in a market of extreme uncertainty for part of their new services or products. By paying attention to each of the phases of the extended model, investment risk is reduced and success ratio is improved for bringing new products and services to the market. This paper is written for product managers or people reporting to them such as innovation managers or product marketers in larger companies or startups. It is especially useful for managers who are either struggling to develop and market new products and services, or who want to start doing this and who are searching for a pragmatic approach.



Why is it so hard to bring new products or services to the market successfully?

Many companies bring new products and services to the market, that do not become profitable while having been heavily invested in. This may financially burden the company and may also reduce the faith of investors and clients. Where it commonly goes wrong, is that the product is built on assumptions that have not been tested sufficiently and not with the inclusion of real paying customers. As products and services are not validated frequently and changed or abandoned in time, investments are often continued too long. Eventually the product or services can fail and the blame is usually put on being in the wrong place and time or another excuse. If a company, after failure, decides to change the product and try again, the investor is not likely to reinvest, he/she did not see much return on investment of his/her previous investment and will be cautious in further investments.

When following the steps in the model, each step will reduce the risk of failure by retrieving frequent feedback from real customers. Iterative improvements and changes will eventually produce a product that has a much better and validated product-market fit. It will also postpone the moment of significant investment to the point in time when the business model self has been validated, resulting in a more upfront trustworthy state for investors. It is easy to start with implementation of the model. A jump start can be made using the Lean Startup Canvas (Appendix B and C) to chart out hypothesis. While going through the different phases, the goal is to validate the parts of the Lean Startup Canvas that correspond with each phase. The metrics used for this help to monitor if thresholds are reached.

How to embed a culture and practice of innovation in large organizations?

The Lean Startup acknowledges that everyone is an entrepreneur and that entrepreneurs are everywhere. It is likely that many employees have business related ideas and unlocking that innovation potential can create huge gains for a large organization. Most knowledge workers have an intrinsic motivation to work on the ideas they have, when offered the opportunity. There are three aspects that have a major influence on this.

- There has to be sufficient room present to experiment safely, without fear of damaging the brand name. Learnings should become an accepted delivery
- There has to be structural, data driven guidance for experiments on the path to follow and success indicators to move to the next phase.
- There has to be personal mental ownership of vision and experiment from vision to scaling

These three aspects need to be accommodated on the highest level of the large organization, as there could be the fear to damage the existing brand. Often, these experiments are run under a different brand name and added to the main brand, when they reach the scaling phase. In our extended model this is represented by the 4 small circles that are giving new impulses to existing products or services by experimenting with new ideas. Learnings need to be an acceptable deliverable for management. This requires a mind shift, as learnings are hard to monetize, and are in traditional management often undervalued. Learnings can be picked up by starting to sell products or service as a minimal viable product and collect feedback. This way developing a good understanding on how to implement innovation accounting, by being able to link revenue with the outcome of experiments in parallel.

Giving employees the structural opportunity to spend time on their experiments enables embedment of innovation as a practice in an organization. Implementing the model in an organization provides that clear structure, much like a path to follow. It can be used as a guideline to define the thresholds (success indicators), practices and any other concrete conditions per phase. Having a clear path to follow and sometimes even being provided with a timeline to follow the path, nurtures an innovation culture. It also provides a data-driven way to manage the innovation process. With that, the model stresses the importance of implementing the practices of validated learning and innovation accounting for each phase of the experiment. This could also mean that an experiment can give the result that a product or service cannot be validated and no further pivots can change this around. You then have the option to abort further pivots and either go back to the previous phase or abort the experiment

completely. The model is not meant as a blueprint, the more phase that receive attention, the lower risk of failure.

The vision and the experiments are conceived in the mind of an entrepreneur. This is one or a few people that feel mental ownership for the vision and the corresponding experiment. Through this feeling of ownership, they have the drive to take the experiment through the phases of the model. Therefore, it is important not to transfer ownership to an innovation department or similar.

It is easy to start putting some practices in place right away and add more in time.

How to inspire employees to generate ideas, own them and monetize them?

Employees throughout an organization, are most likely having many ideas related to their business or even for completely new businesses. Often those ideas are left on the shelf, because employees do not have the time or energy to investigate them. Operational work and work that supports the present products and services is already too demanding, there is no room for anything else. They can have the idea that learning is not a valid deliverable. Therefore, they feel as if they will not get many credits for generating learnings. Another reason not to act upon them is that employees may fear to lose ownership of their ideas to the company. They are under the impression it will bring them no direct benefit to pursue them, in combination with their normal duties.

It is important to create awareness of entrepreneurship and the Lean Startup Principles, making them part of the company and employee DNA. In order to achieve this, a culture and mindset change is needed. One would want to value the learning ability of employees more. This is hard to achieve and the best way is to accommodate and promote celebrating successes and learning from failures. This is relatively easy to start with and has a great influence on mindset. Show the employees that there is time to experiment and that they will stay the owner of the idea within the company, as well as getting the credits for it. Not only getting the credits for the idea, but also getting some financial or non-tangible benefit from a successful idea, however small, helps to inspire people. Some companies even go to so far that employees remain the owner of the ideas and gets to start his/her own company or division. It can be more difficult to start with this, but it is worth trying to take small steps in this direction. The celebration of successes and failures is something that a company can start implementing right away. It takes a little more effort to institutionalize ownership in a transparent way.



How to use the Lean Startup Method in practice?

The Lean Startup Method is a revolutionary new way of management and looking at developing businesses. This also means many things need to change in the way they are approached. Employees need to change to a different mindset and other (additional) skills and knowledge are getting more important. The first challenge is to get the stream of ideas flowing from emerging entrepreneurs. Secondly the ideas need to turn into visions that can be experimented with and grown into mature products or services. So how to do that in practice?

One important way to start is to get the management convinced to support an experiment, with the Lean Startup Method in their company. If this is an already well known company, containing possible branding damage and freeing resources up, can be points of discussion. Start with a workshop to analyze how successful they are now at putting new products and services in the market. In the same workshop the Lean Startup Method can be explained and the participants can investigate together how it could help them to become more successful. Bringing in experiences from other companies is always a good idea to make things concrete. Also, it shows effective to give the management team a Lean Startup Training.

Once the management is convinced, they can become the ambassadors of the mindset that everybody is a potential entrepreneur. There are two things here that go hand in hand; First, arranging to free up time and other resources for people to work on the ideas. Second, actively promoting entrepreneurship throughout the organization. Continuously sending out the message that, if someone has an idea, he/she is invited to do something with it. Also making sure the idea will stay with the person and he/she will get the time and resources to try to bring it to maturity by experimenting. It helps to formalize the pitching of ideas at regular intervals, to enable entrepreneurship to become anchored in the organization as a habit.

Once the visions are starting to come in, the extended model can be used as a guideline to govern the experiments. It will give entrepreneurs a path to follow to a successful experiment and clear criteria for success or failure. What the goal would be is to get a healthy ratio between resources invested in experiments and revenue generated from successful experiments that are scaling. By using the model and verifying one phase before moving to the next one, the risk of large failure is significantly reduced. Investments are kept as low as possible for experiments and especially in the first phases. Experiments that fail, will fail as early as possible in the process, reducing investment costs and positively affecting the return on investment that way. The different practices mentioned in the model help in building the minimal viable product, measuring and learning from each phase to the next. The model also serves as a common picture for everyone in the company to refer to, so all employees have the same basis.

What are the conditions for success and are there examples?

As with many methods and practices, the Lean Startup is not a silver bullet or a one size fit all road to success. The method is meant for companies that are trying to create a new product or service under conditions of extreme uncertainty. This means that conventional marketing research does not work as the product or service is not something the market already knows or has a demand for. It also requires the management to support the method and provide the opportunity and promote the mindset within the company. They should show that they are not afraid of bringing minimal viable products to the market. These 'MVP failures', should be welcomed as learnings and the company should sufficiently protect their branding against any damage. Also, validated learning should be an acceptable deliverable within the company. Employees also need to embrace this mindset and thrive in such a setting. The whole idea of the Lean Startup is built on emerging entrepreneurs within an organization, so employees can adapt to that mindset.

If these factors for success are met, it does not matter anymore what the type or size of the company is. New startups have a close match to this approach. Dropbox is an example of this. There are also success stories from small scale existing hardware/ software companies, such as Riscure to marketing/ software companies such as Blue Mango. Also, large companies such as the ABN AMRO bank have innovation divisions that work with the Lean Startup Method.



Conclusion

The Lean Startup Method is also a very well fit for larger companies and not only for startups. The extended model in this paper is an expansion on the original Lean Startup Model. It describes the Lean Startup in 4 different phases and offers per phase guidelines for practical implementation. Investment risks are reduced by following the steps and success rates of new products or services will increase.

One should look at this model as a toolbox of methods and practices, and not a blueprint that provides a guaranteed path to success. Going through all the steps is advisable, because each step increases the chance of successfully bringing a product or service to the market.

This model is linking different practices and methods to the Lean Startup Model. Behind all these practices and methods, there is a world of specific knowledge to zoom into. This way the practices and methods provide sufficient material for further deep dives, resulting in a more practical implementation of the Lean Startup model.

Would you like to know more about this extended model? The Lean Startup is the passion of many people at Prowareness. We therefore warmly invite you to get in touch. We can exchange thoughts and explore how your company can benefit from using this model. Also we can help you with initial steps using workshop formats that already proved their success.

About the author



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Hanneke Gieles is a change coach and trainer with Prowareness. She helps organizations to nurture and grow entrepreneurship, at all levels in the organizations. Before her time with Prowareness, she worked over 20 years as a software developer and system administrator, but also on the business side as a project manager and line-manager. The last 6 years she has focused mostly on transforming organizations to Agile ways of working in and outside IT settings. Furthermore, she has experience with doing this in many non-it domains, such as marketing, HR and customer service. The years before Prowareness Hanneke worked as an Innovation Specialist using the Lean Startup Method as her primary approach, and developed a passion for entrepreneurship and innovation.

You can reach Hanneke at h.gieles@prowareness.nl, connect to her on Twitter ([@RunningAgile](#)) or on LinkedIn ([Hanneke Gieles-Hekman](#)). She would like to hear from you and exchange thoughts. Or if you want to please her, just call her for a good conversation over a cup of coffee or invite her to give a lecture, training or workshop.

References

1. Eric Ries (2011). *The Lean Startup*. London: Penguin Books Ltd. p.320.
2. Ash Maura (2012). *Running Lean*. Sebastopol: O'Reilly Media Inc. p.207.
3. Steve Blank (2013). *The four steps to the Epiphany*. London: Quad/Graphics p.368.
4. Ryan Holiday (2014). *Growth Hacker Marketing*. Croydon: CPI Group p.111.
5. Dan Olsen (2015). *The Lean Product Playbook*. Hoboken: John Wiley & Sons Inc. p.307.
6. Alex Ostwalder & others (2014). *Value Proposition Design*. : Hoboken: John Wiley & Sons Inc. p.290
7. Jez Humble & others (2015). *Lean Enterprise*. : Sebastopol: O'Reilly Media Inc. p.317.
8. Alistair Croll & Benjamin Yoskovitz (2013). *Lean Analytics*. : Sebastopol: O'Reilly Media Inc. p.409.
9. Alex Ostwalder & Yves Pigneur (2010). *Business Model Generation*. : Hoboken: John Wiley & Sons Inc. p.278.
10. Brant Cooper & Patrick Vlaskovits (2016). *Lean Enterp.* : Hoboken: John Wiley & Sons Inc. p.199.



Appendix A: Background of the Lean Startup

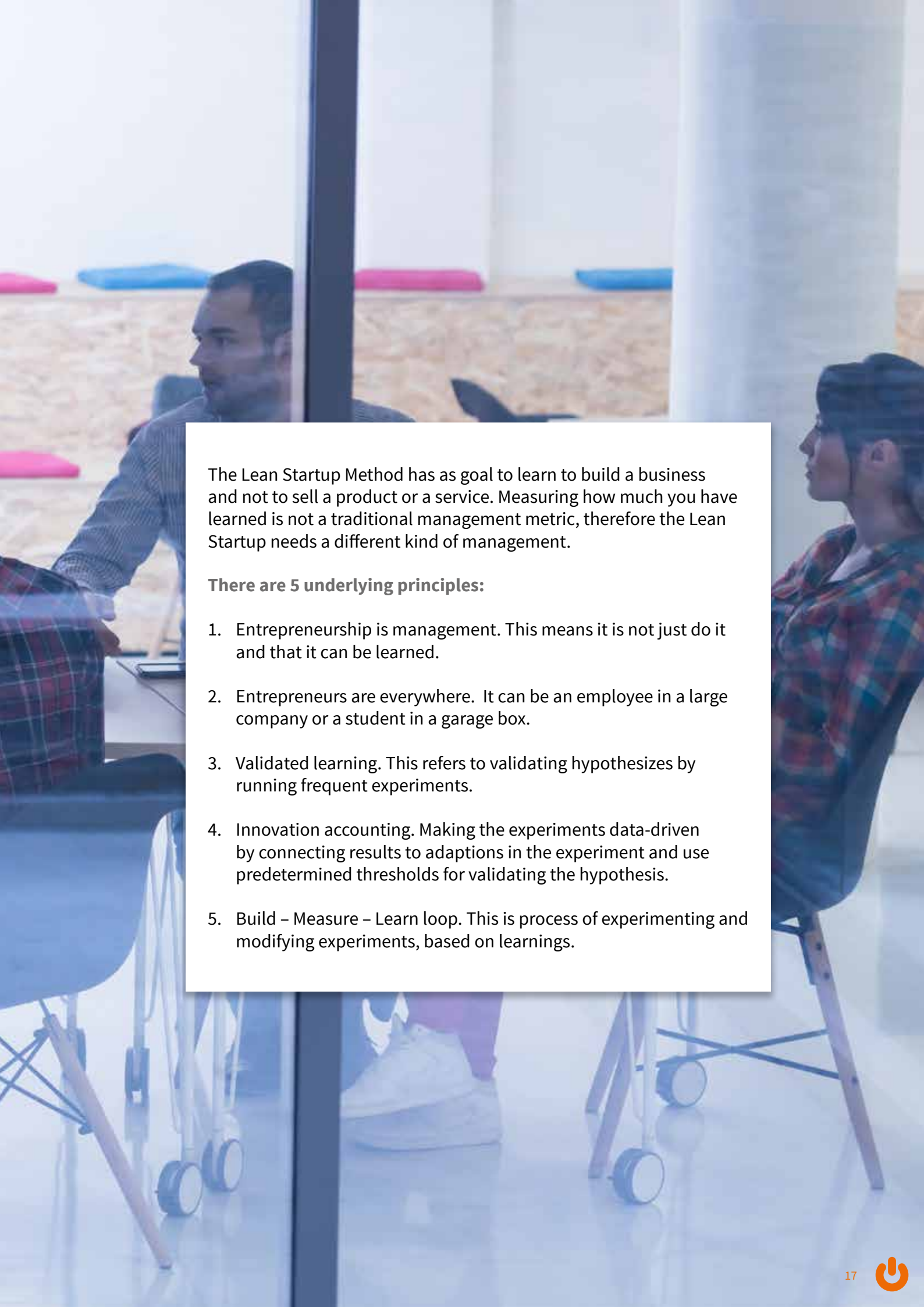
*“The big question of our time is not ‘**can** it be built?’
but ‘**should** it be built?’*

This places us in an unusual historical moment: our future prosperity depends on the quality of our collective imaginations.”

When you are trying to create a new product or service that arises from a vision that you have, conventional market research does not work. The market has no clue about your beautiful visionary idea that they have never seen before and market research will give only limited amounts of data.

Eric Ries has written a book called ‘*The Lean Startup*’¹ where he describes a method to manage this kind of innovative initiatives differently. He concludes that all this kind of ideas start with a vision, which translates into a hypothesis. When treating these hypothesizes as scientific experiments, the required result for the experiment to be successful is predefined. Then a test is setup and the experiment is run. Next, you keep re-running the experiment with modifications until, you get the desired result or declare the experiment a failure. In case of a failure, the hypothesis has proven to be false. If the experiment is a success, there is a hypothesis that now has proven true. This hypothesis is most likely adapted due to the modifications made on reruns.

In the original Lean Startup Model Ries determines parts: Vision, Steer and Accelerate. The **Vision** part is the starting point as described above. In the **Steer** part that follows, the experiments are run. These experiments take the form of simple versions of the product that are stripped of anything not needed, called Minimal Viable Products (MVP’s). These products are brought to the market in order to receive feedback. With this feedback the product is further developed in the same direction (called persevere) or modified (called a pivot). Once concluding that you have a sellable product, you go to the **Accelerate** part, where you scale up and become commercial.

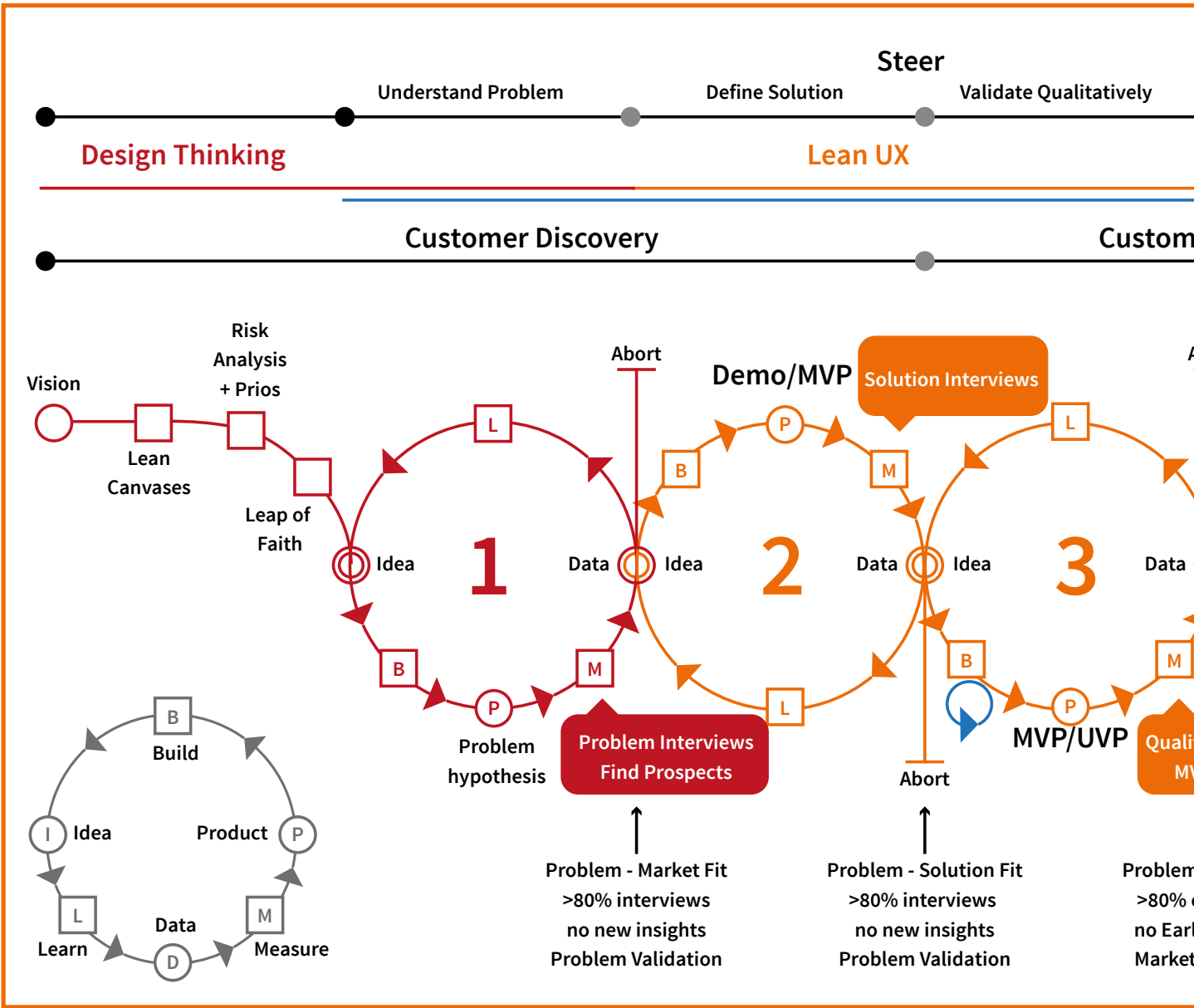
A man and a woman are seated at a table in a modern office or co-working space. The man, on the left, is wearing a grey sweater and is looking towards the right. The woman, on the right, is wearing a red and blue plaid shirt and is also looking towards the right. They appear to be engaged in a discussion or looking at a screen that is not fully visible. The background shows a bright, open space with large windows and some colorful objects on a shelf.

The Lean Startup Method has as goal to learn to build a business and not to sell a product or a service. Measuring how much you have learned is not a traditional management metric, therefore the Lean Startup needs a different kind of management.

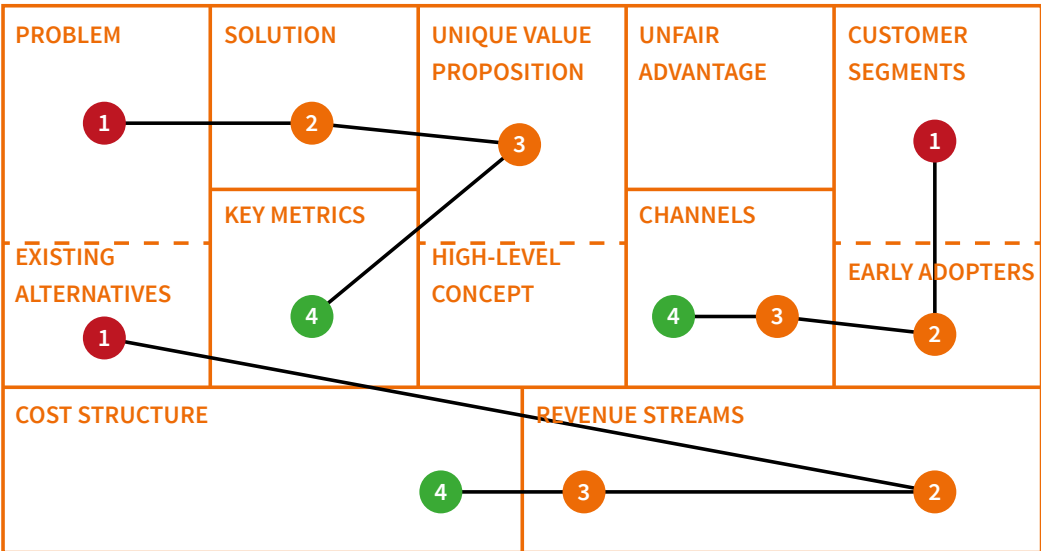
There are 5 underlying principles:

1. Entrepreneurship is management. This means it is not just do it and that it can be learned.
2. Entrepreneurs are everywhere. It can be an employee in a large company or a student in a garage box.
3. Validated learning. This refers to validating hypotheses by running frequent experiments.
4. Innovation accounting. Making the experiments data-driven by connecting results to adaptations in the experiment and use predetermined thresholds for validating the hypothesis.
5. Build – Measure – Learn loop. This is process of experimenting and modifying experiments, based on learnings.

Appendix B: Extended and Enriched Lean Startup Model

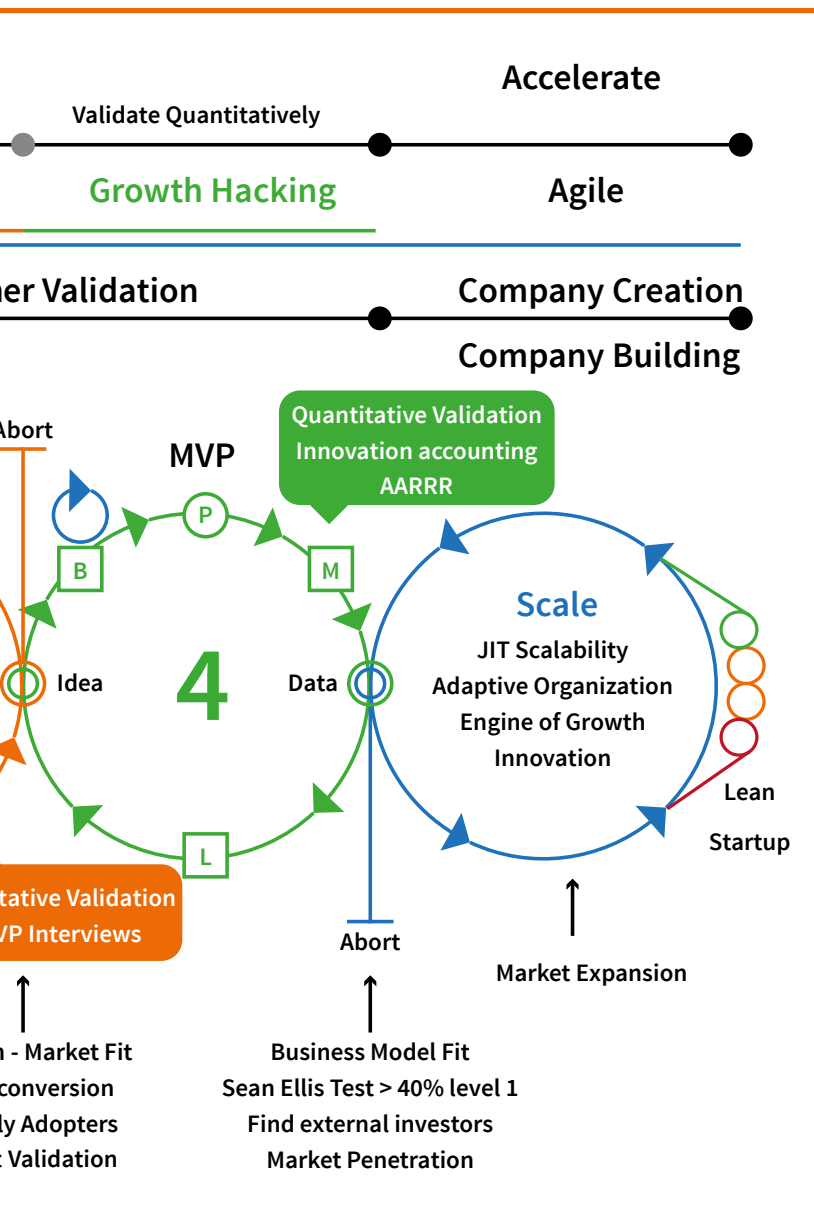


Lean Canvas

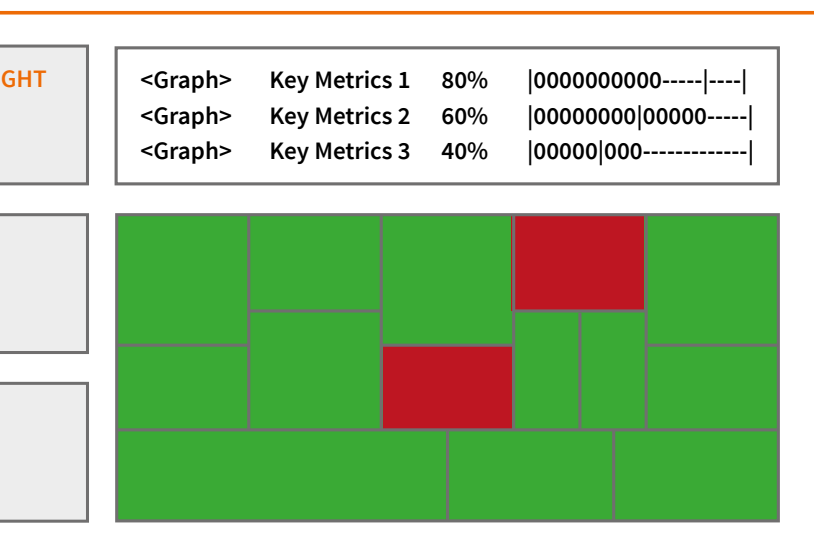


Weekly Report





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Appendix C: Lean Startup Canvas

<p>PROBLEM</p> <p>List your top 1-3 problems</p>	<p>SOLUTION</p> <p>Outline a possible solution for each problem</p>	<p>UNIQUE VALUE</p> <p>Single, clear, compelling message that tells unaware visitors why they are interested prospects</p>
<p>EXISTING ALTERNATIVES</p> <p>List how these problems are solved today</p>	<p>KEY METRICS</p> <p>List the key numbers that tell you how your business is doing</p>	<p>HIGH-LEVEL CHANNELS</p> <p>List your X for Y (e.g. YouTube = videos)</p>
<p>COST STRUCTURE</p> <p>List your fixed and variable costs</p>		

PROPOSITION Compelling turns an into an spect	UNFAIR ADVANTAGE Something that can't be easily copied or bought	CUSTOMER SEGMENTS List your target customers and users
CONCEPT analogy Flickr for	CHANNELS List your path to customers	EARLY ADOPTERS List the characteristics of your ideal customers
REVENUE STREAMS List your sources of revenue		



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