

Lean Startup Practices in Finland

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Abstract <p>The thesis examines the movement of lean startup phenomenon within startups in Finland. The research questions for the thesis are: "How are Lean Startups principles changing the way startups are managed?" And "Why are startups in Finland practicing lean startup principles?" The research's target is to provide a supporting document to evaluate if Lean Startup should be consider as the management philosophy for the startups belonging to JAMK Incubator and Generator Programs.</p> <p>The research is a qualitative multiple-case study, employing three in-depth interviews with Lean Startup experts and practitioners in Finland. During data analysis phase, a data analysis software, Nvivo, was applied to generate codes, categorizes and concepts from the data collected.</p> <p>The result of the research showed that lean startup had a positive impact on the organizational behavior, increases productivity and effectiveness of the startup's process by speeding the startup's cycle, efficiently allocating resources, supporting product/market fit and reducing risks. Reflecting the results to theoretical background, the research indicates that there were two major components of a successful lean startup practice, Lean Startup iterations and its supporting factors of leadership, cross-functional collaboration and continuing learning. The finding was summarized in to a Lean Approach model. The model, solidly visualizing the answers for the research questions, served as a main framework for the thesis's discussion.</p>		
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1. Introduction

Eris Ries first introduced lean startup management in his blog in 2008. Though it is not very widespread presently, its impact on the entrepreneur world is significant. A successful example of a Lean Startup implementation is Dropbox Inc. And in spite of its name, Lean Startup is not only for 'startups' but also large companies such as Intuit, HP as well as government bodies in the USA are practicing Lean Startup (Ries, 2011). Given its high standard, applicability and agility, lean Startup is gaining credit among entrepreneurs, including Tim Brown CEO of IDEO, Scott Case, CEO of Startup America Partnership and Roy Bahat, president of IGN Entertainment.

Lean Startup is promoted in structural and scientific ways, said Noam Wasserman, professor at Harvard Business School, cited by Ries (2011, ii).

"To avoid product-learning mistakes rigorously evaluate early signals from the market through validated learning, and decide whether to persevere or to pivot, all challenges that heighten the chance of entrepreneurial failure."

Being caught up with the trend, some startups in Finland began practicing the lean startup principle around 3-4 years ago. Currently, lean startup is receiving more and more attention from both scholars and business practitioners in Finland. As a young enthusiastic entrepreneur, I have a hunger for more insights about lean startup practitioners' opinion and experience about the methodology in real life. Hence, I decide to take lean startup as the topic for my bachelor thesis. The topic is welcomed by JAMK, as the university is working towards its aim as the most entrepreneurship-oriented university of applied sciences. The research provides some empirical insights about the innovative startup management philosophy for both trainers and trainees of JAMK Incubator and JAMK Generator Program. The thesis will support to evaluate if Lean Startup should be consider as the management philosophy for the startups belonging to the programs. The thesis investigates the following research questions.

- How are lean startups principles changing the way startups are managed?

- Why are startups in Finland practicing lean startup principles?”

The objectives of the study are therefore:

- To understand why traditional management philosophies appear to be no longer effective in today’s business environment
- To describe what is a startup and why startups fail
- To discover how are lean startup principles changing the way a startup is managed?
- To explore what are the challenging factors for a startup established in Finland to implement lean startup and how are such challenges overcome
- To understand and propose how to measure the successfulness of a lean startup implementation in startup companies established within Finland.

A qualitative research of multiple-case study approach was therefore carried out to find the answers for those questions. The case study research is described in the following part of this report step-by-step, from a theoretical basis, to research design and implementation, then from result to the research discussion. The Theoretical Basis includes three main parts. The first, business management pathways, shows the chronological developments of business management philosophy in regards to the surrounding business environments, explains why the traditional ways of management is losing its effectiveness. Second, concerns startup, a closer look at the concept of startups, and some information about startups in Finland. The final part describes Lean startup in terms of five aspects including Business Model, Customer, Product, Team and Financials. This part will examine how lean startup differs from other product developments and management philosophies in order to answer the question “How are lean startup principles changing the way startups are managed?” The thesis applies a qualitative research method. Three in-depth interviews were conducted to collect research data. During data analysis phase, a data analysis software, Nvivo, was employed to generate codes, categorizes and concepts from the data collected. Four concepts emerged from the study; principles, advantages, challenges and success factors. The

concepts of Features and Advantages closely examined the research question: “Why are startups in Finland practicing lean startup principles?”

Lean startup is considered as a favorable methodology among Finnish startups given its features and advantages provided. While the two former deal with “How startups in Finland are practicing lean startups?” Lean startup practitioners in Finland agree on several challenges that often happen during deployment and implementation of the method and the removal barrier strategies. After the data analysis section, a lean approach model was created as a framework for discussion. Conclusion includes attribution of the thesis, reliability and credibility checks and further research suggestions.

2. Making Startups Lean and the Theoretical Basis

2.1.1. The origin of business management

2.1.1. Business management pathways

From a historical perspective, the era of business management began in Chicago May 1886. In his speech, Henry R. Towne, a cofounder of the Yale Lock Manufacturing Company emphasized two main points of business management:

“Management was to be viewed as a set of practices that could be studied and improved. It was to be rooted in economics, which to this crowd meant achieving maximum efficiency with the resources provided” (Walter, 2012).

For the first time in history, “the management of works”, with regard to its overarching importance, was identified as a science and called for development of management principles (Kathryn, 2008, p.13). Over the following 150 years, management as a concept and its history witnessed several ‘breakthroughs’ developed by economists from Frederick Winslow Taylor, Peter Drucker, Douglas McGregor, Alfred Sloan, to Michael Porter (Hindle, 2008). Among them all, Peter Drucker was considered as the founder of 21st Century Management (Wartzam,

2013). In his books, Drucker emphasized the central role of people in business. He was the first to point out; "*the concept of profit maximization is, in fact, meaningless... There is only one valid definition of business purpose: to create a customer.*" (Drucker 1973, p.45). In order to create and keep creating customers, a business enterprise has "*two and only these two- basic functions: marketing and innovation*" (Drucker 1973, p.47). Results therefore come from marketing and innovation alone. Everything else is 'costs'. Hence, the challenge of business management is know how to maximize results and minimize costs. Unlike established economists of the time, Drucker is more interested in the behavior of people rather than the behavior of commodities. Therefore, Drucker's management practices were categorised by five key tasks for managers, which are: setting objective, organizing, motivating and communicating, measuring, and developing people. In order to carry out those tasks properly, managers/leaders have to master three key strategic thinking techniques, which are: creating visionary options by enquiring penetrating questions, simplify to enhance review and change, and respecting different presumption and well-examined implications (Zand 2010, 23-28)

50 years on from Drucker and his introduction of the management concept in 1939, the global scene has undergone many considerable changes. In Thomas Friedman's words, the world has been becoming flat. At the time, many complex systems of trade and political barriers were broken down. Companies and individuals in USA received heavily competitive pressure from companies and individuals in emerging economies such as India and China (Friedman 2005). As a consequence, the way a business was managed had to change. Under the circumstance, competitive advantage concepts came out, rousingly welcome by managers and business owners. Michael Porter led the way of competitive strategic thinking with his 1980 book, *Competitive Strategy*. In the book, he introduced his three generic strategies including cost leadership, differentiation and focus (Porter 1980); the strategies are now known to be universally applicable regardless of a business' size or form. Porter also stressed that competitiveness lays on the set activities, which deliveries the organization's value proposition. This

opinion was clearly reflected on Porter's value chain, allowing firms to specific their operation process into business units (Porter 1985). Thus, companies could adjust its activities in term of cost- cutting or value- addition by benchmarking and comparing the sections. Another popular concept in competitive advantage strategy is core competency, developed by Prahalad and Hamel. Core competences spotlights on long- term drives of competitiveness, " *an ability to build, at lower cost and more speedily than competitors, the core competences that spawn unanticipated products*" rather than short run attributes of product cost and quality (Prahalad & Hamel 1990). In order to acquire core competencies, companies must process both of productions skills and innovative technologies. Core competencies are a learning process to figure out how to integrate production skills and the latest technologies best. As we can see, core competencies closely relate to a company's product development.

The similarity between value chain and core competencies is that they both revolve around a firm's internal operation and development effort. Therefore, any invisible tendency rooted in an organization's internal system can draw managers away from generating great strategies. As spoken by Michael Porter in an interview with business researcher Magertta Joan (2011), the most common reason for business failures are that the firms do not have a strategy at all, even many of them thought they did (others are confused between strategy and either effective operation or marketing. Some hyperbolize their strengths. In term of strategy, strength is not a question of being 'good' at but rather doing better than its competitors relatively. In addition some companies fail because they cannot answer Drucker's old questions: "What is our business?" A bank's business is lending money or giving financial consultant service or even control the currency' balance. As a conclusion of all theories mentioned above, we could say, there is never one right answer but a genuine decision, resulted from divergent views/opinions/ assumption and empirical tests of all those views/opinions/assumptions.

2.1.2. Why well-managed companies fail

It is easier from this perspective to understand that companies fail because of the

lack of a proper strategy. However, in recent years, the world faces a dilemma, in which even shrewdly managed companies may fail. The list of leading companies which have failed gets longer and longer, from industry-to- industry, from a retailer, Sears Roebuck to computer manufacturer Digital Equipment Corporation. Both of the two companies used to receive full credit for outstanding management. Drucker, in his 1973 book, *Management: Tasks, Responsibilities, Practices*, named Sears as an excellent example of good management, citing its pioneers in managing supply chain, branding and credit card sales. Tom Peters regarded Digital Equipment Corporation as one of the centerpieces (Peter 1982) in his book of *In Search for Excellence*, one of biggest selling and widely read books about art and science of management in 1980s. As has happened to many well-managed firms, the major markets of Sears and Digital Equipment Corporation were disrupted by some new products, normally cheaper, lower quality but more convenient for users.

Most of the time, well-managed firms are busy listening to their customers in established markets, continuously spending big money on improving the performance of established products, attentively analyzing market trends and structurally distribute capital to only innovations that promises the best returns. This kind of management sounds proper as the strategy low-risk (there are known customers and needs here) and the better performance product means the higher margin. Simultaneously disruptive products penetrate market, attracting the untapped customer segmentation. At the beginning, disruptive products have lower quality, cheaper prices and simpler and is not welcomed by the mainstream customers. So the big and well-managed firms do not find those disruptive products a threat to its popular and high-performing products. The truth is; a truly disruptive product is a killer. First of all, the dominance of disruptive products in new market segmentation will make it harder for big companies to expand beyond its existing market segment. Secondly, over time, disruptive product will improve its performance to meet market demands and beyond. At the same time, mainstream products, under continuous improvements, will overshoot the demands. When the performance of competing products exceed customers'

demands, decision-making no longer depend on whose performing is better but what is more convenient and, eventually what is cheaper (Christensen 1997, 17). The kind of new technologies companies used to enhance their products' performance is sustaining innovation. Gradually big firms with their established products lose their leadership position over the disruptive market. The innovation, which creates a new market and then overtakes an existing market, is disruptive innovation.

Well-managed firms usually know about disruptive innovation, but they have a hard time to pursue innovations because of the three factors (Christensen 1997, 35-39):

- The organization's structure and workflow: Organizations usually have a well-designed structure and workflow to smooth its mainstream product. This well-designed working chain substantially how well the organization adopt to new technologies, designing new products
- Capabilities: As mentioned above, disruptive products are low-margin and its markets are always small. They do not provide enough profits for the well-managed firms, normally also big ones, to grow. In addition, pursuing disruptive products development can result in meager resources for sustaining innovations, which is necessary for the dominant products stay competitive in markets.
- Value network: Value network is a further development of value chain. As products and services are getting digitalized, the tangible metrics used in value chain becomes futile to understand and analyze business sources of value. A value chain is only useful to discover gaps between firms and its main competitors by breaking down the firm and its competitors' business process in physical industry for example manufacturing. With value chain, value is added to the end product via each process' subsystem. However, today business environment is no longer a direct competition between individual firms but "*networks of interconnected organizations*", in which value is co-generated by a collection of participants in the network

(Rylander & Peppard 2006, p.7). Within a value network, the economic value of a new innovation is determined by each firm strategy and market option. In an established firm, its value network for existing products will lay inadequate value on the disruptive innovation, which retrains the firms from pushing towards disruptive innovation. Concurrently, startups and accelerators possess different value networks, smaller less hierarchical, and more flexible to follow disruptive product architecture.

In an effort to exploit disruptive innovation, new companies are established; existing businesses form corporate innovation branches or undergo structural changes that allow them to practice business similarly to startups or accelerators. Conclusively, at the moment, management practices have shifted from direct competition to disruption and innovation (Blank 2014). Success on a business lays on how well accurate the company measure and control innovation. Lean Startups, developed by Eris Ries in 2008, is a very neoteric tools and processes to help businesses tackle the challenge.

2.2. *Startups*

2.2.1. *What is a startup?*

Startups have been receiving remarkable attentions from researchers, media and even politicians internationally. Over the past 50 years, startups have come up with surprisingly wide range of services and products, especially digital products, continuously bursting the global economy. The Economist compared the entrepreneurial exposition to "Cambrian explosion" moment on planet Earth, when life forms started to proliferate (The Economist, 2014). So what is a startup? Oxford Dictionaries defines startup is "*a newly established business.*" (Oxford Dictionaries, 2014). According to Cambridge dictionary, startup is "the act or process of starting or making something start" or more specific meaning is "business that has just been started." (Cambridge Dictionaries Online, 2014). Nevertheless, from perspectives of economists and entrepreneurs, not every newly established company is startups. Steven Blank, a Silicon Valley serial- entrepreneur

and academician, once clarified in his blog: “A startup is not a smaller version of a large company. And companies are not larger versions of startups” (Blank, 2014b). Not all of startups are driven by profit purpose. There are a great number of startups, which are established inside an enterprise, non-profit or even governments (Ries 2010). In his book, *The Startup Owner’s Manual*, Blank categorized startups into five types: small business entrepreneurship, scalable startups, “buyable” startups, large company entrepreneurship and social entrepreneurs. According to statistics in 2014, in Finland, small and medium-sized business accounts for 99, 7% of all Finnish companies. Its number of employees amounts to 63.2% of totally employee in Finland (SBA Fact Sheet Finland, 2014.). They are often business-oriented businesses, especially in wholesale and trade sectors.

	Number of enterprises			Number of employees			Value added		
	Finland		EU-28	Finland		EU-28	Finland		EU-28
	Number	Proportion	Proportion	Number	Proportion	Proportion	Billion €	Proportion	Proportion
Micro	204 307	91.8%	92.4%	345 054	24.5%	29.1%	18	21.2%	21.6%
Small	15 145	6.8%	6.4%	294 877	20.9%	20.6%	17	19.6%	18.2%
Medium-sized	2 580	1.2%	1.0%	250 323	17.8%	17.2%	16	18.6%	18.3%
SMEs	222 032	99.7%	99.8%	890 254	63.2%	66.9%	51	59.4%	58.1%
Large	587	0.3%	0.2%	517 971	36.8%	33.1%	35	40.6%	41.9%
Total	222 619	100.0%	100.0%	1 408 225	100.0%	100.0%	86	100.0%	100.0%

Figure 1: SMEs in Finland- Basic Figures

According to Blank (2012), Small business entrepreneurs do not have vision to change the world from day one but scalable startups. Traditionally, this kind of tech firm clusters in Silicon valley, New York or Bangalore. Besides that, Israel, Helsinki and Shanghai nowadays are emerging as the new centers for technology companies. Scalable startups desire for revenue of millions euro. Thus, this kind of startups requires a huge capital investment, from venture capitalists, to fuel up their exploration engine and its expansion. Their missions are searching for an unknown innovative business model, producing customer-want-to-pay-for product

and then repeating and accelerating sales model found. Most of scalable startup is technology entrepreneurs. Different from scalable startups with venture capital funds, "buyable" startups are self-funded. These businesses have low capital risk and are designed to be acquired by larger companies. The fourth type of startup is large company entrepreneurship, sometimes called intrapreneurship. The innovation process happens (independently) within the large companies. Large companies adopt either sustainable or disruptive innovation approach, developing new products/service, to create and keep customers. The last categories, social entrepreneur is divergent from the others in term of financial. Social entrepreneurs hunt for pioneering solution to change the world rather than profits. These entrepreneurial exist in form of non-profit organizations or government bodies, working in various fields from agriculture, healthcare, education, eradication of poverty to microfinances. Amongst all of these definitions the thesis will concentrates on scalable startups.

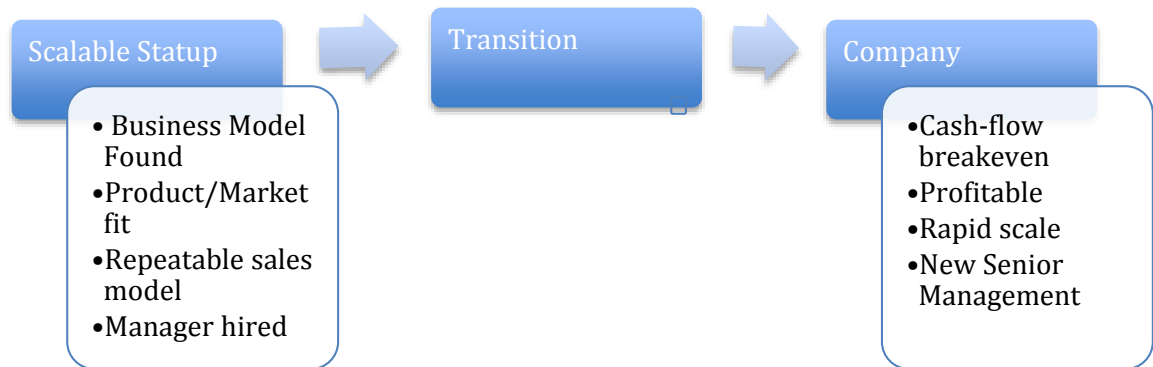


Figure 2 Scalable Startup (Blank 2012)

In regard to all the startup classifications, Eris Ries offers a simple decoding for the term, “ *A startup is a human institution designed to deliver a new product or service under conditions of extreme uncertainty.*” (Ries, E 2010). Three fundamental aspects of startups mentioned in Ries’ definition, which are: human factor, type of product or service and the context full of uncertainty where startups exist. The human factor is sometimes less obvious than either technological leap or ingenious products/services/ideas in startups’ successful stories. However, humans play an irreplaceable leading role in creating and managing startups. Besides, the term “human institution” sometimes evokes a sense of bureaucracy, process and policies, which seems much unrelated to common innovative and flexible images of startup. Nonetheless, like any institution, a startup is a set of activities taking place concurrently. Startups are different from most other business- large and small, because it exists under uncertainty regard to the customer, where other business have created the customer already (Blank 2006; Ries 2011; Furr &Dyer 2014)). Uncertain circumstances make forecasting customer’s behavior and market conditions impossible. They are at the same time a challenge and core condition for startups to exist and grow. Uncertainty nurtures empirical innovation, which comes in the form of new kinds of products/ services. Products/services in its most universal definition are ones that contains values for the customers. As said by Ries, All of “*customers experience from their interaction with a company is part of that company’s product*” (Ries, E 2011). In the next paragraph we will dig deeper regarding the differences between startups and most businesses.

With especially regard to scalable startups, a startup is very much a different form of enterprise. Blank and Graham, a programmer and venture capitalist, both have written a numerous articles in which they distinguish startups from the rest of business enterprise kinds.

Blank (2010) emphasizes on a startup’s ability to carry out innovative explorations. He defines a startup as “*an organization formed to search for a repeatable and scalable business model.*” By contrast, an enterprise is “*a permanent organization designed to execute a repeatable and scalable business model.*” (Blank 2010).

Startups generate customers by testing an unprecedented innovative business model in existing market. Hence, it is essential for a startup to go from failure to failure to learn what does not work on the way of seeking for "a repeatable and scalable business model". While the business model implemented by a normal business establishment usually has been known, verified, and proven to execute. Among Finnish startups, Supercell is a very good example. Currently Supercell is the most profitable startup in mobile gaming. Its revenue in 2013 was 1.545 billion euros (Rosendahl, 2015). Supercell's successful story began when the company switched to "tablet-first" business model after experiencing failure with its first game, Gunshine. "Tablet-first" model focuses sharply on perfecting games for playing on tablets, and later for smartphones. In 2011, it was a risky decision, as the first Ipad had been introduced less than a year ago and had not yet become popular. However, as we all see today, it is clear that this was the right decision. Within the year, right after the switch, the company grossed over more than 400,000 euros a day just from two mobile releases and the number continued to grow the next year, according to Mr. Paananen, founder of Supercell (Wingfield 2012).

On the other hand, Graham (2012) uses a different word on what makes startup radically different, "grow fast". From Paul's view, "a startup is designed to grow fast" (Graham, 2012). Supporting Paul's opinion, there is Damadaron (2012), a professor of finance in New York University. Damadaron heavily underlines the stage of development in a startup over its structure and business sector, citing that the worth of a startup is totally determined by its "future growth potential" (Damadaron 2012). According to Paul, the growth of a successful startup often includes three stages. In the first stage, the startup seeks to understand "what it is doing". There will be no or slow growth in this stage. The second stage is a time of dramatic growth, when the startup has worked out how to produce a product or service lots of people want to pay for; and the product or service is available for all of those people. In most of the case, the second stage decides how big the startup will be in the future. In the last stage, growth slows down but does not stunt. Paul also mentions innovation by using the words "something rare and fairly novel".

However, for Paul, the weight of startup is in its growth rate. There are two main characteristics of startup's growth rate, which are consistency and without threshold. Without threshold means the first stage of startup can last very long, even 5 or 10 years to enter stage two, the stage of tremendous and fast growth. In North America, the average growth rate of the top-10 young technology companies is 32931%, with MobileIron being No.1 for its growth rate of 123678% (Deloitte's 2014 Technology Fast 500- North America 2014). As reported by CSI Market, the average of market growth in technology sector is only 10.9% (CSI Market 2014). In Finland, average growth rate of top-10 of growing technology companies is 2877% last year. The leader is ePassi Payments Oy with 8431% of growth (Deloitte's 2014 Technology Fast 50- Finland 2014). According to Pauls, a good rate is 4-6 percent per week. This number is more accurate for startups in technology sector, which usually have fast and high-growth rates. But then unlike other sectors such as real estate, a slow-growth IT company is not likely to grow big. Before a period of rapid growth, a startup, especially during its first stage, is committing to learn how to produce a product or service lots of people want to pay for; and the product or service are available for all of those people.

Overall, researchers in Startup Genome Project, a project covering data from more than 3200 high growth technology startups, have synthesized the key opinions of leading startup experts to result in a comprehensive definition of startup " *as a developmental organ that evolves long five interdependent dimensions Customer, Product, Team, Business Model and Financials.*" (Startup Genome 2011). Any successful or fail story of startup can be told by examining how balanced and consistent those five dimensions are.

2.2.2. Startups in Finland

Finland is considered to be one of the most supportive ecosystems for entrepreneurial activities, according to Business Insider. In 2009, Finland provided the second largest investment in early stage startups in Europe as a percentage of GDP (Bilton 2011). Besides that, Finnish governmental policies and regulations are

very encouraging for entrepreneurs, especially the favorable commercial and legal infrastructures for new firms to penetrate markets (Pekka et al 2012). According to the Global Entrepreneurship Monitor- Finnish 2012 Report, The rate of new business ownership establishment is relative high of 8.0 % in Finland. Besides that, 6.0% of adult population in Finland participates in early-stage entrepreneurship. Most of startups in Finland are IT related. Finland has managed to nurture some impressive figures for high-growth entrepreneurs including Supercell and Rovio. However, number of successful high-growth entrepreneur in Finland remains low (Erkko 2009, 22). A comprehensive explanation for this underperformance is still unknown (Erkko ibid, 26). There is a suggestion that culture, industrial traditions and experience in high-growth entrepreneurship can be the underlying reasons (Erkko ibid, 27). . In the next section, the thesis will go through the most common reason why startups fail generally.

2.2.3. Why startups fail

Last year, CB Insights surveyed 101 startup founders for the reasons why startups fail. The most popular reason, cited by 42% of the participants, is the *“lack of market need for their product”* Most of startups tend to spend engineering and time resource to perfect their product before making sure it is the wanted product in the market. The following reasons are ran out of case (29%), getting the wrong team (23%), and out-competition (19%) (CB Insights, 2014). ‘Running out of case’ scenarios are often associated with startup fail to achieve product-market fit or pivot when necessary. When a new idea is welcome in the market, there will be high threat of new entrances. Startups are likely to fail if they cannot react quickly.

On the other hand, based on data from more than 3200 high-growth technology startups, 70% of the high-growth startup fail because of premature scaling (Startup Genome 2011). Premature scaling is a state in which a startup lost the balance among its customer dimension, product, team, financials and business model. One or more of the four former dimensions are scaled up far ahead or leave far behind

the customer dimension. One situation in which premature can happen is that a startup hires specialists like CFO's, Customer service Reps before it becomes vital or spends too much resources on scaling a product before its product/market fit.

As a conclusion, success on a business lays on how accurate the company measure and control innovation. Lean Startups, developed by Eris Ries in 2008, is a very neoteric tools and processes to help businesses tackle the challenge (Blank 2014).

2.3. *Lean Startup*

2.3.1. **The origin of lean startup**

Lean Startup is a combination of three systemic development methods: Customer Development, Agile Development and Lean Manufacturing (See Figure 3). Its philosophy is to speed up decision-making process by experimenting uncompleted products in market since day one and collecting customer's feedback. In that way, a company can significantly reduce the risk of making products that customers do not want and avoid premature scaling. Unlike tradition management practices embracing detailed planning and market research, Lean Startup's fundamental philosophy is to fail fast and keep learning. Generally, a startup is defined as *a developmental organ that evolves long five interdependent dimensions Customer, Product, Team, Business Model and Financials.*" (Startup Genome 2011). In the following part, the report will go through those startup aspects in lean startup. The part will examine how lean startup differs from other product developments and management philosophies in order to answer the question "How are lean startup principles changing the way startups are managed?" The researcher considered the way of explanation would give the reader a more comprehensive and academic view about lean startup in comparison with other philosophies, rather than following the steps of lean startup process as described in the original book of Lean Startup by Ries (2011).

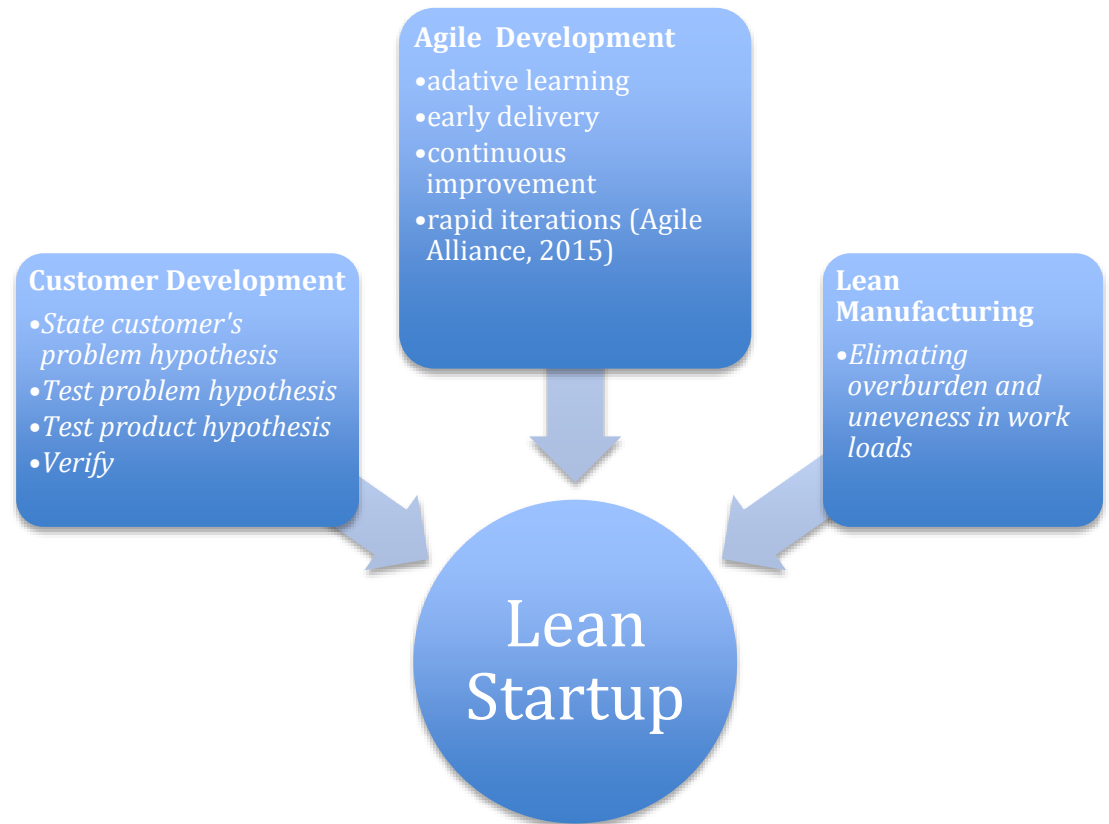


Figure 3 Lean Startup as a combination of methods

2.3.2. Startup strategy equals Business model

Entrepreneurial Learning

For a long time, a business is believed to gain considerable advantage from writing a rigorous business plan. A precise business plan normally encompassing a description of business, a careful market research and marketing plan, business's financial management particularly and general management serves as lifetime guidance for a company to follow (Pinson 2005). A business plan itself is a clear evidence that a company is well managed. Two observable phenomena have

improved business plan is no longer a survival kit for either large corporations or startups nowadays, which are:

- Well-managed firms are failing
- Startups do not fail because of no business plan but producing 'no-market-demand products'

Recent researches prove that business plan is pointless to a business, especially startups, under a variety of unsettled circumstances (Decker et al 2009; Kirsch et al, 2009). Lean startup overcomes uncertainty by using constant experiments to validate a number of market assumptions about products before spending all their money and times on perfecting it. In lean startup, the process is validated learning. Validated learning aims at creating a sustainable business. Harper (1996) defined the process in which entrepreneurs make assumption, evaluate which one to test and alter them depended on testing results as *"a kind of scientific process of entrepreneurial discovery and learning"* (Happer & Earl 1996). According to Harper, entrepreneur's knowledge, in favour of Popper's empirical philosophy (Popper, 2005 ed), cannot be proved but falsified by decisive experiments. The Harper and Earl' successful factors of adopting Harper and Earl' entrepreneur learning are (Harper1999, 5):

- *"Clarifying the falsifying conditions as exactly as possible to avoid ad hoc post-experimental adjustments (falsification discipline)*
- *Introducing ad hoc solutions or hypotheses (a set of methodological rules)*
- *Adopting a skeptical attitude to the reliability of the experiments or experimenters" (a set of methodological rules)*

The entrepreneurial learning process itself is endogenous (Harper, 1999), in which the entrepreneur itself has a problem to solve and the problem urges the business to find a potential solution. Blank (2006) and Ries (2011) further pointed out that assumptions had to embody in your company's vision and core values. These assumption are about product, customers, pricing, demand, market and competition (Blank, 206). Hence, they require some research information

beforehand. Furr & Ahlstrom (2011) divides them into Monetizable Pain Hypothesis and Big Idea Hypothesis. A monetizable customer pain is the frustration a customer having with a product or situation. The pain is hugely disturbing and the customer is seeking a solution for it. Hence, they would return the cold calls of an unknown startup to solve it. While monetizable pain is to understand what customer's problems are, a Big idea hypothesis will bring about solution in form of a virtual prototype, prototype and later a proved. On the other hand, Eris Ries categorizes two type of hypothesis in a startup: value hypothesis and growth hypothesis. The value hypothesis checks if a product/service actually bring value to customers using it by solving their problem. The growth hypothesis examines how the product can become more popular to customer.

Excellent learning skills make up entrepreneurs' success (Cope 2005). As assumptions is always conjecture and tentative, it will cause entrepreneurial errors, losses and failure. There is a huge need for opportunities to correct those errors. An entrepreneur with excellent learning skills is the one can make the correction fast and at a reasonable price (Eris 2011; Beck 1999). Bingham and Halebilian (2012), there are two type of organization learning techniques: direct and indirect. Direct learning, like testing and extemporization learning is time-consuming. Indirect learning from observation and cloning is quick and ease to pursue. For a mature company, indirect learning applied first then a change towards direct learning is usually a better choice. However, for startups it is better to start with direct learning to set their determination toward market opportunities, and then shift towards indirect learning, Lean startup's way of learning from decisive experiment on conjectures is also supported by the fact learning from negative results do have a remarkable outcome (Bingham& Halebilian 2012).

Business Model

Ostervalder (2010) describes a business model as "*the rationable of how an organization creates, delivers and captures value*" Given that identifying value happened within entrepreneurial knowledge, a business model is actually a series

of assumptions. That means a business model, a startup's go-to-market strategy (Furr et al 2014), is hypothesis-driven. Business model helps visualize the hypothesis construction within an enterprise, and also an effective communication tool within an enterprise. The most popular business model template is Business Model Canvas, initially proposed by Osterwalder and Pigneur, The business model contains nine building blocks of customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure, which are belong to four main areas of business customers, offer, infrastructure and financial viability (See Figure 4).

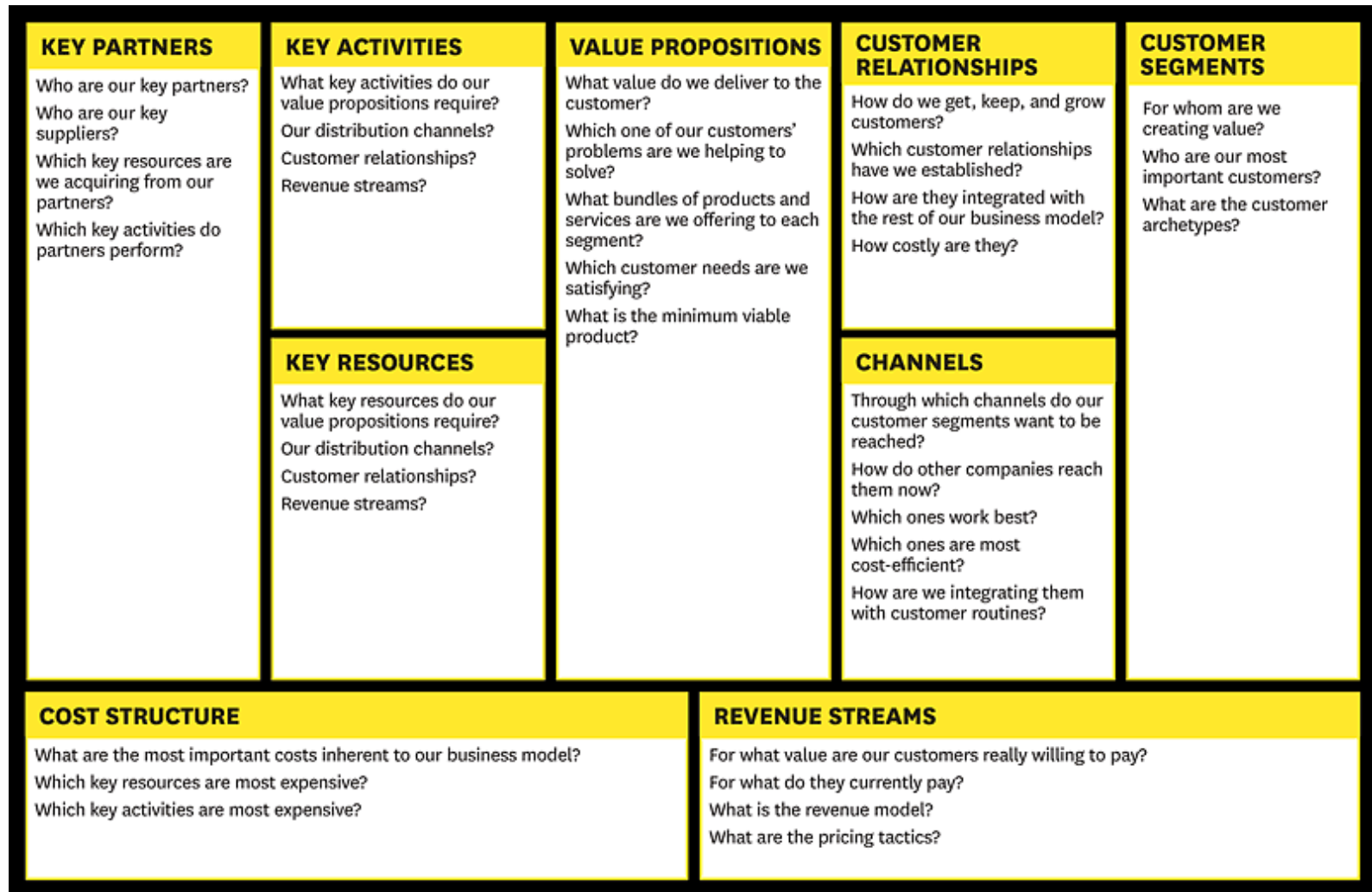


Figure 4 Business Model Canvas by Osterwalder and Pigneur (HBR, A better way to think about your business model)

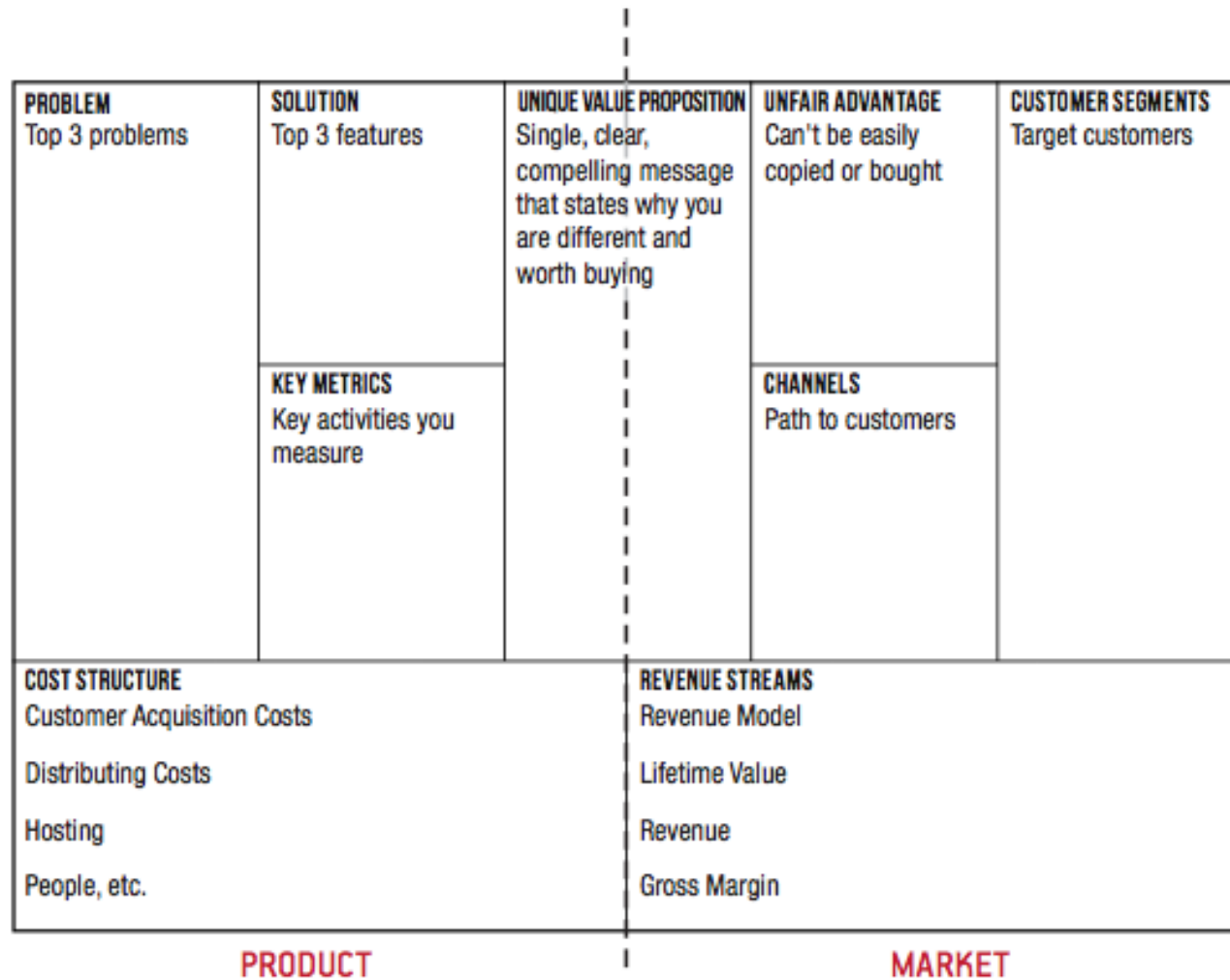


Figure 5 Ash Maurya's Lean Canvas (Maurya, 2012)

One adopted version of business model canvas is lean canvas, developed by Maurya in 2012. The lean canvas appears to be more suitable for a lean startup rather than the business model canvas. While the business model canvas demonstrates an established company's business model, the lean canvas model concentrates on the beginning stages of an enterprise, exploration of product/market fit (See Figure 5). The lean canvas replaces *key partner*, *key activities*, *customer relationships* and *key resources* with *problem*, *solution*, *key metrics* and *unfair advantage*. A startup establishes under many uncertainties, and mostly starts with zero resources but a bunch of guesses. Therefore, the main activity of a startup is to validate the hypotheses by using an actionable metrics (key learning activities). Lean canvas does not mention customer relationship because a startup does not have existing products or services. At the early stage of product development, customer relationship does not mean delivering value to the customer. Instead, it is customer giving feedback to the entrepreneur to revise its value proposition (Kromer 2014). A number of business models can be created from a single products idea. The challenge for a business is to pick the right one to scale. Lean Startup is a tool and process for a startup to tackle the challenge

2.3.3. Customer

A startup product is not developed for mainstream customer but for new ones, because no startups have enough resource in the first place to build a product, which is full of features required by mainstream customers, to compete with the existing superior product provided by established companies. As the market is not established yet, all theory about its customers are conjecture and tentative, impossible to predict. A business model, as a set of hypotheses, is worthless unless it is ratified on its objective, customers. In Lean start up, a(n) (experimental) product is used the first place to validate (assumed) customer's needs and desires. Right at the starting line, a customer archetype is quickly crafted based on interaction (via observance, phone interview customer randomly, etc.) with only few final users among mainstream customers. The archetype aims to clarify the potential customers and their problems rather than seeking final solutions.

Product development and the daily prioritization decisions must collaborate with customer archetypes. Later, a group of early adopters is created to test the product viability via a series of experiments. Lean User Experience (aka Lean UX) provides a template to visualize customer archetype, called Proto-persona (See Figure 6). The format contains four squares. The first square features a rough sketch of the persona (name and role), second is behavioral demographic information. The third one demonstrates the user's desire and disappointment with the existing product or circumstance. The last one describes potential solutions for those problems (Gothelf & Seiden 2013, 29). The customer profile is interim until validated learning affirms that the startup can serve this type of customer sustainably (Ries 2011, 93-94).

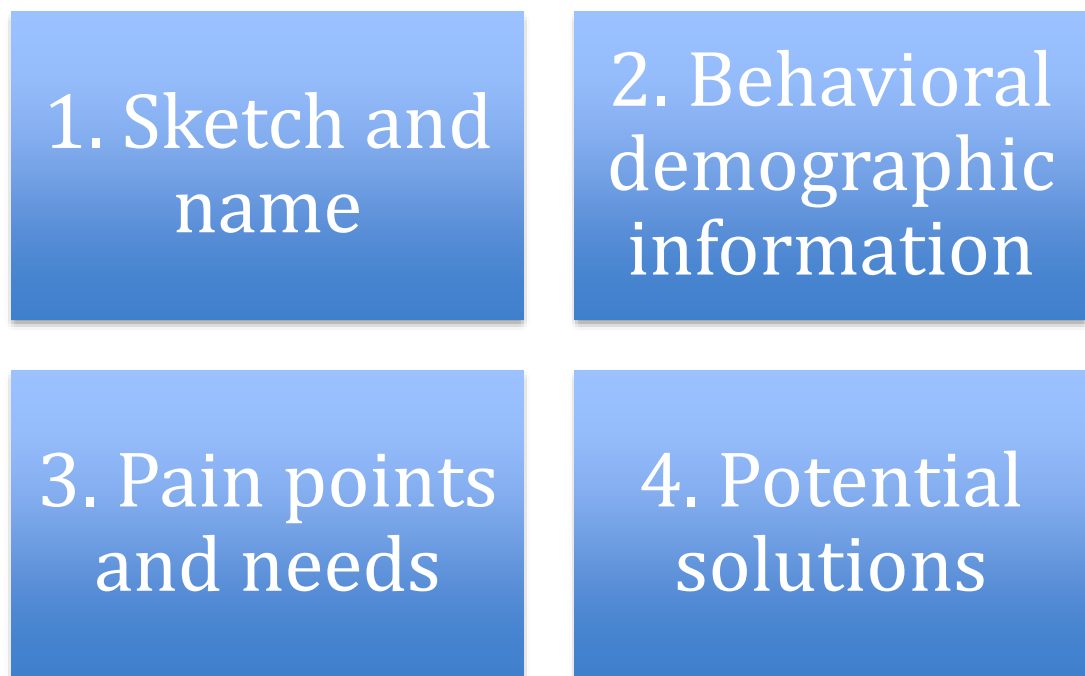


Figure 6 Blank proto-persona template by Gothelf

Customer Development, initially proposed by Blank (2006), is another method to test hypotheses in a business model. In the stage of customer discovery, more research is required to obtain a list of potential customers (from secondary

research, observance and interview), namely early evangelists. Early evangelists, a combination of early adapter and evangelists, are ones who tolerate flaws of a very new product, and suggest critical and problem-solving opinions (See Figure 7). Similarly, in Furr& Ahlstromg's method, a startup is encouraged to do some market research to find a sample of customers, giving them a cold call or email, then capturing and measuring the results. However, lean startup does not emphasize much on researching the early hypothesis about customer's problem, except the archetype. In that way, products at first are built mostly on the entrepreneur's vision and their available technology. And a simpler version will get out to the office for customer to test out. So the first realization is very much a feature of the startup's creativity. The learning begins when customers interact with a product or service, an additional time and effort to embellish it is unnecessary. Hence, in lean startup, both problem and solution hypothesis are validated simultaneously right after the first product released.

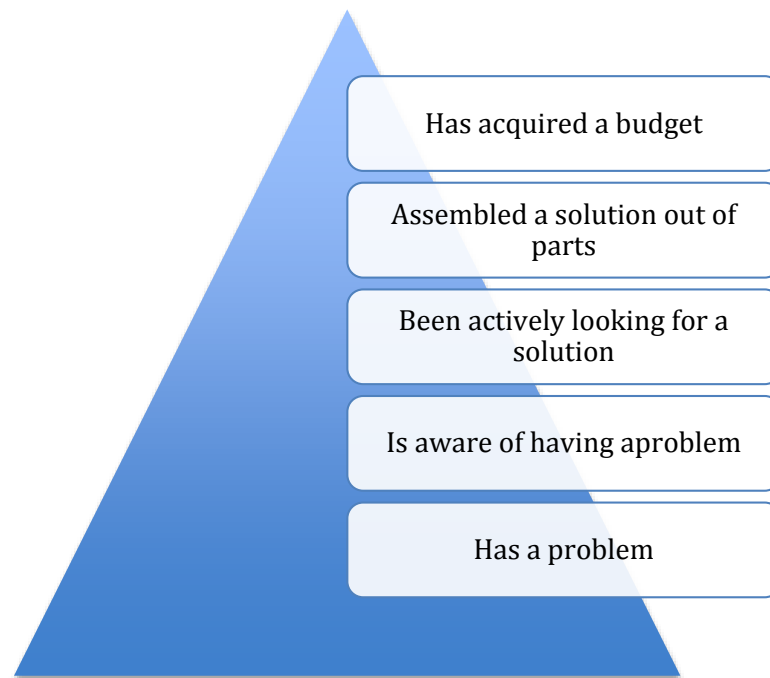


Figure 7 Earlyevangelist Characteristics by Blank (2006)

Calling customers or sending email is used to make sure those assumptions are based in reality. Finding the facts in a place where the work is done is initially introduced in the Toyota Way Philosophy as a key principle, namely Genchi Genbutsu (Liker 2003). Indeed, customers, markets, suppliers and channels does not exist in the office, more particularly on any whiteboards. A startup has to get out of the building (GOOB), extensive contacting with potential customers to know them (Blank 2006)

All Ries, Blank and Furr & Ahlstrom agree that the end-user will be the one who tests the prototype. However, there are still cases that end-users do not use products while keep paying for it. Reasons can be customers forget or somebody else pays for them for example their companies. Thus, Furr & Ahlstrom's suggestions consider three kinds of customers: economic buyer (who pays for a product), technical buyer (who installs and maintains the product) and end-user (who use the product) while doing customer research.

An entrepreneur may make two mistakes during the customer discovery phase, either doing too little or too much research (the risk of thesis paralysis) for building the final product (Ries 2011,94). Constantly interaction between products and customers will detect the errors. The early visionary customers will be able to fill the gap between the elements and amounts of features in a startup's innovative products and a profitable business model. Additionally, Ries (2011) and Furr & Ahstrom (2011) all emphasize the need of staying unbiased and concentrating on optimizing through learning, as no single opinion can lead to a correct conclusion.

2.3.4. Product

Minimum Viable Product

Product is a way to prove that a chosen business model works. In Lean startup model, experiment is product. The fundamental of lean startup philosophy is its learning instrument, the minimum viable product (MVP). It enables a startup to validate its hypothesis by revealing an early product version to a subset of

customers (normally early adopters) in a purpose of delivery startup's vision, data collection (via feedback), analysis and learning. MVP point is equilibrium of lowest accepted quality, minimal product features, least resources and time, where a minimum product meets viability (Junk 2000). MVP reduces the risk of building products/services that nobody wants and maximizes the learning per dollar spent (Ries 2009).

The concept of an experimental version in MVP is dissimilar with product prototypes and with regard to how they are used. A prototype is designed to demonstrate a concept, appearance or technical content of a product to visualize how product looks like and works, enhancing communication between designers, developers and users or investors (Warfel 2009). A designer designs the prototype in order to sell either his ideas or products. While in contrast, a MVP version is built by a minimal viable team in order to learn, validate assumptions, test product viability and usability and get user feedback.

Moreover, MVP is very different from a minimum marketable product (MMP). Firstly, MMP is a product with the right amount of features, which can provide proper user experience. MMP is the product developed for few, which Blank mentioned about in his book *The Four Steps to the Epiphany* (Blank, 2006). While minimum viable product is "*the minimum viable product is that version of a new product which allows a team to collect the maximum amount of validated learning with the least effort*" (Ries, 2010), no single product alone can really provide a validated learning; it has to be a series of one minimum viable products. So technically, MVP is rather an interactive process of launching experimental prototypes, testing customer behaviors and learning. Blank (2010a) preferred the experimental product of during its hypothesis validation process as *a minimum viable feature set*. Secondly, even an experimental product in MVP is dissimilar with a MMP. A MMP is a form of final product, ready for market penetration, required launch preparation activates. While in contrast, minimum feature set is mostly used to obtain knowledge. A MVP as equilibrium of minimum everything is far from the marketable, occasionally some become increments of final product

though (Pichler 2013). For example in case of Dropbox, its first MVP was only a video demonstrating the visionary- function of future Dropbox software and service. Dropbox did not build software (even minimum one) at first as it would require engineer and time effort, while attitude of customer about the product had not been clear. Therefore, an explaining video was excellent economical choice to uncover if customer needs the solution. A minimum viable feature set is not marketed via any official marketing campaign. For the sake of building a successful MVP, an entrepreneur, in the beginning, has to identify the minimum number of marketable features left in product development queue and how to put the final features in priority to each other (Taipale 2010). MVP is more than a vehicle to explore those right features in a MVP.

Build-Measure-Learn Feedback Loops

Every minimum viable feature set is embedded in a build-measure-learn loop. The whole loop has to be iterated rapidly; otherwise it could become a waste (money, time, engineering effort) (Figure 8)

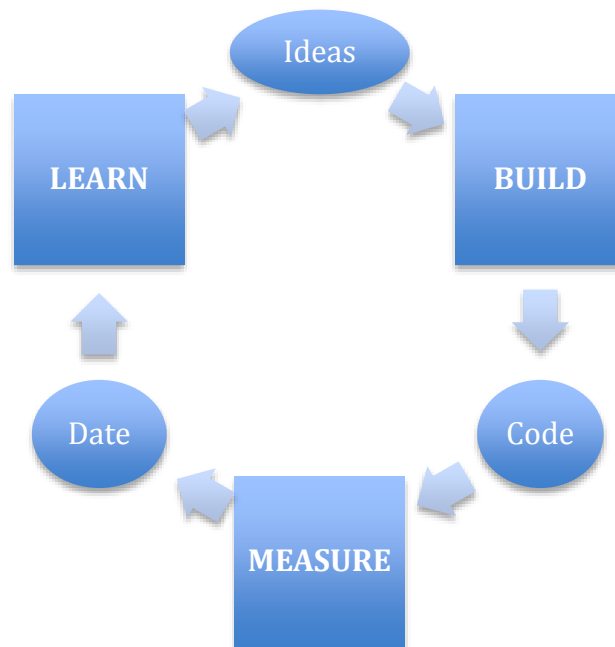


Figure 8 Build-Learn- Measure loop by Eric Ries

The goal of build phase is to build a minimum viable feature set, iteratively testing on early adopter as quickly as possible, Lean startup combines different product development methodology in its building phase, namely agile product development and customer development. Building MVP feature sets belongs to customer validation phase of customer development method; customer discovery is stage of generating hypothesis (see Figure 9). Another product architecture recommended by experts to boost the product building speed and accuracy are Acceptance Test-driven Development (ATDD), Continuous Deployment, Integration Execution and Just-In- Time (Taipale 2012). A minimum viable feature set has its complexity reduced maximum, aiming for low cost, quick lead time and adjacent and revising possibility but still reaching quality level demand by certain group of customers (early adopters). There is actually a risk of release an uncompleted regard to copyright and brand image. To solve the problems, a startup can file for technology patent, learn faster than competitors and use another name/brand for its minimum viable feature set (Eris 2011). Overall, minimum viable feature sets are built and shipped quickly to begin the learning process as soon as possible.

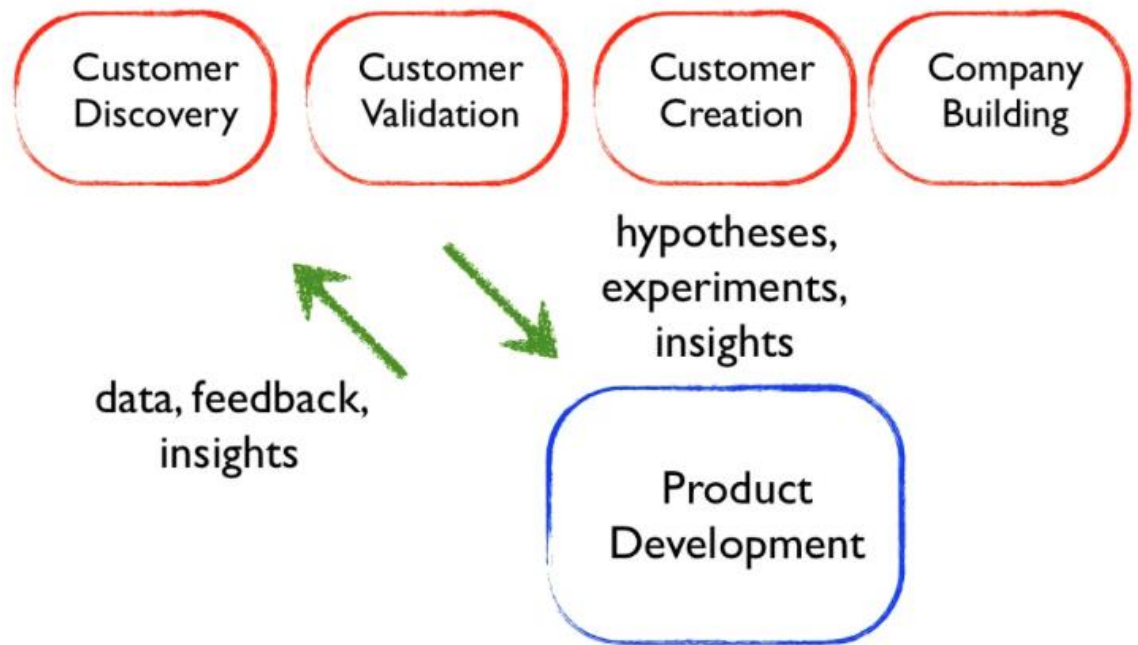


Figure 9 Customer Development by Blank (Taipale, 2012)

The second phase, measure, is to trace how a startup is moving closer to generate an innovative product or service, which can solve customer’s monetizable pain. Is the progress going on and fast enough? Eris (2011) specified: *“Progress in manufacturing is measured by the production of high quality goods. The unit of progress for Lean Startups is validated learning-a rigorous method for demonstrating progress when one is embedded in the soil of extreme uncertainty.”* As the progress unit in lean startup is validated learning, normal sale reports or cash flow statement no longer use. Validated learning is an ongoing process, while the sale report and income statement only describe what happened in the past. Besides that, they cannot clarify whether an increase in revenue comes because of new product features or a marketing campaign effort. Hence, lean startup uses an actionable metric to account its innovation and learning progress (innovation account). The popular actionable metrics to trace the progress are activation and retention (Ries 2011; Murya 2012). Activation stands for the level in which the referred customer has his first impressive user experience. Retention rate

describes how the product keeps the customers for longer. Murya suggests using the 40%-threshold, developed by Sean Ellis, to determine early traction (Murya 2012, 187). For example, a minimum viable feature set reach product/market fit when 40% of the registered customers retain using product after one month of trying. Cohort analysis can be applied to see the difference in customer behaviors, product patterns, and trends between each group of customers that interact with the product independently overtime. By this way, a startup can see if an improvement added in their products is helpful or not to win customers and keep them stay. However, if customers do not activate and stay with the product even in spite of continuously innovative features added, it means the startup's hypothesis about customer's needs and desires is wrong. It is time to pivot, changing the strategy, generating new hypothesis. Learning is an action of implementing new experiments and revise the strategy if needed from the measurements collected in previous phase.

Some entrepreneurs -first getting to know about lean startup-, usually tend to focus on its tactics: penetrating a low-quality early prototype, charging customers right at first place, making money from low-revenue targets. Many can urge that, not all of the customer accept a low-quality product and the tactics may work well in software industry but not hospitality service or retail industry for example. However, Lean Startup is not a set of tactics but a principled approach to new product development. It can be applied on startups in most of industries (except medicine industry for example). The way to learn is to see startup as "*a grand experiment*" (Ries 2011, 61). It is not about to answer if a product is possible to be built. Instead, a startup tries to find out if the product should be built and if a sustainable business can be established around the product or service. A final successful product is a result of experimenting, learning from failure to failure.

2.3.5. Team

A business pursuing agile product development does not structure the organization into departments by function. A common organization structure for an agile business establishment is product owner model with cross-functional teams. Case studies in manufacturing firms have showed the way of approach increases speed and flexibility (Takeuchi & Nonaka 1986). In product owner model, an organization contains three layers of coordinators, sub-team and supporting cast. The coordinators include project management team, product owner team, and architecture owner team. Members from three coordinators teams lead each sub-team. Sub-team members include agile database administrator, user experience experts and team members. The supporting cast has technical experts, domain experts, independent testers, and integrators. A sub-team is a cross-functional team working across the whole business process (Ambler 2004). Product owner serves as a communication bridge between the operational and strategic team, between the product development team and stakeholders (Pichler 2010).

Given many similarities between lean startup and agile development, cross-functional teams are used to structure a startup. However, Ries has simplified the product owner model into a lean startup model with only a cross-functional problem and solution team. The problem team is responsible to identify which customer's problem should be solved. The solution team will build solutions for the problem identified and give insights, data and feedback collected from their experiments to problem team. Even problem solution team operates in its own iteration of customer development and agile development respectively, they closely collaborate in an organization-wide feedback loops in order to support learning process of the whole company. By that way, a startup can run more major iterative process within its limited resources, costing cost while not slow down the whole business operations. The more iterations are run, the more chance of success a startup has.

Taipale (2010) gave an example about lean startup's structure. In Huitale, a successful lean startup in Finland, a problem team includes CEO, CTO, Sale Director, Marketing Director, and User Experience Designer. The Solution team has CTO, Developers and User Interfaces Designers. Leaders of problem and solution team respectively are CEO and CTO. There is overlap between two teams on purpose to reduce communication breakdown between two teams and avoid heavily documented communication. The mantra used is *Competencies over roles*. Tasks and responsibilities are delegated to every team member purely regarding to their core competency, for example agile development, user experience design, market research. Each team member is empowered to discover their own way of finding and solving customer's problems. Moreover, it is useful for the team member to hold some extra skills that enhance collaboration and productivity (Gotheff & Seiden 2013, 112). In a lean startup, personnel are recruited based on their ability for learning, nimbleness and speed instead of experience and ability to execute plans like in a normal organization (Blank 2013). A structure of cross-functional problem and solution team is helpful to keep the teams cohesive, provide task certainty, task interdependence and maintain a good team size, in order to increase the teams' problem solving productivity (Dailey 1978).

2.3.6. Financials

It is pointless for a startup to account for their business on income statements, balance sheets or cash flow statements. Those documents only describe the financial situation in the past fiscal year, which mean things had happened in the past. While a startup works towards an ongoing learning process, aiming at going for zero to all, customer acquisition cost, lifetime customer value, churn rate and ability to be viral are more important. Innovation accounting is a new kind of accounting for startup in lean times. Financial times defines innovation accounting as *"the rigorous process of defining, empirically measuring and communicating the true progress of innovation – such as customer retention and usage patterns - whether for start-up companies, for new products or business units within established companies"* (Financial Times 2015). They have three principles of the metrics used

in innovation accounting are actionable, accessible and auditable. Example metrics are acquisition, activation, retention and referral rate. Innovation accounting is part of the engine of growth, which helps a startup to create a sustainable and long-term business (Eris 2011, 201). Ries (2011) categorizes three engines of growth: sticky, viral and paid engine of growth. The table 1 summarizes more information about those engine of growths by synthesizing opinions of Eris (2011, 202-212) and Murya (2012, 190)

Table 1 Engines of growth in a Startup by Erics and Murya

Engine of growth	Features	Growth-drivers
Sticky	High retention rate Low churn rate	Customer acquisition rate > Churn rate
Viral	High customer-to-customer referral-rate High viral coefficient	Each users brings in at least one other user (viral coefficient >1)
Paid	Spend money on advertisements, marketing campaigns, sale persons to increase customer acquisition	Customer lifetime value > Cost of customer acquisition

Lean Startups has shift the focus of starting a business from heavily research documents and plan into real-life customer interactions. Startup is not a small-scale of a bigger company. Startup itself does not have any facts about the customer and the relationship among its customer, product and market. While in contract, an established company already acquires those facts from its past activities. Startup has no past or facts but assumptions. Hence, instead of planning the business, Lean Startup approach uses business model canvas or lean canvas to gather the

assumptions, using experiments (customer interaction) to validate and scale the business model continuously and rapidly. For the sake of Lean Startup approach, the startup has to get rid of its tradition way in structuring the organization and measuring the business. The component of a Lean Startup is cross-functional team, unlike the functional departments traditionally. The people are recruited for their ability of learning and the speed to make changes. In Lean approach, success is not simply measure by a vanity metric of revenues and incomes but an actionable metrics such as customer acquisition, activation, and retention rate.

3. Research Implementation

3.1. Research design

For the sake of a quality and trustworthy research, the researcher ensures following key elements as recommended by DiCenso et al (2005):

- Providing clear research questions and propositions, in which the question is proved
- Case study is matching for the research questions
- Using a suitable sampling strategies for case study
- Collecting and managing data structurally
- Ensuring accuracy of data analysis

3.1.1. Research Methods

The phenomenon of lean startup has becoming popular recently. More and more startups and even big companies are practicing lean startup principles of falling fast and keeping learning. As an entrepreneurial-spirited person, I am self- motivated to obtain insights about lean startup empirical practices. To get better understand of exploring how lean startup is practiced in real business environment, why it remains in favor with entrepreneurs, a qualitative research using multiple-case

study method has been appointed. Qualitative approach is better to get an understand perspectives, interpretation, meanings about a complex, interwoven, difficult to measure phenomenon like Lean Startup movements in Finland. While in contrast, quantitative approach usually seeks to confirm a hypothesis or theories about the phenomenon by using numerical data (Lincoln & Guba 1985; Borg & Gall 1989; Bernard 1995). However, there is not yet much research on lean startup theory and its use. Hence, there is no stable foundation for a quantitative approach at the moment. In contrast, qualitative approach with multiple-case study methodology is best to fill the gap of lacking theories background by integrating existing theories with factual insights (Yin 2014). The method is especially useful for discovery when theory about the phenomenon is still limited (Vissak 2010).

Case study can answer how and why research questions by focusing on contemporary events without requiring control of behavioral event (Yin 2014, 9). The research deals with operational links needing to be traced over time rather than mere frequencies or incidence (which can be collected by surveying or archival analyzing) (Yin 2014, 10). Also, Lean Startup practice in Finnish startups is the concurrent event unmanageable by the researcher. Last but not least, a multiple-case approach, even a two-case approach is considered to lead to more reliable and powerful conclusion than a single-case study does (Yin 2014, 64). Comparing several case studies can help researcher understand the similarities and differences between the cases.

There are four common qualitative methods, which are participant observation, direct observation, in-depth interviewing and focus group (Frechtling & Sharp 1997). Participant observation requires the researcher to become a nature part of the studied context (Trochim 2006), the process usually takes months or years long, so it is not the best option given the time frame in which the research has. Another way of observing is direct observation from recorded video or information from secondary resources. However Lean Startup application is new and few in Finland and it strongly relates to business confidential, recorded video, internal documentations or secondary data have very limited access. Focus group with

interaction of respondents will “*provide new and valuable responses*” (Frechtling & Sharp 1997). *However, focus group has one disadvantage that it can only cover a medium volume of issues. The time for each respondent in the focus group is mostly less than 10 minutes* (Frechtling & Sharp *ibid*). While with this study, the research is seeking for a comprehensive understand about Lean Startup movements in Finland, in which an intensive volume of data needed. Being flexible and reasonable, the research decided to use in-depth interview method. In-depth interview allows the research to have enough time with each respondent in order to achieve richest data and insights about the issues. According to Irving (2006), in-depth interview is very effect to understand the experience of participant with the issue and the meaning of those experiences. Hence, in-depth interview appears strongly suitable to understand the experience of CEO practicing lean startup in Finland and the meaning they make of that experience.

3.1.2. Research questions and objectives- Study propositions

There are five importance components of case study research, which are a case study’s question, its propositions, its unit(s) of analysis, the logic linking the data to the propositions and the criteria for interpreting the findings.

Research questions: The research questions hereby are in form of “how” and “why” questions. As mentioned before, I personally interested in the empirical insights of lean startup practices. Hence, the study questions are:

- How are lean startups principles changing the way startups are managed?
- Why are startups in Finland practicing lean startup principles?”

The objectives of the study are therefore:

- To understand why traditional management philosophies appear to be no longer effective in today’s business environment
- To describe what is a startup and why startups fail
- To discover how are lean startup principles changing the way a startup is managed?

- To explore what are the challenging factors for a startup established in Finland to implement lean startup and how are such challenges overcome
- To understand and propose how to measure the successfulness of a lean startup implementation in startup companies established within Finland.

Study propositions: A study proposition leads directly to issues should be scrutinized within the scope of the study (Yin 2014, 30). The potential propositions of the study are:

- Finnish startups prefer lean startups as it reduce the risks of producing products customers do not want and enhance entrepreneurial learning.
- Entrepreneurs in Finland choose lean startup methodology based on lessons they learned from the previous management philosophies.
- In order to practice lean startup successfully, a startup are flexible to adapt the lean thinking to its own process and flow of work, diversifying operational mechanism, management tools and techniques based on working stages and circumstances
- Startups face internal barriers to deploy and implement lean startups, including: Finnish culture, resistance to change, lack of cohesiveness in strategy and invisible tendencies rooted in organizational system (organizational cultures and structures).
- Entrepreneurs is influenced by business consultants in decision-making

Unit of analysis: A startup in Finland, which practices Lean startup methodology. In total, there are three units of analysis (case studies). The case study chosen should advocate lean startup movements and practices for a period of at least a year and establish in Finland. The final selection of the three cases was made on secondary research. Besides that, it is very fundamental that the startup owners are willing to participate in the research by accepting interview invitation from the researchers

The other components are the logic linking the data to the propositions and criteria for interpreting the findings. The logic link includes steps and various analytic techniques and choices in detail used to scan the data (Yin 2014, 35). The criteria contain strategy to determine the opposite clarifications for the final result. Those two components will be described detailed in Data analysis section below.

3.2. *Data collection*

3.2.1. Structure of the in-depth interviews

Given the main purpose of the research is to understand the experience of CEO practicing lean startup in Finland and the meaning they make of that experience, the method of qualitative study with in-depth interview appears strongly suitable (Irving, 2006). Questions for the interviews follow *“the three-interview series”* principle of an in-depth interview developed by Dolbeare & Schuman (Schuman 1982). The three interview series encompasses: focused life history, details of experience and reflection on the meaning interview. In order to secure the content details, all interviews were recorded and transcribed later. Moreover, the researcher also took notes during the interviews. By that way, the content the interviews were tracked down and the researcher could come back with any emerging issue without interrupting the interviews.

The first interview layer is responsible for putting the participant’s experience in context by addressing his or her recognition and relationship with the research topic up to the current moment. For example, the researcher avoids asking question like *“Why do you practice lean startup?”* Instead the researcher asks how an entrepreneur narrates lean startup from his or her own experience. The question *“how”* is useful to rebuild and relate a variety of separate events in their work experience (Gergen 2001) as well as address the participants opinions fruitfully and impartially (Kvale 1996; Smith & Osborn 2008)

The second interview layer enables interviewees to elaborate the details of lean startup experience in related to the circumstances in which the practice is carried

out. The information asked here no longer participant's perspectives but the details of their practical, in which their perspectives are perhaps conducted. For instance, the researcher asks the interviewee to expand on one particular situation in which lean startup methodology was applied.

The last layer identifies the "*intellectual and emotional connections*" between the entrepreneur's management knowledge and skills and current lean startup's practices by asking the questions to reflect the meaning of their experiences. Creating meaning demands the interviewees examine all the internal and external factors during their practices of lean startup, which lead to successful or unsuccessful business results. Question in the third interview layer has to strongly relate to the setting of the two previous interview layers. The research will centralize her attention on the meaning-making process (Irving, 2006). See Appendix 1 for more details about the interview questions.

In addition to interviews, multiple sources of evidences from literature, basic information about the startups and interviews from online sources are utilized to collect data; and chain of evidence is established in order to support the study construct' validity (Yin 2014, 47). Case notes, case study materials including books, previous researches, and other documents, interview notes, transcripts and analysis notes are also gathered carefully and systematically to create a case study database, which enhances the reliability of the research. Another device employed for data collection is empty table shells, initial proposed by Miles & Huberman. The researcher particularly uses a meta-matrix for type of concerns during lean startup deployment and implementation (see Table 4 in Result section) and content analysis summary table (see Table 5 and 6 in Result section). The meta-matrix visualizes descriptive data from the case studies. On the other hand, the content-analytic summary table, is more like a comparison chart, gathers and clusters all relevant data from the case studies into a one-page table for later interpretation (Miles & Huberman 2014). The tactics of partitioning and clustering are also made use of during data observation process.

3.2.2. Sample

The final sample consists of three participants. All of them are Finnish, gender male. The participants have different positions in the lean startup system. The number of years practicing lean startup is also various participant by participant. By that way, we can examine lean startup in Finland from various professional aspects and level of experiences (See Table 2- Sample overview).

Case study one is a business consultant and a serial entrepreneur. He has more than 15 years of experience doing business in Silicon Valley, New York, London and Helsinki. He is the owner of four different businesses. Particularly, he has been observing, practicing and consulting lean startup principles for 3 years. His expertise includes Direct-to-Consumer marketing, sales and evangelist of lean startup methods.

Case study two is a serial entrepreneur and lean startup advocate. He has more than 10 year doing business Finland in the field of information technology. Lean startup principles have been applied in his second startup since 2013.

Case study 3 is a Lean UX engineer. He is working at a big software company, which has begun practicing Lean startup principles in one of its units last year. Case study 3 belongs to the problem solution team of the unit.

Moore (2000) specified factors to consider to decide the size of the sample in qualitative data, which are the scope of the study, the nature of the topic, quality of data, study design and the used of shadowed data. The scope of this study is limited to lean startup practices in startups established in Finland. The objectives are clear and obvious (as specified above). Besides that, all of the participants were very contributive during the interviews, spending enough time to give adequate information. The information collected, through in-depth interviews, is focus and reflective, including both the participants' experiences with leans startup and their discussion about the experiences of others (shadowed data). Hence, the usefulness

and richness of data collected per participants in this study is relatively high. Given those reasons mentioned about, the sample size of this study with three participants appears adequate.

Table 2 Sample overview

Case study	Career	Year of experience with		Date of interview	Duration of interview
		Entrepreneurship	Lean startup		
1	Serial entrepreneur lean startup advocate	15	3	29/04/2015	43 minutes
2	Serial entrepreneur	10	2	27/04/2015	40 minutes
3	Lean UX engineer	0	1	04/05/2015	30 minutes

3.3. Data analysis

Mason (2002, 149) categorizes three approaches of qualitative data analysis: literal, interpretive and reflexive. Literal approach is limited to the precision of words and grammatical structure of the written documents, in this cases the interview transcripts. However, there are two reasons, which make literal approach appears inappropriate. Firstly, language used in the interviews is English, which is not the native language of the interviewer and interviewees. Secondly, in-depth interview method has very open structure, giving room for the respondents to develop the topics themselves. So there will be a lack of consistency in structure among the three transcripts. Thus, the researcher hereby uses a combination of interpretive and reflexive approach to analysis the collected qualitative data. By that way, the study can both focus on interpreting meaning from participants' accounts, and staying impartially on data creation and reflexive analysis process by concentrating on the research and her contribution (Mason 2002)

According to Miller (2000), organizing data is a prerequisite for the analysis process. In order to organize the data, the research uses a computer-assisted tool,

Nvivo, to code text and break it down into manageable unit. Saldana (2012) defines a code as: *“A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data”*. Initial codes are interpreted directly from the participants’ words and phrases, which represent the essence of a data. The researcher employs both descriptive and value coding to filter the data in interview transcripts. Besides that, coding also help identifies patterns (similarity, difference, frequency, sequence, correspondence and causation) among the case studies. Codes are not necessarily directly connected to the research questions. They are more appropriate in creating a base for the later synthesis. Initial codes then transfers into more solid phrases, which more focus on the theories. The focused codes are then organized into categories. Certain codes emerges as major topics, while others can be subsets or additional details of the major topics. Finally, from categories, key concepts are determined (See Figure 10). Key concepts are the meaning the research accredits to the collected data.

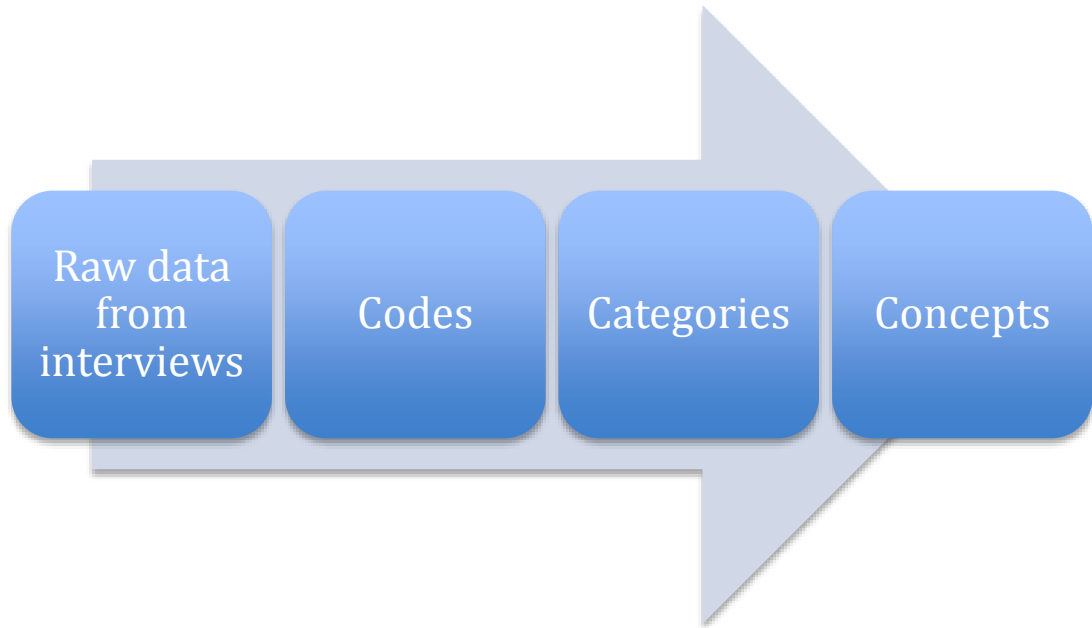


Figure 10 Three Cs of Data Analysis: Codes, Categories and Concepts

Next, a cross-case synthesis technique is applied. Cross-case analysis pinpoints various factors which are helpful to describe the differences or similarities between cases, explain distinctive discovery as well as expand the concepts and study propositions. Moreover, the technique provides an exceptional opportunity to create critical thinking by viewing the lean startup philosophy from various settings and circumstances (VanWynsberghe & Khan, 2008).

As a summary, in this study, the researcher employed a qualitative research of multiple-case study. The method used is in-depth interview. A qualitative software, Nvivo, had been use to process the interview transcripts. The collected data then was analyzed in an interpretive and reflexive approach.

4. Results

4.1. Codes- Categories- Concepts Found

By using Nvivo, the researcher identified 42 codes from 18 transcript pages of the three interviews. The codes are made up of 161 references totally, in which case study one accounts for 55 references, case study two 52 and case study three 54. The codes then are organized into 14 categories (See Figure 12). Four concepts reflecting the meaning attached to the data collected emerges from the categories. (See Table 3 and 4 for more details about the categories, Table 6 and 7 for the focused codes)

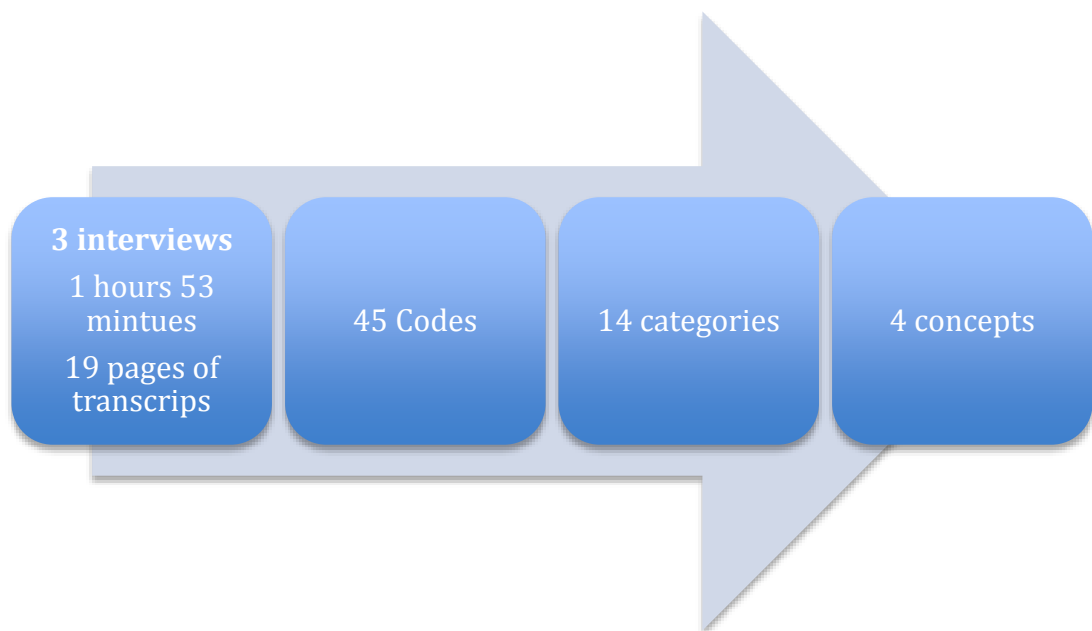


Figure 11: Three C's of Lean startup

The concepts are: Features, Advantages, Challenges and Successful Factors. The concepts of Features and Advantages closely examine to the research question: “Why are startups in Finland practicing lean startup principles?” Lean startup is considered as a favorable methodology among Finnish startups given its features and advantages provided. While the two former deal with “How are startups in Finland practicing lean startups?” Lean startup practitioners in Finland agree on several challenges happened during deployment and implementation of the method and the removal barrier strategies. The tables below demonstrate the

frequency of each categorize mentioned in the case studies. It is important to notice that many codes belong to more than one categorize (*). That is why the sums of quotes are more than the total numbers presented at the bottoms.

Table 3 : Frequency output: Features and Advantages Concepts

Concepts	Categorizes	Frequency of references			
		Case 1	Case 2	Case 3	All cases
FEATURES	Customer orientation	6	4	5	15
	Innovation accounting	2	1	2	5
	Validated learning	3	4	5	12
	Rapid iteration	3	2	3	8
Total of Features concept *		12	11	14	37
ADVANTAGES	Effective resource allocation	5	3	4	12
	Positive organization behavior	4	5	3	12
	Market advantages	5	4	3	12
	Risk Reduction	3	3	5	11
Total of Advantages concept *		16	14	15	45

Table 4 Frequency output: Challenges and successful factors Concepts

Concepts	Categorizes	Frequency of references					
		Case 1	Case 2	Case 3	All cases		
CHALLENGES	Finnish culture	3	3	4	10		
	Ego and perception	4	4	3	11		
	Organizational culture	7	5	3	15		
Total of Challenges concept *		13	12	10	35		
SU	CC	ES	Cohesiveness	3	5	6	14

Leadership	4	6	4	14
Continuing learning/training	8	4	6	18
Total of Successful Factors concept *	13	15	15	43

4.2. Features and Advantages of Lean Startup

The concepts of Features and Advantages closely examine to the research question: “Why are startups in Finland practicing lean startup principles?” Lean startup is considered as a favorable methodology among Finnish startups given its features and advantages provided. Table 5 primarily collects main ideas of the participants about the features and benefit of lean startup.

Type of Concerns/ Items	Case 1	Case 2	Case 3
Lean startup as a set of principles embedded in startup process	III	I	I
Lean startup speeds up iterative working process	III	III	N.A
An utilization of various operational mechanism, management tools and product development techniques through different stages of the start up	N.A	III	III
Customer orientation is the one language presented to a startup’s stakeholders such as startup’s team member, customer community and investors	I	III	III
Continuous experiments to test a startup assumptions, which are aligned with the startup’ vision	III	III	III
Effective resource allocation by producing small batches, breaking down the whole process into small step	III	I	I
Decisions about product features, pricing, contribution channel or changes in strategies are made base on	III	III	III

empirical data from customers			
Actionable metrics (like customer activation, retention, learning milestone of a startup's teams) are used instead of normal accounting (cash flow, balance sheet, etc)	III	I	III
Reducing the risk of producing products which has no market demand	III	I	III

N.A= not applicable III = emphasized concern I = less emphasized concern

Table 5 Type of concerns of practitioners about lean startup philosophy

The primary data collected in table 5 has guided me to identify the codes, then categories related to the characteristic of lean startup. In the end, two concepts are found emerging from the categories, which are features and advantages (of lean startup). Table 6 explains the development of these concepts by listing the contained categorizes and several references as examples.

Table 6 : The concepts of Features and Advantages

Example References	Codes	Categories	Concepts
<p><i>"You think your idea is great for customer. It is only an assumption." You are better go out of your office and find out if it is the truth."</i></p> <p><i>" There is no point to add fancy features on if they have no value to customers. It costs time and money to build and then can even cause difficulty in management or maintenance the product"</i></p> <p><i>"Focusing on customer, it should be the one language to communicate among team member or between startups and the external environment"</i></p>	<p>Get out of the building</p> <p>Problem hypothesis</p> <p>Solution validation</p> <p>Common language</p>	<p>Customer orientation</p>	
<p><i>"I usually suggest the startup I consulted to arrange once a week a discussion between team members, in which we sit down to make decisions about which ideas are bad, must be killed and what are the better options."</i></p> <p><i>"A startup aims at high-growth and sustainable business. In many case, revenue increases because of the startup' marketing effort rather than the innovative level of the product. This revenue number can't account for sustainability and high-growth future"</i></p> <p><i>" We would prefer to see how many customer activate this month, how many of them stay next month, how many recommend the product for their friends and so .."</i></p>	<p>Actionable metrics</p> <p>Learning as a unit of progress</p>	<p>Innovation accounting</p>	
<p><i>"it is quite often to change your business in lean startup. "</i></p> <p><i>"When you find a new way to do a better business, you understand your customer and you test what is the best way to sell it and what is the easier way for customer to buy it. And you learn and learn overtime then you will change your business model as well."</i></p> <p><i>"Customer feedback is a key thing. Listen to the voice of customer, look at your experiments and learn from it. "</i></p>	<p>Business model</p> <p>Experiments</p> <p>Empirical database</p> <p>Pivot</p>	<p>Validated learning</p>	

FEATURES

<i>"Testing a minimum viable product is to test your assumptions. In many situations, your vision will be challenge"</i>		
<i>"An outstanding startup does thing fast, very fast. Being innovative means making good unexpected change continuously"</i>	Build-Measure-Learn Loop	Rapid iteration
<i>"Because you can't generate a perfect idea, perfect solution right in the first place. You have to change your idea you have to learn all the time. You have to do it more quickly than others"</i>	Continuous and fast iteration	
<i>"I very often encourage startups to use agile software development, delivery things early, learn and continuously improve"</i>		
<i>"When you have no money, no guy, you will have to begin from the right small step to the second right step and so on so on"</i>	Prioritization	Effective resource allocation
<i>"It is very a common mistake that startups always think like " we have to buy these, to hire these people so we can begin. The priority is to understand what is your customer problems"</i>	Small batches/ small steps	
	Waste reduction	
<i>"There is no prejudice, it is now only compassion"</i>	Open-to-develop	Positive organizational behavior
<i>"It is all right to say - Hey, we have this idea last week but not we have a better idea. That is the way you show that you have learn. "</i>	Confidence	
<i>"There is no bureaucracy hierarchy here. It is all about experiment and learning. It is all space for your creativity"</i>	Hope	
<i>"All team member are almost equal to access resources. They are confident and capable t to determine what actions needed to be done"</i>	Creativity	
<i>"There is a sayings there is a will, there is a way. When your way are directed by truths and continuing learning, you can always hope for the best"</i>	Resiliency	
<i>"As we expected failure, we recover very quick and then do things better"</i>		
<i>"..It is still possible to validate it. "Okay let's go out there to meet people and strangers and ask - Hey, what you think about of that kind of application. How do you see it? Would you like to use it? When people said- Okay. You can continue to ask- How much are</i>	Pricing Value proposition	Market advantages

ADVANTAGES

<p><i>you going pay for it, 5 euro? – No! Oh What would your price?”</i> <i>“The products needs just enough features, but it is simple to use, it has good prices or the features are extremely unique and amazing”</i></p>	<p>Distribution channel</p>
<p><i>“In lean startup, you do not extra step, because you focus on the right steps”</i> <i>“Customer feedback is a good form of risk assessments”</i> <i>“When a startup work closely to customers, exploring what are their problem and offering the good solution, the startup will produce the right product for the right market”</i></p>	<p>Premature scaling Risk reduction avoidance</p> <p>Risk assessments</p> <p>Product/market fit</p>

4.3. Challenge and successful factors during implementation

The lean startup practitioners in Finland agree on several challenges happened during deployment and implementation of the method and the removal barrier strategies. From data collected, the researcher has identified two major concepts, which can help answer the question “How are startups in Finland practicing lean startups?” The two concepts are challenges and successful factors. Table 6 explains the development of these concepts by listing the contained categorizes, codes and several references as examples.

Table 7 The concepts of Challenges and Successful Factors

Example References	Codes	Categories	Concepts
<p><i>"But in Finland, people fear to say, hey sorry, that idea isn't good at all."</i></p> <p><i>"Quite often, the founder had a picture about a fantasy destination, the product going globally for example but very rare any of them picture what happens after this product"</i></p> <p><i>"Today you proposed an idea, you thought it was good, your team member thought so too. It would abnormal if tomorrow you said hey I thought this idea was bad. We were all wrong"</i></p>	<p>Avoiding conflict/criticize</p> <p>Long-term orientation</p> <p>Uncertainty avoidance</p>	<p>Finnish culture</p>	CHALLENGES
<p><i>"The founders have a good idea. Or they think they have a good idea. They are always very sure about it"</i></p> <p><i>"The team always tends to delivery perfect stories to either investors or customer to sell their idea."</i></p> <p><i>"It sounds ironic. But it is really more effective if there are two people having contrasting working style in your team "</i></p>	<p>Ignorance of honest feedbacks</p> <p>Undiversified team</p> <p>The "perfect story " trap</p>	<p>Ego and perception</p>	
<p><i>"When it comes to new ideas, new ways of working, new techniques, new skills are needed. Resistance is unavoidable "</i></p> <p><i>"Lack of communication is also serious. When the team is not sure what they should do, they hesitate to take any action"</i></p> <p><i>"Pivot is really a challenge. Not everyone is brave enough to kill the own "baby", their idea I mean"</i></p>	<p>Resistant to change</p> <p>Tendency</p> <p>Fear-based</p>	<p>Organization culture</p>	

<p><i>"Vision must be strong and timeless. Any of the assumption will be aligned on the vision"</i></p> <p><i>"Formally or Informally everyone need to be clearly communicated what is our business about? What is our strategy</i></p> <p><i>"Visualization make the system manageable "</i></p>	<p>Clear vision Visualized strategy Cohesive team Wide-organization communication</p>	<p>Cohesiveness</p>
<p><i>"The successful startup usually has its leadership team actively take part the process from designing stage"</i></p> <p><i>"Engagement of the founder significantly support the synergy of all skills and knowledge in the startups"</i></p>	<p>Leadership's proactive participation</p> <p>Leadership engagement</p>	<p>Leadership</p>
<p><i>"I consult the startup with agile software development, providing benchmarking and suggesting training if necessary"</i></p> <p><i>"Continuously and persistently strive..."</i></p> <p><i>"I like to ask the team: What have you learn this week? What do you plan to learn next week, month ...?"</i></p>	<p>Consultation</p> <p>Continuous improvement</p> <p>Learning milestones</p>	<p>Continuing learning/ training</p>

5. Discussion

5.1 *The Four Concepts*

5.1.1. Features

The data has pinpointed four features of lean startup, which are customer orientation, validated learning, innovation accounting and rapid iteration. There is actually a slight difference in the conception about lean startup among participants. Two participants considered lean startup as *“a set of principles taken at the heart of a startup”* rather than a process. Alternatively, the other strongly emphasized lean startup as *“a new product development process”*. However, all agreed that lean startup provides a logical coherence for managing the business, which is customer orientation. Decision-making strongly depends on empirical data such as customer discovery activities (observation, interviews,), product experiments (customer feedback, activation, retention, acquisition rate, etc.). Two of the participants especially highlighted that lean startup speeds up workflow within a startup from generating idea building viable products, which are then delivered to customers to learning from the result. The stimulation method, as stated by a participant, is to break down process into small steps, go through and testify those steps really quickly. The first step normally is making hypothesis about what problems customers have and then generating ideas about the solution/ the product. Both problem and solution idea should stay close to the startup vision and have to be validated.

Lean startup, in general, is a series of iterations, which starts with a vision and results in a product. Through those iterations, a startup will learn from its assumption validation. The process is called validated learning. As learning is the unit of its progress, lean startup uses a different accounting system, innovation accounting with actionable metrics, instead of normal accounting. For the reason,

“A startup aims at high-growth and sustainable business. In many case, revenue increases because of the startup’ marketing effort rather than the innovative level of the product. This revenue number can’t account for sustainability and high-growth future”

Within the loop of build-measure-learn, lean approach helps a startup learn faster and pivot its vision and strategy if necessary. In order to approach successfully, one participant suggested,

“A startup has to be flexible in combining usage of different tools and techniques to facilitate communication and work process. For example mapping, periodical planning, or business model canvas”

5.1.2. Advantages

The respondents explained variously the reason why they are especially favor lean startup methodology. Nevertheless, all of them accent on four advantages, which are effective resources allocation, positive organizational behavior, market advantages and risk reduction. In term of allocating resources, lean approach focuses on the most critical steps with priority, avoiding investing engineering efforts, money, time and other resources rampantly. One respondent made a connection between Toyota’s lean manufacturing and lean startups,

“From some certain points, lean startup is closely related to lean manufacturing. Both of them focus on multiplying value adding activities and removing wasteful ones. “

Besides that, listening to the customer “directly” will reduce the risk of producing something customers do not want. Most of the respondents agreed that customer feedbacks from experiments and the actionable metrics were not only reliable risk assessments but also insight guidelines for pricing, distrusting and creating products’ value propositions.

“Experiments provide the startups with market knowledge, a powerful knowledge from experiences.”

Last but not least, there are repeated mentions about how lean startup inspires the whole workplace. The method helps the founders (and also team member) to evaluate their personal and professional belief as well as career options. By encouraging team members to play a part in any areas in which they are interested and skillful in, lean startup also increases employee engagement and accountability. One respondent insisted,

" We trust on our team. They are brilliant, full-of-hope people, enjoying working together. They most often produce excellent work. And they are doing so.

5.1.3. Challenges

The challenge mentioned most frequently by the interviewees lays on organizational culture of a startup, following are ego and perception of startups' founders and Finnish culture. As mentioned above, lean startup is a process of learning from experimenting. If an experiment proved the assumptions made about customer problem and solution were wrong, very likely the strategies needed to be adjusted, business models needed to be changed. However, resistance, invisible tendencies and fear rooted in the startup prevent it from changing for being better. One interviewee stated, *"Not all of us are stubborn enough against the uncertainties."* The high frequency and speed of change in lean startup approach can also overwhelm and frustrate the team.

"It is easy to say if the experiments of your ideas go wrong, kill these ideas and make a new one. But in real life, things are different. Sometimes the outputs appeared very ambiguous to decide whether to preserve or pivot. Sometimes you have no idea how to change it again and again. Sometimes you are fear "

Ego and perception, especially of the ideas' owners (quite often also the startup founders) play a significant role in the reluctance to change. All of the interviewees brought up situations in which the startup founders embraced their ideas too tight. This kind of embracement entraps them into ignoring unpleasant but honest and

constructive feedbacks. One sign of high ego presence is that the founder tended to gather an undiversified team, surrounding himself/ herself with people who are not independent in their way of innovating and easy to say yes to any decision made by the founders. *“When a decision is made quickly with too few challenging perfective, it is rarely a proper decision.”* Another challenge is the vague perception of the team to lean startup principles. Unless the team understood fully that they were in rapid cycles of failing and learning, the team tended to tell a perfect story to their investors and customer communities in order to sell their ideas. It would become a considerable obstacle when the startup learnt something from its experiments and wanted to adjust their idea/product/ business model etc.

“The team always tends to delivery perfect stories to either investors or customer to sell their idea. Yesterday they insisted the best way or best solution possible. It would be difficult to say something else today when you get their product modified. By that way, they made it difficult themselves to communicate the constants change, when they modified products for better solutions.”

Last but not least, the cultural behaviors are widely considered as one of the challenges. Finnish tends to avoid conflict and criticize. It is hard to make any change, generate new better ideas when *“people fear to say, hey sorry, that idea isn’t good at all.”* Two of the participants thought that Finnish people, particularly in business place, very hesitated to criticize or make unorthodox suggestions as a replacement. The common problems are that the Fins have high reference for avoiding uncertainty and sometimes lack of long-term orientation.

5.1.4. Successful Factors

There are three barrier-removed strategies arose from the information collected, which focus on building a cohesive vision and strategy for startups, increasing leadership commitment, and facilitating learning activities within the startups. Cohesive vision and strategy create the resultant forces to keep the team stay together and work towards common goals. The participants all emphasized the

importance of a clear vision *“Vision must be strong and timeless.”* It is important to communicate clearly and as soon as possible all the business strategies, any changes made throughout the organization. Visualization of the system significantly supports both communication and management activities, as one participant stated: *“Visualization makes the system manageable.”* The coherence of its teams will strongly reflect how cohesive the startup’s strategy is. The practitioners mentioned various characteristics of a coherence startup team, including the number of team members, personal traits, working skills and knowledge. From the interviewees’ experiences, the founder teams, which can bring significant results usually, have limited members of around two or three, and always less than five people. The team members possess different skills and knowledge, open-minded. It is very fundamental that every team member enjoys working together, open to challenges and collaborates cross-functionally.

In addition, all the interviewees agreed that especially for a startup, the leader plays a very critical role. The success of any implementation with a startup greatly depends on the leader. Leadership is responsible to direct the team towards the determined outcomes. For the sake of a successful lean startup, leadership has to take a proactive participation in the deployment and provide a fully engaged during the implementation process. Usually, it is the leadership who acknowledges the significance of lean startup and devotes himself/herself to encourage the development of its practices through teams.

“The successful startup usually has its leadership team actively take part in the process from the designing stage”

The final successful factor, also the most highlighted by the participant is continuing learning. For many startups, it is not the founder but the business consultant who opens “the tough conversation” about implementing lean startup. From a more general view, business consultants support startups by providing benchmarking for working processes, coaching the leadership and delivery training for the teams if necessary. All of the respondents agreed that a startup was more likely to succeed if it received proper mentors. In addition to mentorship, self-

learning is also a key to tackle lean startup challenge. In a successful lean startup, there is always an urge for continuous improvement within each team member. In a good lean startup, the teams are determined to “*continuously and persistently strive*”; learning milestones are identified to measure the continuing learning progress systematically.

5.2. Model to discuss

The thesis seeks for insights into the movements of lean startup in Finland, “How and why are startups established in Finland practicing lean startup? The model below, created based on summary of both literature reviews and the research result, helps answer the question concisely. Lean approach model (Figure 12) is driven from the big idea of Porter’ value chain. The idea sees a business establishment as a portfolio of activities that the company undertakes to create values for its customers. The structure has been modified to reflect more closely the characteristics of a startup driven by lean startup philosophy.

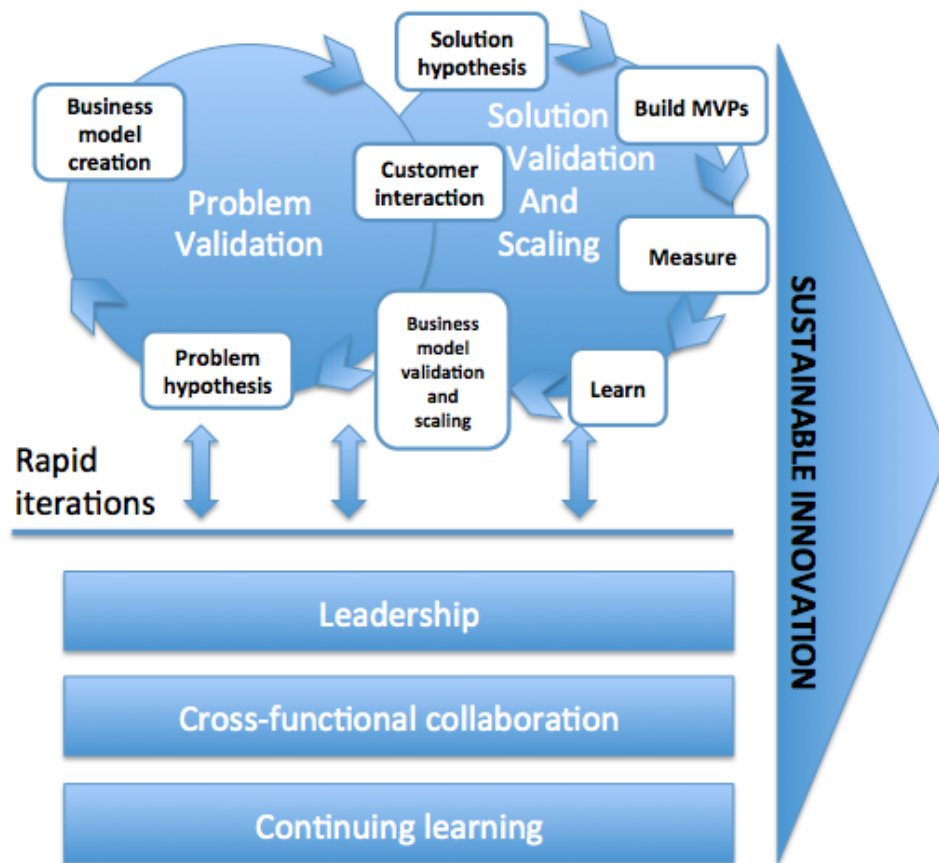


Figure 2: Model to discuss- Lean Approach

5.2.1. The Iterative Process

Lean startup approach is a two- phase iterative process starting with startup's vision and ending with a product ready-to-launch. The two phases are problem validation and solution validation and scaling. The core principle is too iterative faster and faster. The process begins with a hypothesis about customer problem. The assumptions usually align firmly with the startup's vision. Those assumptions will then gather systematically with the support of business model canvas, lean canvas or other tools preferred by the team. The hypothesis can be tested by an initial interactions with customers via phone calls or interviews. After problem

hypothesis are solution (for the problem) hypothesis. In the solution circle, minimum viable feature sets are built to test the usability and customer attitude towards the solution. Feedbacks from customer are collected and analyzed to make change. Minimum viable feature sets are changed by improving existing features or add more features in the products or both, mostly improving existing features. Changes in minimum viable feature sets bring about modification in business model, or even changes in strategy and business vision.

Looking closer at the iterative process, we can see three reasons that make Finnish favor lean startup principles. Firstly, the lean approach allows startup founders to pursuing their professional beliefs and imagination. The iterative process starts with a vision, vision of the startup' owners or broader of the startup' teams. Vision is a combination of their knowledge (about market, customer, and technology), imagination and desire. Secondly, lean approach provides startups with a scientific way to pursue their vision. The process includes two distinct phases, breaking down into small steps with direction, priority and measure guideline. Hence, it becomes a life-vest for startups in the ocean of uncertainties. The logic embedded in lean startup approach especially echoes effectual logic developed by Sarasvathy (2001), *"To the extent that we control the future, we do not need to predict it."* Last but not least, this scientific way can work very well in the condition of resource scarcity, which most of startups have in their beginning stage. The key solution is minimum viable product with the minimum feature set, a dynamic balance between cost, schedule, features and quality (Junk 2000). Minimum viable product can immediately test commercial viability of the solution product, supporting knowledge acquisition of startups. And as stated by Hippel (1978), acquiring knowledge about customer, market and technology supports a business' sustainable development.

5.2.2. Startup Fundamentals

According to the interviews, a successful implementation of lean startup principles provides the startup with four main advantages: effective resource allocation,

market advantages, risk reduction and positive organization culture. Word-of-mouth about those acquisitions is also a reason why lean startup movements are getting spread among Finnish startups. There are three common challenges a Finnish startup faces while implementing lean startup principles, which are Finnish culture, ego, and organizational culture. Startup fundament includes successful factors to deal with how to tackle these challenges.

Challenges during startup implementation

Finnish culture, ego, and organizational culture are strongly emphasized. The participants argued that Fins very hesitate to challenge opinions of their colleagues, rather seeking agreements than creating opinionated argument. Therefore, most of the time, the Fins appear passive and ineffective in the dynamic environment of lean startups. The culture tendencies prevent Finnish startup from speeding their process, while lean startup approach strongly requires rapidness in iteration. Eriko (2009) also suggested that cultural behavior is one of problems to create high-growth entrepreneurs in Finland. On the other hand, the findings about Finnish cultural behavior align with Hofstede culture dimension of Finland, in which Fins are referred to have high uncertainty avoidance. Fins are likely to *“feel threatened by ambiguous or unknown situation... People have an emotional need for rules (even if the rules never seem to work), precision and punctuality are the norm. Innovation may be resisted”*(Hofstede 2015). Besides Hofstede’s, there is another research mentioned Fins’ conflict avoidance and always seeks for *“formulating an approach that suits the other party.”* (Lewis 2005).

Additionally to the general cultural behavior, ego of individuals in the team, especially of the startup founder is an expensive liability during the implementation of lean startup. Marcum and Smith (2007) also mentioned about the ego trap of being defensive as *“a switches from honestly defending our point to proving our case exclusively,”* refusing to be influenced and resisting feedbacks. High ego stops a team member from listening to honest feedbacks from other members or customers, makes it difficult to make a proper pivot in time.

According to data collected, the most challenging factor lays on the invisible resistance tendencies within an organizational culture. The participants repeatedly mentioned an urge to *“forget their old way of working”*, employing a culture that encourages constant changes and tolerates failure into a startup in order to successfully implement lean startup. This result supports Martins and Terblanche’s opinion that *“Organizational culture affects the extent to which creative solutions are encouraged, supported and implemented”*(Martins & Terblanche 2003, 67). Martins and Terblanche (2003) also pointed out five determinants of organizational culture that influence creativity and innovation including: strategy, structure, support mechanisms, behavior that encourages innovation and communication.

Successful factors

Leadership, cross-functional collaboration and continuing emerged from the data analysis as the most critical factors in lean startup implementation strategies. It is essential for the startup leader to proactively take part in the implementation process since the designing stage. The participants indicates that an idea leader, who brings in successful lean startup implementation, is self-aware, resilient, open to experience, achievement-oriented and good at interpersonal relationship. From their experiences, the participants agreed that a successful leadership is created based on three activities of the leader: create a clear vision and a cohesive strategy for the startup and engage people on board with the vision, and lead changes (in strategy, organizational structure or development process, etc.). The findings align with definition of entrepreneurial leadership. By summarizing entrepreneurial leadership definitions from various researchers, Bruggemann stated an entrepreneurial leadership as *“leadership that creates visionary scenarios that are used to assemble and mobilize a ‘supporting cast’ of participants who become committed by the vision to the discovery and exploitation of strategic value creation”* (Bruggeman 2013).

The respondents mentioned about a lean structure, which is not tied with any disciplined-boundaries of an ordinary business to facilitate lean startup approach. As mentioned in the literature review, there is an absence of hierarchy and job title

sense in the lean startup approach. Instead of functional departments, a lean startup consists of cross-functional teams. A structure of cross-functional problem and solution team is helpful to keep the teams cohesive. According to the participants, how collaborative and iterative the teams work greatly impacts on the business outcome. Collaboration is a situation in which experts from different disciplines with the startup sit down together, use a universal “language” (not a particular language of an engineer or sale person, but an universal one) to share their opinions in order to create a great idea. As we can see, the outcome of this action is a simple but multi-disciplined, worthy-to-test idea (the idea had been challenged to survive) for the next product (hereby, a minimum viable feature set), which is generated very quickly as there is no layer in the information flow. By that way, cross- functional collaboration eliminates confusion in communication, reduces processing time, increases productivity and speeds up learning process. This findings support a statement about collaboration in lean startup, stated by Gothelf and Seiden (2013) that, cross-functional collaboration helps the startup focus on the outcomes, learning and knowledge acquisition for a sustainable business (which is one principle of lean startup) rather than the outputs, launching products

Last but not list, all of the respondents strongly agreed that startups which stayed proactive and continuous in their learning activities were more likely to succeed in lean startup practices than the ones which do not. Normally, learning in the startups happens simultaneously in two forms: receiving consultation and self-learning. Business consultants have very big impact on decision-making action of the entrepreneurial leaders. From the interviews, the research concluded that there are a significant number of startups in Finland, which have gotten rid of the “just-do-it” manner very common among new business establishments. Instead, they are now more aware of the business management challenges and seeking for a competitive solution, having a paid business consultant. In some case, consultants are the ones beginning tough conversation about lean startup implementation, suggesting change in business process. However, most of the times, they provide startups with benchmarking, measurements, visualization tools, technical advices

and professional trainings. Continuing learning equips the startup team with skills and knowledge to run their iterative process more effectively and creatively.

It is important to notice that, there is a mutual connection between startup fundament and the iterative process. On one hand, startup fundament contains successful factors for the successfulness of lean startup iterations as stated above. On the other hand, the rapid iterations will constantly challenge the validity of those factors; enable the startup to stay focus on their business while still moving ahead. It is how lean startup practices can create sustainable innovation.

5.3. Contribution of the thesis

Lean startup is a scientific startup management, which at the moment is only popular among a few practitioners. There is still a lack of theory background on the philosophy. The thesis aims to make an academic contribution to clear some of the obscurity of lean startup practices among Finnish startups. An empirical discovery has been carried out to understand the practitioners' opinion and their experience about the methodology in real life.

In order to answer the question "Why are startups established in Finland practicing lean startup principle?" the Finnish startup owners and business consultants agree to consider as an effective and adaptable methodology, which can help startups deal with uncertain circumstance, work towards a sustainable business. The main principles driving lean startup practice in Finnish startups are customer orientation, validated learning, innovation accounting and rapid iteration. According to the research, lean startup movement initially gains startups' attention as it allows that startup to pursue its professional belief and imagination under resource scarcity condition in a scientific manner.

In term of the topic "How are startups established in Finland practicing lean startup principle?" The research identified the challenges faced by Finnish startup during

practicing and how those challenges are overcome. There are three challenges commonly confronted by Finnish startups while practicing lean startup principles, which are organizational culture ego and perception of startups' founders and Finnish culture. The strategy to tackle those challenges focuses on building a cohesive vision and strategy for startups, increasing leadership commitment, and facilitating learning activities within the startups. From those initial factors collected from the data transcripts, the research identified three focused successful factors, which are leadership, cross-functional collaboration and continuing learning. The relationship between those factors and lean startup practices are mutual. On one hand, startup fundamentals contain successful factors for the success of lean startup iterations as stated above. On the other hand, the rapid iterations will constantly challenge the validity of those factors. A successful implementation of lean startup principles provides the startup with four main advantages: effective resource allocation, market advantages, risk reduction and positive organization culture. Word-of-mouth about those acquisitions is also a reason why lean startup is spreading among Finnish startups.

5.4. Credibility, Conformability, Dependability, Transferability and Limitations

Lincoln and Guba (1985) presented four criteria for quality in a qualitative research, which are credibility, conformability, transferability and dependability. Credibility is the accuracy level of the findings (Lincoln & Guba *ibid*). The more credible a qualitative research is, the more accurately the findings are identified and described (Holster 2015). Conformability extends to which the findings are independent from the research bias, motivation and interest (Lincoln & Guba *ibid*). Dependability shows that the research has undergone necessary changes to achieve consistent and repeated findings (Lincoln & Guba *ibid*). Transferability is the degree in which the findings are applicable in other contexts (Lincoln & Guba *ibid*).

Various strategies were employed to ensure the study meets those criteria. The researcher has prolonged her engagement with the research, spending an adequate amount of time to learn about the phenomenon. The learning process began months ago, since the researcher first read the Lean Startup book. Since then, the process goes on as the researcher actively seeks for more articles, blogs and books involving product development in a startup. A research about lean startup movements in Finland was initiated two months ago, inspired by the researcher's first entrepreneurship experience in Finland, followed by activities in Finnish Lean Startup group, keeping in touch with the experienced.

Additionally, the researcher ensures the dependability and credibility of findings by using method and theory triangulation (Denzin, 1978; Patton 1999). Different data collection methods include secondary research, and in-depth interview. In the thesis, the theoretical basics encompass a comparison of Lean Startup aspects with related concepts in other management philosophies and product development methods. Moreover, the research samples were selected carefully. Research samples are all the Lean Startup experts and practitioners for at least a year. Most of them have more than 10 years of experience in entrepreneurship. The participants have different positions in the Lean Startup system. The number of years practicing Lean Startup are also various participant by participant. By that way, we can examine Lean Startup in Finland from various professional aspects and level of experiences.

Besides that, an audit trail has been developed through the study by implementing of clear description of the research steps-by-steps from the research problem, research plan development, data collection, data analysis and writing the report (Lincoln & Guba *ibid*). Case notes, case study materials including books, previous researches, and other documents, interview notes, transcripts and analysis notes are also gathered carefully and systematically to create a case study database. Another device employed for data collection is empty table shells, initial proposed by Miles & Huberman (See Table 4, 5, 6). Data collected later was reconstructed into codes, categorize and concepts. From those 3 C's, the idea of The Lean

Approach Model has been generated. The discussion and conclusion part of the thesis contains rigorously details about the findings. The detailed description significantly facilitates the transferability of the findings in other contexts.

Nevertheless, the thesis still contains several limitations in term of an academic bachelor thesis. Frist of all, biasness in data collection and analysis are inevitable. As the research is the only person conducting the in-depth interviews and analyzing the data collected. Secondly, There are concerns about information distorts in answer gave by interviewees. According to Frechtling and Sharp (1997) the distortions are caused by recall errors or selective perception. Furthermore, the researcher firstly intended to generalize the applicability of lean startup among both newly established business and establish business across industrial sectors. However, she could only conduct interviews with practitioners from IT-related startups. The researcher's intention was prevented by various factors such as time frame, the nature of startups in Finland. Three meeting could not be arranged in the given time frames. In Finland, IT-related startups dominate the startup population. Additionally, the English information about Finnish startup is still limited. Language barrier prevents the researcher from conducting any further search in Finnish.

The research focuses on bringing an overview about lean startup practices. It will be an option for further study to examine challenge and successful factors of lean startup practices in term of activities within its iterative process or in other industrial sectors apart from IT. The researcher also suggests that, if it is possible, using more than one of evaluation methods would increase the precision of the data collected. For example, researches can combine in-depth interview with observation, in which researchers directly observe lean approach activities of a startup.

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Appendices

Appendix A: Interview guideline

BEFORE INTERVIEW: List of initial questions was sent to interviewees beforehand

OPENING: Introduction of the researcher, purpose of the interview and research, ethical concerns, clarification of audio recording and assurance of confidentiality

INTERVIEW QUESTIONS

1. May you briefly introduce about yourself and your involvement with Lean Startup?
2. Given your experience, how do you narrative Lean Startup?
3. Can you think about one particular situation in which you used Lean Startup principles?
4. From your point of view, how has Lean Startup implemented in your workplace?
5. What challenges you to implement Lean Startup and how are they overcome?
6. How do you measure the successfulness or unsuccessfulness of Lean Startup implementation?
7. In your opinion, what are advantages and disadvantages of Lean Startup over other product development practices?

Appendix 2: Transcript of the interview with Case study 1

The researcher: Hi, Good morning. Thank you for taking part in the interview

Case study 1: *Good morning. Nice to meet you.... virtually at least. Can I ask something before the interview?*

The researcher: Yes, please go head

Case study 1: *What about your future orientation? Why do you conduct a study about Lean Startup?*

The researcher: I am sort of a business-minded person. I like the feeling of adventuring in business stuff. I had my first business last year but it recently closed for many reasons, first of all I think I am too lack of knowledge in managing a business. So I decided that I have to learn more. I sought books about business management and I found Eris Ries' Lean Startup book. I was very into the philosophy that I wanted to do a research about it in real life. So I decided Lean Startup would be my bachelor thesis's topic.

Case study 1: *I have known about Lean Startup about 2-3 year ago. To me, it is really like an awakening call. I began my first business 15 or 16 years ago and at the moment I own 4 businesses. I spent many years working in San Francisco, California. I have chances to work with companies in Silicon Valley. In Silicon Valley, I was amazed how fast things were happening there. They could produce 60 ideas/ product ideas per month, 60 thinking about it. Things happen very fast. Before I have known about Lean Startup, I always feel something is not going right inside my business. We sold more products; got more money, hire more people. Ultimately, we no long react as quickly as we used to. I can't forget it in the way I do thing in the heart of a startup. If I help them (my team members in my established business) or if I start a new company in the future? And how could I make thing as dynamic as the beginning. Lean Startup is really an answer. That has to be the number one thing. At least there are two things: the Lean Startup with its team and their attitude. I think these two*

things are the most important things in any startup. (The researcher: I see...) That part of how I get involve with Lean Startup.

The researcher: It is really long way, 15 years of entrepreneurship. So Can you thinking about of any example in which you used Lean Startup principles in a demonstrative way?

Case study 1: *Yes, Now I think that now I have been mentoring for many startups in the last two years, I think almost 50 companies. There are many different people, different circumstance, many cases and situation happens. However, there is one situation that happens in almost every cases, every startups. The situation is that the founders who have great idea, or they think they have great ideas, at this point. Then, ah, they think that can be a huge case globally that we do these and these steps. At same point, they avoid the situation where they have to face, the situation where they can face. So they start thinking about we have to raise money, and we have to hire new people and we have to do this and that before we can do anything. That is the most, ah, ah where startups they lock themselves into some kind of presume they, they, they don't think that they can take the small step every day and they start to treat themselves that they have to do that and that., before they can do those steps. And I said that "Hey, Come on guys, let begin with small steps" ... They do not have money to hire developer and they don't have any kind of technical understanding, but it is still possible to validate it. "Okay let's go out there to meet people and strangers and ask – Hey, what do you think about of that kind of application. How do you see it? Would you like to use it. When people said- Okay. You can continue to ask- How much are you going pay for it, may be 5 euro. They answer: Okay, 5 euro. You can continue to ask- Can you pay it now, and can we have your information, we will send it to you. Moreover, you can be part of its development. You can guideline and give some direction ..." And so by that way, you can validate it if people are ready to buy it and that kind of thing. It is actually very easy step. And if you interview 15 people out there, and for example 10 said that- Hey, I'm interested in its guy and I want to be some kind of ambassador of this application to my friends and networks. At this point,*

your product or product idea more practical and cheaper to get into customer than making phone calls or hire marketing and sale team.

The researcher: Business model is very important part of any business strategies. So is there any different from business model in Lean Startup to the normal business models

Case study 1: *In the beginning, there is not really a difference. But it is quite often to change your business in Lean Startup. When you find a new way to do a better business, you understand your customer and you test what is the best way to sell it and what is the easier way for customer to buy it. And you learn and learn overtime then you will change your business model as well. First for example, you send it for 5 euro but then you find that application is much and much better and it cost 9, 9 euro per month. You could engage customer by doing 12 euro per year because they pay automatically 1 euro per month so it is much and much better and easier for them to buy. So you can change it and your team, which is always ready to learn, so they will adapt to the change well. Focusing on customer, it should be the one language to communicate among team member or between startups and the external environment. I very often encourage startups to use agile software development; delivery things early, learn and continuously improve. Continuously and persistently strive...*

The researcher: What challenges you to implement Lean Startup and how are they overcome

Case study 1: *Ah, there are two things. First... oh, they are three things actually. First, it is ego. Let's assume I am the founder of a startup. I have an idea and I think it is a good idea and It will fly Then I try to hold the opinion that It will be really a great idea. And I try to avoid the situation, saying – Hey, it is really a crap and it doesn't work. And in deep, inside the startup, they should have a culture that encourages people to make change. Today you can say- hey I like this idea, it is great. And then next Monday, you can say- Hey, I thought it was great but it is actually crappy. It is*

okay. That should be what regular. But usually it is really difficult to say: "The idea is crappy", at least for Finnish people. It is really difficult to say. It is a cultural thing. In USA, it is not so, eh, eh embarrassing. Especially in Silicon Valley. It is all right. It means that you have learnt- Hey, we have this idea last week but not we have a better idea. That is the way you show that you have learn. But in Finland, people fear to say that, hey sorry, that idea isn't good at all. The next that, is that..., eh, ego thing first and it will be culture. The culture of the company should support that people can change their opinion as quickly as possible. And they challenge themselves to change it. Because if you can't change your option that means you messed up. Because you can't generate a perfect idea, perfect solution right in the first place. You have to change your idea you have to learn all the time. If the culture is that someone says I think it is good to change this and that and the other guy said, hey, why do you change your opinion, it is the environment that we can't do lean way, we can eliminate waste. And then third thing is that, there is always a tendency in the way a startup communicate to the outsider like investor or customers. The team always tends to delivery perfect stories to either investors or customer to sell their idea. Yesterday they insisted the best way or best solution possible. It would be difficult to say something else today when they get their product modified. By that way, they made it difficult themselves to communicate the constants change, when they modified products for better solutions. The key the team needs to keep an open-minded, understand that it is a learning process from small step by small steps, embeds this mind in the way they work and communicate to the outsiders.

The researcher: How do you measure the successfulness or unsuccessfulness of Lean Startup implementation?

Case study 1: *That is a good point because it is not easy to measure. At first, it is really hard to measure thing. Moreover that, Lean Startup is like a process, which contains opportunities for us to grab. The only thing you can measure it that if you are going in right direction and what you have learnt gradually step-by-step by working with customers. I usually suggest the startup I consulted to arrange once a week a discussion between team members, in which we sit down to make decisions*

about which ideas are bad, must be killed and what are the better options. It is really a difficult decision to make, however it is helpful to direct us to the right learning track. We know that we are making progress. And we change the steel wheel all the time towards right way. I consult the startup with agile software development, providing benchmarking and suggesting training if necessary. So for example if we get feedback from customers that they don't like the piece that we are building or they can't make the decision as it is too expensive or whatever it is. If team intended to ignore the feedback, how can they find out what is the better way to do it. If you can make a change and test your idea it is some kind of making progress. And we get more and more feedback from customer, many enough to think about whether to destroy the idea totally or we change it. And we have idea how we can fix the bad idea, we test again. It is a key thing to sit down every week, to identify which ideas should be killed, making 1,2, 3 decisions okay we are not going to do it anymore, we change it like that. And then one-week time, you validate and test if it is a better. Customer feedback is a good form of risk assessments. When we learn something new, or we see a new direction it is the time to say- Hey it is a better way, let's test it. It is some kind of measure look that team has to make decision what are the next steps.

The researcher: According to what you said, the successfulness of Lean Startup really depends on the skills and experience of team member. Can you tell about how is a lean team?

Case study 1: *I try to avoid all bureaucracy hierarchy, holding the company as lean as possible so I keep the structure as lean as possible. I try to make it as compressed in form of one thing only. Implementing one thing is always easier to implement five at a time. Okay for example the rule that every Friday we sit down and thinking about learning and bad idea and messing around. Then we decided about how to validate assumption. That is enough in the beginning at the beginning of a startup. It is more important for the team to decide what they want to achieve rather than what will be the structure. If we keep a structure, people will focus on the structure instead of the whole lean thing. Because it is easy for people to think how we can keep this structure and how to hire the people to keep this structure and so. And they forget on something*

they should do, how lean they should be. The successful startup usually has its leadership team actively take part the process from designing stage

The researcher: How do you describe a good team for Lean Startup? How many people it should have, who and what skills are important?

Case study 1: *If you thinking about founder. If there are more than 4 founders, the ability to drop is very significant. I have checked out the data of 45000 startups globally. It is concrete the point that if they have 5 founders they ability to have a failure is dramatically high. And I really think, the right number for a startup is 2 or 3. 2 or 3 people but they are ready to give everything to the company it is much much better than bigger team. When they have very few resources, they have only few guys and they don't have money and so on. Then so have to focus on right thing because they can't do everything. They have to think about all little small step. They should be the ones have great attitude, different backgrounds, different skills. They are ready to challenge each other and welcome the challenges positively. They are happy to kill their idea, their baby to get better one. It is the main thing for a good team.*

The researcher: In your opinion, what are advantages and disadvantages of Lean Startup over other product development practices?

Case study 1: *What I like in Lean Startup is that we do thing via small necessary steps. You can't put money in the next step if the previous has done, if we haven't figure out what customer wanted. By that way you can limits many waste and some certain risks. It is way less frustrating than sending all time and resources on a product those customers don't want. Moreover, with Lean Startup, you can make change all the time. Changing is learning, it is an exciting process. Your team will be motivated and engaged in the process. If you spent 15-16 months working on a product, then customers didn't want to pay for it, it would be easy for your team to lose hope and think about another job option. Over the time, you learn and learn and you put the resource on the key things. That is the most valuable thing. About disadvantage, of course there is sector that you can't think about lean way. Think*

about drug, think about thing you have to spend ten years until you get something tangible ready for the market. Then of course Lean Startup can't be the good option. But normally, people always say it is not possible to have a minimum viable product because of various reasons. But usually it is possible; usually it is easy to used and checked small steps frequent. I don't want to keep option on making plan. I rather show the team this is the style we are going to follow, and then of course I suggest people reading the Lean Startup book. I always say it takes only 8 hours to listen to audio version. Let's spend on day to know about the book and next day to think about what we learn, which steps we are going to take. Let's do it let's do it lets learn. When a startup work closely to customers, exploring what are their problem and offering the good solution, the startup will produce the right product for the right market

The researcher: That is really great. I think I have got everything I need. Do you have any question for me?

Case study 1: *It is great point that you have a willing to learn for the future. Keep that attitude and good luck in the future.*

The researcher: Thank you very much. It is great to talk with you, very inspiring. Bye bye have a good day and please keep in touch

Case study 1: *Bye Bye have a good day!*

Appendix 3: Transcript of the interview with Case study 2

The researcher: Good morning, thank you for taking part in the interview.

Case study 2: *Good morning, Nice to meeting you. It is very nice for you to reach out. We can begin*

The research: Before we begin, may I want to show you the confidential paper? It means your name will not be mentioned in the research with other confidential information. And I would like to ask for your permission to record the interview.

Case study 2: *Okay, it is all-good.*

The researcher: May you briefly introduce about yourself and your involvement with Lean Startup?

Case study 2: *I have a master degree in Information Technology Science. I began my career with an engineer position in Nokia, changed company couple of times and had through different positions from the bottom to the top. I opened my first business in 2004. We provide wireless solution for telecom companies. Everything changes since you become a business owner to be honest. Many challenges to conquer but more fun and excitements, at the beginning engineer and technical stuff were, of course, my type of expert but I very lacked of business experience. That was when my learning in entrepreneurship began. We went through it very well. My second company was opened in 2012. It was a high-tech company, my good friend and I have an idea and some new technology discover. We decide to make it a product, so I began a new startup. So I searched for my blogs and good book about management in a high-tech startup. Things are very different in startup and innovation. Then I knew about Lean Startup of Eris Ries. It is really an eye-opening book. My friend and I learn as much as possible about Lean Startup and began applying it in our business. The result is that we reduced an amazing resources spent in leading time, for example time, effort, and also money, leading time is the time for idea to a product. Not only saving money and time, we are also very proactive in the market, acquire customers very quick, listen to them well and make changes soon enough. I have to say that Lean Startup is a sustainable way toward the success for my business. "A startup aims at high-growth and sustainable business. In many case, revenue increases because of the startup' marketing effort rather than the innovative level of the product. This revenue number can't account for sustainability and high-growth future"*

The researcher: Given your experience, how do you narrative Lean Startup?

Case study 2: *I would say, oh.. It is a process. No a set of principle more than a process. I would say the principles, which make a fast and iterative process. The principle is focusing on customer, getting interaction with them as soon as possible, learn quickly and always ready to change. We would prefer to see how many customer activate this month, how many of them stay next month, how many recommend the product for their friends and so. For me, at the beginning I found it very new as with software I somehow always tended to make my product good before deliver it to customer. It was not bad thing if you didn't take too long and spent too much money on that actually. Luckily I didn't in the past. With Lean Startup, we delivery product to customer before its perfection, we added just enough pictures, just enough to present the ideas, then we tested the idea first. Customers gave feedback about the products. From the feedbacks, we decided to make change if necessary, either improving the quality of existing features of adding new features. Experiments provide the startups with market knowledge, a powerful knowledge from experiences. We work as a single team, but some especially focus on getting to known the customer and their needs, the other especially on designing the solution for their need. We keep communication within the group; there are overlaps in member between the two groups in the team. I acted as a team leader, I gave my opinion on both of the problem and more open I am a communicator between the group's members and also the "giving encouragement" guy. We trust on our team. They are brilliant, full-of-hope people, enjoying working together. They most often produce excellent work. And they are doing so*

The researcher: Can you think about one particular situation in which you used Lean Startup principles?

Case study 2: *We literally follow Lean Startup in every aspect of our companies, for every new product or upgrades of the existing products. Oh a particular situation let me thing... At the moment we are working with an idea of a dance tutor apps. We actually want to sell the attachable mini flash bulb and the app itself. The bulb will*

show flash lines on the wall (in shape of a person, normally based on the user's measurement), she will be your light dance teacher. The users can choose music form external source, dance style in our library. The teacher then will show you the movements. There is a recorder function so in the end, the app can evaluate you learning process and give comment. We began it by going to dance forum and posting about the app, asking if the forum member, who obviously like dancing and want to learn dance want to buy the product for how much. We got couple of answer then we contact those people and offer the product. At the first delivery, the product is so simple, few style, no social function except the video record, Facebook share button, lights are just basic, enough I would say. We collected feedback of the users by email, phone call and many time interviews. The feedback helps us decide how improve the product, changing the old, adding some new feature and so one. All the information we gather very careful in our lean canvas, value stream mapping and so. We make move with the product as immediately as we see the sign from customers

The researcher: From your point of view, how has Lean Startup implemented in your workplace?

Case study 2: *The book has inspired me a lot. After gather a bit more information about Lean Startup, I draft a map stepping what we would do and what changed need to make. I discussed it with my co-founder first, and then we gathered a meeting of all people in my company. All, I mean, around 4 people. Ha ha. We showed them the idea and together discuss about it, delivery the new method as clear as possible. It is very important to communicate very well with all people. The discussion lasted long. It was actually impossible to go through all of the principles in one day and besides that, we still had work to do on that day. It was nice that people were all very open. This thing I could predict. We had known each other for a while, good friends and good career-mates. However, there was actually some confusion and hesitation around. I could feel it in myself. My team said so too. We were very honest and straight to each other, luckily. But we all shared that Lean Startup seems a good way of working towards a long-term business. It was just new and all of the details not yet been clear yet. There would be a way to handle it. Challenge accepted ha-ha. The keys were*

keeping the information flow smooth and reminding people about the new principles and process as often as possible, especially extensive in the very first two weeks. Our solutions were drawing everything down; you know the diagrams, business models, service journey and so on. And placing them in some obvious place in the office, the higher the priority is, the more obvious place the picture was in. At the beginning, my goal was to make everything clear very clear to people. Vision must be strong and timeless. Any of the assumption will be aligned on the vision'. Experiment is product. Do it quick. Listen well. We apply some new working and communicating tools, mostly from the Internet. Later we hired a consultant. It was a good decision. He provided us with benchmarking for the process, setting up the team, the team' attitude and team's positions, the tools. Those were several struggles happened in the first week as I recalled. Very soon, everything got on its track. We worked very smoothly with the principles. Everybody read the book, Eris's one. We also together to find more information from books, blogs, attending Lean Startup groups and going to meetings, which involve startup and innovation business. We set ourselves in learning goals and schedule, sit down together to review every week and plan for the next week. Engagement of the founder significantly support the synergy of all skills and knowledge in the startups

The researcher: You mentioned about some confusion and hesitate in the beginning of implementation? Could you comment more about them? And how do you get them over?

Case study 2: *Yes, yes there are quite a few confusion and hesitate in the beginning. We were working on two important projects at this moment. One was very big. We had been there for a while, none product was released yet, as we were still in making, research and testing the product in order to make them flawless before it came to customer's hand. And the thing I made very clear in the meeting was that we would release a testing version for the projects very, there might be some bugs there but it would be acceptable. Us, even we were very familiar with the concept of scrum or software development in product development, lean approach still appeared very risky. Yes, with agile methodology, we also highlighted customer interactions over*

heavily research or documents, focus on early delivery, flexibility in planning, and being very adaptable. Lean Startup was very the same, focus on customer, early delivery, collect and analyze feedback from customers, make change and scale as the final step. The different was in agile; the product was released in the end of the product iteration. While in Lean Startup methods, product was released in the very middle of the cycle. For the first time of communication, of course it appeared very risky. People very hesitated. We were sort of fear to fail. It was very obvious a full-of-bug product would fail. We also concerned that: somebody would steal our ideas and superior it and the business name might be stick as a company produced a-full-of-bug product. To be honest, it was not too hard to overcome those fears. As we were both colleagues and friends, we had very same characteristics and very open to each other's opinion. The most important thing, in my opinion, was making everything very clear and simple in the first place, communicating my opinion, my vision, and my proposal, without any misleads. Then after that, it was not hard for everyone to sit down and discuss it together, find a common proper solution.

The researcher: Besides to what you just mentioned, do you recall any challenges while you company began implementing Lean Startup principles?

Case study 2: *Yes, those are confusion and hesitate in the beginning. Other challenges? Yes, there were, in the middle of the process. In the beginning, we were a bit clumsy in making some changes. It was always in two decision: too few changes suggested or too many. Because the speed of changing in a Lean Startup process was very fast, and not all of the time the feedback of customer or the metrics we set out appeared strong enough to make a decision, people did not know what should change. Also there was a reason that, sometimes it was hard to oppose to one your teammate's opinion so quickly, it appeared very rude and arrogant. We were just very new with the principles and more than that we were very typical Finnish, ha-ha, so it was not easy for us to do it right away. To me, I was hard at least. But time-by-time we learn to get rid of it. It became so easy if you could build a culture, in which challenges were always welcome, in which people were eager to be challenge and just accepted the hardest challenges, changing your opinion were welcome, not matter how quickly you*

changed it. We very encourage that culture among us. We encouraged people to make change and enjoy working in a challenging but collaborative environment. We learned thing together and on our own. Learning was much supported. Anyways, when you were in the challenging you would have a restless motivation to gain more knowledge and skills. There is a sayings there is a will; there is a way. When your way are directed by truths and continuing learning, you can always hope for the best

The researcher: How do you measure the successfulness or unsuccessfulness of Lean Startup implementation?

Case study 2: *We have our benchmarks. The benchmark is very helpful to check the growth against the rival-ness of the business. Also it can help to prevent us from scaling the business model carelessly. We had different indicators about customer acquisition rate, activation, retention, and so on. We also had learning milestone for team member. They are all in an informal manner. Indicator and milestones reviews always happened in our entertaining room, with coffee and music. Ha-ha. The benchmark was all consulted carefully by an experienced in the field. Before having the benchmark, we sat down together quite often and very long to find out the suitable benchmark for our company. It was actually very difficult step and needed to be done carefully. Otherwise, I could mislead and frustrate people. We considered to many factors, like the type of the products, the market in Finland, the composition of our team, our resources, our vision and some possible change in the future too.*

The researcher: In your opinion, what are advantages and disadvantages of Lean Startup over other product development practices?

Case study 2: *Like I said in the beginning, Lean Startup is a good way to work towards a long-term successful business. From some certain points, Lean Startup is closely related to lean manufacturing. Both of them focus on multiplying value adding activities and removing wasteful ones. Since we begin using the principles, we have reduced a lot of time during our value stream map, from creating idea about what we will build to releasing the product and testing it against its viability. Time reduced, money saved. Also, as we take step in priority and have a benchmark for all the*

activities within the company, we erased many unnecessary steps in our process, saving a lot of resources. My favorite benefit of Lean Startup is that I am having a very productive and interesting team. Every day I go there I can clearly feel like I am living in my dream. We keep exploring, surfing over the waves, opening to everyone' opinion. Ideas are created and killed constantly, new products launch and we learn. Everybody is always full of energy. It is a happy environment for me. There is no prejudice, it is now only compassion.

The researcher: So is this a workplace without pressure?

Case study 2: *Of course there are a lot of pressure and stress sometimes. Generally in business, and especially with a startup, many surprises bad or good can come up to you all the time. It is very stressful if it is a bad surprise. Being innovative and different all the time is also hard and quite often we are under time pressure too. But it is part of the happy environment. There is no bureaucracy hierarchy here. It is all about experiment and learning. It is all space for your creativity .We cope with them well and on the other way, they give up motivation and pressure to be better. More than that, the benchmarking and Lean Startup principles keep us very on track with the core all the time, focusing on customer problem.*

The researcher: It is very informative. Thank very much again for taking part in the interview. I think I get quite a bunch of learning today too.

Case study 2: *You are welcome. Thank you.*

Appendix 4: Transcript of the interview with Case study 3

The researcher: Hi, I am very glad that you manage a time for the interview. How are you?

Case study 3: *Thank you. I am myself actually interest in the topic you mentioned in the email. I am also a newbie of Lean Startup. There are loads for me to learn too. But I will help as much as I can.*

The researcher: Thank you very much. So I would like to begin with the interview?

Case study 3: *Yes, go ahead.*

The researcher: May you briefly introduce about yourself and your involvement with Lean Startup?

Case study 3: *I am working at [confidential information]. I have 5 years' experience as computer architecture and engineering. I began to work at the current company 3 years ago, as Java architecture. Last year, my company established a new unit to carry out some new projects. I am part of the design team in the unit. . Like the executives decided, the unit works in a different manner from the rest of company. We operate almost independently from the generally company strategies, having our own resources, own strategy. We are a startup inside our big company; our working principles are based on Lean Startup methods. The team is quite small, around 5 people only and a consultant.*

The researcher: Given your experience, how do you narrative Lean Startup?

Case study 3: *Based on my experience, Lean Startup is quite similar to agile software development in its principles, which are in people interaction between team and customers, business part of the team and designing part, among team members; early and frequently delivery; continuous deployment and flexibility. I have some years' experience in agile software development. All team members are almost equal to access resources. They are confident and capable t to determine what actions needed to be done. I would say they were very familiar. For example, in agile we use a framework called scrum to facilitate the process. In scrum we break down process into prioritized tasks. Those prioritized tasks are product backlog. In Lean Startup, we*

are suggested to use Kanban diagram. Actually Kanban is sometimes used in agile too. As far as I know Kanban is original from Toyota lean manufacturing. With Kanban, the user journey is put into four stages: backlog, in progress, built and validated. One journey is completed if it is validated. If validation is not successful, most of the time we cross out this idea of the product. There is no point to add fancy features on if they have no value to customers. It costs time and money to build and then can even cause difficulty in management or maintenance the product. The products needs just enough features, but it is simple to use, it has good prices or the features are extremely unique and amazing

The researcher: May I clarify a thing. You have said Lean Startup very similar to agile software development? Does it mean Lean Startup is a product development method?

Case study 3: *Yes, I would agree. Actually I would say Lean Startup is a set of software development techniques with certain principles. And those principles decide how we our strategy. It would be wrong if I said Lean Startup was only some source of techniques. Technique is to build product. But Lean Startup more than that helps to generate business value, analyze and develop the product position on the market. In Lean Startup, the product ideas go through of loop of build-measure-learn. You build a minimum viable product, try to deliver it to a group of early-adopters, collect the data and statistic for example customer acquisition, churn rate, referral rate and so on; analyze the data and make improvements for your product to be better matching with customer's wishes. We usually have a business model in the beginning of every development process, where we noted down all of our assumptions about the problems customer have, the values of our products to them, our special advantages, resources available. They are all assumption and will be change continuous along with the knowledge we learn very each build-measure-learn cycle. The involvement of a business model, which describes more than technical issue of the product made Lean Startup very different from agile. A startup has to be flexible in combining usage of different tools and techniques to facilitate communication and work process, for*

example mapping, periodical planning, or business model canvas. It is quite often to change your business in Lean Startup.

The researcher: Can you think about one particular situation in which you used Lean Startup principles?

Case study 3: *Technically, I use Lean Startup principles every day at work. Every idea we go through Lean Startup. It is a process we follow quite often. First discover customer, identify what the painful problem of customers. The first step is a step of market sense, and also individual knowledge and creativity of the problem identifier. Some contacts with customer can be made to get real life information, besides the guesses. Then all the information put into the business model, then once again we guess what could be the best solution for that problem. A thing call minimum viable product was built to testify the solution hypothesis. Sometime it is not even a product, technical but just a smoke test with pop-up ads in the internet to test customer reaction about the problem. But in case, it is a product; we make it in a way that only critical feature added to the product to test, minimizes the features as much as possible. Like I said before, in this situation, the Kanban diagram is used. Each feature will have its own customer journey, and these journeys will step by step go through four stages: in the backlog, in progress of building, finish progress of building and validated. No feature is added unless it is validated. Actually most of the time, after having data from the validation, we are more improving the quality of already existing features rather than adding new ones. But adding new features does happen many often. Adding new feature requires more interactions with customer than improving already existing features. Maybe intensive interviews, face-to-face experiment of end-user using products and so on.*

The researcher: Can you recall from you experience, how has Lean Startup implemented in your workplace?

Case study 3: *I think the first step was taken place in the executive room. They were the ones decided to have a Lean Startup unit within the organization. They also*

selected members for the unit. In one day the selected people were gather into a meeting room with a product manager and a business consultant. We were presented about the unit idea, and they asked for our opinion, how did we think about the idea if we would like to take part in, and suggestion. As I remember most of people in the room that day were very excited. it was really good opportunity for us to take something new, working in a small team again, but still doing the big business idea. I personally like small size team. Less time spent on clarifying information, more flexible and solid. They manager and consultant made information about the new unit very clear to us. It was a good thing. We grabbed some people from the business side of the company, some for the design size to make a cross-functional team. There is a team leader, a consultant always ready to consult. The role of the team leader is very like the product owner, a multi-task person, responsible for stirring the atmosphere, ensuring information flow with the team and between the team and the big company. Some of the team members are experienced market developer, and sale specialist; they have responsible to identify customers 'problems. I work with the team leader, another software designer to create solution for the problem identified. We sit down together most of the time, communicate quite often and use whiteboard with diagrams, sketch, blueprint, and so to note down the work.

The researcher: What challenges you and your team have while implementing Lean Startup and how are they overcome?

Case study 3: *Challenges. Hmmm. You know when you get into something new. There are always challenges. In term of technical, the method of lean startup is not like really really different from the product development method we have been used before, like I said before. The different is in the characteristics and the speed of the process in which the method happens. In lean startup, we have to change the design very often. We experiment new ideas with the product twice a week. You know it is not like a idea come up in your mind and you put it right away in the product. An idea, which is chosen to process, has to survive from the team evaluation. It must be at some point very brilliant idea. And it does like brilliant ideas come to you every day, you must go around and around for quite a while before the idea comes to your head.*

So it is very sad if in the end it fails the validation and you have to cross it out for good. It is very hard decision; sometimes I just can't let it go. I just thought there would be another way to fix it. It was great idea. And people are too hard with the decision. On the other hand, because I felt that way towards my ideas most of the time, I thought people also had the same feeling towards their ideas. So I always tended to find another way to say if I didn't agree with the idea. Maybe come to a compromise. After I have learnt that compromise is not an option in lean startup. We are encouraged to overcome the tendency to compromise, to welcome challenge from others and also challenge ourselves to have more critical view about our own ideas. Also it is easy to say if the experiments of your ideas go wrong, kill these ideas and make a new one. But in real life, things are different. Sometimes the outputs appeared very ambiguous to decide whether to preserve or pivot. Sometimes you have no idea how to change it again and again. Sometimes you are fear.

The researcher: How do you and your team measure the successfulness or unsuccessfulness of Lean Startup implementation? In other words, how do you and your team know that you have overcome the challenges?

Case study 3: *The most common number we look at to measure our process is the time we spend on each step of the value stream mapping. Visualization make the system manageable. We have attended several workshops about agile and lean thinking with our consultant as a facilitator. Formally or informally everyone need to be clearly communicated what is our business about? What is our strategy? From the workshop we have learn about some benchmark, like how fast we could go and should be able to go if doing lean startup, how many customers should we acquire and keep for life, how should we growth, fast but sustainable. We know that when a decision is made quickly with too few challenging perfective, it is rarely a proper decision*

The researcher: In your opinion, what are advantages and disadvantages of Lean Startup over other product development practices?

Case study 3: *To me, lean startup is such a learning catapult. Personally I like the methods so much as it makes me very clear about my learning journey and motivated to keep going in this journey. As we expected failure, we recover very quick and then do things better ... Hm I couldn't really think about a disadvantage. Ha-ha*

The researcher: Thank you very much for the conversation. I think I have gotten pretty much of the data I needed.

Case study 3: *You are welcome. Good luck with the thesis and have a nice day*

The researcher: Thanks. You too!