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Lean Startup – A Practical Evaluation of a Vacation Home Renting Service

Master Thesis in the Master's Programme
Management and Economics of Innovation

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Abstract

Purpose – To evaluate how the Lean Startup methodology – its principles and processes – are helpful for guiding the decision-making of early-stage entrepreneurs.

Design/methodology/approach – The study is based on an autoethnographical approach and uses the researchers' own company, R&E Semesterboenden AB, and themselves, as entrepreneurs, as the main research subjects.

Findings – Overall, the Lean Startup approach is perceived as useful for making decisions that reduce the risk that early-stage entrepreneurs face. Particularly, the concepts of a minimum viable product, seeking customer commitment, and using engines of growth to prioritize efforts were identified as valuable. The Lean Startup approach proved inadequate when it comes to guidance from quantitative steering methods - such as the A/B test, in helping to prioritize actions when certain activities are time-bound, and in that it may cause the entrepreneurs to miss opportunities that are right in front of them.

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1. Introduction

This chapter aims to give the reader a background to the Lean Startup field of study and why it is relevant. The background for making the study will be presented together with the research question, an introduction to the evaluated company – R&E Semesterboenden AB - and an outline of the report.

1.1 Background

The risks associated with being an entrepreneur, and creating a new business, are very high. Roughly a third of all startups shut down within their first two years, and as much as half of them shut down within five years (JP Morgan, 2018). At the same time, small and medium-sized enterprises have been shown to be significant drivers of economic development (Obi et al., 2018). Therefore, there's a call for a method which can reduce the risks associated with bringing a new business to profit and longevity. Lean Startup is suggested as being such a method.

Lean Startup is a movement that was proposed in 2008, and later popularized in 2011, with the release of Eric Ries' – entrepreneur and author – book, *The Lean Startup* (Ries, 2011). It is inspired by the Japanese Lean Manufacturing principles of eliminating wastes and continuous learning through fast iteration cycles. Through such fast iterations, startups can assure that resources are being spent on what is truly important – creating a product or service that fulfils a customer need, and which the customer is also willing to pay for. By doing so, startups can reduce their market risk and increase their chances of becoming prosperous.

Renown colleges around the world - such as Stanford, Harvard, Columbia and Berkeley - have started to embrace the methodology and include it in their curriculum (Blank, 2013). It is not just the academic world that has started to apply lean startup, but accelerators and incubators have as well. For instance, the THINK accelerator of Sweden is branding itself as "*the first public incubator to focus fully on the lean principles*" (Mindpark, 2014, paragraph 1). Another example is I-Corps from the US (Satell, 2017). Even some consultancies have started to deliver lean startup service, such as the company Innovify - offering "Managed MVP Development" (Innovify, 2019). So, there is no denying that the method has become popular in both the academic and professional world, in a short period of time.

As with everything, the methodologies of Lean Startup have critics though. Among the most famous ones are Peter Thiel (2014), who states that "*... iterations without a bold plan won't take you from 0 to 1*" (p. 58), and Sam Altman – "*If you're going to take enough time to figure out what people want, you often will have missed the boat by then*" (Startupclass, 2014).

Furthermore, the lean startup method has not yet withstood the test of time, and because of its relative novelty - corporations can arguably be said to have been created since the 17th century (Rao, 2011) - the amount of studies published in order to problematize and evaluate it, is limited. For example, Kullmar & Lallerstedt (2017) suggest that the method may be better suited for certain industries, but that further research must be carried out to make any conclusions regarding this matter.

1.2 Purpose and Research Question

The authors of this report aim at contributing to this academic field by the principles and processes of Lean Startup through an autoethnographic approach. This has implications outside the field of academia too, for other entrepreneurs who might be asking themselves if such a generic method truly can be applied in all industries. Therefore, this study aims at evaluating the lean startup methodology, through an empirical case study of the researchers' own startup – R&E Semesterboenden AB. The following question will be addressed:

“Being in the shoes of an early-stage entrepreneur - to what extent does the Lean Startup methodology, its principles and processes, help in guiding actions and decisions when creating a new business?”

1.3 About R&E Semesterboenden AB

R&E Semesterboenden AB is a company working as a mediator of vacation homes. Owners of cottages, houses and apartments in popular Swedish locations are assisted through the whole process of renting out their homes. R&E Semesterboenden AB takes responsibility of everything from marketing and customer communication to cleaning. In exchange for this, it takes out a commission based on the gross income that the vacation home can produce. The business was started in January 2019, and currently, 18 vacation homes are being mediated, with a total gross revenue of SEK 470,000.

1.4 Disposition

In chapter 2, “Literature Review”, the Lean Startup approach will be explained in detail, and the core concepts of the approach will be outlined. Furthermore, a formal definition of a startup will be provided and critique on the Lean Startup methodology will be presented. In chapter 3, “Research Methodology”, the research approach of this report will be described in detail. Chapter 4, “Empirical Results”, presents the data gathered when implementing the Lean Startup techniques, through the case study of R&E Semesterboenden AB. In “Discussion”, chapter 5, the aim is to highlight potential benefits and pitfalls of using the Lean Startup framework. Finally, in chapter 6, “Conclusions”, the authors will tie it all together by answering the research question and giving suggestions to further research.

2. Literature Review

In this chapter, the origins of the Lean Startup movement will be presented, together with a formal definition of a startup. Furthermore, an exploration of the current literature on the subject will be made. As a concluding remark, some critique against the methods of Lean Startup will be shared.

In his book *The Lean Startup*, Eric Ries (2011) divides his method into three steps – vision, steering and acceleration. To get a better understanding of the theory and core concepts, each of these steps will be presented in 2.2. These are the big ideas of Lean Startup which will later be evaluated in section 4 and 5. Each concept will be complemented by other relevant literature, such as that of Steve Blank and his Customer Development methodology, when deemed appropriate.

2.1 What is a startup?

According to Eric Ries (2011), who is the founder of the Lean Startup framework, a startup is:

“A human institution designed to create new products and services under conditions of extreme uncertainty.” (p. 8)

Eric Ries has been inspired in the creation of Lean Startup by the ideas of Steve Blank and his Customer Development methodology (Blank & Dorf, 2013). Steve Blank and Bob Dorf (2013) argues that a startup is different from an existing business in that it is *searching* rather than *executing*:

“However, we now know that a startup is a temporary organization designed to search for a repeatable and scalable business model ... If your business model is unknown - that is, just a set of untested hypotheses - you are a startup searching for a repeatable business model. Once your business model (market, customers, features, channels, pricing, get/keep/grow strategy, etc.) is known, you will be executing it. Search versus execution is what differentiates a new venture from an existing business unit.” (p.22)

The two definitions are overlapping in the sense that Eric Ries (2011) mentions *new products and services* and *extreme uncertainty*, while Blank and Dorf (2013) talk about *unknown business models*, but the latter definition is greater in detail in regard to what can be defined as a new product. For this report, the definition of Steve Blank will therefore be used.

2.2 The Lean Startup Model

Lean Startup is a movement that was initiated in 2008, and later popularized in 2011, with the release of Eric Ries' (2011) – entrepreneur and author – book *The Lean Startup*. It is a method for creating new businesses and products and to discover quickly if a proposed business model is viable or not. This is achieved through fast iteration cycles and hypothesis-driven experimentation. So much like Lean Manufacturing, it aims at eliminating waste through small batches, iterations and JIT production.

2.2.1 Vision

"Startups also have a true north, a destination in mind: creating a thriving and world-changing business. I call that a startup's vision" (Ries, 2011, p. 22).

"Winners also recognize their startup "vision" as a series of untested hypotheses in need of "customer proof" (Blank & Dorf, 2013, p. 12).

"With an idea this vague, we can't answer any of the difficult questions like which recipes to include or how people will hear about it. Until we get specific, it [the vision] always seems like a good idea." (Fitzpatrick, 2013, p. 16)

Validated learning & hypotheses

There is one group of startups that are facing the problem of planning too much. So much time is being spent on market forecasts and on constructing the perfect Business Model Canvas, that the most important thing of all – the validity of the business idea, or company vision, is forgotten completely (Ries, 2011). These types of companies typically succeed at *achieving failure* – being successful in the execution of a plan that leads nowhere.

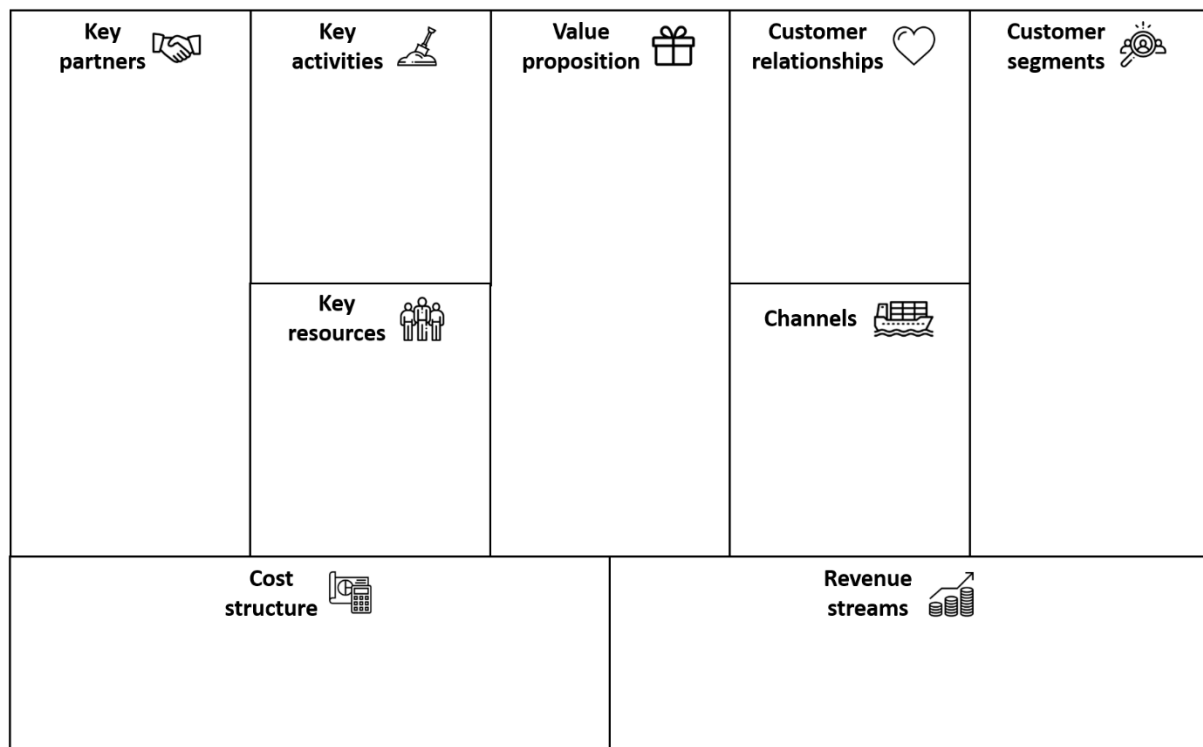
On the opposite side of the company startup spectrum, there are the "just do it" ventures. If too much management is the problem – chaos should be the solution, according to its practitioners (Ries, 2011). If entrepreneurs set themselves up so that their method of evaluation cannot fail, it is not possible to learn either.

According to Eric Ries (2011), there is a middle-ground between the two opposing views of too much planning and too little planning where the sweet spot is. The core question of a startup should not be "can this be built?", but "should this be built?". Validated learning is gained by testing important parts of the company's vision through experiments. Experiments are set up as hypotheses, that are then to be proven or disproven. Even if a hypothesis is being rejected, and that is contradicting the currently suggested business model of the startup, it is to be viewed as a value-creating activity, as it gives validated learning. To be able

to gain true validated learning, it is necessary for the entrepreneur to get out of the building – meeting potential clients and have them committing to the product or service being offered – otherwise there is the risk of achieving failure.

Per definition, a startup must have these uncertainties (Blank & Dorf, 2013). If it is just a Business Model Canvas that must be implemented, it does not fulfil the previously mentioned attributes that characterize a startup. According to Blank and Dorf (2013) the primary tool of a Business Model Canvas should be to formulate the most important hypotheses that require gathering of validated learning.

Figure 1. The Business Model Canvas (Blank & Dorf, 2013)



To identify these types of uncertainties, one must identify the assumptions that the startup is based on (Alvarez, 2014). If they are not identified, they cannot be evaluated - simple as that. Assumptions can be identified using the following structure (Alvarez, 2014, p. 19):

“Customers have ... problem”

“Customers are already using tools like ...”

“Customer purchasing decisions are influenced by ...”

Alvarez (2014) notes that it is not important to be right at this stage. Assumptions act as a reminder to the entrepreneur that he has not yet proven or disproved something of importance of the survival of the startup.

Fitzpatrick (2013) is an advocator of the get-out-of-the-building approach suggested by Blank & Dorf (2013), and Ries (2011) too. He emphasizes the importance of customer conversations, and that they can be both useful and completely useless to entrepreneurs, depending on how they are handled (Fitzpatrick, 2013). Their usefulness is measured in whether they were able to give concrete facts about the lives and views of customers or not - that is validated learning. Fitzpatrick gives a few rule of thumbs on how to increase the likelihood of achieving this, among others, one must focus on the life of the customer, not the idea itself; generic questions and opinions about the future must be avoided at all cost, and replaced by specifics from the past; the entrepreneur should listen more and talk less.

Alvarez (2014) points out that a good hypothesis should consist of the following five: *who*, *what*, *when*, *how much*, and *why*. Furthermore, hypotheses should be narrowed as much as possible. As a parable: is it easier to evaluate if all cats like water or if all animals like water?

On a similar note, Fitzpatrick (2013) discusses the risk of gathering *bad data*. Fitzpatrick discusses data of a qualitative sort, rather than quantitative, such as Ries does. Bad data come in three forms - compliments, fluff and ideas. See table 1.

Table 1. Three common examples of bad data (Fitzpatrick, 2013)

Type of data	Description
Compliments	If you are given compliments about how fantastic your business idea seems, you have already committed a major mistake - mentioning your idea.
Fluff	Generic claims such as “ <i>I usually ...</i> ”, future promises such as “ <i>I will ...</i> ” and hypothetical maybes in the form of “ <i>I might ...</i> ”, are fluff, and data that will not give you validated learnings.
Ideas	When interviewees realize that they are discussing a startup idea, they might come with their own suggestions. Entrepreneurs should take these into account, but not rush to implement them. A startup’s primary task is to execute on a <i>single</i> , scalable idea.

With bad data the entrepreneurs run a risk of accepting false negatives or false positives, ultimately leading them to take misinformed decisions about the future of the startup (Fitzpatrick, 2013). A false negative, in a startup context, is thinking that an idea is dead, when

it is not. A false positive is even more dangerous, and that is when an owner convinces himself that he is correct, while he is not.

Furthermore, there are factors that, according to Fitzpatrick (2013), indicates that the entrepreneur has been able to gather validated learnings from good data. When a potential customer has committed, one can be quite confident in accepting the data as reliable. A commitment comes in three forms - the customer should put either time, reputation or money on the line.

The value hypothesis

One of the two most important hypotheses in a startup is the value hypothesis (Ries, 2011). This tests whether a suggested product or service really delivers value to a group of customers, once they are consuming it. This is a leap of faith assumption of the startup - if validated learning cannot be gathered to accept the value hypothesis, the startup must do a pivot.

The audience that finds the initial product or service valuable are often referred to as *early adopters*. It is a good idea to create a customer archetype that resembles this audience, as it will represent the target customer of the startup (Ries, 2011). The customer archetype can be used to evaluate future product development against. Daily prioritization and decisions about the product or service of the startup should always be aligned with the customer to whom the startup is trying to please.

According to Fitzpatrick (2013), customer conversations should be used to quickly and cheaply evaluate if the value hypotheses can be accepted or not. Questions asked must always be able to completely ruin the entrepreneur's idea of what the startup should be. Business owners must search for the truth, not trying to prove themselves right.

2.2.2 Steering

"Instead of making complex plans that are based on a lot of assumptions, you can make constant adjustments with a steering wheel called the Build-Measure-Learn feedback loop. Through this process of steering, we can learn when and if it's time to make a sharp turn called a pivot, or whether we should persevere along our current path." (Ries, 2011, p. 22)

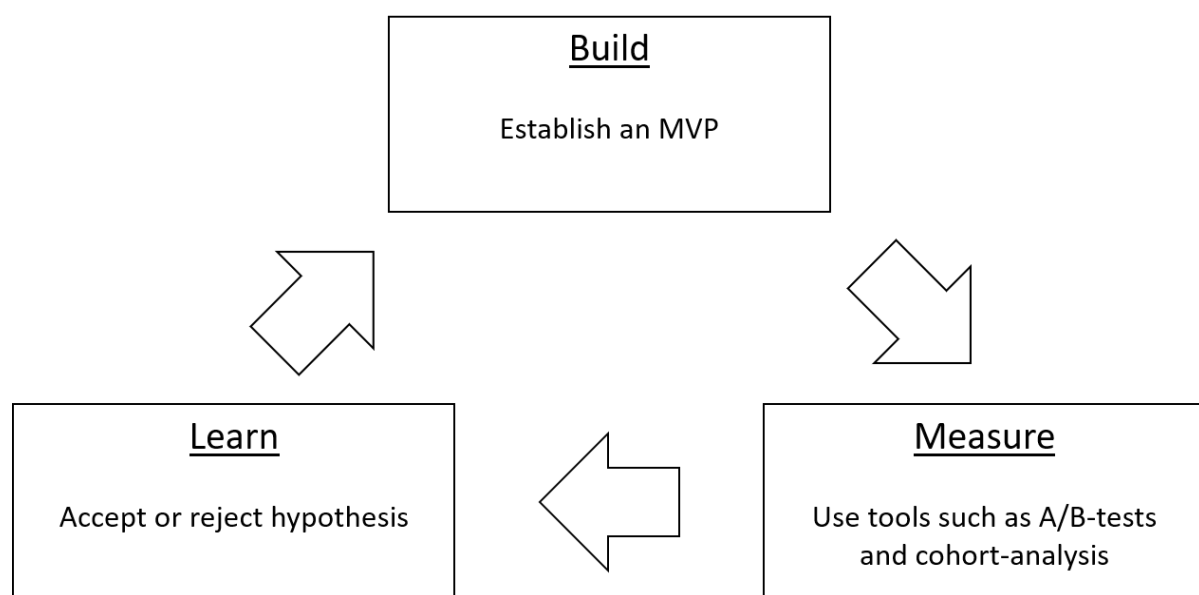
"The customer development process demands frequent, agile iteration, followed, of course, by testing of the iteration that often leads to another iteration or pivot, which leads to more testing and ... If you're afraid to fail in a startup, you're destined to do so." (Blank & Dorf, 2013 p. 34)

“You’re searching for the truth, not trying to be right. And you want to do it as quickly and cheaply as possible. Learning that your beliefs are wrong is frustrating, but it’s progress. It’s bringing you ever closer to the truth of a real problem and a good market.” (Fitzpatrick, 2013, p. 49).

The Build-Measure-Learn feedback loop

The Build-Measure-Learn feedback loop is the iteration cycle that allows for quickly acquiring validated learning about the rationality of the current business model of the startup (Ries, 2011). It consists of three phases, see figure 2.

Figure 2. The Build-Measure-Learn framework (Ries, 2011)



When following the build-measure-learn loop, it is important to notice that it should be used in reverse order (Ries, 2011). First, the company must identify what it wants to learn (hypotheses), then it should decide how that can be measured with metrics, and only after that, a minimum viable product should be constructed.

Most of the time, the experiments fail. A startup must embrace such failure as a natural part of the process (Blank & Dorf, 2013). One of the greatest differences between a startup and an existing company is that when executives fail in trying to match a plan, they are fired. In a startup, the current business model is fired and replaced instead.

The minimum viable product

A minimum viable product is a version of the product or service that the startup wishes to test, which allows for an iteration in the Build-Measure-Learn feedback loop with minimal

effort and the least amount of development time (Ries, 2011). Hence, minimum. There are many different types of MVPs, and table 2 outlines some of the most common ones.

Table 2. Three different types of MVPs (Ries, 2011)

Type of MVP	Description
The Video MVP	Dropbox is famous for using a video MVP, showcasing what the product intended to do, with some filmmaking skills, without ever building the product. 75,000 people signed up on the waiting list of Dropbox after viewing that video, convincing the startup that it was onto something and confirming its value hypothesis in the process.
The Concierge MVP	Treating a single customer and fulfilling its every needs and wants. Only after truly satisfying this one customer, growth is being considered.
The Wizard of Oz MVP	Aardwork, a previous competitor of Google, used this approach when evaluating its business idea of a search engine for subjective matters. Building the search engine itself would have cost millions of dollars, so instead, Aardwork tested if the product was valuable by having people mechanically answering the search enquiries, in the beginning. This is the Wizard of Oz MVP – having someone behind the automated curtain, executing a manual task.

Actionable metrics

In order to be able to measure whether the product one has built is fulfilling the needs of customers, he must use efficient metrics. Such metrics typically fulfil the following three - actionable, accessible and auditable (Ries, 2011). An actionable metric is one that demonstrates evident cause and effect, an accessible one is one which is easy to understand by stakeholders, and an auditable one is one which is creditable.

Many startups fall into the trap of measuring the wrong things. Such metrics are referred to as *vanity metrics* (Ries, 2011). What can be considered a vanity metrics depends on the occasion, but can be measurements such as gross revenue, number of registered users, etcetera. Numbers that only explain absolutes, but say nothing about derivatives, typically fall into the category of vanity metrics. No validated learning can be gained from concluding that the company currently has, for instance, 1,000 registered users. How does one know if 1,000 users are good or not? For the measure to become actionable, it must be transformed into a ratio. For instance – the number of registered users gained during the last month, compared to the month before that. Is this pace reasonable? Is it increasing or is it slowing down?

In the book *Lean Analytics: Use Data to Build a Better Startup Faster*, Alistair Croll and Benjamin Yoskovitz (2013) give their own definition of what a good measurement must fulfil. It should be comparative, understandable, influential, and a ratio - see table 3.

Table 3. What should a good metric fulfil? (Croll, 2013)

Characteristic	Description
Comparative	To help understand which way things are moving, it is important to be able to compare the metric in time, between products, among competitors, or similar.
Understandable	If people do not understand it, it will not be able to be used for decision-making purposes.
Influential	If the metric does not have the potential of changing the way that the startup operates, it is of no use to the owners.
A ratio	That the metric is a ratio is pretty much essential for it to meet the three other requirements.

Segmentation

Define one group of customers on some characteristic - be it where they live, which type of income they have, if they are male or female - and then look at how the segment may differ from the rest of the customer base (Croll 2013). Why is that so? Segmenting is not so much setting up specific tests as presenting the data that is already available to the startup in a new way.

A/B testing

One method that can be used to measure and gain validated learning through the application of actionable metrics, is A/B testing (Ries, 2011). An A/B test consists of two different MVPs, or slight variations of the same MVP. The two are set up to compare one or more important metrics – such as a clickthrough rate on an advertisement or customer retention rate on a website. Once an adequate sample size has been reached, the superior version can be chosen.

Such tests are called cross-sectional and measure different experiences from customers at a given point in time (Croll, 2013). It is important in a test of this sort to isolate variables as much as possible, otherwise it can be very difficult to draw causal conclusions. Alistair Croll and Benjamin Yoskovitz (2013) highlights a weakness with doing A/B tests as a smaller startup. Only large digital companies like Google and Bing have the opportunity to test a lot of

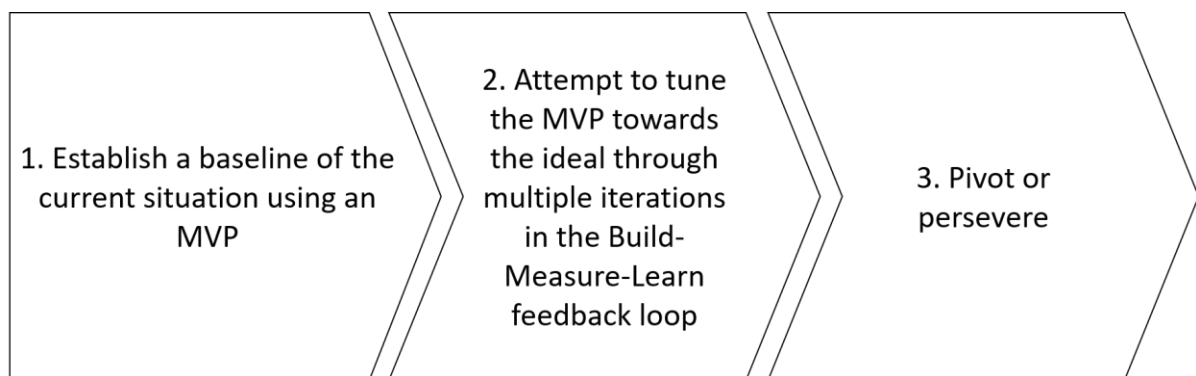
different variables. As a smaller company, you often run into the problem of having more variables to test than you have data.

Pivot or persevere

The final step in the Build-Measure-Learn feedback loop is learning (Ries, 2011). Does the value hypothesis still make sense or not? Should it be accepted, and the current business model be persevered, or is it time for a major pivot? Actionable metrics is required for such decisions, and unfortunately, there are no set numbers, the decision to pivot or persevere is a highly subjective one.

Deciding whether to pivot or not is a three-step process, see figure 3:

Figure 3. The three-step process in deciding a pivot (Ries, 2011)



It can be of major help in this subjective process to identify *leap of faith assumptions* as early as possible and to quantify (Ries, 2011). It is always tempting to declare success retroactively. Moreover, schedule pivot or persevere meetings beforehand, and with no more than a few weeks in between. The more time and effort that the entrepreneurs put into something, the tougher the decision to pivot will become. In table 4 the model that Steve Blank and Bob Dorf (2013) suggests, which is a five-step one rather than a three-step, is presented.

Table 4. The five-step process in deciding a pivot (Blank & Dorf, 2013)

Step	Core questions
1. Assemble data findings	<ul style="list-style-type: none"> - Is it enough? - Is it correct?
2. Validate the business model	<ul style="list-style-type: none"> - Based on the gathered data, which of your initial hypotheses in the Business Model Canvas can be said to be proven facts?

3. Validate the financial model	<ul style="list-style-type: none"> - Does the current model point towards a scalable business? - Is it possible to scale before the company runs out of money?
4. Re-validate business model	- After you ran the numbers in step 3, is there anything in the business model that can be changed?
5. Pivot or proceed	

According to Eric Ries (2011), the runway for a startup should never be measured in money, but rather in the number of pivots that are still left to be explored. There are several types of pivots to make. In table 5, five of the more common ones are presented.

Table 5. Five examples of pivots (Ries, 2011)

Pivot	Description
Zoom-in pivot	A smaller feature of the product or service proved to be a critical one in the measuring phase and pivoting to building the entire business around that feature could be a valid alternative.
Customer segment pivot	The initial group of customers that the startup intended to focus on might not be as interested or valuable as perceived initially, but another group showed a lot of enthusiasm. It could be time to pivot to the latter (Ries, 2011). If you do not know where to go to find your customers, you should probably narrow down even further. Customers are a who-where pair, according to Fitzpatrick (2013).
Customer need pivot	Getting to know one's customers sometimes results in new discoveries regarding what really bothers them - and regarding what they are willing to pay for. If these problems can be solved by the startup team, there is a potential pivot to make.
Value capture pivot	Who pays for the solution that the startup is bringing to the market? For example, deciding to give away the product for free and then charging through advertising instead is a typical pivot that many app-based companies make today.
Technology pivot	Sometimes, the startup finds a way to serve its customers using a different technology than before. This technology might have

	benefits in that it creates additional customer value, serves a new segment etc.
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2.2.3 Acceleration

“How much time and energy should companies invest in infrastructure and planning early on in anticipation of success? Spend too much and you waste precious time that could have been spent learning. Spend too little and you may fail to take advantage of early success and cede market leadership to a fast follower.” (Ries, 2011, p. 181)

“No company can survive without being first. It’s no longer enough to be one of the best. Not even second best. The lead position is the only one that counts.” (Sandberg & co, n.d., p. 3)

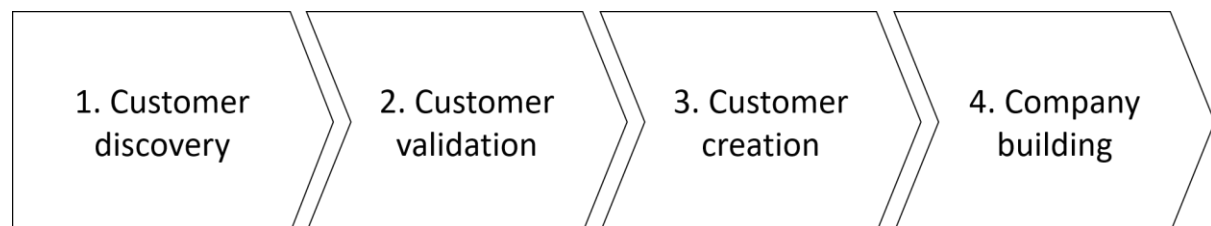
“Graduation day arrives when the startup finds a scalable, repeatable business model ... In a sometimes-bittersweet transition out of startup mode, company-building refocuses the team’s energy away from ‘search’ mode and to a focus on execution ...” (Blank & Dorf, 2013, p. 29).

Growth hypothesis

The second most important hypothesis that a startup has is that regarding its growth (Ries, 2011). After the value hypothesis has been confirmed, it is time to speed up the engine. How will new customers discover the product or service? As expressed through the above quote of Eric Ries, spending too little time and energy in this area may result in competitors surpassing you, but spending too much is associated with a lot of risk, which counters the very idea of Lean Startup.

Steve Blank and Bob Dorf (2013) argues in a similar way that only after the value hypothesis has been confirmed, it is time for growth. In the Customer Development model invented by Steve Blank, four iterative steps describe the development of a startup:

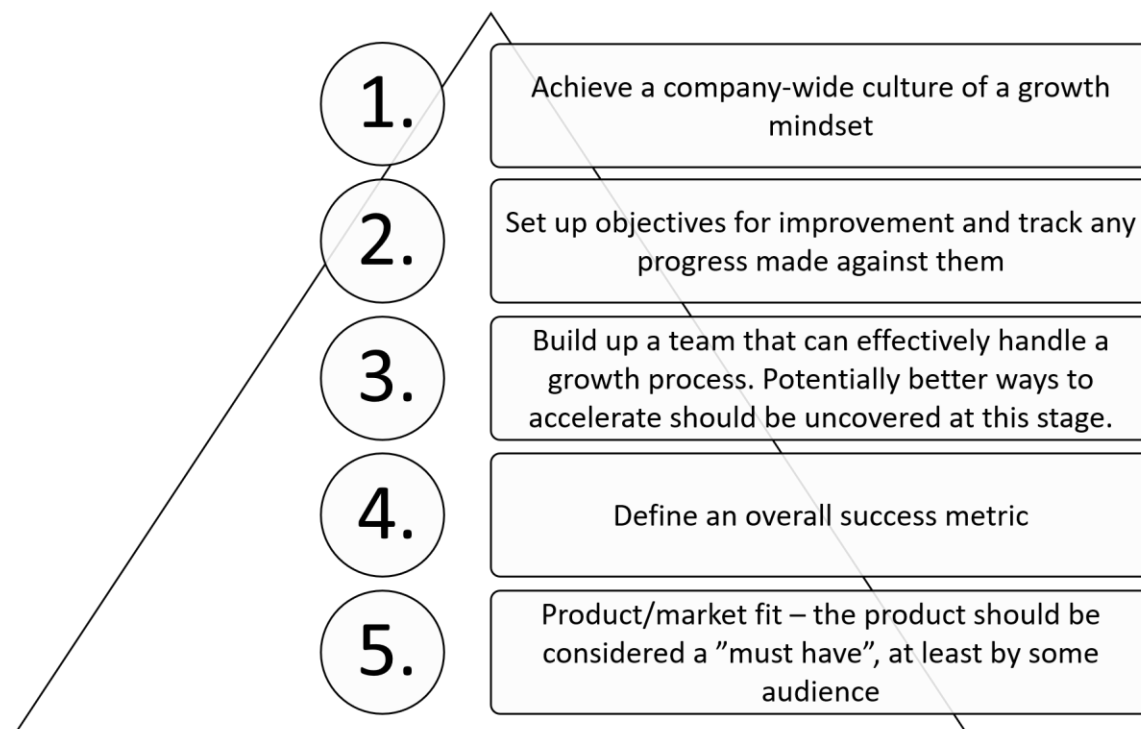
Figure 4. Going from idea to growth (Blank & Dorf, 2013)



It is at step number three that growth is first introduced into the equation, when it is time to execute - *“it builds end-user demand and drives it into the sales channel to scale the business”* (Blank & Dorf 2013, p. 22).

One of the co-founders of Dropbox, Sean Ellis (2018), has invented a model which he calls the *“Growth Pyramid”*, describing how growth in a startup is something that should only be strived for once a proper foundation has been laid out. The *Growth Pyramid* consists of five different steps (see figure 5):

Figure 5. The Growth Pyramid (Ellis, 2018)



A very important question for the early-stage entrepreneur is that of when to leave level 1 to go for levels 2-5. In *Lean Analytics: Use data to Build a Better Startup Faster*, Alistair Croll and Benjamin Yoskovitz (2013), describes a practical way of doing this. The startup must simply ask its current customers the following question: *“How would you feel if you no longer could use this product (or service)?”*. If more than 40% answer that they would be disappointed, the owners may proclaim that product/market fit has been achieved.

Three engines of growth

A truly expensive form of waste is arguing about how to prioritize the development of a service or product once it is on the market. Engines of growth allows startups to focus their energy on a narrow set of metrics in order to eliminate such waste (Ries, 2011).

“Startups don’t starve, they drown.” (Wirtz, 2018)

This quote by Shawn Carolan reveals an important characteristic of most startups – there is always more to do than could be done (Ries, 2011). The difficulty lies in the prioritization. Depending on the type of business, a startup should therefore consider focusing on one of these following three engines of growth, in order to reduce the risk of drowning. In table 6, the engines are described, and their core metrics are marked in bold.

Table 6. The three engines of growth (Ries, 2011)

Engine	Description
The sticky engine of growth	If the business of the startup is focused on repeat usage, this could be a good choice of engine of growth. The expectation is that once customers have started to use the product, they will continue to do so. This must be guarded carefully through the churn rate of the customers. The churn rate is expressed as the percentage of customers lost during a specific time period. For a company using the sticky engine of growth, its success depends on this variable in combination with the customer acquisition rate . The difference between the two decides the velocity of the engine.
The viral engine of growth	When the customer itself is expected to do the largest part of the marketing, the viral engine of growth is an appropriate choice for the startup. Online social networks and multi-level marketing companies are typical examples. The inherent property of such companies is that the person-to-person spread is an effect of the normal usage of the product. Companies of this sort must focus primarily on the so-called viral coefficient , which measures how many additional customers that every new customer attracts. If this coefficient is greater than 1, the company will enjoy an exponential growth.
The paid engine of growth	Many products are not suitable for viral growth, and they might be one-time purchases, so they are not sticky either. In these cases, the paid engine of growth is preferred. Two variables are essential to understand how fast the company can grow – the lifetime value of a customer and the cost per acquisition of a customer. The greater the difference between the two, expressed as a percentage of lifetime value, the faster a company of this type can be expected to grow.

2.3 Critique against Lean Startup

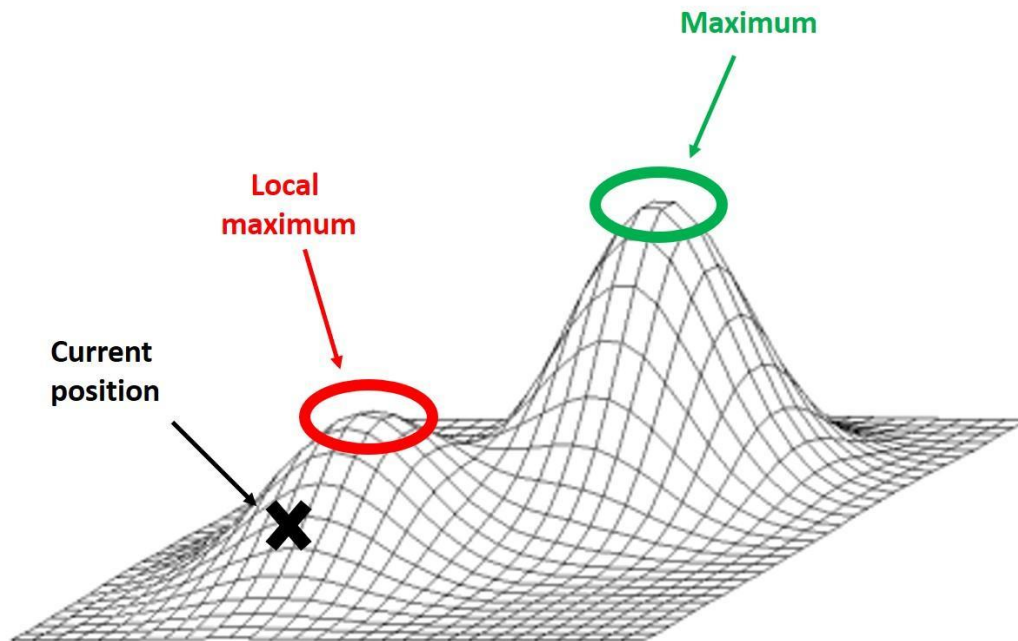
Everyone is not in favour of this new “Lean Movement” though. Among the most famous opponents are Peter Thiel, the cofounder of PayPal and an early investor in Facebook (Forbes, 2019), and Sam Altman, who was the chairman of the famous startup accelerator Y Combinator up until March 2019 (Clark 2019).

2.3.1 Critique from Peter Thiel

In his book *Zero to One: Notes on Startup, or How to Build the Future*, Peter Thiel (2015) describes that the current business thinking in Silicon Valley is heavily influenced by the dot-com crash almost two decades ago. Some of these standpoints are critique against Lean Startup. For example, the emphasis on incremental changes can be problematic. Peter Thiel states that *“It’s better to risk boldness than triviality”* (location 221). Moreover, Lean Startup states that planning is arrogant and inflexible. Entrepreneurship is agnostic experimentation where you are supposed to try things out and iterate. Peter Thiel counters: *“A bad plan is better than no plan”* (location 221). Another critique is that the Lean movement is too heavily focused on the product, rather than the sales. The iterative cycles, and the MVP at the heart of them, suggests that product development is the most important part of building a business. Not according to Peter Thiel, who states: *“Sales matters just as much as product”* (location 221).

He explains further that he dislikes the concept of an MVP. Entrepreneurs are told to listen to what customers are expressing and then to make an MVP and iterate until successful. One must be careful though as to not make too small optimizations (Thiel, 2015). There is always a risk that such an optimization strategy leads to a local maximum (see figure 6). *“Left unchecked, all optimization leads to gambling and porn”* (Berglund, 2018, slide 66). Going from 0 to 1 is not possible without a bold plan (Thiel, 2015).

Figure 6. The local maximum pitfall (Berglund, 2018)



Thiel has also questioned the very reason for the existence of an entrepreneur who is using the Lean Startup methodology. He argues that if the problem of the customer is not clear already from the get-go, why does the entrepreneur even bother making a solution? (The Aspen Institute, 2015)

"I'm nervous about people who say they want to be an entrepreneur. That's like saying I want to be rich or I want to be famous. You don't want to be starting a business for the sake of it, but because there is a problem that cannot be solved in existing structures."

2.3.2 Critique from Sam Altman

Sam Altman explains that most great startups did more than incremental improvements to products to succeed (Startupclass, 2014). He suggests that great entrepreneurs *"have a virtual ESP link with the public"* (paragraph 58) and that they are not easily influenced, therefore there is no need for, and no use for, massive customer surveys. Furthermore, he says that risk in a startup is a difficult concept to grasp. Lean Startup tries to mitigate the risk by iterating and minimizing waste, but Sam Altman argues that if you do not act quick enough, you will often miss the boat.

2.3.3 Critique from Eric Ries

Eric Ries himself explains that there are instances when the Lean Startup process yields limited advantages. In *Hypothesis-Driven Entrepreneurship: The Lean Startup*, an article

produced for the Harvard Business Review in 2011, three such situations are described. The first one is when mistakes are expected to be costly, or perhaps even fatal, for the startup. Such a situation is more common if the startup do not have a chance to course correct after launch, if the function is critical to customers and downtime is unacceptable or if people may suffer from the launch of an unfinished product - as with pharmaceuticals for instance. The second one is when the uncertainty of demand is low. In such cases, it could be too defensive to launch a product the Lean Startup way. The third one is when there are long development cycles for the product. This basically makes launching early and often an impossibility.

3. Research Methodology

The parts below concern the method which the study has used. Firstly, the research approach and design are presented and justified, next is how the data collection has been made and on to how the data was analysed. Lastly, the reliability and validity of the study is discussed, leading to the study's limitations.

3.1 Research approach and design

It can be assumed that the research question: "To what extent does the Lean Startup methodology translate to real world business implementation for the early-stage entrepreneur?" - requires in-depth understanding of the entrepreneur's experiences, and a dynamic and flexible approach in order to capture the richness of the process, as he or she applies the Lean Startup methodology (Ries, 2011). Understanding the multifaceted and uncertain process of entrepreneurship in its early stage advocates a qualitative approach that regards and captures these detailed facets (Fletcher, 2011). At a micro level, startups, entrepreneurs, their prerequisites (such as the entrepreneurs former experience, the ventures different levels of initial funding, its geography, etcetera), and their execution, vary depending on many factors (Ries, 2011). Having this many attachment points and large amount of underlying uncertainty, while trying to isolate and analyse certain variables - in this case the methods advocated by the Lean Startup - makes any conclusions questionable in terms of transferability. As a result, a method was chosen that makes the researchers able to, on the most fundamental level, study this transferability of the Lean Startup methodology - in its natural settings.

The method chosen, to try to answer the research question, is an autoethnographic approach (Ellis, Adams, & Bochner, 2010). The autoethnographic research method is a form of qualitative research, that through an exploratory and self-experienced approach enable the researchers to connect theoretical frameworks to the experiences (Denshire, 2013). Thus, the data for the research is based on the lived experiences of the researchers.

So, in order to experience the early stage of business implementation from the eyes of the entrepreneur - the study was conducted by starting a startup, following the theoretical methodology as advocated by the Lean Startup (Ries, 2011). For the study, a new idea for a business was created, and functions as the startup. The startup had to fit the aforementioned definition of a startup, as it would be the object of investigation throughout the study.

The study was conducted during approximately a 5-month period. During this time, the researchers aim was to go through the phases of Vision, Steering, and Acceleration (Ries, 2011), while using the principles from the Lean Startup methodology.

During the 5-month period, one can perceive it as two separate processes took place at the same time. The first was the practical experiment, where the researchers put themselves in the shoes of entrepreneurs, living their reality when deploying the Lean Startup methodology, with the goal of creating and establishing a new business entity. The second - parallel process - was the researchers' evaluating and analysing perspective, in which the entrepreneurs' actions and decisions were examined. This "spectating" process was about looking at the progress made by the entrepreneurs, as objectively as possible, considering the given circumstances, and tried to evaluate the suitability and potential progress made as a result of deploying the Lean Startup methods.

The two different processes - the experiment by the entrepreneurs', and the evaluation of the researchers (the entrepreneurs and researchers being the same individuals) – are described in the two upcoming parts in this section. Chapter 3.2, "Data Collection", is described through the lens of an entrepreneur, and 3.3, "Data Analysis", is described through the lens of a researcher, based on the entrepreneurs' experiences.

3.2 Data Collection

This section concerns what data was stored throughout the 5 months process, and how it was stored. Why specific data was perceived as important and useful is also explained. The section takes the perspective of the entrepreneurs' lived experiences.

As the entrepreneurs' created a business entity in the form of a startup, data was created continuously throughout the 5 months. No specific tasks or actions were made only in order to only create the empirical data. Instead, data emerged as a result of the researchers' actions while following the processes and principles from the Lean Startup. The reason for this exploratory approach is the lack of former research in the domain - "[exploratory data analysis] *is supporting the purpose of capturing relationships that are perhaps unknown or at least less formally formulated.*" (Shmueli, 2010, p.297).

The data was stored in different ways depending on its origin and its perceived usefulness of the continuation of the startup. The reason not *all* data was collected and stored was because of practical limitations of such an endeavour, as 5 months of daily execution creates a too large amount of data for two persons to handle. What was perceived as "useful" data can be traced back to the research question, and to the formed hypotheses. As the hypotheses are mainly evaluated based on customers' expressions and actions concerning the startup's product, the data mainly consists of interactions with potential, and actual, customers. Furthermore, data was also stored on occasions when decisions were made.

As the startup-process is an exploratory process in itself, the entrepreneurs worked closely together throughout the 5 months. Would work have been divided, the different experiences would risk isolating the entrepreneurs, and they would therefore have lacked a counterpart to discuss experiences with. Work was therefore seldom divided in any noteworthy way, and consequently, perceptions of the current state of the startup and opinions on how to proceed, were aligned throughout the study-period.

Potential customer identification

The potential customers were screened using Lantmäteriet's services (Lantmäteriet is the organisation commissioned by the Swedish government to coordinate real estate-data nationally). The entrepreneurs screened for real estates in popular summer vacation-areas that lacked permanent residents. The reason for this method was that the entrepreneurs believed that the property on the estate would in that case be likely to function as a vacation home, and not a year-round residence. The owners' telephone numbers were then identified using the web-services Hitta.se and Eniro.

Approaching the initial customers

As mentioned above, a lot of data emerged as a result from talking to potential customers. This is where the project began. After having created an minimum viable product (MVP), that, in reality, was more of an mock-up in the sense that there were no actual set processes, no company, and consisted of only an idea of how it *could* function, the entrepreneurs set out to talk to potential customers.

The potential customers were chosen and targeted individually based on the hypothesis regarding who the potential customers were. Within the first five weeks, 189 of these potential customers were talked to by phone (excluding the ones who did not answer the calls, and those who turned out not to own vacation homes). The calls were done in a semi-structured setting. The reason for this structure was its exploratory nature, as the flexibility of a semi-structured approach enables a potentially deeper and more developed discussion, that can bring new insights to the interviewers (Bryman, 2013). There was a willingness to be carried away from the initial questionnaire in order to explore and begin to understand what a particular customer's perspective was.

These interviews were not transcribed, as this would be an overwhelming workload considering the, in total, 189 phone calls that were made. Instead, notes were taken continuously during the calls, mainly regarding the potential customers' current situations regarding their vacation homes, and their reaction to the entrepreneurs' proposition (when outlining what that customer would gain from signing up to their service). The data of the potential customers' situations were written down and somewhat summarized in an Excel-

table, without any intentional interpretation from the entrepreneurs. Right after the call-sessions, the entrepreneurs sat down and discussed the findings with each other, going through the outcomes of each and every one of the calls that were made. These discussions aligned the entrepreneurs' point of views.

The number of written notes from the different calls varied from 1 sentence, up to 10 sentences. The "1 sentence" - notes were often of the character that the potential customer had not been interested in what the entrepreneurs had to offer, and therefore gave a quick explanation of why their situation were not well-suited for the offer. The "10 sentences"- notes were a result of more in-depth discussions with the potential customer. It was these more thorough discussions between the entrepreneurs and their potential clients that brought the most insights and that made up the bulk of the discussions between the entrepreneurs after the call-sessions.

Using a phone as a mean to conduct interviews with has the advantage of not making the respondent feel intruded, as can be the case with face-to-face communication, making the answers potentially more honest (Tucker and Parker, 2014). At this early stage in the process, the entrepreneurs saw no need to have face-to-face meetings with potential customers, as the extra nuances that is exposed and expressed in face-to-face discussions was not seen as vital in order to proceed the study. The efficiency of phone-calls therefore outweighed the risk of missing particular details - *"You don't always need a Rolls Royce to get to work"* (Tucker and Parker, 2014, p.23).

However, there are also disadvantages in that the entrepreneurs in this case, using phone-calls, did not have the ability to, on a deeper level, understand the potential customers that were anxious to hang up early in the phone calls. There is a risk that this group, that were unwilling to share their perspective and situation, represented a point of view that would have had an effect on the entrepreneurs' hypotheses, if their point of view would have been expressed. This issue was dealt with by pivoting the explained reason to the potential customers regarding why the phone calls were made. From the beginning it was stated that the calls were made regarding an offer, and in a second experiment, it was stated that the calls were made in order to conduct research on Chalmers University of Technology. This pivoted reason of the phone call was used for approximately 20 answered phone calls. It gave the entrepreneurs a chance to better understand every potential customers' situation, without exposing the idea of the startup. The idea was that the potential customers would be less biased and more transparent towards researchers than towards entrepreneurs, as focus were on the potential customers' lives, and not the idea itself (Fitzpatrick, 2014). These interviews were done with the exact same process (same selection and processing) as the ones explained above, with the exception of the given motive of the phone-call to the potential customers.

SMS-based communication as a sales channel

At a later stage in the study, about one and half month in, another medium of communication was introduced. The early hypotheses had been worked with and had been developed, and the change in phase required a change in communication tool.

The data required no longer had to contain details of every potential customers' situation. As the entrepreneurs' offer had been developed and needed testing, it required data in greater quantities. SMSes were perceived as a medium that would bring the sought characteristics. It enabled larger quantities of potential customers to be contacted in a homogenous way, with subsequent dialogues still possible.

Vacation homeowners were identified using another screening method than Lantmäteriet's and Hitta.se/Eniro.se's services. Instead, the entrepreneurs screened rental platforms for vacation homeowners, and thus reached individuals who already were renting out their vacation homes. The reason for this change was, again, due to the hypotheses.

The entrepreneurs developed in total three different SMSes. The reason not only one SMS was developed and sent out to the potential customers was because of an intention to A/B test the different versions. In total, 2,520 SMSes were sent out during a 2-month period (953 of the first version, 450 of the second, and 1,117 of the third). The allocation to each of the versions depended on the entrepreneurs' interpretation of their success-rate, considering customer-ratios and lead-ratios. There was no particular reason for the specific total quantity, other than that phone numbers to the target audience had become increasingly difficult to obtain.

Just as with the phone calls and the people who tended to hang up early in the conversation, the individuals who did not answer on the SMSes might have had information that would be highly desirable for the entrepreneurs. However, as this phase was devoted to test the growth hypothesis, the non-answering group was not considered as important to receive answers from, as they would probably never become customers of the startup anyways. As an effect, no efforts were made to reach the individuals who did not reply on the SMS.

Meetings with new customers

During approximately the last 2 months of the study, another phase started. The earlier efforts of talking and reaching out to potential customers had in some been successful. Some individuals had proceeded to becoming actual customers of the startup. This gave the entrepreneurs the best chance yet to gain in-depth understanding of who their customers actually were.

All contact with the new customers were done by phone and subsequently e-mail, up until the point when the entrepreneurs' contract had been signed by the new customer.

When the contract was signed, a meeting was scheduled with the new customer, at his or her vacation home. The reason to meet at the new customer's vacation home was because of the entrepreneurs' intention to build strong reciprocity and likeability (Cialdini, 2007). First of all, investing the time to travel to the new customer's vacation home, showed commitment to the customer (the travel-time to the different customers varied between 2-4 hours, one way). This commitment, the entrepreneurs hoped, would affect the new customer by strengthening the relationship with the entrepreneurs, and thus increase the expected lifetime-value of that customer through a decreased *churn rate*.

At the new customers' vacation homes, the entrepreneurs aimed at building a strong likeability, by basically being nice. Also, a combination lock for key management was bought and brought by the entrepreneurs to every visited vacation home, this was also a way to increase reciprocity and thus the customers' lifetime-value.

The meetings with the new customers can be considered as long interviews, made in a semi-structured setting. The entrepreneurs used the opportunities to learn as much as possible about the different customers' situations, and the new customers used the opportunity to ask the entrepreneurs questions more in detail regarding how different situations would be handled. The entrepreneurs took notes during the visits of the practicalities of every vacation home, such as how the beds and sleeping possibilities were distributed. Every visit lasted between 2-3 hours each. When returning home, the entrepreneurs discussed the visits and the customers. The focus of these discussions was on how to improve the next visit. No notes were taken during these discussions.

As of 2019-06-24, the entrepreneurs had acquired 18 vacation homes, from 13 customers. When a person became a customer, all that customer's data is transferred to an Excel-sheet, where the vacation home's information is stored and, to some extent, processed. The reason why the data of the vacation homes are stored in an Excel-sheet and not a text-based application is due to the ability to display and structure larger amounts of data in a comprehensible way. The processing of the data was done to translate the characteristics of the vacation homes to a price suitable for listing. This includes size of the vacation home, number of beds, distance to ocean/lake, and perceived condition of object.

3.3 Data Analysis

This part takes the perspective of the researchers, and focuses on how the evaluation was done, regarding the guiding of the Lean Startup methodology for the entrepreneurs in their actions and decision-making.

The generated data in this study is very rich in its character. Thorough discussions have taken place throughout the course of the study, regarding what the theoretical frameworks suggest the entrepreneurs should do in different situations. The discussion and evaluation have not been done on predetermined occasions. Instead, as the entrepreneurs were pondering on how to proceed, when, for example, formulating hypotheses, developing the service offering, deciding on what growth strategy to use, etcetera, theory was used to try to find guidance and support for the decisions and actions. When the decisions and actions had been made, the entrepreneurs sat down, now as researchers, and evaluated how well the theory did guide the entrepreneurs. These discussions have been written down, and makes up Chapter 5 - Discussion, in this paper. Apart from the frequent, but sporadic, occasions of analysis that were made throughout the study, a rigid session of analysis was also conducted in the middle of May, approximately 4 months into the study. At this occasion, the researchers also looked back at the journey that had taken place. This was the first time a comparison between the data points was possible. Throughout the study, the different experiences had lacked reference-points, especially early on. At the end, the researcher could better understand to what magnitude the theories had guided the entrepreneurs, as it was now easier to see the differences between the guided occasions.

The above discussions were the main method for analysing the data and evaluating the theoretical framework and its usability in practice. Focus was on the dimensions of perceived clearness in the guidance, the suitability for the different phases, and, to some degree, the result of applying the framework. Even though result is not part of the research scope, it was hard to completely ignore, as the perceived suitability of the framework is affected by the progress made by applying it.

Although notes were taken and stored, and make up 5. "Discussion" in this paper, memory does make up a part of the collected data, and thus also plays a role in the analysis. Memory has been acknowledged in other studies undertaken with the autoethnographic method (Coffey, 1999). As memories are always present when conducting an autoethnographical study, and when certain situations are analysed in hindsight, there is no way for the researcher to fully ignore such memories and only take into account the specific notes describing the decision point. The fieldwork, and associated notes, can therefore not be fully separated from the memories that created those notes. However, the role of the memory can also be viewed as adding depth to the analysis:

"As I collected my written notes, there were many more impressions, scenes, experiences than I wrote down or could possibly have recorded." (Ottenberg, 1990, p.144)

As memories contain more information than notes, it can be questioned whether perhaps own experiences and memories might contain more value than the field notes (Wall, 2008; Ottenberg, 1990). This reasoning also strengthens the case of the chosen method, as the

researchers' own experience through an autoethnographic approach could end up being better suited for the study than basing it on, for example, interviews. It can be that, in this way, the researchers end up with a more accurate, detailed and nuanced understanding of the process, than by having the information passed on to them through such interviews.

3.4 External and Internal Reliability and Validity

Undertaking an autoethnographic research approach is considered risky in terms of assuring credibility and legitimacy to the study (Wall, 2008). However, measures have been taken to limit the flaws entrained by the chosen approach.

External reliability mainly regards the possibility to replicate this study at another occasion (Jacobsen, 2002). As mentioned when the research method was justified, there are a lot of variables and uncertainty in entrepreneurship, that, together, create a very specific set of prerequisites (LeCompte & Goetz, 1982). Therefore, researchers trying to replicate the study would have a hard time setting the same scene. However, the researchers in this study have throughout the process taken thorough notes of the choices made and explained the rationale behind those choices. For example, the data collection made from the SMS-based communication (which was used as a sales channel) was well-documented, and its can be found in appendix A. The screening process for finding potential customers have been explained, and the SMS-template can be copied and used – appendix C. So even though the study would not be *easy* to replicate, the thorough documentation provides the information needed to set the same prerequisites, and thus it still *could* be replicated.

Internal reliability, and the chances for other researchers to reach the same conclusions given the same data (Bryman, 2013), is considered rather likely. The data produced with the autoethnographic approach is of high quality in that it allows an understanding of the context and circumstances, as well as details regarding the process and decisions. Other qualitative approaches, such as using interviews, would most likely not produce the same richness of details. The data from this study is of such depth that it could not be transmitted in, for example, an interview, that lasts for a couple of hours, and that is why it is assumed the autoethnographic approach is superior in terms of qualitative data. As mentioned in 3.3 “Data Analysis”, the memory of the entrepreneurs' complements the saved notes of situations and the processes throughout. Even though most of the data was stored as written notes in Word and in Excel-sheets, some nuances and details are stored as memories. Other researchers who would replicate this study would also end up with experiences and memories that only partly could be written down. But the memories would nonetheless help them reach the same conclusions as they would without their own experience, but with an enhanced degree of confidence as their memory would support their findings. The internal reliability is further strengthened because there were two researchers, who worked closely together during the

5 months period. Would one of them reach an improbable conclusion at some stage, the chances are low that the other one would reach the same - improbable - conclusion. Thus, the conclusions were somewhat self-corrective in the way that weird interpretations from one part, would most likely lead to a discussion and be corrected by the other part.

Internal validity, and the accordance between the chosen research approach and the purpose of the study (Bryman, 2013), was high - according to the researchers themselves. The data in the study has been collected using several different methods, as advocated in the Lean Startup methodology. All was done within the boundaries of the startup, and all helped in reaching the aim of the study, as it was to evaluate these aforementioned methods' suitability. In one way, this study's internal validity, is self-fulfilling. To evaluate how well the Lean Startup's processes and principles help guide entrepreneurs in the early phases, in making their actions and decisions, it seems intuitively to actually test the processes and principles in practice.

External validity, on the other hand, and the generalizability, is hard to achieve through a qualitative study (LeCompte & Goetz, 1982). This weakness is also present in an autoethnographical study. One must be careful when generalizing to other areas, as the prerequisites are rather specific for the study as a whole. But certain parts of the study can be transferred and generalized to other domains. Such are findings within the applied method of A/B tests. It can be generalized to several other domains with different contexts as the specific prerequisites are fewer, looking solely at the A/B tests, than compared to the study as a whole. Also, even though generalizability may be limited for the study as a whole, the level of detail of the study enables a good chance for finding new areas of research within the domain of entrepreneurship and startups, which could be neglected or missed altogether if not making the study as in-depth.

3.5 Limitations and Delimitations

Starting with the limitations of this study. As mentioned earlier, there are prerequisites, and a large number of variables, that limits the generalizability of this study. For example, this includes the entrepreneurs' level of experience. It cannot be ruled out that another set of entrepreneurs, following the same process, conducting the same study, would end up with a different result compared to this study. This is simply a result of that the causal relationships cannot be proved, and this is an issue for single case-studies overall (Goes, Marilyn & Simon, 2013). Yet, in order to get data on an in-depth level, single case studies are sometimes needed. And even though single case-study cannot be generalized directly, they have the ability to find details that, for example, a survey-based study would miss. With further research, and combined with similar studies, findings from single case-studies can be triangulated, and generalizability can be achieved.

There is also a limit due to time, as the study was done through a self-experienced approach. Would the study have been conducted by having interviews, the researchers could have focused on startups that had a couple of years of data, which could have increased the generalizability. However, as mentioned before, interviews would have a negative effect on the depth of the study, and thus impose other limits. More time in this study with its autoethnographic approach, would mean more data would have been collected. More data could potentially enable more findings, in terms of quantity, and also perhaps some conclusions could be said with a higher degree of certainty. The research question includes the timeframe “early phase”, however, as roughly a third of all startups shut down in the first 2 years (JP Morgan, 2018), the study’s 5 months period does incur a limit to the generalizability. But again, there are findings that would not be affected because of a longer timeframe.

There are also a few delimitations that delimits the generalizability of the study as an effect of the researchers’ conscious choices throughout the study’s timeframe (Goes, Marilyn & Simon, 2013). As is clear from the research question, the study does not evaluate how the potential likelihood of succeeding with a startup is affected by deploying the Lean Startup methodology. The limit is drawn at the experienced suitability of the principles and processes. As an effect of the autoethnographic approach, and thus a form of single case-study, the data has been collected from a specific set of participants. These have all been vacation homeowners in Sweden. This too imposes limits to the generalizability. But with triangulation from similar studies, the findings can become strengthened and more generalizable.

Another delimitation is due to the scope of only focusing on the Lean Startup methodology. No other method or frameworks outside of these theories is used. Thus, nothing can be concluded regarding other principles and process that are meant to help entrepreneurs and business-leaders to develop their business entities. Neither does the study include any comparison between the Lean Startup methodology, to other methods and theories, or to a “just do it”-approach. The study evaluates the Lean Startup methodology in isolation, and conclusions can thus only be made on this methods suitability for an early-stage entrepreneur.

As a finishing remark on the chapter, autoethnographies include separating two processes - on the one hand the lived experience, and on the other, an outside process trying to objectively evaluate the lived experience using theoretical frameworks (Wall, 2008). Because of the difficulty imposed by this self-reflecting approach, triangulation and comparison to future, similar studies, are appropriate before making generalizations. With these difficulties in mind, the researchers have been careful making conclusions without having distinct data to back those conclusions up, which helps the generalizability in the right direction.

3.6 Ethical considerations

As an effect of choosing the autoethnographic research-approach, the researchers have become involved in the data collection and with the individuals from whom the data is created. As a consequence, there is a need to take four ethical considerations into account when collecting empirical data (Bell & Bryman, 2003).

The first guideline is to be transparent with the individuals from which data is extracted. However, in this study, seldom has the researchers mentioned to potential customers that the initial purpose of the startup was to conduct research. Would the research motive have been mentioned, it would risk tampering with the data collected, as the potential customers might would have behaved in another way.

The second consideration relates to how the data is handled, and it should be dealt with in a confidential way. Throughout the study a lot of personal data, regarding potential customers, has been stored. As examples, data has been collected about divorces (and impacts on ownership of vacation homes), individuals' financial situations, and health-related issues. All data has been dealt with in a confidential way. No specific data of any individual has been exposed to any other person besides between the researchers themselves. Also, no specifics are required to be exposed in order to present this study.

The third consideration is about individuals voluntarily collaboration in the study. As the reason for the startup could not be expressed to the individuals taking part in creating the collected data, the dimension of voluntarily collaboration had to be neglected.

The fourth ethical consideration relates to what the collected data can be used for, and it should be restricted to only a research purpose. Again, this study's situation is somewhat different to many others, as the research approach includes actually starting a new business entity.

Assuming that ethical considerations are to be taken into account in order to protect individuals, the startup's research motive does not necessarily have to be exposed. Until the end of the research project, all customers of the startup, and everyone else that the researchers/entrepreneurs have been in contact with, have been communicated with in a way that would be natural for any startup. Therefore, one can argue that no ethical dilemmas have occurred. However, would the whole startup-project now be scrapped, based only on that the research study is finished, that would cause major ethical dilemmas. People have invested their time, especially individuals who have become actual customers, to an extent that is not normal for other comparable studies. Some have scrapped the idea of handling their own rental of their vacation home for this season, as they have transferred the

responsibility of all that to the startup. Scrapping the startup after the research project is finished would therefore ultimately mean a loss of income of the new customers.

Conclusively, regarding the ethical dimensions of the research project, it is perceived as honest and without harm to any individual, given that the startup continues after the research project is finished.

4. Empirical Results

In this part, the empirical findings of the case study of the startup company R&E Semesterboenden AB will be presented. In chapter 2.2 – “The Lean Startup Model” - Eric Ries’ suggested three-step process for developing a company was presented: Vision - Steering - Acceleration. In this chapter, the same outline will be used to describe how the researchers applied the different tools and techniques of the Lean Startup methodology, i.e., how it helped guide them.

The mentioned findings of the case study, using data collected from the progress made by R&E Semesterboenden AB, will be paired with the theoretical framework of the Lean Startup methodology. The data points and results from the startup will be presented in order to support the reader in his understanding of the process, so that the reader can determine the plausibility of the study’s findings. Basically, the data provided is therefore aimed at being exhaustive enough to support the reader, but limited to what is deemed relevant by the researchers. The main objective with the presented empirical results therefore reflects the research question - which is to evaluate to what extent the Lean Startup principles and processes help in guiding the early stage entrepreneur in its actions and decisions.

4.1 Vision

Startups should have a vision in order to have an overall aim that helps guide actions and decision-making throughout their evolution (Blank & Dorf, 2013; Ries, 2011).

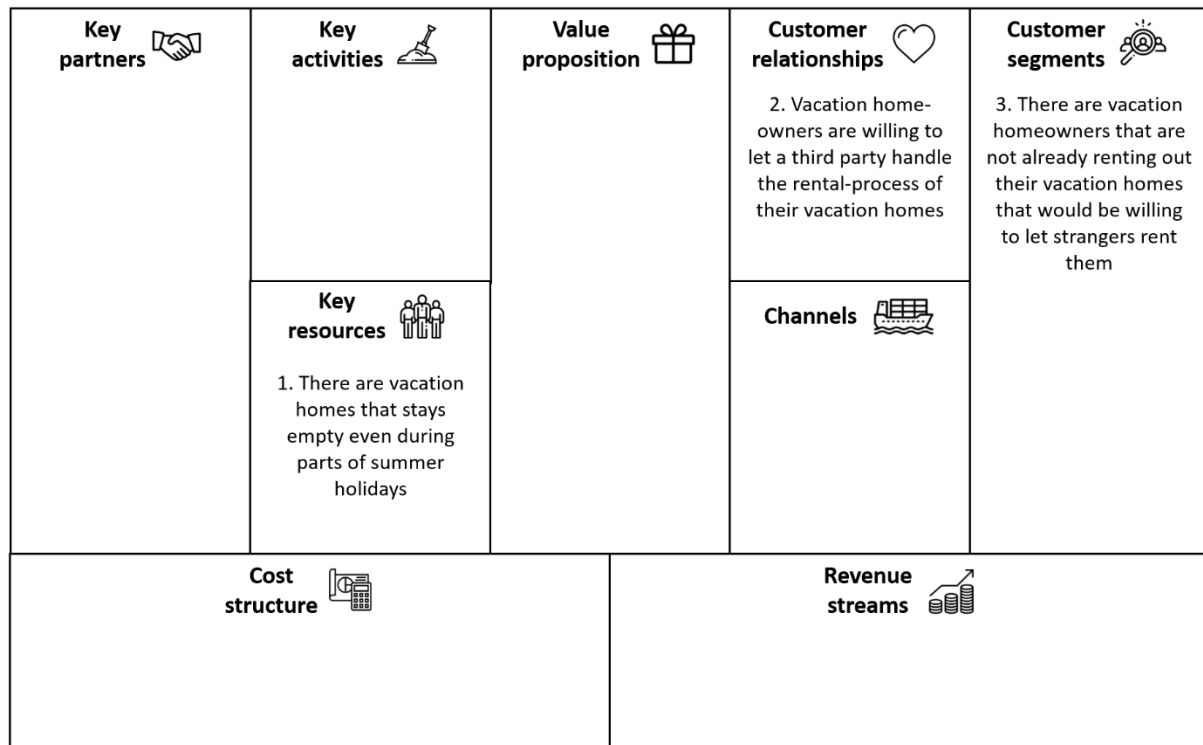
R&E Semesterboenden AB is a real estate mediator, and the company started its business in week 3, 2019. The initial business idea of the co-founders, Richard Dykes and Erik Abrahamsson, was to help others rent out their vacation homes, during times when these were not used by their owners.

The vision is to do this on a big scale for a large amount of vacation homeowners - to manage the whole rental process and thus create value by increasing the used capacity. Imagine using Airbnb, but instead of administrating your own vacation home, Airbnb would manage it for you, as well as creating the listing of your home, handling all communication with tenants, and the payment management. The vacation homeowner would only need to be responsible for updating his or her calendar.

The value hypothesis

Whether or not the service actually delivers value to a group of customers is what ultimately makes up the value hypotheses (Ries, 2011). These leap of faith assumptions are what need

to be tested as quickly and cheaply as possible. The co-founders developed their value hypotheses early in the process and has tried to maximize the speed and accuracy of the validation process ever since. The hypotheses are mapped out in the business model canvas below, see figure 7.



Validated learning

As speculated by the co-founders, the business idea did not require a physical product, nor any software, to be developed. It seemed like developing and specifying an offer, which could then be presented to potential customers, would have the possibility to help the co-founders collect data as validated learning. By this approach, the validated learning could be obtained cheaply and quickly. The offer could then be developed based on the responses. In case there would be commitments from the potential customers in terms of time (for meeting with the co-founders), integrity (showing the co-founders the vacation home), and/or trust (signing a contract that let the co-founders manage the rental of their vacation home), the co-founders could continue the process of tuning the service, and accelerate.

Furthermore, bad data in the form of compliments and fluff, as explained by Fitzpatrick (2013) was probably gathered during the calling phase. Many customers defined as “leads” were probably just people who wanted the conversation to end so that they could go back to whatever they did before they got a phone call from a vacation home mediator.

4.2 Steering

In this part, it is described how the co-founders of R&E Semesterboenden AB went on with evaluating the value hypotheses mentioned in the previous chapter. The primary focus will be to describe the process of how the co-founders used the Build-Measure-Learn feedback loop to develop the business, and how the concept of actionable metrics was used to gather validated learnings.

The Build-Measure-Learn feedback loop

For the first revolution in the Build-Measure-Learn feedback loop, the hypotheses from figure 7 were examined. Just like Eric Ries (2011) suggests, the co-founders started with what they wanted to learn. To be able to measure and approve or reject the hypotheses, they decided to cold-call people in the summer city of Ljungkile and tried to have them sign up as customers. This is in line with what Fitzpatrick (2013) suggests regarding the gathering of validated learning. No specific thresholds for measuring this were set up, which is not in line with what is suggested by Ries (2011). At this point, the only thing that the co-founders had, in terms of a built product, was a promise to its potential clients.

The cold-call experiment reached out to 436 potential customers, among which 205 picked up the phone to answer, and gathered 40 customer leads and 1 signed customer. The information gathered from this experiment (Appendix D) was enough for the co-founders to validate the first and the second hypotheses. It is clear that there are people with empty vacation homes, and it is clear that some of them would be willing to let strangers stay in their homes. However, with only one call resulting in a real customer, the co-founders felt that it is

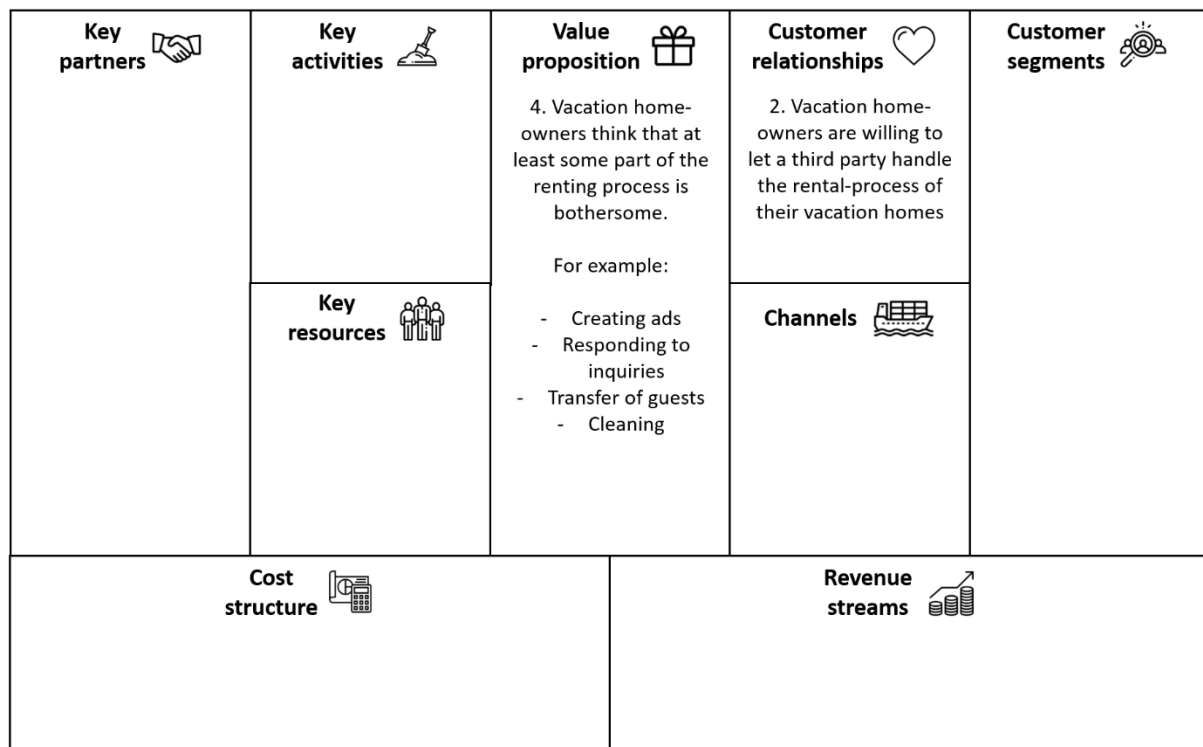
not proven yet whether customers would allow them to handle the whole renting process. This hypothesis became the primary target of the second revolution in the Build-Measure-Learn feedback loop.

While calling customers for the first experiment and trying to have them commit to the product of the startup, the co-founders gathered additional important information about its targeted customer segment. Among the potential clients that rejected the business proposition, about 50% explicitly stated that they did not want to rent out their homes due to one of the following reasons – flexibility, integrity or low quality. To counter this, they decided to target another group, customers who had already proven that they did not have any of these problems, as they were already renting out themselves.

The lukewarm response, as expressed in number of signed clients from the first experiment, raised an additional question for the co-founders: *is the business truly creating value?* At this stage it seemed relevant to question whether creating listings on relevant vacation home marketplaces, responding to inquiries from and handling the transfer of guests, truly was something that vacation homeowners found problematic. Otherwise, what did the business of R&E Semesterboenden AB do that, for example, Airbnb did not do already? During numerous times in the first experiment, the business idea was questioned by potential customers in this manner. Just like Fitzpatrick (2013) suggests, the entrepreneurs realized that they had to take this bull by the horn immediately, because the survival of the business depended on it. Was it possible that *almost* everyone who did not rent out their homes already, did so because of the three previously mentioned factors – flexibility, integrity or low quality?

To evaluate these two hypotheses (see figure 8), the co-founders created a second experiment. This time they decided to call people who were already renting out their homes, on sites such as stugknuten.com, stugnet.se and fritiden.se. Questions were asked in accordance with appendix B. Once again, no specific threshold was planned on beforehand for when a hypothesis should be rejected or not.

Figure 8. Second loop value hypotheses



The co-founders went “undercover” and called presenting themselves as doing research about the vacation home market for a Master’s Thesis on Chalmers (not so far from the truth!) in order to avoid compliments, fluff and ideas – all examples of bad data – in accordance with Fitzpatrick (2013). The experiment did not really lead to any validated learning regarding any of the two hypotheses, but it allowed for the co-founders to identify occupancy and the change of guests as potentially the most bothersome activities and evaluate that in the next loop.

The third loop, therefore, had the same learning purposes as the second one. This time, the co-founders decided to try a different approach and go for quantity rather than quality. They decided to send SMSs to 2520 potential customers, already renting out their homes on sites such as stugknuten.com, stugnet.se and fritiden.se. In the SMSs, which were sent in three different forms (see appendix C), commitment in the form of becoming a customer was asked for.

The results, compared to the first experiment from the first loop, improved greatly. Six customers decided to sign up with R&E Semesterboenden AB. At this point, it seemed clear that the business is doing something that customers value, and that they are willing to allow two strangers to take care of the whole rental process for them. That one person signed up in the first experiment could have been a fluke. That seven persons - in total - now had signed up, could not be just a fluke, according to the co-founders.

At this point, a problem emerged. Now that the co-founders felt that it was proven that there is a demand for their service, assumptions regarding the efficiency of the idea became apparent. For example – is it really as simple as the co-founders imagine it to be - that guests clean after themselves and that keys are returned to the key-boxes that will be used for each vacation home – without too much trouble? These were clearly some of the most important assumptions at the time. At this stage, the founders decided to deviate from the Build-Measure-Learn process of Eric Ries, which suggests that one loop should be iterated through at a time. Multiple loops were opened at a time, and growth hypotheses were tested in parallel with the value hypotheses.

The process became more of the “Just do it” approach than a Lean Startup method at this point. Customers – both vacation homeowners, and guests for the homes, started to demand attention, and it was difficult to plan in such a situation.

The minimum viable product

The minimum viable product concept was used to evaluate the hypotheses mentioned before. In the first experiment, the co-founders did not even have a product – just a promise they would take good care of the vacation homeowners’ properties, and a promise about how much income it would be able to bring. “We are quite sure that you will be able to earn between SEK 50k-100k”. Once the first customer was acquired, a concierge MVP was used to some extent, although not in its purest form. Eric Ries (2013) suggests that a single customer should be attended to, but R&E Semesterboenden AB used multiple ones.

Actionable metrics

R&E Semesterboenden AB used different quantifiable metrics for gaining validated learning and for acquiring customers, depending on which medium they communicated through. From the cold-calls of the first experiment, time spent per customer commitment was an important metric. For the SMSs of experiment three, the number of customers per message sent was deemed appropriate. Customers were later attempted to be acquired through the usage of Google AdWords, and the most useful metric here was customer per SEK.

For a metric to be actionable, Eric Ries (2013) states that it must be actionable, accessible and auditable. The co-founders used this approach for constructing the metrics but failed slightly on the actionable part. They did not really come up with explicit thresholds for any of them – what could be considered a good result in a metric? Furthermore, there were issues in comparing the metrics with each other. Is it better to be able to acquire a customer when spending 20 hours on the phone than it is by sending 1000 SMS than it is by spending SEK 2000 on Google AdWords? This caused problems for the comparative part of a good measurement as defined by Alistair Croll and Benjamin Yoskovitz (2013) as well.

Segmentation

According to Croll (2013), segmenting should be done to identify specific customer groups that have been successful for the startup, and then ask the question “why?”. Can this be used for other segments as well? The co-founders used this process on a couple of different occasions. For instance, for identifying potential customers – only people who owned a home where no one was registered were identified as potential customers. At a later stage, marketing efforts were designed based on segmentation. During the second experiment and the phone calls, people who lived busy lives were identified as those with the greatest potential.

A/B testing

A/B testing, according to Eric Ries (2011) is useful for identifying differences in how slightly modified offers of a product or service is viewed by customers. Factors such as clickthrough ratios and other quantifiable metrics are suggested for evaluation. R&E Semesterboenden AB used these types of tests in marketing situations primarily. The SMS-experiment of the third Build-Measure-Learn loop used three different versions (see table 7) of messages to see which one that attracted the best response from customers.

Table 7. Three types of messages were sent

Message	Description
A	Long and relation-focused
B	Short and business-focused
C	Long and a middle ground between relation and business

At first, only message A and B existed. These two were sent out in a batch of 450 each. The conversion in terms of leads and customers are showed in appendix A. There is no statistical significance to reject B for A, but this is what the researchers did at this point in time.

A new message, message C, was introduced as a middle-ground between A and B, based on the indication that longer and more relation-focused was the better choice to attract new customers. Additional information was added about how the deal would be set up between R&E Semesterboenden AB and the customer. Appendix A shows the final results from all three messages, and how the conversion ratio of leads and customers differed between them. A total of 2520 messages has been sent so far - 953 A, 450 B and 1,117 C. See appendix C for

the actual messages. At this point, none of the messages can be rejected for the other with statistical significance.

Pivot or persevere

Only one major pivot has been made in the company so far – the change of customer segment focus from the first experiment to the third. At first, the co-founders focused on potential customers who had not yet shown any interest in renting out their vacation homes, but after this pivot, it shifted to those who were already renting out. The model of Blank & Dorf (2013) was used for making this decision, see table 8.

Table 8. Why R&E Semesterboenden made a customer segment pivot

Step	Core questions
1. Assemble data findings	About 200 customer interviews were executed, only one of them became a customer
2. Validate the business model	It cannot be said with any certainty that customers find it valuable to have their vacation homes rented out
3. Validate the financial model	One customer was gathered from an estimated two weeks of calling. The business model does not point towards a scalable business at this moment.
4. Re-validate business model	The target customer segment can be changed
5. Pivot or proceed	Customer segment pivot

4.3 Acceleration

Both according to (Ries, 2011), and Steve Blank and Bob Dorf (2013), there are clear distinctions made between vision, steering, and acceleration. Also, from a timeline perspective, the phases are divided and come after one another. This has had implications for this study, as the acceleration part comes last in the sequence, and the period of 5 months has enabled only a limited time to explore the acceleration phase. Even though time is a limiting factor for evaluating the Lean Startup's principles and processes regarding the acceleration phase, some actions and decisions have been made, using the Lean Startup framework as a basis.

According to the theories of Lean Startup, accelerating the business, and focusing on growth, should not be considered before the value hypotheses are proven and set (Ries, 2011; Blank & Dorf, 2013; Croll, 2013). However, as will become evident in the results below, the distinction between the phases is not always so easy to do in practice. Moreover, the co-founders have been reasoning that exploring growth mechanics in an early stage may serve them in the future as well, as it is expected that the same methods should be useful both for growing on a small scale (current situation) and on a larger scale (possible future state).

Growth hypothesis

As an effect of the feedback loops' varying dependency to season, as mentioned in chapter 4.2 "The Build-Measure-Learn feedback loop", the co-founders decided to push for some growth even though the product market fit was not yet fully clear, as according to Blank & Dorf (2013), and Ellis (2018).

The startup is dependent on two sides of a market - both attracting and acquiring vacation homes and finding tenants to those vacation homes. One assumption that was made regarding growth was that the latter could be neglected. As there already is a market for weekly rentals of vacation homes in Sweden, the startup assumed that renting out the vacation homes, once acquired, would be a relatively simple task. Therefore, as described previously in this chapter, the primary focus of validating the business model has been regarding the vacation homeowners-side of the business.

True sustainable growth is when *"new customers come from the actions of past customers"* (Ries, 2013, p.207). This has helped shape the co-founders' thinking regarding how to acquire growth in the startup. It has been strengthened further by a meeting the co-founders had with another startup. In the middle of March 2019, they met with the founders of the startup GuestIt. In short, GuestIt rents out other peoples' apartments (mainly in Stockholm), and makes money by taking out a commission. Their offer turned out to be very similar to the offer of the startup in this study, even though the startups focuses on different markets. However, the CEO of GuestIt said that every happy customer in this business acquires 3-4 new customers. If this is true, sustainable growth, as according to Eric Ries (2013), could be obtained solely by keeping current customers satisfied. Whether or not satisfied customers will turn out to acquire additional customers, is yet to be proven. There is however some evidence that points in this direction. Two of the current customers to the startup have indeed said that there are other vacation homeowners that they know of (friends and colleagues), that most likely would be interested in also signing up to the service, if it would turn out in a satisfactory way.

The three engines of growth

The three engines of growth - the sticky, the paid, and the viral - were all considered and discussed as the co-founders were pondering how to scale up the startup in the best way.

As advocated by Ries (2011), and Wirtz (2018), only one of the engines should be chosen, as too many alternatives may cause the entrepreneur to drown in options. However, before the co-founders chose which engine to focus on, they were all discussed and partly experimented with.

According to Eric Ries (2011), *the sticky engine of growth* should be prioritized in situations when customers are expected to keep using the product or service once they get a taste of it. The co-founders of R&E Semesterboenden AB attended to this engine in several ways. Especially, the focus was to keep down the churn rate of vacation homeowners. Firstly, the customers' dependency on the services of R&E Semesterboenden AB was increased through emphasizing all the benefits of letting the co-founders handle all rental. The idea was that, once the vacation homeowner had experienced the comfort of just letting the co-founders know which weeks could be leased, and then receiving monthly payments, they would be hooked. Secondly, the co-founders used a transparent and simple-to-understand pricing model, where it was clear that the interest of the homeowner and that of R&E Semesterboenden AB were aligned. A percentage-based commission is used – so the more the company earns, the more the homeowners earn as well. Thirdly, creating a strong reciprocity and likeability was believed to increase stickiness, and minimize the risk of having customers stop using the service. This was done by always having both co-founders show up on meetings, by paying for upfront costs, such as key boxes and ads, and by keeping a personal relationship to all homeowners. Fourthly, and most importantly, the stickiness of the business is acquired through keeping customers happy – by doing a better work with the renting process and bringing in more money to them than they could ever have done themselves.

According to Eric Ries (2011), as long as every new customer acquires at least one additional customer, the business should be able to rely on *the viral engine of growth*. The co-founders did make a couple of attempts at using this engine. It was mentioned, to the two new customers that said that they might have acquaintances that could be interested in the service, that they could receive SEK 1500 per customer, as a token of gratitude for making additional customers sign up. However, both customers said that they would not accept it, as it would risk jeopardizing the perceived incentive for the recommendation to their acquaintances in the first place. The co-founders also mentioned the SEK 1500 token of gratitude to friends of their own, if they would make their parents sign up to the service. The same results were obtained here, as with the proposition to the current customers.

The parts that make up the paid engine of growth are the lifetime value (LTV), which is what a customer can be expected to pay for the service during his or her lifetime, and the cost per acquisition (CPA), which is the cost for signing that customer to the service in the first place (Ries, 2011). Many of the different marketing efforts that the co-founders did could be related to the paid engine of growth - the cold-calls, the text-messages and Google AdWords marketing alike. The CPA varied depending on which method that was used. To calculate the LTV of a single customer is a task involved with a lot of guesswork, however, from the experience of one of the co-founders, renting out his own vacation home, it is estimated that each home can achieve an occupancy of 5-8 weeks. Furthermore, each week is expected to be rented out for SEK 5k-12k. The churn ratio, which is a major assumption, is expected to be three years. Using a somewhat conservative average commission rate of 20%, this would mean that the LTV of the average customer is in the region of SEK 30k-35k.

5. Discussion

In this part, it is discussed how the processes and principles of the Lean Startup framework helped in guiding the actions and decisions of the co-founders. How the process of starting a startup was improved or were hindered by the methods, and why the co-founders, as a result, decided to either stick to the methods or deviate from them, will be elaborated on.

5.1 Helpful processes & principles

In this part, it is described how the processes and principles of the Lean Startup framework felt like and functioned when they did well guiding the co-founders in their decision-making.

Vision – general observation

The process of developing the startup's vision turned out to be helpful throughout the 5 months by working as a compass. As it turned out, decisions were made almost every day, even though not all of them were of a big magnitude. Having developed the vision, it supported the co-founders in making the everyday decisions in an efficient, and hopefully, correct, way. The implied scalability in the vision, for example, guided the MVP and initial offering that was made to the potential customers by making sure an MVP was developed that the co-founders saw had the potential to scale. Decisions were later made to standardize practically all messages that went out to tenants and vacation homeowners. Also, back-end processes for payment management, for both tenants and the vacation homeowners, were developed for being scalable, using Excel. Would there be no vision, one can only speculate of the implications. But a lot more discussions would have been necessary along the way, and customers would probably have ended up having different deals with the startup - as the vacation homeowners often asked for small changes in the initial offering.

The value hypothesis

The co-founders did not follow the suggestions regarding the creation of value hypotheses strictly. However, the framework still helped guide the co-founders in their actions. As the startup is surrounded by big uncertainties, especially in its very early stage, it is advocated to focus on the service's most essential parts first. This is when the initial value hypotheses were perceived as making the biggest difference. Identifying, and keeping in mind, the three leap of faith assumptions early on, allowed the co-founders to quickly develop methods to collect the data necessary to prove those assumptions true or false. Would the framework not have been used, the co-founders might not have identified that those specific assumptions were in fact assumptions, but would instead have taken them for granted. Thus, much time and

energy could have been spent on chasing a business opportunity which had the fundamentals wrong.

Validated learning

The methods concerning how to think about, and apply, validated learning was perceived as having a monumental impact on the decisions made. As commitment from potential customers appears to be the “mother” of validated learning, this was what the co-founders aimed for when collecting data.

As the main priority in this phase was to maximize speed and validity of data, and at the same time keeping costs down, the choice of proposing an offering to potential customers by phone was perceived as suitable. Calling strangers with an offering, ultimately asking for a commitment in the form of a meeting with the co-founders at the strangers’ vacation home, were not pleasant. Would it not have been for the theory of lean startup that guided the co-founders towards this choice of action, dialling 436 potential customers, actually talking to and making offerings to 205 of them, phone calls would probably not have been made so early on in the process (if at all). No other method for collecting data was perceived as being so time-efficient and still create valid, and in-depth, data. The most probable alternative method for data collection early on would be having interviews with vacation homeowners. As already mentioned, this would be less time-efficient compared to calling. Having interviews and meeting potential customers face-to-face are also perceived by the co-founders to increase the risk of receiving false negatives and false positives (because of the human tendency to act nicer when seeing a person live).

Although the guidance led the co-founders to pursue commitments by making the offerings by phone, the co-founders most likely did receive some bad data, mainly in the form of future promises. From the 205 phone calls with potential customers (the ones that the co-founders did have a conversation with), 40 became leads. These are all to be called in the autumn of 2019, as they might be interested in having their vacation homes rented out in 2020 and forward. The fact that 40 ended up in the lead-document is most likely affected by the co-founders’ tendency to, in the end of each phone call, push for a commitment by the potential customers. This push has led to more leads than there would have been otherwise. But again, the theory helps the co-founders to, at least, recognize that this number of 40 can be exaggerated, and thus less importance is given to this group of leads.

The minimum viable product

According to the co-founders, the principles of an MVP were some of the most helpful in the startup process. As stated in 4.2, the owners took this to an extreme – they did not even have a product before trying to recruit their first customer – only a promise. Compared to, for

example, setting up an advanced website and spending tons of money on attracting potential customers there, this was a very cheap and quick way of gathering validated learning. Greater results, less risk.

The Concierge MVP was used to some extent, and it helped the mindset of the co-founders – make one customer happy, and then re-apply the same strategy to others. A single customer was not enough to ensure an acceptable growth of the company though, and therefore it was not followed strictly, as the startup currently have 18 customers for this summer. Sam Altman (Startupclass, 2014) is onto the same thing, as he states that if you do not act fast enough, you may miss the boat. In this business, there are powerful actors, such as Airbnb, that could make a pivot to include the services of R&E Semesterboenden AB, and if the company, at that point, has not been able to gain size and a strong local advantage, it might be doomed.

The Build-Measure-Learn feedback loop

The co-founders of R&E Semesterboenden AB followed the Build-Measure-Learn process quite strictly in the early stages of evaluating the value hypotheses. It helped them in making decisions regarding which end to start in – that learning must forego building and measuring. This can only be speculated on, but most probably, it helped the entrepreneurs in ensuring that they did not spend time and resources building something that no customer wanted to have anyways. It also ensured that they had an idea on how to measure the success of an experiment before creating it.

For the early stages of the startup it helped in prioritizing, and that every single experiment had specific learning milestones, as opposed to a “just do it” approach, which may be successful, but may also lead to nothing. It helped in rejecting and accepting hypotheses in a more structured manner.

Pivot or persevere

One pivot decision has been made so far – that of changing the currently targeted customer segment. For this, the model of Blank & Dorf (2013) was used. The co-founders had a gut-feeling that this decision had to be made, but the model helped them in strengthening the case. Although it cannot be proved retrospectively, the co-founders have a strong feeling that the same conclusion would have been arrived at even without following this approach, but the framework helped guiding and strengthening their decision.

Three engines of growth

Choosing to focus on one of the engines of growth, as advocated by Eric Ries (2011), helped the co-founders to narrow down their potential number of actions, and to focus on what was

considered most important for the startup at the time of acceleration. As becomes clear below, the chosen and prioritized engine turned out to have an impact on the dimensions of the other engines.

The co-founders have identified the sticky engine of growth as the most important one for the success of the startup. As Eric Ries explains, this engine of growth is particularly suitable for a startup with repeat customers - and the customers of R&E Semesterboenden AB have a very high potential in this regard. Installing a new vacation homeowner comes with quite high fixed-costs (spending time visiting the new customer and taking photos of the vacation home, buying and installing a combination lock for key management, and paying for ads), but once integrated, the marginal cost of keeping a customer is very low. For this reason, establishing a low churn rate is essential. The lean startup methodologies have helped the co-founders to focus on this variable. For example, customers have been showed a level of reciprocity that might not have come naturally, did the co-founders not know the importance of focusing on the churn rate.

Regarding the viral engine of growth - would there be a viral coefficient above 1, the startup still would not know if that would really be good or not. The reason is that adding another customer to its service is associated with a fixed cost. Would customers turn out to stay with the service for on average 3 months, because of some unforeseen reason, every customer would in fact contribute negatively to the cash-flow. Therefore, it was concluded that the viral engine of growth cannot be relied upon as a primary tool for expanding the business, stickiness had to come first.

Even the paid engine can be utilized fully only once the sticky engine has been proven. The reason is that the LTV of a customer contains an assumption that customers will stay for, on average, three years. The churn rate has such a major importance for the LTV in this business that it must have the number one priority. However, if the assumptions made by the co-founders about the expected churn ratio, and the SEK 30k in LTV for a customer holds true, it means that they have quite a nice margin for future marketing campaigns.

5.2 Less helpful processes & principles

In this part, it is described how the processes and principles of the Lean Startup framework sometimes felt inadequate in guiding the co-founders in their decision-making.

The value hypothesis

The part of the value hypotheses that the co-founders did not execute strictly by the book was Alvarez's (2014) five questions regarding every hypothesis. The reasoning for this is that

it was simply not considered necessary to do so in order to create falsifiable hypotheses. Making them more specific, by applying the five questions, would mean that if a hypothesis would be proven false, discussion could emerge whether or not there is a version of that hypothesis that still could be proven true, if it was made more generic. The hypotheses were made in such a way that if any of them would be proven false, a pivot would for sure be required. This was considered being a more pragmatic, and time-efficient, way to do it. The co-founders aimed at answering Eric Ries' (2011) question "*should this be built?*" - as quickly as possible. Not spending what was considered unnecessary time developing hypotheses further, was perceived as a way to speed up the process.

The Build-Measure-Learn feedback loop

The co-founders experienced the Build-Measure-Learn feedback loop as useful for guiding their decision-making, for the most part. However, in loop number four, the co-founders had created hypotheses that were bound by seasons, as a result of the nature of the business. They could not be evaluated without guests, and the number of guests is determined partly by seasons, so the hypotheses came with a certain delay inherited. Even though these assumptions were assessed as the most important ones for confirming a product-market fit, the co-founders could no longer evaluate only these if they wanted to continue the exploration of the startup. Parallel Build-Measure-Learn loops were opened as a result of this, and as stated before, some growth parameters were discussed. The co-founders pondered that perhaps an additional variable should be introduced when prioritizing the order of hypotheses-validation – the factor of time.

Furthermore, once customers had been gathered, the co-founders found it increasingly more difficult to strictly follow the Build-Measure-Learn framework. It is difficult to stay cool and evaluate something objectively, while at the same time, there are urgent needs and wants from customers. Unfortunately, these needs and wants cannot always be planned for, as they can be unexpected both in their nature and in when they occur.

Another important area where the framework can have had a negative impact on the decision-making of the co-founders is regarding the discovery of new ideas. It is only on a speculative basis that they can discuss this, but always knowing what you are looking for, as is the case when evaluating value hypotheses, may cause entrepreneurs to miss something very valuable because they have a focus that is narrow. For instance, for R&E Semesterboenden, when they were meeting customers and trying to confirm or reject their current hypotheses, they may have come across a problem that could be turned into a related business idea. This business idea could have turned out to have an even greater potential, but they failed to notice the problem in the first place because their minds were too focused on the current business idea. Peter Thiel (2015) suggests the same thing, as he states that while

making iterations and small changes in a product offering, entrepreneurs may reach a local business maximum but fail to find the total maximum.

Actionable metrics

The co-founders thought about constructing actionable metrics for evaluating the results of many of their experiments – in order to increase the reliability of learnings gathered from them. On two points though, these metrics failed to help them in their decision-making.

Firstly, it was quite difficult to set up a definite threshold. What should be considered good enough when it comes to, for example, marketing results? Is a 40-hour calling session for converting a single customer good enough? Surely, the LTV of a customer could be evaluated and then compared to an expected cost of these 40 hours, but such estimations were deemed too much of a guesswork in order to be valuable.

Secondly, coming up with comparable metrics, as according to Croll (2013), was deemed too difficult to yield any significant positive results. It would, of course, be preferable if the marketing efforts of calling, texting and keyword targeting were completely comparable to each other, but different variables are important in different situations. Although all of them could probably be converted into money, the practical value for decision-making based on this is questioned. A lot of guesswork would have to go into the process, which diminishes the value of the conversion. Furthermore, if differences in marketing efforts are not obvious without complex mathematical conversions, one could question whether the difference is large enough for startup-owners to care about anyways. The survival of the company is not dependent on it.

Segmentation

Segmentation was only used for marketing efforts. For example, the co-founders initially decided to call potential customers who owned an apartment where no person was registered – indicating that it was a vacation home. This increased the efficiency of the cold-call experiment – both from a learning perspective but also from a monetary perspective. As of yet, no segmentation has been used for the current customer base. The reason for this is because customers are too few in numbers at this point. A segmentation cannot really yield any useful results for decision-making with too low of a sample-size.

A/B testing

Regarding the A/B testing, the co-founders clearly abandoned the approach that Lean Startup suggests regarding validated and actionable metrics. Whether value or growth hypotheses

were examined did not matter, it was not possible to get statistical significance to reject an alternative for another in any of the situations.

Take the example of when the co-founders wanted to find an optimal message for attracting new customers to the business, and in that, evaluating two of their value hypotheses. Even though this was the situation where they (so far) have had the largest sample size, it was not enough to truly give an actionable outcome. At the same time, the co-founders were working with a scarce resource – they did not want to waste any potential customers in order to gain statistically significant results. Therefore, they chose alternative A over alternative B for the remaining part of the marketing. Intuition and a quantitative indication were deemed enough.

Here, a greater issue about starting a business using the Lean Startup framework is revealed. Per definition - a startup must have access to a limited set of data about customers and how to gather customers - otherwise it would be a large company and not a startup. The issue is that this data is seldom enough to gather statistically validated learnings – kind of a catch 22. Perhaps it is also a matter of industry. If customers are expected to have a high lifetime value, such as in the case of R&E Semesterboenden AB, data will be scarce, compared to, for example, an app which can be purchased for \$1. It would probably be even more extreme in a B2B context. At times, qualitative findings will probably have to support qualitative data, even when evaluating a quantitative metric.

Growth hypothesis

Even though it is advocated to confirm your value hypotheses before acceleration, the co-founders found themselves in a position in which the two were very much intertwined. Having developed an offering towards customers, it was the same customers' response to that offering that would confirm the value hypotheses or reject them. As some customers confirmed the value hypotheses by committing, and signing up to the service, the co-founders suddenly found themselves in a position with actual customers.

Also, the remaining value hypotheses at this stage were strongly linked to the behaviour of actual customers. One of the major ones was the assumption that, would the co-founders succeed in attracting some vacation homes, finding tenants to live in those homes would be an easy task. The rationale for trying this out for their own were strengthened by the fact that there already is a big market for vacation home rental, and thus the risk of failing with this was considered low.

Moreover, having validated learning in mind, it can be considered that a certain number of customers are needed to fully evaluate the value hypotheses, especially if it is to be based on commitments. To avoid false positives, and to achieve a statistical significance for the value

hypotheses, it can be argued that growing beyond the very first customers is therefore advantageously.

6. Conclusions

In this chapter are the co-founders concluding remarks. First, the co-founders will present which processes and principles of the Lean Startup framework that were perceived as having supported them in a positive manner regarding decision-making, and then, the processes and principles that were perceived as hampering or inadequate in their guidance are presented. As a finishing part, the co-founders will conclude upon academic contributions, and make recommendations for further research.

6.1 Conclusions regarding the results

Having used the Lean Startup methodology for the last 5 months, the co-founders can now state that the theory, overall, is perceived as valuable. The general experience is that it has helped the entrepreneurs in minimizing time and resources spent on activities that are not value creating. One specific example which has helped, is the concept of an MVP. The co-founders started to sell before they had anything at all – keeping costs and time wasted to a minimum. Information about the validity of the business model could have been gathered in many other ways, probably more time-consuming ones, had the owners not known about the importance of releasing early. Another part which has helped a lot in guiding the decision-making in a way which has been perceived as helpful is that of seeking commitment. Being in the shoes of early-stage entrepreneurs, who badly wish to succeed with a business idea, it is difficult to stay objective. The risk of basing decisions on false positives is high but keeping in mind that validated learning requires a commitment in the form of time, reputation or money, has helped in avoiding such biases. Finally, the co-founders must agree with the statement that *“startups don’t starve, they drown”*, and that it is of highest importance to have measurements for guiding prioritization. The owners could have focused on many different key performance indicators, but thanks to Eric Ries’ model of the three engines of growth, activities have been focused on, hopefully, those that matter most in the long-run for business performance.

Now onto the parts where the co-founders feel that Lean Startup has been inadequate. Some parts were perceived as blunt, and not applicable, at least in this case. For example, a lot of the methods for steering the company are based on quantitative comparisons or evaluations, such as the A/B test. The problem, that the co-founders have identified here, is that for these evaluations to be reliable, you need a lot of data about customers. And having a lot of data about customers often means that you have a lot of customers. But then you are not really a startup any longer, right? This is kind of a catch 22. Another issue has been to follow the Build-Measure-Learn framework. Prioritizing the most important hypotheses for each new iteration in the loop does make sense as it helps in, as fast as possible, realizing if the business model is valid or not. It becomes problematic when certain hypotheses are bounded by season, or, stated more generally, by time. Perhaps entrepreneurs must, at times, prioritize speed over

effect – evaluating the hypotheses that are deemed less important, but faster to evaluate, first. Finally, prioritizing hypotheses, always knowing what to look for, may cause entrepreneurs to make decisions that are less likely to lead to major improvements. They may miss what is right in front of them for the sole reason that it did not give them information to reject or accept any of their current hypotheses. Peter Thiel (2013) is onto the same thing when he argues that you cannot iterate yourself to success – you need something bolder.

In general, the co-founders think that an issue of Lean Startup, which also makes sense, considering the background of the father of the framework, Eric Ries, is that there might be an IT bias of the approach. Lack of data would not be as big of a problem, most likely, because it is easier to measure and quantify when you deliver an IT-service, and you would probably not encounter the same issues about hypotheses bounded by season/time either.

With these pieces of the puzzle, the co-founders hope that the framework can be further developed, so that it can help more entrepreneurs to succeed with their startup endeavours.

6.2 Limitations and further research

The co-founders aimed at bringing deep insights to the parts that make up the Lean Startup framework, using a bottom-up approach by putting the methods to use. This was done successfully, and a thorough study was conducted. However, it was affected by subjectivity, as is inevitable using an autoethnographical approach. It was also limited by a timeframe of 5 months. More time would mean more data to rely upon and some parts of the framework, such as the acceleration phase, could have been examined more thoroughly.

Still, one piece of the puzzle is added to the research regarding the Lean Startup methodology. This piece can help adjust and improve the framework. The co-founders imagine that a more adaptable version of the Lean Startup methodology, one that is constructed by modules, could help increase the guidance and support it offers to the early stage entrepreneur. Certain modules would fit certain prerequisites. This could depend on industry, number of founders, former experience as entrepreneurs, level of innovation in the product (radical, incremental, or merely new back-end processes?), etcetera. As of now, the framework is a one-size-fits-all, which at certain occasions made the perceived usefulness blunt. More in-depth research is required in order to make the methodology more flexible, or even modularized.

As discussed earlier, the reliability and validity of qualitative studies is overall rather weak, compared to their quantitative counterparts. Qualitative studies enable an increased depth, but less generalizability, so it would benefit from being complemented by some sort of a quantitative study. Such a study could be very valuable if it brings an understanding of the value the Lean Startup methodology is, or is not, creating. This could be done by comparing the success-ratio (in terms of a metric such as turnover and/or time to market for the

company's products) between a group of startups that does not apply the framework of Lean Startup, with a group of startups that does apply the framework.

Other researchers, trying to replicate this study, could also try to complement the self-experienced approach, with interviews of other startups that have used the Lean Startup methodology. The self-experienced part enables a great understanding of the processes and principles, and helps the researchers understand the dilemma imposed by reality, as it meets the theories. This extra depth gives the researchers the required tools that can help them understand other startups, as they conduct their interviews. This could be a way to help triangulate the results from this study, but that would also increase the stand-alone value from that hypothetical study.

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Appendix A – Results from SMS

	A	B	C
Total	953	450	1117
Leads	11	1	12
Leads (%)	1,15%	0,22%	1,07%
Customers	6	0	2
Customers (%)	0,63%	0,00%	0,18%

Message	p1-hat	n	p-hat	z	z (95%)	result
A	0,012	953	0,01	0,93	-1,65	ACCEPT
B	0,002	450	0,01	-1,37	-1,65	ACCEPT
C	0,011	1 117	0,01	0,76	-1,65	ACCEPT
SUM	0,008	2 520				
Message	p1-hat	n	p-hat	z	z (95%)	result
A	0,006	953	0,01	1,09	-1,65	ACCEPT
B	0,000	450	0,01	-0,64	-1,65	ACCEPT
C	0,002	1 117	0,01	-0,32	-1,65	ACCEPT
SUM	0,003	2 520				
Message	p1-hat	n	p-hat	z	z (95%)	result
A	0,0089	450	0,01	0,71	-1,65	ACCEPT
B	0,002	450	0,00	-0,87	-1,65	ACCEPT
SUM	0,006	900				

Formula:

Your test statistic is $Z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})(1/n_1 + 1/n_2)}}$, where $\hat{p} = \frac{n_1\hat{p}_1 + n_2\hat{p}_2}{n_1 + n_2}$.

The critical regions are $Z > \Phi^{-1}(1 - \alpha/2)$ and $Z < \Phi^{-1}(\alpha/2)$ for the two-tailed test with the usual adjustments for a one-tailed test.

Appendix B - Questions as “researchers”

Who are you?

For how long have you been renting out?

Please tell us about the last season. Did any problems arise while renting out?

Which part of the process did you find most time-consuming during the last season?

How is the occupancy this year? Do you wish that it to be higher?

Appendix C - Three different SMS

Version A: Long and relation-focused

Hej NAMN!

Mitt namn är NAMN, och tillsammans med kollegan och studiekamraten från Chalmers, NAMN, har vi startat upp en tjänst (stugformedlaren.se) som går ut på att vi hjälper dig som stugägare med att hyra ut stugan under veckor då den inte används.

Anledningen till varför vi kontaktar dig är då vi via Lantmäteriets register kommit fram till att det är troligt att du äger just ett semesterboende. Och om du redan hyr ut bostaden vill vi erbjuda oss att överta arbetet med annonsering, kundkontakt, överlämning mellan gäster, betalningshantering osv. Detta för att du kanske önskar spendera tid på annat. För vårt arbete tar vi en del av intäkterna, men det ska vägas mot möjligheterna för en ökad beläggning då vi gör detta på heltid och använder oss av flera kanaler.

Låter detta intressant, antingen för denna eller nästa säsong? I så fall får du gärna återkomma till detta nummer.

Oavsett vad så vill vi önska dig en fortsatt bra dag! :)

Med vänlig hälsning,
Richard Dykes & Erik Abrahamsson

Version B: Short and business-focused

Hej NAMN!

Vi på stugformedlaren.se hjälper dig att hyra ut ditt semesterboende - och vi sköter alla moment som är tidskrävande för dig i nuläget. Det enda du behöver göra är att tala om för oss vilka veckor som är aktuella för uthyrning, sen löser vi resten.

Med ett smart utnyttjande av de internetbaserade kanaler som finns tillgängliga för uthyrning, och genom att vi engagerar oss i detta på heltid, så kan vi antagligen också hjälpa dig att få uthyrt fler veckor än förut.

Låter detta intressant? Hör i så fall av dig på detta nummer, eller anmäl ditt intresse på stugformedlaren.se.

Mvh,
Erik Abrahamsson & Richard Dykes

Version C: Long and middle-ground between relation and business

Hej NAMN!

Mitt namn är NAMN, och tillsammans med kollegan och studiekamraten från Chalmers, NAMN, har vi startat upp en tjänst (stugformedlaren.se) som går ut på att vi hjälper dig som stugägare med att hyra ut stugan veckor då den inte används.

Vi har hämtat ditt nummer från Stugnet, så vi förstår att du redan hyr ut stugan. Vi vill erbjuda oss att överta arbetet med annonsering, kundkontakt, överlämning mellan gäster, betalningshantering osv. Detta för att du kanske önskar spendera tid på annat. För detta tar vi en del av intäkterna, 25%, vilket är lägre än konkurrenterna. Vi bidrar också med möjligheter till en ökad beläggning, då vi gör detta på heltid och använder oss av flera kanaler. Vi gör alltså mer för stugägare än exempelvis Stugnet eller AirBnb.

Låter detta intressant, antingen inför denna eller nästa säsong? I så fall får du gärna återkomma till detta nummer.

Oavsett vad så vill vi önska dig en fortsatt bra dag! :)

Med vänlig hälsning,
Erik Abrahamsson & Richard Dykes

Appendix D – Results from cold calls

