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# LEAN STARTUP METHOD IN BUSINESS MODEL CREATION

– MANAGING DATA TO MINIMISE PRODUCT  
LAUNCH RISK CASE COMPANY LTD



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## LEAN STARTUP METHOD IN BUSINESS MODEL CREATION

Startups in general are seen as innovative and attractive by the general public. There are several success stories where a company started from nothing and became amazingly successful. The reality is that these startups which achieve global success are only the tip of the iceberg. Majority of the new startups fail to establish themselves in the marketplace. Improving the success rate of startups even with a few percentage points would have a significant positive impact to any society.

The theoretical part of the thesis studies traditional and modern business planning approaches. Traditional business planning methods as creating an extensive business plan before starting a business are reviewed from a modern startup perspective. After establishing the traditional approach, the focus is shifted in evaluating a more modern approach. A method called Lean Startup is introduced and evaluated. A framework for simple, customer focused business model planning is constructed.

The thesis case study focuses on a Finnish startup company working in the intelligent traffic systems domain. The thesis uses the business model creation framework to establish a documented current status for the company. Based on the current status and business model, an assessment of the riskiest areas for the business model is created. A customer focused risk validation plan is created and executed. The results of the validation are evaluated and analysed thoroughly. Based on the learning achieved from the validation, a new version of the business model is created.

The study shows that there are solutions to enable robust business model planning even for resource constrained companies like startups are. Rather than hiding the solution the company is working on, the company should actively seek to gain more information and understanding by exposing the solution to potential customers. A company should focus on validating the solution before starting to scale the operations. The modern information infrastructure provides cost-effective tools for customer validation work. Regardless of the industry, companies should aim to quickly build minimum viable products and test them in practice in the marketplace before committing to significant investments.

Lean Startup based working model combined with a professional and competent team allows any company to do the right things and do the things right.

### KEYWORDS:

Lean Startup, business model, business model canvas, analytics, product development, business plan, product launch, risk management, intelligent traffic systems

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# LEAN STARTUP METODIN KÄYTTÖ LIIKETOIMINTAMALLIN LUOMISESSA

Startup-yritykset nähdään innovatiivisina ja mielenkiintoisina tavallisen yleisön silmissä. On olemassa monta menestystarinaa joissa yritys nousee tuntemattomuudesta uskomattomaan menestykseen. Todellisuudessa nämä menestystarinat ovat vain jäävuoren huippu. Suurin osa uusista yrityksistä epäonnistuvat perustamaan ja vakiinnuttamaan liiketoimintaansa. Uusien yritysten onnistumisprosentin parantaminen vaikka muutamalla prosenttiyksiköllä aiheuttaisi huomattavan hyödyn yhteiskunnassa.

Tutkimuksen teoreettisessa osuudessa tutkitaan perinteisiä ja moderneja liiketoimintamallin määrittelyn työkaluja. Perinteisestä liiketoimintasuunnittelua kuten kattavan liiketoimintasuunnitelman luomista ennakkoon, tarkastellaan modernin startup-yrityksen näkökulmasta. Perinteisen liiketoimintasuunnittelun ymmärtämisen jälkeen, tutkitaan mahdollisuuksia modernimpaan liiketoimintasuunnitteluun. Metodi nimeltä Lean Startup esitellään ja arvioidaan osana tutkimusta. Teoreettisessa osuudessa määritellään runko yksinkertaiselle ja asiakaskeskeiselle liiketoimintamallin määrittelylle.

Tutkimuksen käytännön osuudessa keskitytään suomalaisen älyliikenteen alueella toimivan startup-yrityksen toimintaan. Yrityksen nykyinen liiketoimintasuunnitelma dokumentoidaan käyttäen yksinkertaista liiketoiminnan suunnittelun työkalua. Nykytilanteen määrittelyn jälkeen, arvioidaan liiketoimintasuunnitelman suurimmat riskit eri alueilla. Tunnistetuille riskeille luodaan validointisuunnitelma joka toteutetaan yhdessä yrityksen kanssa. Validoinnin tulokset käsitellään ja arvioidaan kattavasti. Validoinnista saadut opit liitetään uuteen versioon liiketoimintasuunnitelmasta.

Tutkimus osoittaa että on olemassa hyviä liiketoiminnan määrittelyn työkaluja yrityksille jotka toimiva pienillä resursseilla. Tiedon ja tuotteiden piilottelun sijaan, yritysten tulisi aktiivisesti hakea tietoa asiakkailta käyttämällä konkreettisia esimerkkejä kehitettävistä uusista tuotteista. Yritysten tulisi varmistaa tuotteen oikeellisuus ja tarve ennen liiketoiminnan skaalaamista. Moderni tietoyhteiskunta tarjoaa useita eri vaihtoehtoja asiakaskeskeiseen liiketoiminnan kehittämiseen. Alasta riippumatta, yritysten tulisi nopeasti rakentaa alustavia tuoteversioita ja testata tuotteet kohdemarkkinoilla ennen suuriin investointeihin sitoutumista.

Lean Startup tyyppinen työskentelymalli yhdistettynä ammattitaitoiseen tiimiin mahdollistaa että yritys tekee oikeita asioita ja tekee asiat oikein.

## ASIASANAT:

Lean Startup, tuotekehitys, lanseeraus, analyysi, riskit, ohjelmistokehitys, liiketoimintamallit, tieto, informaatio, innovaatiot, älyliikenne

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## LIST OF ABBREVIATIONS (OR) SYMBOLS

AARRR	Activation, Acquisition, Retention, Revenue, Referral
B2C	Business to Consumer
BMC	Business Model Canvas
GTM	Go To Market
HBR	Harvard Business Review
IMEI	International Mobile Station Equipment Identity
ITS	Intelligent Traffic Systems
KPI	Key Performance Indicator
MVP	Minimum Viable Product
NABC	Needs Approach Benefits Competition
OBD	On Board Diagnostics
OMTM	One Metric That Matters
P&L	Profit and Loss
SEM	Search Engine Marketing
SEO	Search Engine Optimisation

# 1 INTRODUCTION

Company Ltd is a Finnish start-up company established in 2013 and was one of the 29 982 companies established in Finland in 2013 (Statistics Finland, 2014). Company Ltd is operating in the transportation and traffic industry and is working on a new smart traffic service. Company Ltd does not have any existing products or business. The company is working to establish a new service with a functional business model. Company Ltd has a total of six employees when counting both internal and outsources employees. The startup is privately owned and funded.

Intelligent Traffic Systems or smart traffic is a term used to describe a broad range of information and communication technologies that improve the safety and performance of different traffic systems (Intelligent Traffic Systems Finland). Traffic includes all land, sea and air traffic, although the term is mostly used in land traffic. Land traffic in this sense includes public and private traffic and different vehicles including motorcycles, cars, trucks and trains.

Intelligent Traffic Systems aims to improve the total effectiveness of traffic by connecting and improving the parts of the whole. Different areas related to the total traffic include for example vehicles, roads and railways and weather information. Intelligent Traffic Systems is a large domain and there are many real life applications. Here are some of the applications: improving response time to traffic accidents by monitoring vehicles for crash events, minimising used time in searching for free parking space with parking space that are able to communicate their status and providing real-time and location aware weather information to vehicles in use.

Company Ltd is focusing on the vehicle improvement area and is developing a new service to help young drivers to become better drivers faster. The service uses a telematics device that is inserted in OBD port of the vehicle. The device collects data and the data is transformed as driver feedback. The drivers will also have the possibility to share their driving feedback in their social networks. The service also provides a ranking system for the drivers and the drivers are able to

gain better ranks and more levels with good driving. Based on the description, the main consumer facing areas include: providing on-time driver feedback, allowing social interaction with existing social media platforms and gamification of the driving experience. The service will be referred to as the service or the product several times in the research.

The structure of the study is shown in Figure 1 below. Chapter 1 Introduction describes the background and the business field for the study. In chapter 2 Objectives and methods the details regarding the purpose and study methods are presented. Chapter 3 Literature and theory describes the available theory on the subject and defines the framework for the study. In chapter 4 Interview and data collection, the interview results and other collected data are put together. Chapter 5 Analysis provides analysis based on the available collected data. In chapter 6 Future study possible future study subjects are introduced. And finally chapter 7 Summary summarises the study.

- 1 Introduction**
- 2 Objectives and methods**
- 3 Literature and theory**
- 4 Interview and data collection**
- 5 Analysis**
- 6 Future study**
- 7 Summary**

Figure 1. Thesis structure (Järvenpää, 2014)

The rest of the chapter describes the company and business field related to the study.

## 2 OBJECTIVES AND METHODS

A working business model is the backbone of every self-sustaining and functional company. Business model has many definitions. Alexander Osterwalder (2010) defines a business model as “it describes the rationale of how an organisation creates, delivers and captures value”. Steve Blank has a more down to earth definition for a business model: “A business model describes how your company makes money”.

While an established company has a proven business model, a start-up company does not. However the traditional view on start-ups has been that they are a smaller version of established companies. This view has been challenged in the last few years by people like Steve Blank and Eric Ries. “One of the critical differences is that while existing companies execute a business model, start-ups look for one. This distinction is at the heart of the lean start-up approach. It shapes the lean definition of a start-up: a temporary organization designed to search for a repeatable and scalable business model.” (Blank, 2010) Business models, business planning and start-ups have all been actively studied for tens of years. Start-ups are resource limited. Whether the start-ups are internally or externally funded, there is a constant pressure for results.

The Lean method is a set of tools and techniques that are aimed to find and validate a working business model. The main ideology is the constant testing of the key assumptions of a business model. Rather than creating an elaborate business plan, the focus is on defining the business model overview. The high level business model can be described in any way needed. For start-ups, a popular way to describe the business model assumption is using Lean canvas model which is derived from the Business Model Canvas by Osterwalder. After defining the Lean canvas model, the process of validation starts by validating the riskiest part of the business model.

Business planning is the method of reaching a working business model. Traditional business planning has incorporated the creation of tens or even hundreds

of pages of text defining the business the company is pursuing. The planning has been very front-loaded and much of the definition has been done before starting operations. Financial plan, marketing plan, human resources plan, and distribution plan to name a few are all must-haves when looking at a list of requirements for a solid business plan. The logic for the full coverage business plan has been that it ensures the maximum success potential for the business model. However something is not working as 70-80% of start-ups fail to see their projected return on investment (Nobel, 2011).

## 2.1 Research objective

The intent of the research is to study the cross section of startup, business model, first product launch and analytics. The objective is to evaluate how data and information can be used to help a startup company to increase the success rate of a new product launch. The research area is illustrated in the figure below.

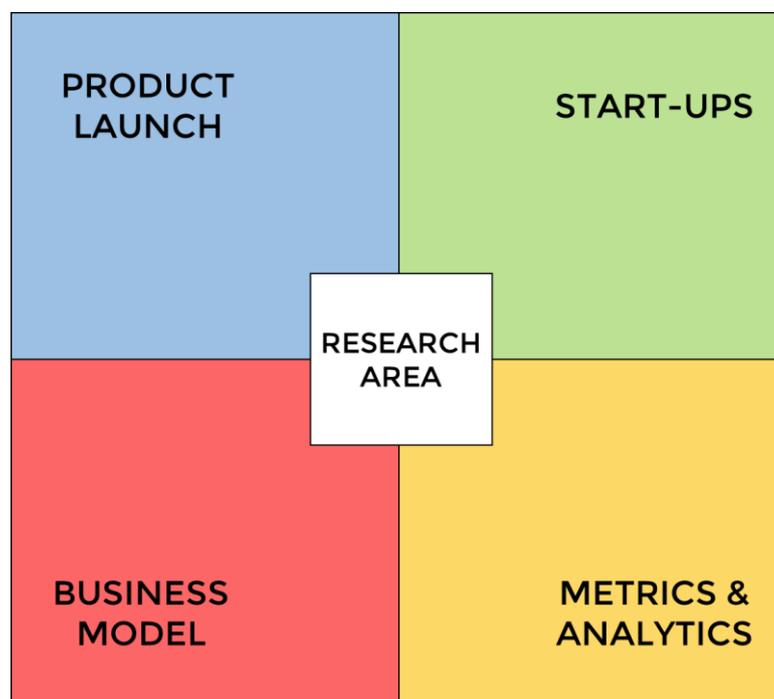


Figure 2. Research area overview (Järvenpää, 2014)

Based on the research area and the research objective the following research questions have been formulated:

**Main research question:** what are the methods a startup can implement to reduce the risk of market entry failure?

**Support research question:** what are the possibilities to test the business model and product before product launch?

## 2.2 Research methods

Quantitative and qualitative research methods form the building blocks of scientific research. These methods are often represented as alternatives to conducting research. However it is more appropriate to see the quantitative and qualitative methods are supporting each other as they both can be used in analysing the research material in a single research (Alasuutari, 2011, 32-33). The notion of combining research methods and disarming the 'either or' notion in research method selection is also supported by Professor Juha T. Hakala (Aaltola & Valli, 2007, 13). Quantitative methods are suited for analysing the extent and magnitude of a phenomenon as qualitative methods are suited for analysing the context and significance of behavior and action (Hirsjärvi & Hurme, 2000, 27).

Before selecting the research method, it is critical to understand what is the research objective (Aaltola & Valli, 2007, 14). In this research, the aim is to answer research questions starting with "what". My assumption is that to identify the potential "whats", the startup team is in a critical role. The team is defining the business model and executing based on the model. The most logical approach would seem to be to interview and observe the startup team. Observation as a method can be used when there is no information or little information available about the research subject (Aaltola & Valli, 2007, 154). There is limited amount of information available about the day-to-day working practices of modern startups. Based on the interviews and observations, formulate a list of potential areas that are relevant in answering the research questions. After formulating the potential areas, seek to validate the assumptions. In the validation phase it would seem

logical to use also quantitative data where ever possible. Hirsjärvi & Hurme (2000, 30) describe this type of research method as consecutive research, where the qualitative research is seen as a pre-research for the quantitative part. Both methods are equally relevant for the outcome of the study.

Looking at the research areas, it is possible to highlight different characteristics in the areas. The startup and business model areas are complex and very subjective areas where there is a high level of uncertainty and no clear data points to validate true and false. The same is true for the product and analytics areas as well with some exceptions. The product is an online consumer service running on a web browser. The fact that the product is running on web browser allows us to collect different kinds of measurable and comparable data from each of the users and their sessions in the service.

Observation is the only alternative method when collecting detailed information in a complex environment (Aaltola & Valli, 2007, 155). Observation will be used to collect information about the startup, business plan and also the planned product. Observation is conducted by participating in startup team meetings, observing daily work and different communication between the team. Interview method is suited for an unknown and less structured area (Hirsjärvi & Hurme, 2000, 35). Thematic interview is a semi-structured interview which allows the interview to be focused in certain themes (Hirsjärvi & Hurme, 2000, 47). The thematic interview seems to be a good fit in this research, as the target is define a set of assumptions based on known research areas. The target is to conduct thematic interviews to the startup team members to find out critical themes where the assumptions can be based. The target is also to later conduct interviews with the product users to validate the assumptions made based on earlier interviews. Quantitative analysis uses numbers and the systematic connection between numbers to argument a point (Alasuutari, 2011, 34). In a situation, as in the product by Company Ltd, it is founded to use quantitative analysis based on the data collected from the online product. Quantitative analysis will be used to analyse the usage patterns for the online service and also activity and usage rates for any supporting online activities, for example marketing.

## 3 LITERATURE AND THEORY

To analyse and evaluate the research question, there is a need to understand several different domains. I have defined the following areas to be the most important for the research: Lean Startup methods, business models definition, recognised product launch risks and data points & data collection for a consumer service. First of all, Lean Startup method needs to be defined as it is the most recent and less covered area. There is a lot of material on different business models. I will focus on how to capture the business model and less on what the business model should be. New products and new companies are launched constantly and finding information about related key risks should be possible. And lastly, there is a need to define possible data points and data collection options to gain insight to the new product perception. The new product is an online consumer service, so the focus is on tools that are most suited for collecting information in this environment.

### 3.1 Lean Startup method

The Lean Startup method is a way to operate a startup company with a mindset that aims to maximise speed and minimise waste. For a good overview of the differences between a Lean and a traditional company can be seen in figure 3 below. Key areas to be noticed: Strategy, New Product Process, Organisation and Failure. Strategy is based on assumptions and a business model that requires testing for validation. Compared to a traditional approach where the expectation is that senior management know best, this is a very different approach. New product process is based on customer discussions and learnings outside the company in Lean, when the traditional companies have competitor comparisons, internal CRM databases and market studies which product managers use to guide the product development. Organisations in traditional sense are organised by functions and virtual teams are created based on resources in different

teams. Lean organisations are built to be independent and require less management intervention. A major difference between the two is the role and relation to failures. The traditional organisation steers away from failures and failure results in problems. The Lean organisation expects to fail and tries to fail early to avoid problems in market entry or scaling in later phases. Overall the organisations and companies can look very similar on the outside and there is nothing unordinary related to the Lean companies. The real difference, as said, is in the mindset on the business and company is being operated.

Lean	Traditional
<b>Strategy</b>	
Business Model Hypothesis-driven	Business Plan Implementation-driven
<b>New-Product Process</b>	
Customer Development Get out of the office and test hypotheses	Product Management Prepare offering for market following a linear, step-by-step plan
<b>Engineering</b>	
Agile Development Build the product iteratively and incrementally	Agile or Waterfall Development Build the product iteratively, or fully specify the product before building it
<b>Organization</b>	
Customer and Agile Development Teams Hire for learning, nimbleness, and speed	Departments by Function Hire for experience and ability to execute
<b>Financial Reporting</b>	
Metrics That Matter Customer acquisition cost, lifetime customer value, churn, viralness	Accounting Income statement, balance sheet, cash flow statement
<b>Failure</b>	
Expected Fix by iterating on ideas and pivoting away from ones that don't work	Exception Fix by firing executives
<b>Speed</b>	
Rapid Operates on good-enough data	Measured Operates on complete data

Figure 3. Lean versus traditional startup (Blank, 2013)

Lean Startup method can be seen as a set of agile product development tools. However this is not the case. Agile development methods, example Scrum, are product development methods (Rubin, 2013). As Lean Startup methods are business model creation methods. Agile development methods and Lean Startup methods are complimentary and there are benefits in using both methods (Pichler, 2013). However Lean Startup methods can be used without agile development and vice versa.

Ries (2011) defines the Lean Startup method as a set of five principles:

- 1) Entrepreneurs are everywhere
- 2) Entrepreneurship is management
- 3) Validated learning
- 4) Build-Measure-Learn
- 5) Innovation accounting

Entrepreneurs are everywhere means that the Lean Startup is not a concept only intended for startup companies. The ideology can be adapted to any organisation and company if there is a will to do so. In regards to the current research and Company Ltd, I'm not so interested in the overall applicability of the concept. The focus of the research is to find tools and possibilities to leverage data better in a startup company.

Entrepreneurship is management. Ries argues that a startup is not just a product, it is an institution. An institution that requires a certain type of management. My opinion is that startups are often seen as innovative, unorganised, free thinking teams that just get things done. By combining the innovate aspects with a solid, analytical management, it would be possible to create a powerful force. To my understanding Lean Startup is trying to do just that.

Validated learning is about redefining or re-targeting the purpose of the organisation. Moving from making a product or making money to a mindset where learning to build a sustainable business is the focus. Ries (2011) says that learning can be validated by running frequent scientific experiments. The validated learning part of the Lean method is very interesting regarding the current research and

Company Ltd. The validated learning concept is exactly what is needed in a company that is concepting their first product.

The fundamental activity of a startup is turn an idea into a product, test the product for feedback and make necessary changes based on the feedback. Ries is focusing on this activity in a process called Build-Measure-Learn. One fundamental change is to speed up the full circle of development. For example, Agile methods are focused to speed up the feature and product development. The fundamental idea with Agile is that the team is building the right product from the start. In Lean Startup, there is no certainty and everything is tested. It is not enough to get quick development, it is equally important to have quick feedback.

Innovation accounting is about bringing structure and focus to the startup work. Measuring work, setting up priorities and defining milestones – work that Ries describes as “boring”. The idea of innovation accounting is to bring an analytical and structured way of working to an innovative environment. Simply by having great ideas and acting on them is not effective. There needs to be a clear goal and the work is measured based on the goal. Development activities and market feedback is highlighted against the plan in a systematic way. I see innovation accounting as one the most important aspects regarding Company Ltd. Having a light and agile method of measuring progress is key. There cannot be a heavy management process due to lack of resources, however something needs to be done otherwise the startup is drifting without a purpose.

### Lean Startup concepts

Lean Startup aims to minimise the investment made to the business before the core assumptions of business have been validated. The point is to completely avoid or at least reduce the amount of waste. US based grocer Webvan is an example of a business that failed to validate their assumptions before investment. Webvan purchased several warehouses across the United States before realising that there was not enough demand for their grocery delivery service (Ghosh, 2011). The core ideology of the Lean Startup is learn about the market and customers before making significant advancements in the business.

## Waste

Waste is a term often seen used when talking about the Lean Startup method. Ries (2011) and Maurya (2009) both talk minimising waste in development work. Waste is described as unnecessary or wrongly timed work. The organisation should focus on creating the work that is needed at that time. For example, feature development can be a waste if the development is done on top of functionality that is untested. If the eventual test shows that feature is not wanted or needed then the additional work done on top of the core feature is waste. Ries (2011, 274) sees creating waste as an issue in all industries and all sizes of companies. Launching products with no interest in the market, creating features users are not using, stockpiling an inventory – these are all forms of waste. In regards the research and Company Ltd, minimising waste is a key issue. The Company Ltd is very constrained in resources and there is heavy pressure to launch a product to enable revenue.

## Build-Measure-Learn

The Build-Measure-Learn loop is a key concept in the Lean Startup. A visualisation of the Build-Measure-Learn loop is in the picture below. The loop is used to manage and operate the organisation in finding a sustainable business model. A key idea is to minimise waste and focus only on the necessary parts. In terms of building and creating, the Lean Startup practioners are creating a so called Minimum Viable Product. The idea of the MVP is to create only the part which will be tested. The MVP can be anything, it does not necessarily need to be a product or feature of a product. The MVP is used to test out an assumption that the team has about the market, customers or the product. Ries (2011, 97-99) has several examples of MVPs and the one used by Dropbox is an interesting one. Dropbox is a company that has created a file sharing service that enables users to have their files available in different devices and environments. Dropbox tested their initial product idea with a video. The idea and concept was new and unclear (at the time) and Dropbox needed to validate the idea before committing to the product. In most cases, the traditional approach would be to create a demo or a beta version of the product. The Lean Startup sees this as waste because there is an

easier way to validate the assumption. In the Dropbox video, there was a visualisation and description of the service on how it would work once operational. The video was a success and gave Dropbox enough validation to commit to the product. I enjoyed this example as it showed that it is possible to get feedback to a software product without writing a single line of code. Coming back to the research and Company Ltd, the MVP approach seems logical given the resource constraint on the company. Another aspect is that the Company Ltd is still looking for the business model and taking a step-by-step approach to validating the proposed business model seems logical.

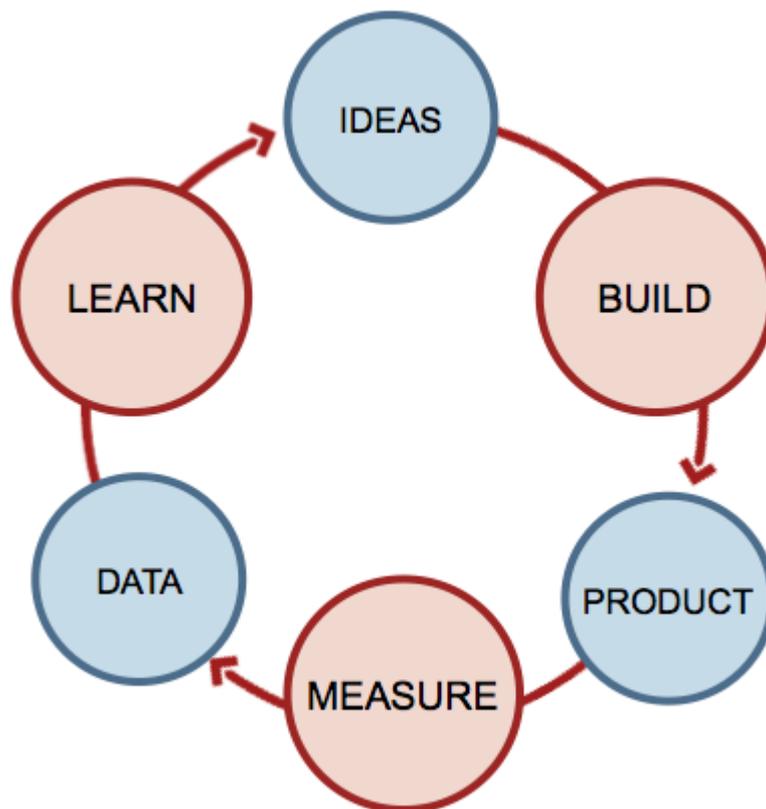


Figure 4. Build-Measure-Learn loop (theleanstartup.com, 2014)

## Pivot or Persevere

After completing the build-measure-learn loop, the team is faced with an important question: pivot or persevere? The question tests the teams' belief on the strategic assumption for the business model – do we still believe the assumed business model is valid? Ries (2011, 148) defines the pivot as “a structured course correction designed to test a new fundamental hypothesis about the product, strategy and engine of growth”. The pivot means that the team has learned something new about the market, customers or the product and it causes them to change their assumptions on what is needed to succeed. Ries (2011, 169) explains that the pivot is difficult to make, so difficult that many companies never make a pivot.

An example of pivot: there is an assumption that a certain product would be interesting to 50% of the supermarkets and it could be introduced to their portfolio. Rather than building the product and trying to sell it, the Lean Startup team would create a MVP version of the product. Let's define the MVP to be the product packaging + assumed price. The MVP would be then introduced to the supermarkets and the discussions would be documented. Based on the documented discussions, 4% of the supermarkets would be interested to take the product into their portfolio. With this information, there would be evidence against developing the current product. The team would need to pivot to change either the product, target market (other channel than supermarkets), pricing or some other strategic element of the business model.

Persevere on the other hand is the selected option if the team feels that the strategic, big picture is correct. Persevere does not mean that everything stays intact. The business model is tweaked constantly. However persevere assumes that the strategic part is correct, nothing major needs to be changed. Both the pivot and persevere decisions are followed by another build-measure-learn loop. In the next loop another assumption is tested.

## The Startup stages

The Lean Startup practitioners (Ries, Blank, and Maurya) talk about different stages of business model creation. In my opinion Maurya (2012, 8) has visualised the different stages in a very understandable way, he calls them the three stages of a startup. A picture of the different stages is shown in below figure.



Figure 5. Three stages of a startup (Maurya, 2012)

The first stage is called a problem/solution fit. The stage is about finding out whether the assumptions about the problem are correct. The key question according to Maurya (2012, 8): “Do I have a problem worth solving?” In the first stage it is important to validate the problem is worth pursuing. The criteria for a valid problem are (Maurya, 2012):

- 1) Is it something customers want? (must have)
- 2) Are they willing to pay for it? (viable)
- 3) Can the problem be solved? (feasible)

Maurya suggests of using different interviewing and observation techniques to validate the first stage of the startup. It is important to note that a startup should not move to stage two before the problem/solution fit has been successfully validated. The startup stages rely on the fact that an earlier assumption and validation is correct. The Company Ltd as a startup has moved to stage two of the model and there is no documented validation based on the three stage model. The current assumption for the research is that problem/solution fit is valid and there is a real customer problem. However it is required that this topic is evaluated once more information about the business model and its validation is available.

My thoughts on the model and stage one are that this is a much overlooked activity and less covered topic. My experience is that many times teams are rushing to create a product or service and the validation of an actual problem is done very briefly or not at all. When considering waste and resource usage, a heavy focus would be needed on the problem/solution fit stage. A lot time and money can be saved by ending a project in stage number one compared to any later stage. Visualisation of the cost of changes can be seen in below figure. Cost of changes are the lowest in the early stages and all focus should be on the fact that changes happen early on. In my opinion, the problem/solution fit is an excellent approach to focus the majority of the changes the early part of the project.

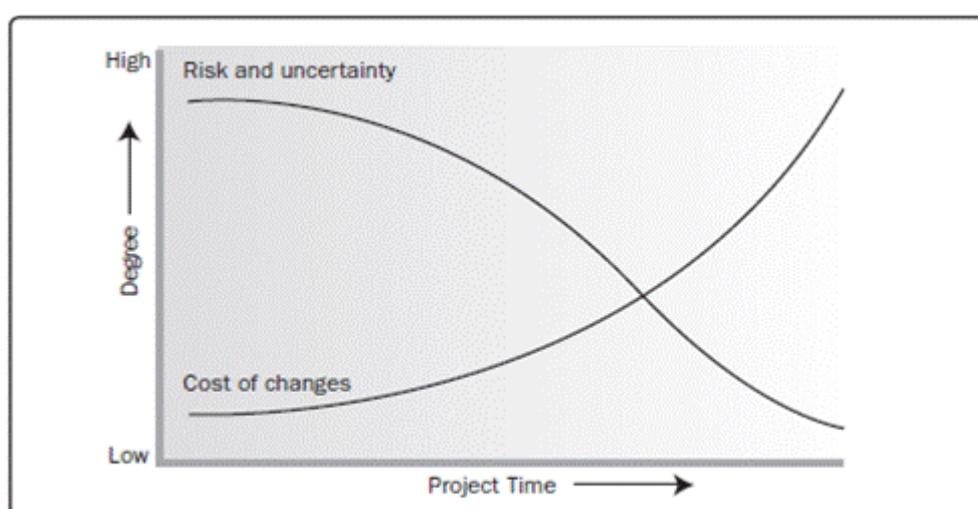


Figure 6. Cost of changes over time (PMBOK Guide, 2004)

Stage two of the model is called product/market fit. The key question to stage two is (Maurya, 2012, 8): “Have I built something people want?” The second stage assumes that there is a problem worth solving. In the second stage, the target is to start creating a solution to the problem and constantly testing the solution. The build-measure-learn loop and the MVP approach are a good fit to this stage. It is possible to find the correct solution right away, however it is more likely that several iterations of the product and business model are needed to find the product/market fit. Stage two is not only about creating a new product, it is about validating pricing, features, channels – the whole business model. Company Ltd has

not found their product/market fit and this is stage where the company is operating currently. I think, the common perception is that startups are all working in this stage. That after they find their product/market fit, the startups start to make revenue and they are transformed to “normal” companies overnight. I will not start to define when a startup becomes a company, there are a lot of discussion with different opinions already.

The last stage is called Scale and the focus is to find a way to expand the working product/market fit. Key question for this stage is: “How do I accelerate growth?” For Company Ltd this is not yet a relevant stage as the company has not found a working product/market fit. I will not focus on this stage in the current research as the scope is about reducing market entry risks and the 3<sup>rd</sup> stage is about scaling an operational product.

### Criticism

Blank (2013) warns that it is not possible to guarantee more success for a single startup using the Lean process. Success is a combination of many factors and there is no way to guarantee success for a selected company. Blank continues however by saying that based on his experience using lean methods across a portfolio of startups will result in more success compared to traditional methods.

Burgstone (2012) has more harsh critique for Lean startup. He claims that there are “deep flaws in the system”. Burgstone offers arguments against two areas: the minimum viable product and innovation accounting. With the MVP, he is arguing that going to market with a lackluster product is “insane”. Burgstone uses examples such as iPod, Google search engine and Facebook that were not the first entrants to markets. They learned from inferior products and improved them. My thoughts on the MVP critique is that there is a point here. I believe that some products are best when fine-tuned to the perfection before launching. Some companies are able to do that, Apple is the first company that springs to mind. However the approach is very risky, it requires absolute precision and there are examples of the approach failing – example the Microsoft Kin mobile device that

was withdrawn from the market just days after launching. Another aspect to consider regarding the MVP is that the MVP does not need to be a sellable product. The MVP can be a version of the product where market interest is tested and it is never meant to be sold.

The other topic that Burgstone argues against is Innovation Accounting. He claims that innovation accounting should not replace traditional accounting and startups should not try to adjust accounting principles. He offers an example of Groupon which has been struggling with their accounting issues. To me innovation accounting has very little to do with traditional accounting. It seems like Burgstone has not understood innovation accounting or deliberately tries to create an issue. A startup needs to comply with any given accounting guidance, there is no question about it. Innovation accounting is systematic and documented way to follow the progress of a startup. Following the progress of a startup cannot in many cases be done with standard financial and accounting figures. Example, if the company revenue was 0 euros in Q1/2014 and it is 0 euros in Q2/2014 – does it mean that the company made zero progress during Q2/2014? Not necessarily because the progress might have been huge. The Lean startup innovation accounting tries to capture the progress and in many cases learning is the progress. Using the previous example, if the company learned during Q2 the correct pricing model and launch markets, the progress was huge.

### 3.2 Business model documentation

“One of the principal reasons for business failure is the lack of an adequate business plan.” (Pinson, 2004, 9) Pinson defines that the business plan is needed to 1) evaluate business potential and map a plan for the future and 2) convince the lenders and investors that the company will be profitable. Passila (2009, 94) mentions exactly the same points. Passila defines the two main tasks for the business plan in the planning phase is to 1) lead the company operations by roadmapping the future targets and setting a strategy to achieve those targets and 2) create

interest about the company among lenders and investors. Clearly these two authors are convinced that the business plan is focused on the future and planning the future. Another task for the business plan is to attract and enable funding.

Looking this scenario from a startup perspective, based on the case Company Ltd, the funding is not very critical yet. According to Ghosh (2011): “Most start-ups fail due to lack of foresight, lack of wiggle room in the business plan, bad timing, or lack of funding. Start-ups often fail because founders and investors neglect to look before they leap, surging forward with plans without taking the time to realize that the base assumption of the business plan is wrong.” Being a startup is no excuse to avoid planning. Clearly there needs to be an understanding of the key assumptions. Even better would be a situation where the key assumptions have been validated. Company Ltd is focused on finding the right business model. I will look at the business plan from the future planning perspective and focus less on enabling funding.

### 3.2.1 Traditional business plan

The traditional business plan is a multi-page document describing the resources, assets, strategy, competitors, market, products and other similar information. There are several versions of the business plan created by a plethora of different people. An example business plan by Passila (2009, 117-120) has 14 different sections and 54 sub-sections. The business plan, which Passila calls an “effective business plan” describes strategy, products, management team, facilities, marketing strategy, competitor analysis and financial projections, to name some of the sections. The traditional business plan is intended to capture all available information about the current company, market and competitor situation. Combine that information with plans about the new products / services and sales & marketing plans. Based on the combined information an estimate of costs and revenues are made. The traditional business plan assumes that the market, customers, products, costs and risks are somewhat familiar – it is a tool for existing businesses with predictability.

“Creating a business plan is above all a mental journey for the entrepreneur which clarifies whether the new business is feasible and how the business should be operated” (Viitala – Jylhä, 2006, 61). The traditional business plan is also about learning if you agree with Viitala & Jylhä. The business plan is a reflection of the market situation and the role of the company. It is a subjective plan based on the insight, information and know-how of its maker. I’m not convinced that the traditional business plan should be created for external communication. However I’m certain that the information areas listed in the traditional business plan should be very well known by the company management or the entrepreneur entering the market.

Steve Blank (2013) criticises the use of traditional business plans for startups. Blank claims that business plans often face pressure to change when introduced to customers. Secondly, making multiyear plans of the future is a waste of time because the plans are very unlikely to be accurate. And thirdly, startups are not smaller versions of big companies. While big companies execute on a business model, the startups are looking for a business model. The startups that succeed go from failure to failure while adapting and changing their plans. Looking to learn through failure is a very different approach to established companies which are mostly focusing on avoiding failure. I see the issue of updating the traditional business plan for startups. If we consider that usually startups are very resource constrained then keeping the multi-page business plan up-to-date would be a demanding task alone. The traditional business plan would be a good fit in a situation where the company (startup or not) knows exactly what needs to be done. It makes sense to create a traditional business plan for established markets and when setting up a company for an existing business, for example a bakery, hair salon or car repair shop.

Guy Kawasaki (2004) has made an excellent summary of differences between big companies and startups, shown in picture below. In terms of business planning the focus for a startup is in the future and the future is uncertain. Larger companies have the luxury (and curse) of having historical data which they can use to create future plans. A startup does not have any history and it must base

its assumptions on a possible future. In some cases the lack of historical data is an advantage. A recent example of this is the fall of Nokia. Apple and Google using a combination of improved user experience, developer friendly environment and renewed (touch screen) technology were able to take over the market quickly. Nokia which was relying on efficient global logistics, good operator relationships and low bill-of-material was not able to compete with the new competitors. Historically the mentioned strengths had raised Nokia as a market leader but the consumer needs and market dynamics had changed so radically that the old strengths had become new weaknesses.

Table 1. Differences between big companies and startups (Kawasaki, 2004)

TOPIC	BIG COMPANY	STARTUP
Positioning	Being all things to all people	Finding a niche and dominating it
Pitching	Sixty slides, 120 minutes, and fourteen-point font	Ten slides, twenty minutes, and thirty-point font
Writing a Business Plan	Two hundred pages of extrapolation from historical data	Twenty pages of wishful thinking
Bootstrapping	Staying in a Hyatt Regency instead of a Ritz Carlton	Staying with a college buddy instead of a Motel Six
Recruiting	Corporate headhunters screening candidates with Fortune 500 or Big Four track records	Sucking in people who "get it" and are willing to risk their careers for stock options
Partnering	Negotiating I-win/you-lose deals that the press will like	Finding a way to increase sales by piggybacking on others
Branding	Advertising during the SuperBowl	Evangelizing in the trenches
Rainmaking	Spiffs for resellers and commissions for sales reps	Sucking up, down, and across
Being a mensch	Calling the legal department	Helping people who can't help you

### 3.2.2 Business Model Canvas

Business model canvas is a concept that was introduced by Alexander Osterwalder (2010) in a book called Business Model Generation. Osterwalder (2010) has the following definition for a business model: "a business model describes the rationale of how an organisation creates, delivers and captures value". The business model canvas is a tool designed to visualise and represent the business

model. The BMC (Business Model Canvas) uses nine building blocks to describe the business model: Customer Segments, Value Propositions, Channels, Customer Relationships, Revenue Streams, Key Resources, Key Activities, Key Partnerships and Cost Structure. An example of a BMC can be seen below picture.



Figure 7. Business Model Canvas template (Five Whys, 2012)

The target for the BMC is to describe a business model in a simple 1-page format. The benefits of the BMC tool are related to its simplicity adaptability and portability. The 1-page format allows to see the interconnections between the nine different blocks. For larger corporations with individual P&L responsibility and significant headcount, it is possible that this type of high level picture has never been visualised. The BMC also allows to iterate quickly (adaptability) and try out new possibilities on the fly. One example on how to use the canvas is to print a large version of the BMC template and attach it to a wall. Then using Post-it notes it is possible to build a version of the canvas and change different parts simply by changing Post-it notes. The lack of space (only 1 page) also forces to list only the essential parts of the business model and therefore allows only the truly critical parts of the business to be listed in the model. Traditional multipage business plans cannot be easily used for one key activity: sharing the plan with someone

other than yourself (Maurya, 2012, 4). The BMC allows easy portability and it is possible to see the big picture in a single view.

The Business Model Canvas concept has faced also come critique. The BMC has 3 shortcomings according to Kraaijenbrink (2012): 1) the exclusion of the organisations strategic purpose, 2) the exclusion of competitors and 3) the model mixes levels of abstraction. Kraaijenbrink (2012) argues related to point 1) that the BMC assumes that the goal of the business is to solely make revenue and the model cannot be effectively used by non-profits. I would like to reject the argument that Kraaijenbrink makes in this case. The whole essence of the BMC can be found in its definition (Osterwalder, 2010, 14): "A business model describes the rationale of how an organisation creates, delivers and captures value". The model is about VALUE, not necessarily revenue and also non-profits have value. Secondly, the BMC focuses on being a simple tool to describe complex business models. It means that some things just need to be left out. We know that there are plenty of complex, long and verbose business planning and modeling tools available. After all, going back to the definition of BMC, the tool is about HOW. Strategic purpose is a WHAT and the model assumes that the WHAT part is understood when creating the HOW. I would like to point out that I believe that the BMC can be used to iteratively discover the WHAT part also. For example, in situations where an established company has lost competitiveness and still has different resources. The BMC could be used find out possible alternative directions with adjustments to the nine blocks.

In the second argument by Kraaijenbrink (2012), he argues that a business model needs to be defined in relation to competitors. He argues that companies can choose to compete with certain competitors and these selections should be integrated to the business model. I can see more logic in the second argument compared to the first one. However, I personally feel that companies that make their business model selections based on competitors are on the wrong path. The outside world is changing rapidly, new competitors are arising constantly and it would be impossible to adjust your business model constantly based on competition. I believe the correct procedure for a business model generation is to start

with the value, similarly as the BMC does. The value of the company or business model is the key to obtaining customers and market share. Often times, companies just want to be different from the competitors, without focusing whether the difference will create true value for the customers. There is no value in difference alone.

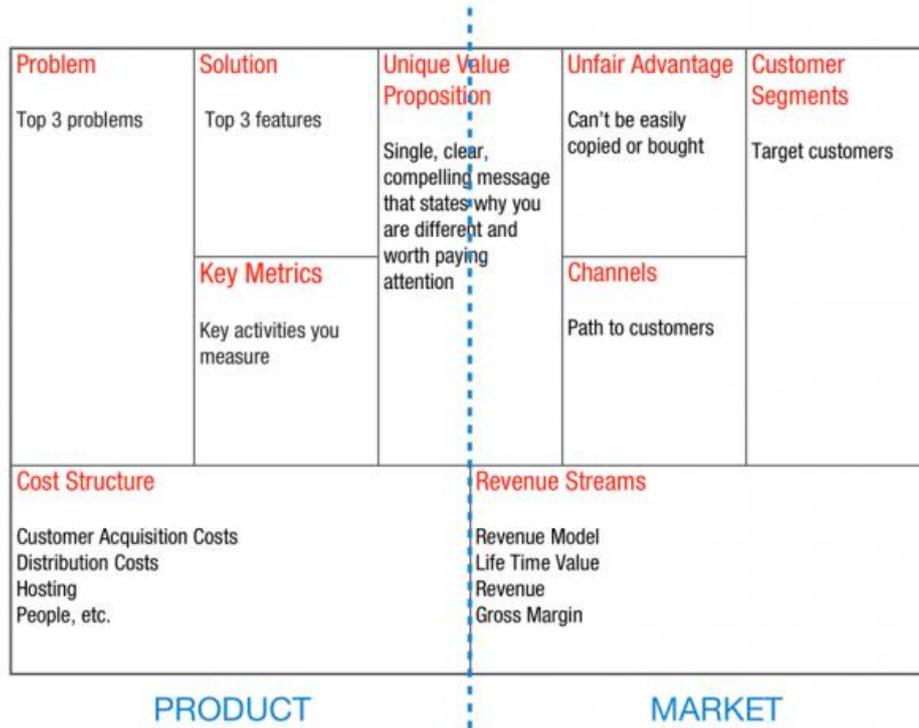
Finally, Kraaijenbrink (2012) argues that the BMC nine blocks are not defined in the same level of abstraction. He argues that customer relationships, channels, key resources and key activities have a lower level of abstraction compared to the other components. This is the weakest argument against the model in my opinion. This type of abstraction level argument can be easily raised on different models and tools. And for example, if we take channels and customer segments in the model. Kraaijenbrink argues that channels have a lower level of abstraction. To me channels and customer segments can be defined easily on the same level of abstraction. For me, online store and physical store channels are on the same level of abstraction as retailers, distributors and consumers as a customer segment.

Gerry Spanz (2012) has also evaluated the business model canvas from a critical perspective. Although he sees the model as functional, there is a list of items that are not covered in the model but are seen by Spanz as critical in the business idea evaluation. The list of missing items: 1) no competitive analysis, 2) no consideration of group structure and synergy effects, 3) no formulated business objectives, 4) no KPIs and performance measurement and 5) evaluation of innovation competence. If we look at the list of arguments, number 1) and 3) are the same or similar as what Kraaijenbrink raised in this critique. Looking at point 2), it can be argued that possible synergy between the nine blocks is missing. It is an important part of the business operation and should not be neglected. I see it as one of the downsides of having a 1-page tool, something needs to be left out. What comes to the KPIs and performance measurement, I really like this point. To truly understand if the business model is working or not, measurement is needed. The KPI and measurement can be done after the business model has been finalised, it causes unnecessary work to alter the business model and KPI's

simultaneously before the business model is frozen. The last point is interesting when discussing established organisations. It is not difficult to draw out a revolutionary new business model using the BMC tool. However it is more difficult for a traditional organisation to adapt a new mode of operation. The innovation competence idea is interesting. I see that after creating the business model in the BMC, the organisation needs to evaluate whether the business model can be executed. The innovation competence evaluation needs to happen during this stage.

### 3.2.3 Lean Canvas

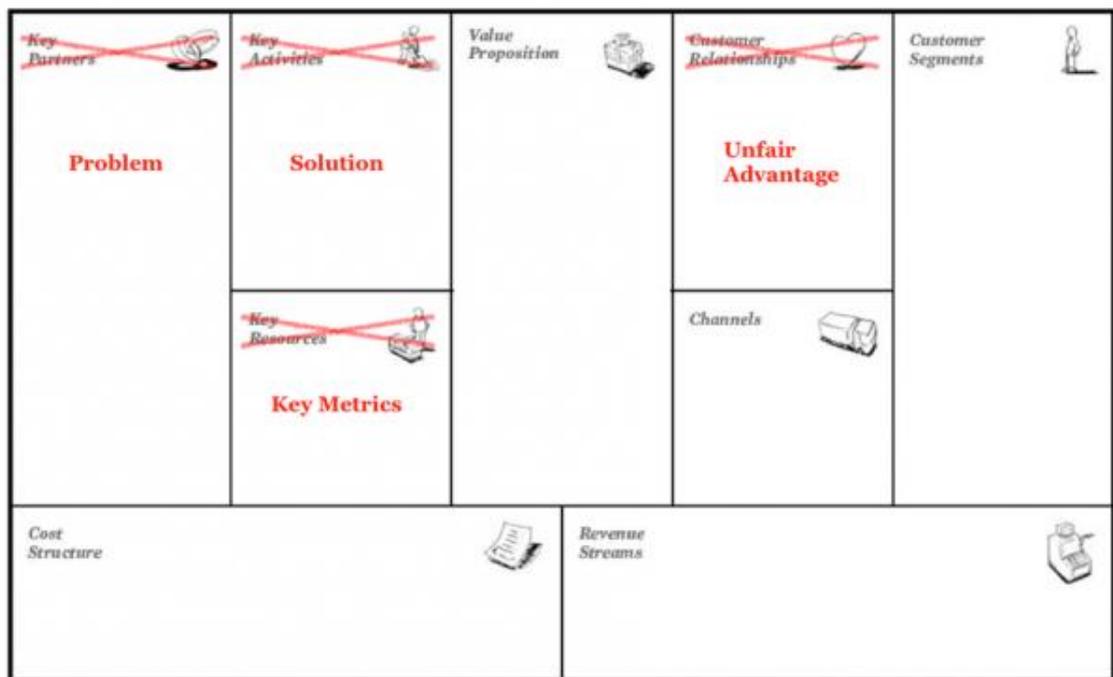
The Business Model Canvas offers several benefits compared to a traditional business plan: simple, adaptive and portable. The BMC model is intended to be used in any organisation. For the current research, the case Company Ltd is a startup working in the intelligent traffic sector. The BMC is a general tool, it is beneficial to see whether a more specific tool for Company Ltd would be ideal. Ash Maurya (2012) has developed a startup focused version of BMC called the Lean Canvas. A Lean Canvas template can be seen in the picture below.



Lean Canvas is adapted from The Business Model Canvas (<http://www.businessmodelgeneration.com>) and is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported License.

Picture 1. Lean Canvas explained (Maurya, 2012)

The most interesting part at first, is to understand what is the difference between the BMC and Lean Canvas and why. Below is a picture that highlights the changes in the nine blocks for the Lean Canvas.



Picture 2. High level differences: BMC and Lean Canvas (Maurya, 2012)

Maurya (2012) has replaced the Key Partners and Key Activities blocks with Problem and Solution blocks. Key Partners block was the most difficult block to remove due to the fact partners can be very important for certain early startups. Maurya claims that most of the startups however do not fall into this category and it is more important to focus on the right product than to acquire partners in the early stages. I can see the issue here and I would claim that the startups that require a partner early on know it and they can react even without the canvas. Also it is possible for a startup to list key partners in the Channels part. Most of the time startup do not have a sales force and a sales channel and they need to partner for guarantee their Go-To-Market success. Even more important than partners is the Problem. Maurya (2012) wanted to highlight the importance of understanding the problem correctly. He claims that most of the startups do not fail because they cannot build the product, the startups fail because they build the wrong product. The Problem block forces the startup to think about the problem and make sure the problem is real. I agree with Maurya on the importance of the problem. It is critical to start solving a problem that people are willing to pay for. People like to complain about many things and complaining about something

does not mean that the person would be ready to give away money to solve the problem.

Key Activities is more suited for an established company where business is already operational. The Solution block that replaced Key Activities describes the solution to the problem defined in the Problem block. The Solution block is intended to contain a short description of the solution that can be turned in to a Minimum Viable Product. The intention is to keep the solution short intentionally to support the MVP mindset. Maurya (2012) warns that “falling in love” with a single solution is dangerous. There should always be a mindset where the solution is challenged and iterated for improvement. With the introduction of the Problem and Solution boxes, I see that the model already now serves most of the startups better than the BMC. If we go back and think about what Steve Blank said about startups: “a startup is an organization formed to search for a repeatable and scalable business model”. The search part is important and I see that introducing the Problem and Solution boxes allows the canvas creator to keep their “eyes on the prize” much better. Established organisations have resources, partners, activities and there is nothing wrong with that. However, for a startup, the main focus needs to be on the problem. Is the problem a real problem on which people are willing to spend money to fix it? If yes, then what is the innovative solution to the problem?

There are still two other changes that Maurya made to the BMC. Key Resources are replaced with Key Metrics and Customer Relationships are replaced with Unfair Advantage. Maurya says that with Key Resources he felt that the world is not so much physical resource driven. Also a startup might not have Key Resources as such due to the short lifetime of the company. Key Metrics was introduced to focus on the relevant metrics to define the success of the startup. Failure to identify the key metric can be dangerous. The startup is at risk of running out of resources chasing the wrong goal. I see this as a good solution to an issue that was highlighted by Spanz (2012). Spanz stated that one of weaknesses of the BMC was the lack of KPI's and measurement. With Key Metrics, Maurya is making the model more comprehensive by adding something to measure. With a complete

Lean Canvas, an organisation should have a business model and a way to measure the success of the business model.

Regarding Customer Relationships, Maurya states that the path to customers is more important. The path to customers can be defined also in the Channels block. For me Customer Relationships has always been the block that I struggled most to understand. The relationship between Customer Relationships and Customer Segments is very vague in my opinion. The Unfair Advantage block that is replacing the Customer Relationships is very interesting. The Unfair Advantage is something that cannot be easily copied or bought. It might be missing for a business model and then the block is empty. According to Maurya, it is not necessarily needed. However there is a risk that copy cats are able to more easily follow an organisation that is lacking an Unfair Advantage.

The Lean Canvas can be and should be used together with the Lean Startup tools. The Lean Canvas a first step on defining the assumptions of the planned business model. Maurya (2012, 49) guides to start with the riskiest part of the plan first. Identifying the part of the plan which contains most risk of failure and creating a method of testing that assumption. With the Lean tools, the method would be to create a MVP based on the assumption and testing that on the market for feedback. For example, if the riskiest part of the business plan would be pricing of the product, the MVP would be created to test pricing. For a new product, the MVP could be a landing page with product information and pricing info. By using analytics on the landing page, it is possible to get insight on whether the pricing would be acceptable. Going further, the landing page could contain a way to gather customer information and it could be possible to interview potential customers on the pricing.

### 3.3 Product launch risks

In theory, following the Lean Startup stages – problem/solution fit, product/market fit and scale – it should be possible to avoid product launch failure. In practice, it

is beneficial to be aware of potential product launch risks. Luckily product launches are not a new concept and there are example cases available.

Before focusing on the product launch risks, it is good to understand where product launch risks are in the bigger risk management picture. Risks are a broad topic and searching information about risk management is likely to return a lot of material regarding financial instrument risk management. Another well covered topic is project risk management. I found the business risks are the most suited and best fit in terms of talking about company risks.

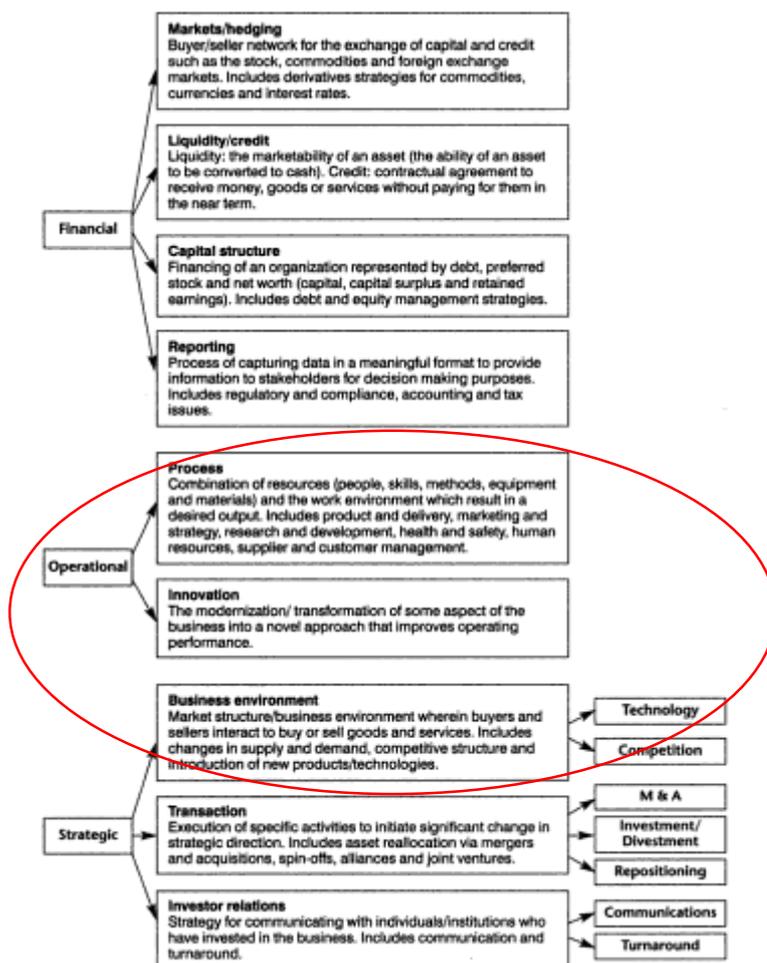


Figure 8. Risk classification scheme (Jolly, 2004)

The figure above shows the categorisation of business risks from Jolly (2004, 7). The business risks are divided into three major categories: Financial, Operational and Strategic. I have used a red circle in the figure to highlight what I see as valid

risk areas when researching the product launch risks in the case of Company Ltd. The Financial risk category includes risks related to the capital structure, credit status and financial reporting. The Financial risks are more applicable to larger companies, however not completely, startups have to manage financial risks also. In regards to this research, the Financial risks are not valid when assessing to reduce risk on the product launch. Strategic risks include risks related to competition, technology, mergers, joint ventures and investor relations. Regarding the product launch of Company Ltd, the Business environment risks related to technology and competition are interesting. The competition and technology areas are relevant and need to be understood, especially after entering the market and already before product launch. However the most relevant risk category is the Operational risk category. The Operational risks include resource, output, product, delivery, marketing, supplier and customer management risks. This is the risk area where the Company Ltd has the most control over. The operational items are also the backbone the company when executing based on the selected business model. When considering product launch and the risks related to it, most of the risks if not all can be found inside the red circle. These risks are related either on the operational performance of the company or misconceptions on the business environment, including buyer behavior, competitor status or technology relevance.

### 3.3.1 Examples of failed product launches

HBR (2011) writes about 5 different failed launches. The failed launches have different angles that are worth looking into to.

#### Mosquito Magnet – the company can't support fast growth

In 2000 a company called American Biophysics launched a product called Mosquito Magnet which lures mosquitos into a trap. The timing was good as there was demand for such a product. The Magnet became a top-selling product and the company had to expand its production capability. Moving from a low-volume local production to high-volume overseas production caused a drop in product

quality. The lower quality upset the consumers and the eventual result was that the company needed to be sold. In regards to Company Ltd, the product is an on-line service so ramping up physical product production is not relevant. Looking at the three stages of a startup, the Scale stage was the third stage after Product/market fit. Company Ltd needs to focus on solving the Product/market fit issue first before heavily focusing on scaling. If I had to choose from two options: a product with demand and challenges in scaling or product with no demand and all the possible scale, I would choose the former option every time.

#### Microsoft Windows Vista – product falls short of claims and gets bashed

Windows Vista was launched in 2007 with high expectations in the public and media. The company budgeted a large marketing campaign and predicted fast adoption for the new operating system. The software had several issues related to compatibility and performance which caused the event the loyal customers to reject the new operating system. There is a side note that if Vista had launched today, the issue might have been worse due to social media. It is imperative that products are truly ready when they hit the market. Here is a key area regarding the product launch for Company Ltd. The product is the first product of the company and the whole perception of the company will be formed based on the product. Going back to the feedback that Burgstone (2012) had for the Lean method and MVP, it is critical that the Lean method will not be used for an excuse to launch a lower quality or weak performance product.

#### Coca-Cola C2 – test the product to make sure its differences will sway buyers

Coca-Cola C2 was targeted to be the biggest product launch since Diet Coke. C2 was targeted for a new market: 20-40 year old men who liked the taste of Coke and liked the no calorie aspect of Diet Coke. The C2 had half the calories of normal Coca-Cola. However the hybrid product was rejected by the market as customers wanted the full flavor with no calories, not the half calories. Market research does not guarantee understanding of the market and consumer preference. New products can become hyped inside the company and it is easy to defend the product against all criticism. Coca-Cola learned from the mistake and

launched Coke Zero later with more success. Market research is a good starting point for Go-To-Market and product planning. However more testing should be done on top of the market research. The Lean Startup method using the MVP approach could be a solution where a product could be market tested before launch. The MVP could be created based on the market research results.

Febreze Scentstories – if consumer can't quickly grasp how to use your product, it's toast

Procter & Gamble launched a new product in 2004 that was able to replicate different scents. The device looked like a CD player. The company used a famous singer to promote the product. The product confused consumers and many thought the device involved music somehow. At the end the product failed. For a truly revolutionary product it is important to focus on educating the customers. I see that these type of launch issues are especially related to products which are not solving a specific problem. Products that are "nice to have" have more risk of being misunderstood or not understood at all. Poor user experience is another topic and not directly related to issue of not understanding the product. Bad design can result in poor user experience even for products that are solving a real problem. The actual market need and user understanding is one of the key areas for Company Ltd as they are developing a new type of product.

Segway – basic question: "who will buy this and at what price?"

A renowned inventor Dean Kamen was rumored of creating an alternative to the automobile. The rumor created a huge buzz in the market. Later when the public and investors found out that the alternative was actually a motorised scooter, it was a disappointment. The Segway device looked weird and the people using it looked unorthodox. The unordinary device also had a price tag of 5000 dollars. It is not enough to build a product, there needs to be a need in order for the product to succeed. The Febreze and Segway examples share a similar theme. For Segway, there was a real problem. People needed a cheaper and easier way to get around compared to cars. The issue for Segway was with the product/market fit – the product was not the right one for the problem. The Lean Startup method

tries help in this respect and create a way of learning about the product and market before launching. For Company Ltd the Segway example is important because even larger companies with more experience, resources and brand can fail to deliver a working product/market fit. For a startup company there is less time to get things right so focusing on minimising waste needs to be a priority.

### 3.3.2 Potential product launch risks – Company Ltd

Based on the risk classification scheme and examples of failed product launches, I have collected a list of potential product launch risk areas for Company Ltd. The risk areas are shown in the table 2 below.

Table 2. Risk areas identified for Company Ltd (Järvenpää, 2014)

RISK AREA	DESCRIPTION
Technology	Risks related to the used product technologies and possible changes happening in the industry
Competition	Risks related to competitor products and possible substitute solutions
Development	Risks related to the development of the product including delays, obstacles and lack of resources
Acceptance	Risks related to the customer and consumer acceptance and understanding of the product
Pricing	Risks related to the pricing level and pricing model of the product
Awareness	Risks related to creating awareness of the product through different channels in order to create sales

The Technology risk area covers risks related to technology choices inside the company and technology progress outside the company. The selected technologies used inside the company in case of Company Ltd have long lasting effects as changing to another technology is resource consuming. Also a potential risk is the changes happening the industry technologies as a new emerging technology can make existing ones obsolete. Preparing for such an event inside the

Company Ltd is extremely difficult. The best option for a startup is to be aware of the developments in the industry, it is unlikely the startup can affect changes happening in the industry. Technology selections is a good example of a choice that needs to be done early on and can still affect the product launch. For example in a case where the product is ready but the company decides to cancel the product launch based on the fact that the product is using an inferior technology.

The Competition risk area includes risks presented by competitor products and possible substitute products. Launching a new product requires understanding of the marketplace and current offering. For Company Ltd, there are no products identified that would be the exact match. However based on the product usage, there are substitute products available for the same need. In case of Company Ltd, it becomes critical to understand how the product needs to be positioned, priced and delivered so the threat of substitute appeal is minimised.

A critical risk area for Company Ltd is the Development risk area. When creating a new product, there are unknowns involved. Making sure the technology works and can be turned into a product is a risk of its own. Planning and securing development resources is another risky area. The development risks are such where the Company Ltd has the potential to manage the risks, the risks are mostly internal.

The Acceptance risk area is the single, most important area to get right. Without traction for the product and consumer appeal there will be no business. Understanding the customer needs and transforming them into product features is the key success criterion for a startup. The Lean Startup method is one way to manage the risk of launching a non-viable product. The target for Company Ltd is to understand as early as possible what needs to be built in order to succeed in the marketplace.

The Pricing related decisions are difficult. There is no single method to determine the correct pricing for the product. The pricing decision is a complex one as the price is only one element. Payment options, product variants and possible bundles all make the pricing more complex as a whole. The risk for Company Ltd to

make the wrong choices in pricing is high. Lack of experience in the marketplace, a new type of product and high expectations of the consumer appeal, can result in the selection of an uncompetitive pricing model and level. Pricing, in general, is easy to adjust. However, there is a certain value to first perception and in the ideal situation the pricing model and level would correct or at least close right from the start.

The last of the product launch risk areas is related to Awareness. It can be argued when the awareness creation should start: before launch, at launch or after launch. The main risk for Company Ltd is that the lack of awareness is preventing the validation of the business model. Some level of product awareness is needed to gather customer data for the business model validation. Later with the validated business model, Awareness is also needed to drive sales.

### 3.4 Metrics and analytics

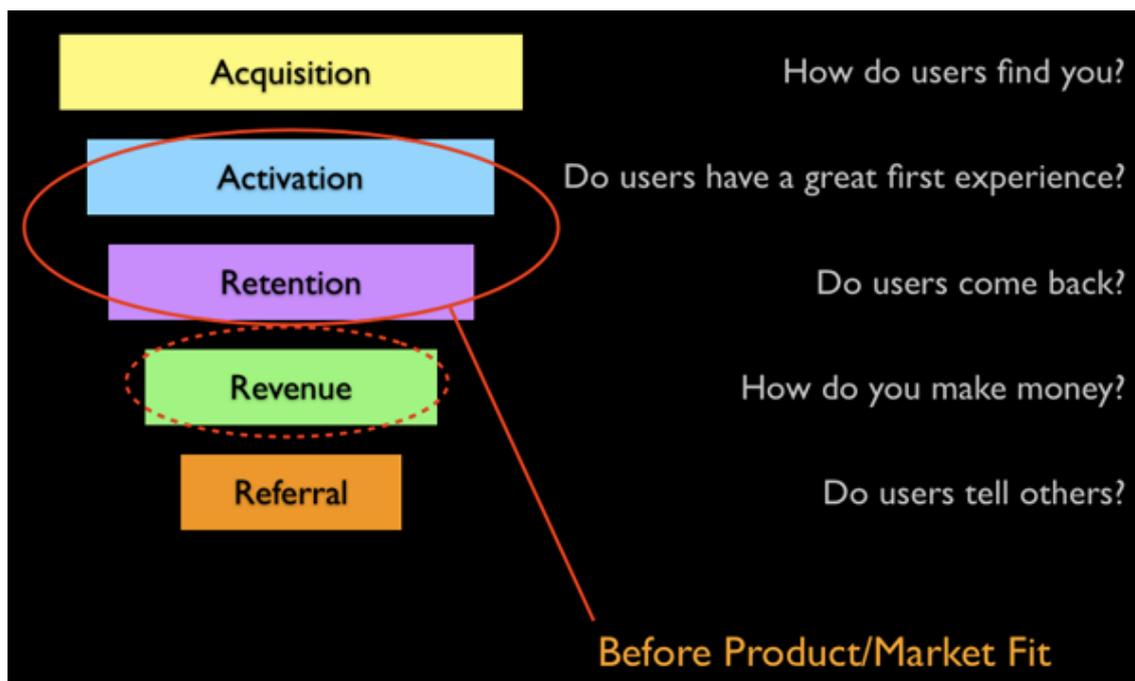
Measuring and analysing the business is critical. The company management needs a way to understand what is happening in the business and react based on that understanding. Metrics and analytics as an area is extremely wide. The title could be used to describe almost anything related to measurement and analysis. I will focus on the following in metrics and analytics:

- 1) metrics and analytics that will support in achieving the product / market fit (the next target for Company Ltd)
- 2) metrics and analytics that are a good fit for the product in question (online consumer service)
- 3) metrics and analytics which are accessible to startups (meaning do not require large investments to be functional)

Dave McClure (2008) defined that there are five key metrics for a startup: Acquisition, Activation, Retention, Referral and Revenue. These metrics are sometimes referred to as the Pirate metrics because the first letters of the five words from the acronym AARRR. Acquisition – where are the user coming from? Measuring how people are finding your product. Acquisition methods include SEO,

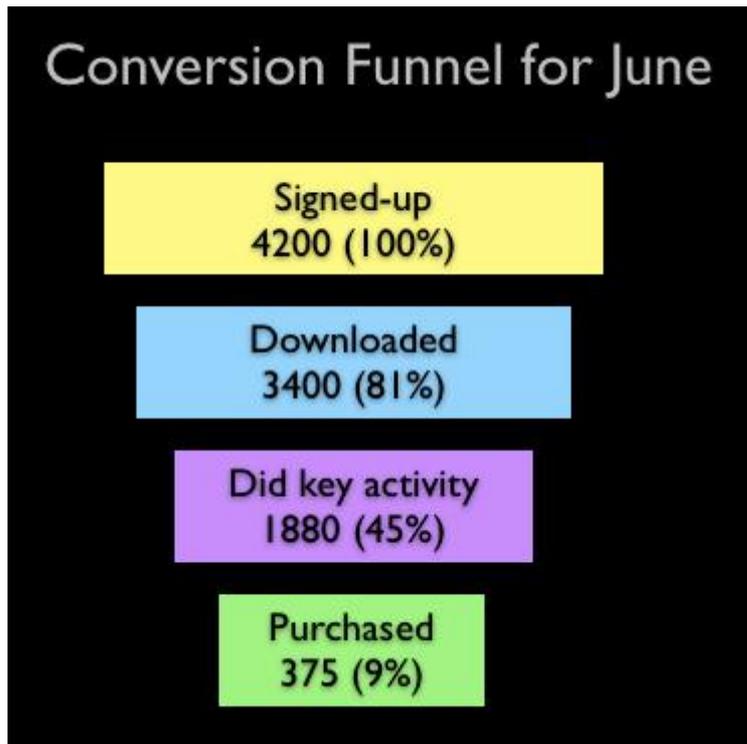
SEM, blogs, email, social media and other web pages. Activation – what do users do on their first visit? Measuring what users do, for example click on something, sign-up for a newsletter, post to social media or something else. Key metrics for Activation are pages per visit, time on site and conversions. A conversion is a wanted action performed by a user. A conversion could be a submitted form, completed purchase or clicked link. Retention – how do users come back and how often? Measuring if users come back and if they do, how often. Key metrics for Retention are source (where are they coming back from), quantity (how often they come back), conversions and session length. Referral – how do users refer others? Measuring if the users are referring the product to other users and if they are, how are they doing it. Revenue – how do you make money? Measuring where the revenue is coming from and what people are paying for. The Revenue metrics and methods are specific for each product and business model.

Maurya (2010) encourages to focus on the Activation and Retention metrics before product / market fit. The metrics areas can be seen in the picture below. Maurya emphasises that before product / market fit is achieving, there needs to be validation that the product is something that customers want. The metrics that measure product appeal are Activation (great first experience) and Retention (users come back). Revenue comes only after the business model has secured the product / market fit. Maximising Acquisition and Referral only makes sense when the product appeal and operation has been secured. The product developed by Company Ltd is a new one without prior validation in the market place. The focus should be to achieve product / market fit as soon as possible. Therefore the focus on metrics should be in measuring Activation and Retention.



Picture 3. Key metrics before product / market fit (Maurya, 2010)

How the Activation and Retention are actually measured depends on the product. In the previous chapter, there were some examples of metrics that can be used with Activation and Retention. However the selection of the metrics needs to be done case by case. For Activation, the metrics should reflect the core functionality and mission of the product. If the product is for example a music service, the metrics should focus on if the users listen to music or perform some other tasks related to the core service. It is beneficial to understand early on how and why people are using the product. If people are using the music service just to chat with other people, there is no need to create the music part, just create the chat part. For Retention, the same approach applies, the metrics need to be relevant for the product. Measuring the source of the re-visits is a good starting point. Understanding if the people are directly coming to the product or through some other media is important. If people are opening a browser and typing the service address, it is a good sign that the service has enough appeal for people to come back on their own. Other usable piece of information is that if some people are coming back to site often, is there a specific action they perform every time. Checking a status or clicking a link every time – these might be clues to the sticky factor in the service.



Picture 4. Example of a conversion funnel (Maurya, 2010)

#### Conversion funnel

Even with the focus on the Activation and Retention metrics, it is beneficial to understand the relation of the different stages. In the above picture, there is an example of a conversion funnel. The example product is a 14-day free trial product. The conversion funnel follows the different stages of the customer journey. Following the funnel it is possible to see that the 100% sign-up ratio is turned into an 81% (of the total user amount) download conversion. 45% of the total users performed the defined key activity and a total 9% purchased the service. From the example, it is possible to see that already over half (55%) of the users are lost before they perform a key activity. From analysing the funnel, it is possible to see stages where users are lost. After learning the stage where users are lost, it allows focus on the stage and learn about possible issues. The conversion funnel is a good tool for creating an understanding of the total customer journey. Looking at the previous example, just knowing the Purchase ratio of 9% is not as valuable as knowing the whole funnel. By understanding the customer lost ratio between

the stages it is possible to focus on fixing the right problems. Focusing on increasing the Acquisition activity (marketing) to drive up sign-ups is not effective if the purchase ratio is very low. The focus needs to be first in fixing the purchase ratio and after that increase the amount of sign-ups (which usually costs money to increase).

### A good metric

Croll & Yoskovitz (2013, 9-12) have defined a set of rules for good metrics. First of all, a good metric is comparative. The possibility to compare a metric to another time period, user group or competitor gives information on what kind of progress is being made. 87% sign-up rate is less informative compared to 2% increase in sign-ups compared to last month. Secondly, a good metric is understandable. People need to understand the metric in order to discuss and act upon it. Using data to drive change, starts from understanding the data. Thirdly, a good metric is a ratio or rate. Croll & Yoskovitz argue that ratios tend to be the best metrics because ratios are easier to act upon, ratios are comparable and ratios can be used to compare opposing factors. An example of opposing factors ratio is distance covered divided by traffic tickets. The faster you drive, the more distance is covered and the likelihood of tickets also increase. This ratio could be used to suggest what the optimal driving speed is. And lastly, a good metric changes behavior. The most important part of the metric is that it needs to change behavior. A metric that is measured should also be acted upon.

### Vanity metrics versus actionable metrics

I found several references to so called vanity metrics. Vanity metrics are mentioned by Croll & Yoskovitz (2013, 13-15), Maurya (2012, 121) and Ries (2011, 128-136). "If you have a piece of data on which you cannot act, it's a vanity metric" (Croll & Yoskovitz, 2013, 13). An example of a vanity metric is total signups. The number can only increase over time. It tells nothing about the user behavior and how they are contributing in the product. There is a possibility that a user has signed up for a service and never returned to the service. An actionable metric, as it says in the name, is a metric which allows action. Total signups could be

turned actionable by changing the metric to total signup during a certain time period. For example, if the company is testing different marketing approaches during one month. First week Twitter campaign, second week Facebook campaign, third week Google AdWords campaign and fourth week LinkedIn campaign. Taking out each of the weeks and comparing them, gives the company actionable metric. After the month, it is possible to rank the different marketing campaigns based on the amount of users they were able to attract. Or even better would be to tie money into the metric and make it a ratio. For example, new sign-ups per euro spent or the cost in euros of signing up a 1000 new users.

There is a list of eight vanity metrics to avoid by Croll & Yoskovitz (2013, 14-15). The list includes the following metrics:

- 1) Number of hits. The hits count is from the early days of the web. It is more preferred to focus on people instead of hits.
- 2) Number of page views. Same as above, better to focus on people unless the business is somehow linked to page views (for example advertising).
- 3) Number of visits. One person visits a hundred times or hundred people visit once? Visit number alone does not allow action.
- 4) Number of unique visitors. Better than number of visits, however it tells nothing about what the visitors did.
- 5) Number of followers/friends/likes. Counting followers is just a popularity contest. Once you can leverage the followers to do some action, then you have something.
- 6) Time on site / number of pages. More time on site is not necessarily a good thing if for example users do not find the needed info easily.
- 7) Emails collected. A big mailing list is nice, however it is important to know how many people read the emails and act based on them.
- 8) Number of downloads. Downloads alone do not create value, it is better to measure account activations or account creations.

The list of eight metrics contains some traditional web metrics. The Lean Startup method is about learning and validating. The analytics approach focusing on actionable metrics supports the goal of learning. The vanity metrics are easy to collect. Actionable metrics are harder to collect and define. For the purpose of learning and progress, it is critical that correct metrics are selected. In case of Company Ltd, it is easy to select vanity metrics for the new service. First visitors, increased page views, longer time on site – these are nice to have metrics which create a false sense of success.

### Lean Analytics Stages

The Lean Analytics Stages is a model introduced by Croll & Yoskovitz (2013, 153-157). The stages are based on the concept that a startup moves through different stages during its lifetime. We could see similar thinking in the startup stages model by Maurya (2012) that was introduced earlier. A startup should understand in which stage it is and focus all learning and progress to enable movement to the next stage. The idea is that rather than focusing on several metrics and targets, the focus should be only in the metrics and progress related to the current stage. According to Croll & Yoskovitz (2013, 153) it is difficult to define the stage where the company is. It is common for the company to overestimate its progress and define the current stage to be a further one than it really is. The Lean Analytics Stages can be seen in the figure below and the stages are: Empathy, Stickiness, Virality, Revenue and Scale.

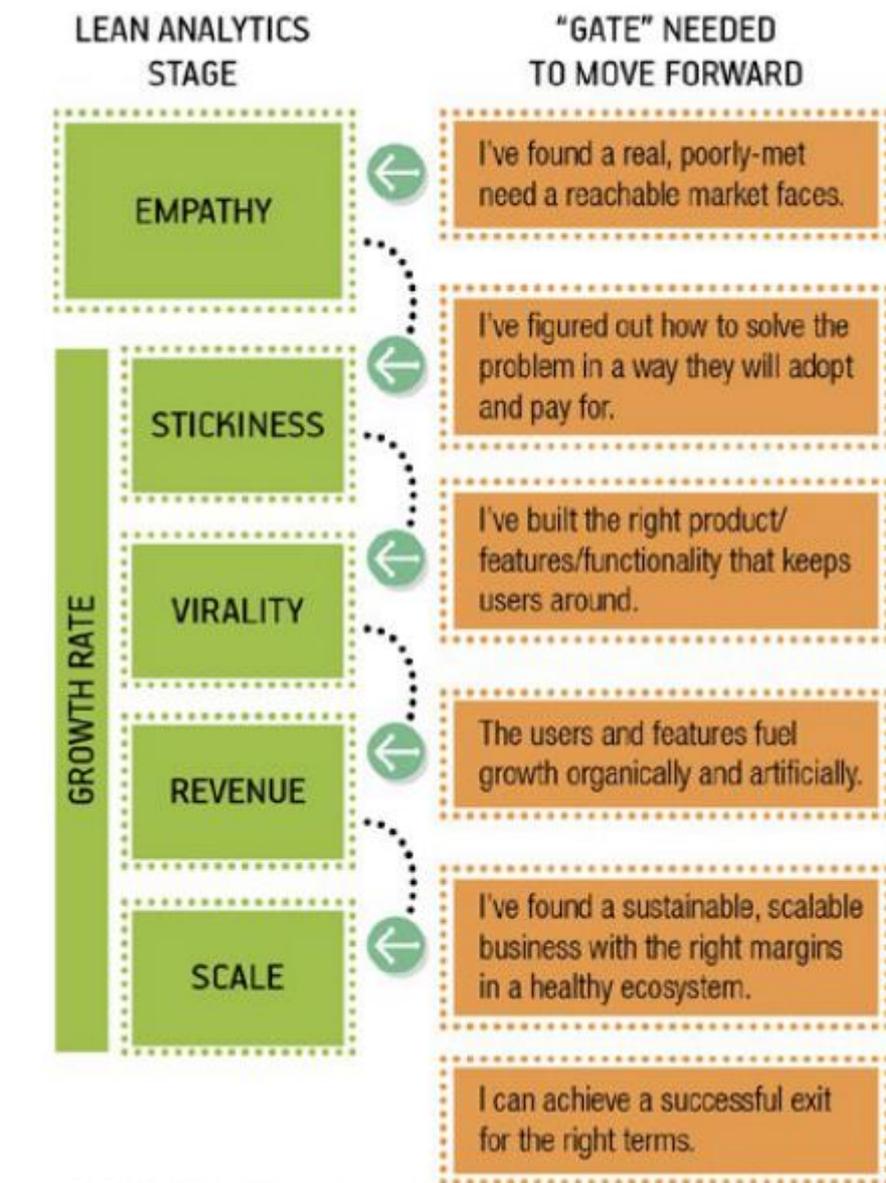


Figure 8. Lean Analytics Stages (Maurya, 2013)

The first stage Empathy is about finding a real problem in the target market. A problem alone is not enough, it needs to be a problem which people are willing to pay to solve. Finding the problem involves interviews, observation and thinking. The second stage Stickiness involves creating a good product. A good product solves a certain problem. A good product not only solves the problem but it looks and feels like something that people are willing to try out and use. In the third stage called Virality, the target is to find a working acquisition model for a working product. It is already established that there is a need for the product and now the

target is to find out how to get the word out. The Virality stage is critical because paid advertising is ineffective if how and why acquisition happens is not understood. The fourth stage Revenue focuses on stabilising revenue for the product. It is possible that customers have paid for the product already earlier. In the Revenue stage revenue creation is made systematic. The last stage Scale is about growing the market for the product. The company has a working product which solves a problem and provides revenue for the company. Now the focus needs to be in scaling: more revenue, additional sales channels, new customer segments and other similar activities.

Comparing the Lean Analytics Stages with the Startup Stages model from Maurya (2012) and Lean Startup method from Ries (2011), it is possible to see a lot of similarities. The ideology is such that a company must first find a real problem which people are willing to pay for. Then the focus is finding the correct solution to the problem. Once the problem and solution are validated, only then is the business scaled. The approach makes a lot of sense as typically the scaling of a business requires a lot of resources. In following the Lean Method and Stages it is possible to minimise the risk of scaling up a business model which will fail in the marketplace.

### One Metric That Matters

OMTM (One Metric That Matters) is term defined by Croll & Yoskovitz (2013, 55). The argument is that the key for startup success is focus. Focus means concentrating on a single metric which is the most relevant for the current stage of the startup. That single metric is the OMTM and all focus should be on the single number. Different stages have require different OMTMs. Different metrics are important when validating a customer problem or when finding a product / market fit. Data collection and OMTM follow-up should be separated however. It is beneficial to collect all possible data even when the focus is on the OMTM. The data is good to have for example to simulate based on actual data or provide the data to other stakeholders. Croll & Yoskovitz (2013, 58) provide four reasons to use the OMTM, the reasons are listed below:

- 1) It answers the most important question you have. At any given time the company is working on several different things. The focus should be on validating the riskiest assumption first and that what the OMTM should be aimed at.
- 2) It forces to draw a line in the sand. There needs to be a way to define success. Drawing a line in the sand is setting a goal based on the OMTM.
- 3) It focuses the whole company. Using an OMTM aligns the whole company under a common target. Departments cannot select metrics which make them look good – everybody needs to make the OMTM work.
- 4) It inspires a culture of experimentation. Experimentation and learning need to be the key activity in a startup. Using a metric that can be focused on and changed when needed is a good way to increase understanding. Flexible use of the OMTM also creates a mindset that failing is acceptable if the result is learning.

Setting up a goal or drawing a line in the sand is needed to complete the OMTM. For example, if the OMTM is new sign-ups per week and the number for last week is 342 – is that good or bad? The number itself is not enough, there needs to be a target level. Setting up the goal is difficult. If the company has a working business model, the target can be related to the business model. For the new sign-ups per week example, the target could be the level which allows the company to break-even. If the company needs 500 new sign-ups per week to stay profitable, the first goal should be 500. For companies which have not yet validated their business model, the goal setting is more difficult. Croll & Yoskovitz (2013, 60) suggest using industry baseline numbers as reference. Benchmarking the other companies in the industry can give a better understanding on what is needed to succeed or what is normal. In case of Company Ltd, the business model is not validated. Also there are limited amount of companies working in the same sector and the products have a certain level of differentiation. In the case of Company Ltd, the target setting needs to be based on assumptions what is needed for a new type of business to stay operational.

## 4 INTERVIEW AND DATA COLLECTION

The product under development by Company Ltd offers several areas for data collection. The identified main data collection areas are shown in figure 9 below.

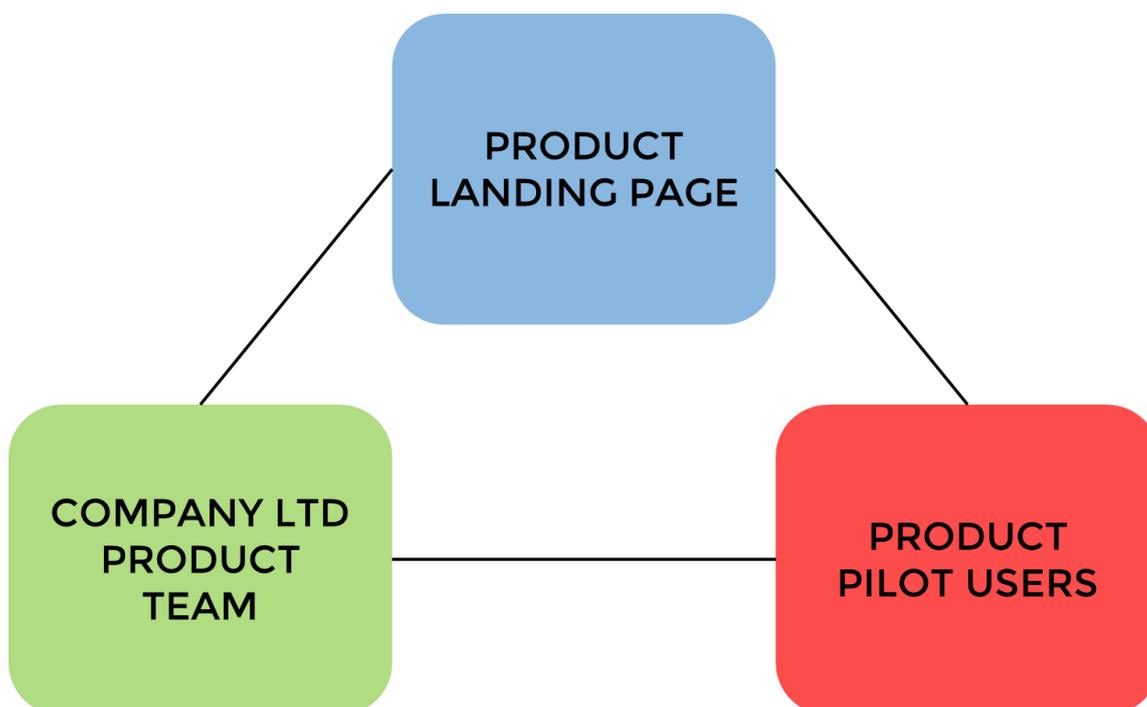


Figure 10. Overview of data collection areas (Järvenpää, 2014)

First of all, the product landing page is critical source for information. The product landing page is a web page that contains information about the product, features and other relevant information. The landing page is online and enables the use of analytics tools to obtain information about the site visitors. The approach is to collect quantitative data from the landing page and analyse the data.

Secondly, Company Ltd has created a pilot version of the product. A pilot version is a preliminary version of the final product. The pilot version contains part of the planned functionality of the product and the pilot version has been made available to a set of pilot users. The pilot users and their experience of the pilot version of the service is a critical source of information. The data collection from the pilot users will be done using one-to-one interviews. Interviews were selected over a

survey due to the manageable amount of pilot users and due to the obscurity of the data in question.

And lastly, the Company Ltd team involved in the product development is an interesting area for data collection. The perceptions, ideas, experience and know-how of the development team is an important source of information. The development team is an interesting data source and also very complex. The development is a small team of seven people. An interview was considered as an option however that was not seen as the optimal approach due to complexity of the information and the high level of access to the team. The difference compared to pilot users is that the team is located in a single place and the researcher has a free access to the team. The approach selected was to create a Lean Canvas in collaboration with the Company Ltd team. In the first phase, the current business model is collected to the Lean Canvas together with the team. The first version of the Lean Canvas is created before the data collection is started and information is analysed in detail. In the second phase, after analysing the collected information, the researcher will update the Lean Canvas together with the development team to make a proposal business model for Company Ltd.

#### 4.1 Business Model: First version Lean Canvas

Company Ltd had already started their product development before the research. The business model was documented using a NABC model (Appendix 1). NABC stands for Needs, Approach, Benefits and Competition. The NABC model was developed by Stanford Research Institute (Oulun yliopisto, 2013). The model is intended to be a light weight description of a new idea or project. The model emphasises the importance of defining the Need for the planned solution. It is important to not mix need with novelty. Company Ltd had discussed with a startup incubator and the request for a NABC document came from the incubator. The NABC document was created for an external need and it was not used in internal planning. The approach was not optimal for running a business. The benefit of

the situation was that there was no existing work method or process affecting the introduction of a new method.

The Lean Canvas was selected as the documentation method for the Company Ltd business model. The first benefit of the Lean Canvas was that the canvas is fairly simple, only one page, the same as the NABC document. It was important for Company Ltd to minimise the work amount related to updating the business model document. The second benefit is that the Lean Canvas offers more versatility compared to the NABC document and offers good overview of the business model.

<b>PROBLEM</b> <ul style="list-style-type: none"> <li>Parents fear for youngster safety</li> <li>Youngsters hate to be under supervision</li> <li>Stats for under 25 year olds: every year 70 killed and 2700 injured</li> <li>Driving and car ownership is expensive</li> </ul>	<b>SOLUTION</b> <ul style="list-style-type: none"> <li>Deal – creation and follow-up</li> <li>Tracks – creation and completion</li> <li>Pictures - sharing</li> </ul>	<b>UNIQUE VALUE PROPOSITION</b> <p>A service which is wanted by parents and accepted by youngsters</p>	<b>UNFAIR ADVANTAGE</b> <ul style="list-style-type: none"> <li>Driving school channels</li> <li>Youngster approval</li> </ul>	<b>CUSTOMER SEGMENTS</b> <ul style="list-style-type: none"> <li>Mothers of 17-25 year olds</li> <li>17 – 25 year old drivers</li> </ul>
	<b>KEY METRICS</b> <ul style="list-style-type: none"> <li>Amount of sold devices</li> <li>Done deals</li> <li>Shared pictures</li> </ul>		<b>CHANNELS</b> <ul style="list-style-type: none"> <li>Driving school</li> <li></li> <li></li> <li>On-line store</li> </ul>	
<b>COST STRUCTURE</b> <ul style="list-style-type: none"> <li>Device + channel cost 101 EUR</li> <li>Hosting 8 EUR / year</li> <li>Sales package 5 EUR</li> </ul>			<b>REVENUE STREAMS</b> <ul style="list-style-type: none"> <li>Stand-alone product, 299 EUR / 3years, GM 30%</li> <li>Insurance, 209 EUR (0eur) / 3 years, GM 24%</li> <li>Driving school, 209 EUR (B1) / 3 years, GM 24%</li> </ul> <p>Model: pay up front for all services</p>	

Figure 11. First iteration of the Company Ltd Lean Canvas (Järvenpää, 2014)

The first version of the Lean Canvas can be seen in the picture above. The Lean Canvas created in collaboration with Company Ltd. The canvas was created on a PowerPoint slide on a computer. The session was a face-to-face meeting where all the Company Ltd team members participated. The total number of participants was six (5 Company Ltd members + the researcher). The session lasted for four hours in total with a 15 minute break after two hours. The Lean Canvas was completely empty at the start of the session with no pre-defined information. The Lean

Canvas was created in the order defined by Maurya (2012, 27). The order of creation is shown in the figure below. Some parts of the Lean Canvas have been hidden as requested by Company Ltd.

<b>PROBLEM</b> Top 3 problems  <div style="font-size: 48px; text-align: center;">1</div>	<b>SOLUTION</b> Top 3 features  <div style="font-size: 48px; text-align: center;">4</div>	<b>UNIQUE VALUE PROPOSITION</b> Single, clear, compelling message that states why you are different and worth buying  <div style="font-size: 48px; text-align: center;">3</div>	<b>UNFAIR ADVANTAGE</b> Can't be easily copied or bought  <div style="font-size: 48px; text-align: center;">5</div>	<b>CUSTOMER SEGMENTS</b> Target customers  <div style="font-size: 48px; text-align: center;">2</div>
	<b>KEY METRICS</b> Key activities you measure  <div style="font-size: 48px; text-align: center;">8</div>		<b>CHANNELS</b> Path to customers  <div style="font-size: 48px; text-align: center;">9</div>	
<b>COST STRUCTURE</b> Customer Acquisition Costs  Distributing Costs  Hosting  People, etc.  <div style="font-size: 48px; text-align: center;">7</div>		<b>REVENUE STREAMS</b> Revenue Model  Lifetime Value  Revenue  Gross Margin  <div style="font-size: 48px; text-align: center;">6</div>		

Lean Canvas is adapted from The Business Model Canvas (<http://www.businessmodelgeneration.com>) and is licensed under the Creative Commons Attribution-Share Alike 3.0 Un-ported License.

Figure 12. Lean Canvas creation order (Maurya, 2012)

The first version of the business model for Company Ltd assumes that customers are willing to pay for a Problem related to the higher risk of injury for unexperienced drivers. There are two Customer segments, the first one is the mothers of the young drivers and the second are the young drivers themselves. The assumption is that both segments are needed for a successful product: the mothers are paying for the product and the young drivers are the users of the product. The Unique value proposition assumes that by using elements of gamification and social media it is possible to create a product which the young drivers are willing to use. The Solution offers a way for the young drivers and mothers to make rules about the car usage and driving. There are tasks for the young drivers to increase their driving skills and functionality to share images related to the driving.

The Unfair advantage is assumed to be two folded. First of all, using driving schools as channels will provide nationwide reach in Finland. Secondly, getting approval and acceptance from the young drivers will provide the product a significant upper hand compared to products aimed for parents only. The Revenue streams rely on selling the product before customers get to use it. There are three versions of the product: stand-alone, car insurance bundle and driver’s license bundle. After paying for the product, the customer is able to use the product for three years. Three years was selected due to the fact that it was seen as enough time to gain adequate driving skills. The main part of the Cost structure is related to the measurement device required for the product to work. Other costs related to the hosting of the online service and packaging and other requirements related to a B2C product. The Key metrics selected for the business model are 1) the amount of sold products, 2) the amount of completed deals in the service (a specific functionality in the service) and 3) the amount of shared images in the service. The team identified and selected several Channels for the product. The channels included driving schools, own online store and two other channels.

<p><b>PROBLEM</b> <sup>2</sup></p> <ul style="list-style-type: none"> <li>Parents fear for youngster safety</li> <li>Youngsters hate to be under supervision</li> <li>Stats for under 25 year olds: every year 70 killed and 2700 injured</li> <li>Driving and car ownership is expensive</li> </ul>	<p><b>SOLUTION</b></p> <ul style="list-style-type: none"> <li>Deal – creation and follow-up</li> <li>Tracks – creation and completion</li> <li>Pictures - sharing</li> </ul> <p><b>KEY METRICS</b></p> <ul style="list-style-type: none"> <li>Amount of sold devices</li> <li>Done deals</li> <li>Shared pictures</li> </ul>	<p><b>UNIQUE VALUE PROPOSITION</b></p> <p>A service which is wanted by parents and accepted by youngsters</p>	<p><b>UNFAIR ADVANTAGE</b> <sup>3</sup></p> <ul style="list-style-type: none"> <li>Driving school channels</li> <li>Youngster approval</li> </ul> <p><b>CHANNELS</b></p> <ul style="list-style-type: none"> <li>Driving school</li> <li>[REDACTED]</li> <li>On-line store</li> </ul>	<p><b>CUSTOMER SEGMENTS</b></p> <ul style="list-style-type: none"> <li>Mothers of 17-25 year olds</li> <li>17 – 25 year old drivers</li> </ul>
<p><b>COST STRUCTURE</b></p> <ul style="list-style-type: none"> <li>Device + channel cost 101 EUR</li> <li>Hosting 8 EUR / year</li> <li>Sales package 5 EUR</li> </ul>		<p><b>REVENUE STREAMS</b> <sup>1</sup></p> <ul style="list-style-type: none"> <li>Stand-alone product, 299 EUR / 3years, GM 30%</li> <li>Insurance, 209 EUR (0eur) / 3 years, GM 24%</li> <li>Driving school, 209 EUR (B1) / 3 years, GM 24%</li> </ul> <p>Model: pay up front for all services</p>		

Figure 13. The top three riskiest assumptions for the first version Lean Canvas of Company Ltd (Järvenpää, 2014)

According to Maurya (2012, 49) the next step after completing the nine boxes in the Lean Canvas is to recognise the riskiest assumptions. The top three riskiest assumptions for Company Ltd first Lean Canvas can be seen in the figure above. The team evaluated that the riskiest assumption is related to the Revenue streams. The cost of several hundred euros is not an insignificant amount to majority of the consumers. It was recognised that the pricing was a top priority when validating assumptions. The second riskiest assumption was the Solution itself. The team had not recognised a similar existing solution and there was no clear benchmark for the product. Whether the team has made the right assumptions based on the Problem was unknown. It was a common agreement that the Solution would need to be validated as soon as possible. The third riskiest assumption was related to the duality of the customer segment. The team had recognised that the service was targeted for young drivers and the assumption was that these young drivers would not have sufficient financial resources to acquire the service. Therefore the young drivers would need someone else to pay for the service and the team identified the drivers' mothers as the most feasible payer. A model where the user and the payer are not the same person or company contains risk. Both segments need to be convinced that there is benefit for them. It was agreed that the Customer segment assumption needed to be validated before market entry.

#### 4.2 Interviews: service pilot users

The purpose of the interviews was to find information to validate the top three riskiest assumptions related to the created Lean Canvas. The pilot services users are a key target group for the interviews due to the fact that they possess knowledge related to using the service and because the part of the interviewees represent the main target segment.

##### Interview plan

The total number of interviewees was 9. The 9 people were selected among the 25 pilot service users. The interviewees have a similar exposure and usage time

for the service, ranging from 3 to 6 weeks. The interview group consists of both female and male drivers. The main differentiating factor among the interviewees is the amount of driving experience. There are two different groups, defined as experienced drivers and new drivers. The experienced drivers group has 15+ years of driving experience each and the new drivers group has 0 to 1 years of driving experience. It was recognised that there was no experienced female driver in the interview group. The reason was that there were no pilot service users that filled the specific requirements.

Table 3. Interview plan (Järvenpää, 2014)

#	Name	Gender	Age	Driving experience in years	Pilot service usage in weeks
Experienced drivers					
1	JU	Male	41	23	3
2	SK	Male	39	21	5
3	AV	Male	36	17	4
4	LP	Male	35	16	6
New drivers					
1	KP	Male	20	1	3
2	LS	Female	19	0	6
3	AH	Male	18	0	6
4	NH	Female	18	0	4
5	AP	Female	19	0	3

The interview related information for all the interview group members can be seen in the table above.

#### Interview practicalities

The interviews were conducted as phone interviews during the time period between April 2014 to May 2014. All of the interviews were conducted in the Finnish language. The interviews were scheduled beforehand by email. The interview time was selected so that the interviewee would have 30 minutes time to fully focus on the questions and discussion. The interview duration changed between 20 to 30 minutes depending on the interviewee. The interview consisted of 14

main questions and 2 background questions. The interviews had no forced structure, the interviewees were allowed to share their opinion freely even if the topic was not specifically asked. The interview questions can be found in Appendix 2. No payment or reward was promised or delivered in association of the interviews.

#### Interview analysis

The interviews were analysed for similar terms and elements. The summary of the recognised keywords and phrases can be seen in the table below. A keyword was selected when the specific keyword or a synonym was mentioned in the interview. Also phrases that were deemed as unordinary and interesting were selected to provide further information about the service.

Table 4. Interview analysis summary (Järvenpää, 2014)

<b>Experienced drivers: summary</b>	<b>New drivers: summary</b>
<b>Device installation:</b> Easy How to find OBD port No problems	<b>Device installation:</b> Easy OBD location checked online Father installed
<b>Starting to use service:</b> Straightforward and easy Registering failed first, then fixed	<b>Starting to use service:</b> No problems Did not accept code first Did not understand service at first
<b>Set-up instructions:</b> Not clear Manageable Many features not understood	<b>Set-up instructions:</b> No instructions provided
<b>Effort versus reward:</b> Yes Okay	<b>Effort versus reward:</b> Yes Reasonable

<p><b>Difficult / not completed tasks:</b></p> <p>No</p> <p>Page loading very slow sometimes</p> <p>More clarity: do not understand all</p> <p>Don't get it how the service works</p>	<p><b>Difficult / not completed tasks:</b></p> <p>No</p> <p>Could not find Friend view at first</p>
<p><b>Interesting areas:</b></p> <p>Focusing on the driver</p> <p>Easy to start using</p> <p>Seeing driving pattern</p> <p>Want to follow driving amounts</p> <p>Looks really good for beta</p>	<p><b>Interesting areas:</b></p> <p>Scared by red light</p> <p>Looks interesting</p> <p>Want to see my progress as driver</p> <p>Nice to see where I've been</p> <p>Do my parents see my driving</p>
<p><b>User experience:</b></p> <p>Simple</p> <p>Forgets the service easily</p>	<p><b>User experience:</b></p> <p>Map looks nice</p> <p>Driving feedback is nice</p> <p>Waiting for friends to join</p>
<p><b>Likes and dislikes:</b></p> <p>Simplicity</p> <p>More features if bought self</p> <p>More features needed</p> <p>More clarity to existing features</p> <p>Feedback on driving: nice</p> <p>No social element: disappointing</p> <p>How hard brakes are measured</p>	<p><b>Likes and dislikes:</b></p> <p>Easy to get working</p> <p>Don't understand driving feedback</p> <p>Mobile usage did not work</p> <p>Like to see my routes</p>
<p><b>Missing features:</b></p> <p>Sharing location of the car</p> <p>Self-explanatory service</p>	<p><b>Missing features:</b></p> <p>Fuel consumption</p> <p>Profile picture</p> <p>Way to see how ecological driver</p>
<p><b>Pricing:</b></p>	<p><b>Pricing:</b></p>

Okay Too expensive for current features Monthly payment better	Too expensive Cannot afford it Parents could pay
<b>Net Promoter Score:</b> 8, 9, 8, 10	<b>Net Promoter Score:</b> 9, 8, 8, 8, 5
<b>Proposals to ease service start:</b> Nothing comes to mind OBD port location Automatic device & account pairing Bigger font for IMEI code	<b>Proposals to ease service start:</b> Nothing comes to mind
<b>Gamification:</b> Good idea New type of service, good Needed for people to keep using	<b>Gamification:</b> Love it, want to be better Good idea but work needed Okay, makes it more interesting
<b>Other observations:</b> Random bugs	<b>Other observations:</b> Nothing comes to mind Boring to use alone Always get red light in service Sometimes failed to log driving

### Reliability and validity

The interviews and the discussion took place in a certain time with certain experience of the service. It is not realistic to assume that the exact same results and discussion could be duplicated. The interviews were conducted over the telephone which means the body language and overall feeling of the room could not be taken into account. The interviewer was not an experienced interviewer which means that some information or details could have been lost due to lack of experience.

The interviews showed that there was a genuine interest towards the service and based on that the assumption is that the interview participants shared their opinions in a best possible manner. On the other hand, it needs to be taken into account that people try to change the world into their favor. Meaning that they want to product or service to contain features which are beneficial to them. Due to the fact that the purpose of the interview was to gain personal opinions of service users, this is not a major issue.

#### Findings and observations

The interviews provided additional information on several different areas related to the demo service. First of all, the service and product set-up is seen as easy and manageable. Although some users faced problems in the set-up, they were due to software errors and not related to the user experience flow itself. Although people were able to complete the installation, they would have wanted to have an instruction manual. No specific manual or guidance was provided for the service users.

Secondly, there seems to be some issues of understanding the service and being able to use it. This is a severe issue and needs to be understood more thoroughly. Some of the users do not understand how the service works and where to find certain functionality. The lack of understanding also reflects to the perception of the pricing. All of the new drivers see the pricing as unacceptable and are not willing to pay for the service themselves. For the experienced drivers, some are willing to pay the estimated price for the service. However, the majority of the experienced drivers are not willing to purchase the product with the current feature set and functionality. The issue is not about the cost, it is more related to the gained value: there is a cost / value mismatch.

The service itself gets good feedback for the style of service interface. The interface is seen as modern and simple. The problem with the user interface is that some of icons and features are not self-explanatory and people are not able to use that part of the service. The overall idea of the service gets great feedback. People like the fact that they can receive more information about their driving

patterns and car usage. The current execution however is not meeting the needs of the users. The gaming aspect and point system is not clear. People do not understand how the points, behavior and other gaming elements are working. Also the expectation of social element in the service is huge, especially in the new driver group. The drivers want social features and functionality, they want to share the experience.

The riskiest assumptions for the Company Ltd were identified to be in the Solution (product), Revenue Streams (pricing) and Customer Segments (customer) areas. After analysing the interview results, it can be seen that the Customer Segment is correct. There is much interest for this type of service and there is an interest to use a driving service. For the Solution part, there are clear gaps in the current solution. Lack of social functionality, unclear features and user interface and a complex gaming and points system, all result in a mixed feedback for the solution. The solution is not a total failure: the user interface style is appreciated as well as the fact that the driving information is available in the service. The Pricing area is also problematic and needs further work. The pilot service users are not willing to commit to a 300 euro initial cost. The pricing needs to be more flexible, for example monthly payments. It is also possible that a lower initial total cost could be acceptable.

#### 4.3 Data collection: service landing page

The main driving principle behind the Lean Startup method is to maximise learning. The interviews conducted with the pilot service users provided valuable information to support the product and business model development. The pilot service users were handpicked in the first place and the interview participants were selected among the pilot service users. Another data point was needed to gather service targeted for younger consumers gives a set of options in gathering more information. The researcher saw leveraging social media in a targeted data collection activity to be the optimal solution. The main reasons for the selection was the high percentage of social media usage among young consumers (eBrand,

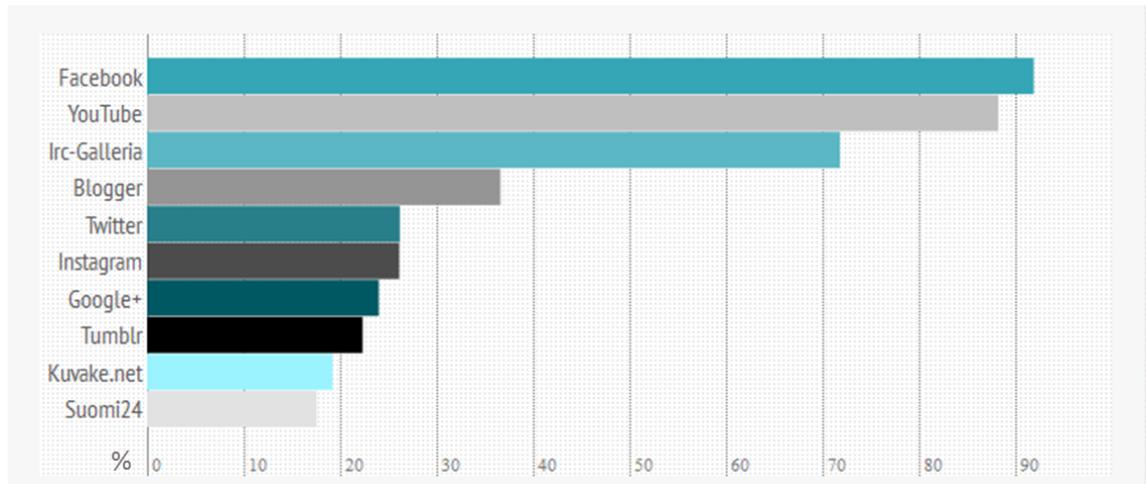
2013) and the significantly lower cost of social media advertising compared to traditional media. The interviews were targeted to gather more information about the service user experience, service content expectations and value versus cost perception. The service landing page data collection targets to understand the following areas better:

- a) attention and overall interest: does the service spark interest in the target segment
- b) service related messaging: what type of marketing message is explanatory and interesting
- c) pricing and interest to buy: what is the perception of the cost and are people willing to commit to the service
- d) status of Pirate (AARRR) metrics: compare the collected data against the AARRR metrics in a best possible way

The Pirate metrics cannot be fully validated because the actual service is not available for consumers meaning the Pirate metrics need to be customised for the available data. The learning from the interviews was that there is an initial interest for the service and especially the younger drivers were not willing to commit to the planned pricing. It will be interesting to compare the learnings from the interviews with the results from the landing page data collection.

#### Data collection plan

The plan is to utilise social media to gather consumers and expose them to a dedicated landing page that introduces the service. Facebook will be used as the social media platform. A study conducted by eBrand (2013) on social media usage among 13-29 year olds supports the selection. Facebook is one of the leading social media services in Finland among younger people. YouTube is a popular service as well, however the advertising opportunities on Facebook are more versatile. Facebook also uses more static advertisements and there is no need to create a video type of ad which would be the optimal case if YouTube would be used. Summary of the most popular social media services from the eBrand study can be seen in the picture below.



Picture 5. Social media usage among 13-29 year olds in Finland (eBrand, 2013)

The overview of the landing page data collection set-up is defined in the figure below. The plan is to use Facebook advertisements to drive traffic to landing page implemented using WordPress. The WordPress site will have Google Analytics integrated to provide statistics of the site usage and the Mail Chimp service will manage subscriptions for additional information or purchase.

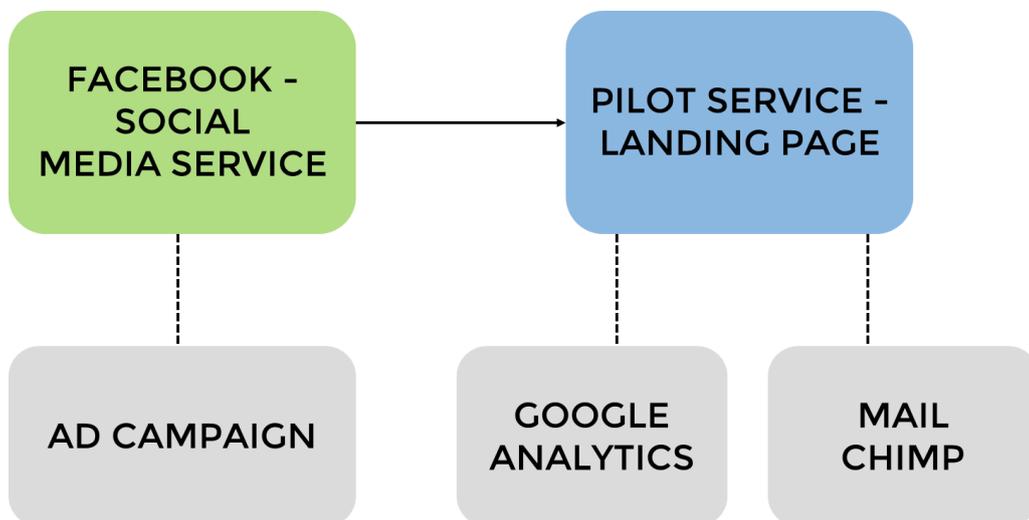


Figure 14. Landing page data collection overall set-up (Järvenpää, 2014)

The data collection was conducted over three week period in May 2014. Three weeks were seen as a sufficient amount of time to establish initial trends while

keeping the advertisement campaign costs down to a minimum. Google Analytics, Mail Chimp and WordPress are free tools and did not cause any additional costs. The Company Ltd had their own hosted site and that was selected to be used in the data collection effort. A new domain was established to be used in the data collection effort. Company Ltd requested that the company own site was not used or referenced in the data collection.

### Data collection practicalities

Majority of the work related to the landing page data collection was related to the set-up and preparation. The actual data collection was automatic and the only work involved was making sure the system including analytics was up and running throughout the data collection period.

For the Facebook advertisement, the Adverts Manager service needs to be activated in Facebook. The service requires a valid credit card and a Facebook account. After the Adverts Manager is activated, it is possible to start creating Facebook ad campaigns. A simple advertisement was created with existing knowledge of the service. The advertisement can be seen in the picture below.



Picture 6. Consumer facing ad used in Facebook campaign (Company Ltd, 2014)

The ad was selected to be shown only in Finland and with users that are 17-24 years of age. The age range was selected to cover the potential customer segment of younger drivers. There is an option to focus the advertisement to Desktop or Mobile devices. The selection was not limit the device platform, although the expectation was that the target consumer segment would be highly focused in mobile usage. The Facebook ad was selected to be shown in the Facebook Newsfeed of the possible locations for the advertisement.

The purpose of the Facebook ad was to create enough interest in the target segment so they would click on the ad and follow a link to the landing page that describes the service. The landing page contains a short introduction to the service, description of the service key features with images, pricing options and the possibility to sign-up for additional information. The short introduction and pricing option views can be seen in the pictures below.



Picture 7. Service landing page: sample view of opening page (Company Ltd, 2014)



Picture 8. Pricing view of the service landing page (Company Ltd, 2014)

There are three pricing options on the landing page: 1 month, 12 months and 24 months. The content of the service in each is the same. The only difference is in the monthly pricing. Committing to a longer service time will decrease the monthly pricing. This type of pricing was selected to be tested after analysing the feedback from the interviews. The feedback from the interviews was that customers are not willing to commit to a large, up-front payment for the service. The indicated price in the interviews was 300 euros. If a visitor would click one of the payment options, they would be asked to provide their email. The email information would then be stored in the Mail Chimp service to a corresponding list.

The feature descriptions combined of two sections: a short description of the feature and picture of the functionality. The target of the feature descriptions were to provide enough information for the consumers so they would have the possibility to decide whether the service was to their liking. Features that were already identified and developed were selected to be placed in the landing page. Company Ltd selected the features and imaged based on their best available knowledge. The landing page also contained a simple email form where the visitors could leave their e-mail if they were interested to receive additional information about

the service later on. If the visitor filled the additional information form, then the email info would be stored in the Mail Chimp service to a list created for additional info subscribers.

### Data analysis

Extracting data from the Facebook, Google Analytics and Mail Chimp online tools is fairly simple. The main collected data items can be seen in the tables below. For the Facebook ad related data, the most important information is Frequency (how many times a single person saw the ad), Unique Clicks (how many separate people activated the advertisement) and Click-Through-Rate (how many percentage of the people who saw the ad clicked). The Reach information would be valuable if CTR would not be available.

Table 5. Facebook statistics for data collection period (Järvenpää, 2014)

Reach ⓘ	Frequency ⓘ	Impressions ⓘ	Clicks ⓘ	Unique Clicks ⓘ	Click-Through Rate (CTR) ⓘ
<b>24,851</b> People	<b>1.16</b> Per Person	<b>28,870</b> Total	<b>1,417</b> Total	<b>1,144</b> People	<b>4.908%</b> Per Impression

For the Google Analytics information the main data points are: Users (how many people visited the landing page), Avg. Session Duration (what is the average time a visitor spent on the landing page), New Visitor / Returning Visitor (what is the split between new and returning visitors)

Table 6. Google Analytics stats from landing page (Järvenpää, 2014)



The Mail Chimp information was divided into separate lists. Summary of subscribers per list is collected in the table below. There were four different lists in Mail Chimp: Additional info, Purchase 1 month, Purchase 12 months and Purchase 24 months.

Table 7. Mail Chimp stats from landing page (Järvenpää, 2014)

List	Amount
Additional info	144
Purchase 1 month	1
Purchase 12 months	0
Purchase 24 months	0

#### Reliability and validity

The created Facebook ad and service landing page were the subjective versions created for the specific purpose. It is difficult to take into account how the results would be affected with different versions of the “tools”. The advertisement and landing pages were implemented by professionals. The look and feel of both the ad and the landing page are modern and clear. It is the assessment of the researcher that the ad and landing page represents well the type of marketing a standard consumer could face from an established business.

The Facebook, Google Analytics and Mail Chimp online tools can be verified to be very reliable. All of the tools have warning systems if the system is down for some reason. No errors or downtime was registered during the three week data collection period. The Company Ltd team and the researcher did daily checks on the system to see whether data collection was up and running. No problems were encountered during these daily checks.

The data collected from the landing page experiment is from a much larger group of people compared to the interviews. With a larger base of people, it becomes less and less likely that an individual person can affect the outcome significantly. When the interviews were conducted with a total of 9 people, the landing page

data collection activity was visible to thousands of different people when looking at it from the advertisement exposure perspective.

### Findings and observations

The three week data collection effort provided interesting data. Looking at the Facebook advertisement data, it can be assessed that the advertisement was effective and completed its task of driving visitors to the landing page. The Facebook ad had a Click-Through-Rate of 4.9%. The average CTRs for Facebook ads can be seen in the figure below. The Facebook ad type which was used in the service landing page data collection ad is highlighted with a red circle in the figure.

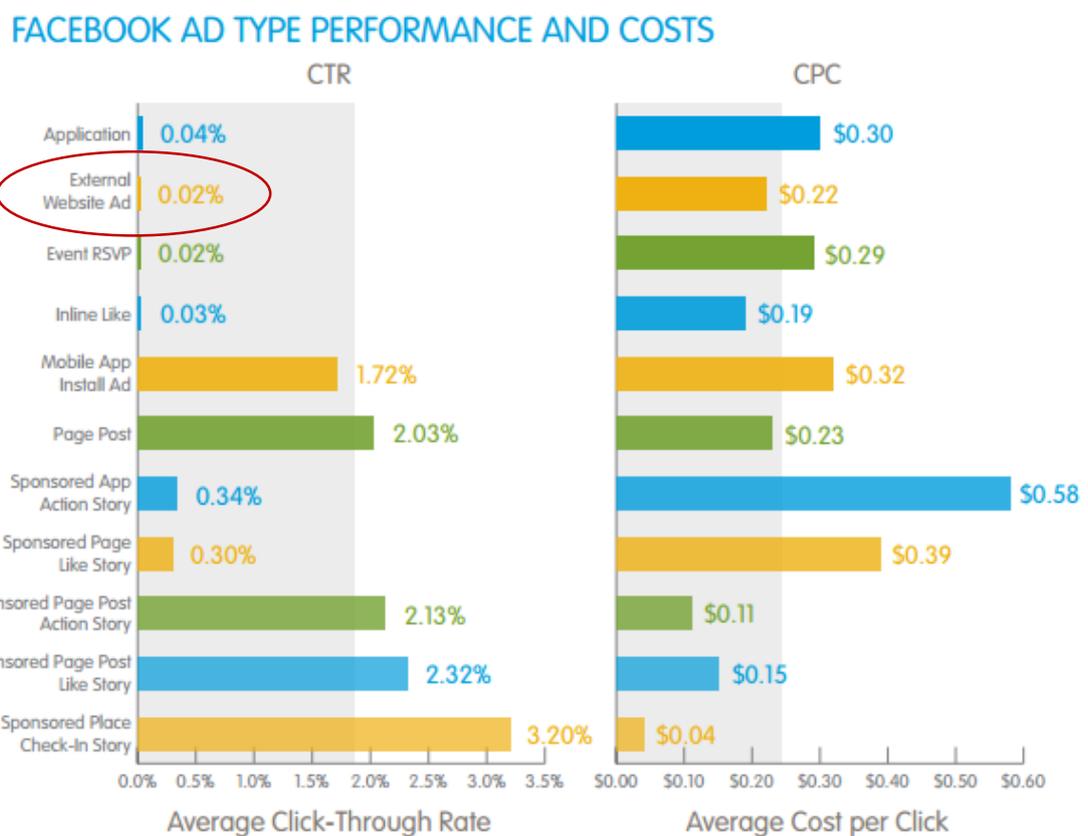
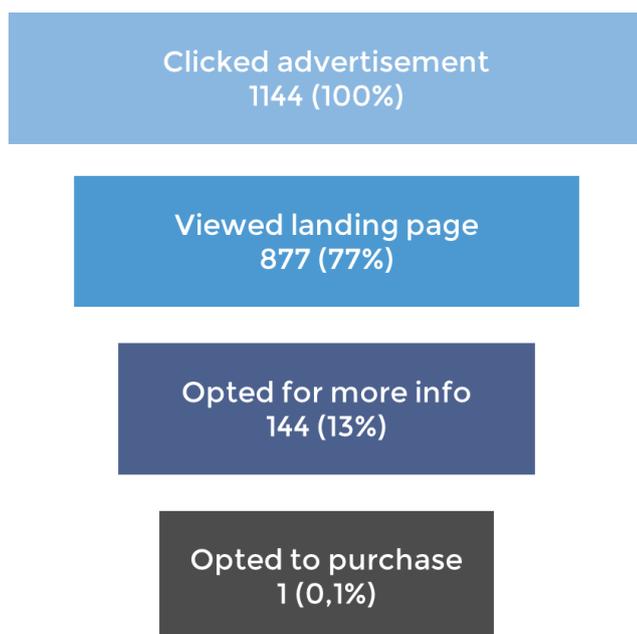


Figure 15. Average Facebook ad performance by ad type (Salesforce.com, 2013)

The CTR for the service landing page ad is significantly higher compared to the average Facebook ad. There is a clear interest towards the service. However, it must be taken into account that people clicking the advertisement have very little knowledge of the actual service. Therefore it can be argued that people have a genuine interest towards the perception of the service. It can also be argued that

the domain where Company Ltd is operating and build a service is interesting for the target consumers.

Moving beyond the Facebook ad and looking at the landing page related data provides further information. In the below picture, there is summary of the landing page conversion funnel that is made after the Maurya (2010) example.



Picture 9. Service conversion funnel based on Maurya model (Järvenpää, 2014)

The Facebook ad with the 4.9% CTR provided 1144 unique clicks. 77% (877 people) opened and viewed the service landing page. 23% of the people who clicked the advertisement either cancelled the landing page loading or there was some other type of error (example missing data connection) that prevented them from viewing the page. The landing page is a separate web page and there is the risk that people are less likely to view pages that move away from the actual Facebook application or page. 23% is a high number, however it is manageable as over  $\frac{3}{4}$  of the advertisement clickers move to the page. One possible future action is to make sure that there are no restrictions or limitations in the landing page which prevent people from viewing it.

The number of people opting to have more information was 13% of the total amount of ad clickers and 16% of the people who viewed the landing page. There

was clearly less interest to know more about the service beyond the landing page. The reasons for the lack of interest need to be evaluated. One possible reason for the lack of interest is the fact that the Facebook ad sparked interest and the actual service did not meet the viewer expectations. A key finding is that only 0.1% of the people who clicked the Facebook ad were willing to commit to purchasing the service. The figure is very low and it is not reasonable to launch the service with the current capabilities and business model. The fact that the more info and purchase figures are low means that the service is either not understood or not needed as such.

It is also worth to notice that the change in the pricing model (300 euro bulk price compared to monthly payments) seems to have had no significant impact. The fact that there are few people who want to know more about the service points to the direction that there is something wrong with the value proposition or features of the service. Even with the wrong pricing, an attractive service could be assumed to attract interest for additional info.

The average session time per viewer in landing page is 2 minutes and 3 seconds. The figure indicates that majority of the people have read the material in the landing page and spent a fairly substantial amount of time studying about the service. The time spent in the landing page tells us that the Facebook ad was interesting enough for people to visit the landing page. The landing page look and feel continued to support the interest. The fact that visitors were unwilling to opt for additional info and even less willing to purchase is an indication that the visitors did not like what they saw on the landing page. The issue causing the lack of interest might be on the fact that a) the service content is not interesting or b) the service content was presented in a way that it was not understood. Interesting fact is that  $\frac{1}{4}$  landing page visitor returned to the landing page. The information is less useful without additional information on the reasoning why the users returned. One possible future action would be to set-up a recognition for returning visitors and through that option try to find more info about reasons for return.

To summarise, the perception of the service seems to create interest in the target consumer segment. The Facebook ad was a success and converted a good

amount of visitors for the landing page. Landing page visitors spent a good amount of time learning about the service through the landing page. The first large drop in the conversion funnel happened when visitors were asked to opt in for additional info. The amount of people requesting additional info was significant, however much lower compared to people visiting the landing page. The second drop in the conversion funnel was dramatic. Only 0.1% of the ad clickers were willing to opt in for purchase. The ability to create interest for the service seems to be well in order. The main issues are converting people to the service mailing list and to purchase.

The results from the landing page data collection re-enforce the results received from the interviews. The interviews showed that there is interest for the service in the Customer Segment but there was issues in understanding the Solution and accepting the pricing (Revenue Streams). Through the landing page experiment, a new pricing option was tested. The new pricing option provided no improvement in the acceptance of the service pricing. The pricing needs to be reworked in the business model. The Solution area also needs to be re-considered. The landing page showed that the service is operating in an interesting domain. However the current value proposition or feature set is not meeting the customer expectations. The Facebook ad showed that the Customer segment is interested in the solution domain. Also the Customer segment needs to be re-considered if there is no commitment to pay for the solution among the targeted customers.

#### 4.4 Business model: Updated Lean Canvas

The purpose of the user interviews and landing page data collection was to validate the riskiest assumptions of the first Lean Canvas. Based on the analysis done on both interviews and landing page data, the Lean Canvas needs to be reworked extensively. Due to the fact that none of the three riskiest assumptions could be successfully validated, it was decided together with the Company Ltd product team to create a new Lean Canvas. The team was free to do any changes to the new Lean Canvas, the only target was to find a Lean Canvas that the team

was willing to commit to and was ready to start validating. The learnings derived from the first Lean Canvas validation were used as a baseline for the new Lean Canvas. The new version of the Lean Canvas can be seen in the picture below.

<p><b>PROBLEM</b> 80% of drivers claim to be better than average</p> <p>No easy way to compare who is the better driver</p> <p>Electric and hybrid car owners want to show they have better cars</p>	<p><b>SOLUTION</b> Driving journal – track your routes</p> <p>Challenge – compete with yourself</p> <p>Community – compare to friends</p>	<p><b>UNIQUE VALUE PROPOSITION</b> Evaluate your own driving and challenge your friends</p>	<p><b>UNFAIR ADVANTAGE</b> Modern and simple look and feel</p> <p>Information combined with gamification</p>	<p><b>CUSTOMER SEGMENTS</b> Tech freaks</p> <p>Electric and hybrid cars</p>
<p><b>COST STRUCTURE</b> Data            5 EUR / month / user</p>	<p><b>KEY METRICS</b> User count</p> <p>Average amount of friends in the service</p>		<p><b>CHANNELS</b> Landing page On-line store</p>	

Picture 10. New Lean Canvas proposal after data review (Järvenpää, 2014)

The new Lean Canvas is a very different compared to the original Lean Canvas. Starting from the Revenue Streams, the business model changed from an approach where the consumer was the buyer to offering the solution through a B2B partner. The Revenue Stream assumes that the service can be sold to a B2B partner and the service would be offered to consumer for free. The Cost structure also changed from an own hardware solution to outsourced one. The plan is to buy data needed to create the service from a 3<sup>rd</sup> party operator. The approach reduces initial capital risk and offers the possibility to lower the purchase price for the B2B partner.

The learning from the interviews was that there is interest for the service from both younger and more experienced drivers. The assumption is that the average purchasing power of the experienced drivers is considerably higher. Therefore the Customer segment focus is shifted more to early adopters and technology enthusiasts. The Solution was not successfully validated based on both the inter-

views and landing page data. The new direction is to focus more on the gamification features and add social elements to the service. Based on the interviews, the social elements were seen as mandatory especially by the younger drivers. The Unfair Advantage is built on the look and feel of the service. The service received good feedback in the interviews for the user interface and appearance. Also the gamification elements need to be a competitive advantage compared to services that offer only information and other rational benefits.

## 5 ANALYSIS

Success is the one goal that all companies are working towards to. Revenue, market share, brand valuation are items that might or might not be in the company agenda. Success is always on the agenda because no company is working to fail deliberately. Failing however is natural. Failing is a possible result when creating and doing something new. The Lean Startup method welcomes the idea that failure is always possible. The traditional business planning relies on the fact that enough work, knowledge and resources will guarantee success. However, the opposite has been proven to be correct with numerous examples of large and small companies failing even with the three elements in place.

The Lean Startup method does not guarantee success. The ideology is to advance in stages and only move on when a certain milestone is achieved. Through working in stages, it is possible to minimise the needed resources. Discovering an actual Problem through customer development requires significantly less resources compared to Scaling a working solution. The ultimate purpose is to learn using as little resources as possible.

### 5.1 Lean Startup method and business model creation

The Lean Startup method is an easily understandable concept. The method is based on a single book written by Eric Ries. However there are a lot of authors, both digital and paper, who have contributed on the concept. There are no significant studies and proof that the concept is somehow superior. A certain level of validation can be granted due to the fact that the Lean Startup method has gained global adaptation from startups.

The Lean Startup method is a framework and a mindset. The model does not define how to do the actual work. Validating assumptions on the Lean Canvas is one example. The method for validating the assumptions can be decided by the team. One of the benefits of the method is proposing a market based validation without building the actual product.

## 5.2 Company Ltd service development

It is the view of the researcher that the business model for Company Ltd is not ready. The first version of the business model described with the Lean Canvas did not pass the validation. The interviews and landing page showed that the assumptions made by the team were not correct. The second version of the business model and Lean Canvas has been created based on the acquired learnings. However the model has not been validated in any manner. The researcher sees that a same or similar validation method could be used for the second version of the business model as well.

The Company Ltd used a NABC document for business model documentation before the research. The Lean Startup method has provided a simple method for business model documentation which is actionable. It was difficult or impossible to derive clear actions from the NABC document. It is the opinion of the researcher that starting to use the Lean Startup method is simple and straightforward. Automating the Lean Startup working model is possible through more experience and practice. Before the working model is automated, the tools and guidance provided with the model should be kept available for the Company Ltd.

Through the adoption of the Lean Startup method, Company Ltd was able to introduce a more complete and systematic working practice. At the same time, need for complex management and documentation was not needed. The Lean Canvas was established as the main tool for documenting the business model. The Company Ltd was already using Agile methods for software development. There were no changes to the software development practices during this research. The Agile method in place supported the adoption of the Lean Startup method.

## 6 FUTURE STUDY

The research provides a view to Company Ltd when it starts to adopt the Lean Startup method. In the research, there is a single iteration of the Build-Measure-Learn cycle. Successfully introducing the Lean Startup method is a good start. The next step would be to understand, the longer term use for the Lean Startup method. Does the Lean Startup method provide a robust business model creation practice for longer term projects? Also understanding if the level of documentation for the business model is sufficient in the longer term would be important.

The researcher would have a special interest in understanding the practical results of the Lean Startup method. As a method, the Lean Startup is fairly new. Even with clear popularity in the startup community, there is little information and statistics on the Lean Startup method in practice. Researching a group of startups from a specific industry or county would be interesting. An individual company can be very successful in adopting the Lean Startup method. Understanding whether a group of startups with different resources and business ideas is able to adopt the method would be interesting to understand.

Many of the examples used in the Lean Startup method related articles and books are from technology companies or Internet service companies. Even though Eric Ries makes the claim that the method is universally applicable to non-tech industries, it would be an interesting research topic. Taking a more traditional industry and maybe even a non-startup company and researching whether the company in question would be able to successfully adapt the Lean Startup method.

## 7 SUMMARY

“The Only Thing That Is Constant Is Change” is a famous quote from Heraclitus, a Greek philosopher. A modern, functional society needs to move forward continuously. During the last ten years, the world has witnessed disruptions in several fields of business and life. A disruption will always mean change, for some companies the change means losing something gained and for others it means gaining something new. A disruption cannot be truly predicted and it cannot be truly controlled.

Startups represent a source of innovation, growth and potential for disruption. Jobs, prosperity and security are built on growth and growth requires a solid, proven business model. Still today, majority of the new startups eventually fail. The companies seldom fail to build a product or gather customers. More often the companies fail to establish a profitable and scalable business and there lies the importance of the business model. Even with a marginal improvement of the startup success rate, the positive impact to created wellbeing through jobs, taxes and quality of life, can be significant.

The Lean Startup method with the advancements built by the startup community represents the possibility to increase the success rate for new startups. Customer focused development combined with cost-effective tools with the intention of moving fast is a great combination for a startup. On top of that, taking learning as the key driver for the company provides a mindset and a capability for world class execution. In the end it is not about the success or failure of a single company. The big picture is about creating a global culture of forward moving, customer focused startups.

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## Appendix 1 - NABC - Company Ltd

### 1. NEED – What are the customer's needs?

Smart traffic is growing business globally. The need to monitor vehicles, drivers and traffic is shifting from an enterprise need to be a consumer need. Understanding traffic and car related cost, usage and trends is also valuable to consumers.

There are roughly 70 000 new drivers licenses granted annually in Finland. Majority of the new drivers will be kids between the age of 18 to 23. These kids will have their own cars or their parents car. These new drivers have a new set of needs compared to older generations. These new drivers are already very active social media users in services such as Facebook, Twitter and Instagram. Gamification is another aspect that these new drivers understand: scores, achievements and gaming in general.

The Automatik services aims to combine these three elements: smart traffic, social media and gamification; into a single product.

### 2. APPROACH – What's my approach or solution to meet this need?

We will setup a system that will collect information from a car. The information includes mileage, fuel consumption, usage information including heavy accelerations and braking. The system requires that a box is inserted to the car into a port that is available in every car that has been manufactured during the last 10+ years. The box will be connected to an on-line service with will store the information automatically. With the detailed information about the car and the driving pattern of the driver, it is possible give a driver score based on the information. The service works using a computer or tablet with an internet connection.

The service aims to provide following features

1. Score more points and gain achievements by completing different tasks using your car
2. Share scores and achievements and chat using social media services
3. Provide a weekly and monthly report about the car usage including gasoline expenses, mileage + much more

The price of the service would be 239 euros per year (19,90 euros per month). The service would be sold through driving schools and there would be a 1-2 month trial period before purchase.

### 3. BENEFITS – What are the benefits and costs of my solution?

#### General:

The most compelling benefit of the service is that it makes responsible and cost effective driving fun. By providing a service where certain driving behavior is rewarded, it allows the service to guide young drivers to a desired behavior.

#### Young / social drivers:

The service provides a way to enhance the driving experience and make it social. The service provides a way to connect to similar people, share experiences related to cars and driving and provides a fun learning experience to responsible driving.

#### Parents / cost conscious drivers:

The service provides a possibility to monitor the driving behavior of a young driver and to follow costs related to driving. It also allows the young drivers a capability for faster learning through continuous feedback.

### 4. COMPETITION – How do the costs and benefits of my solution are higher than those of competitors?

There is an established player in the market called Aplicom. Aplicom is a telematics system provider that has been operating in since mid 90's. There are several other companies that are using Aplicom systems to provide enterprise and consumer telematics solutions. The one to highlight is called HelpTen.

HelpTen has been established in 2007 and offers several similar services that we have been planning.

The main points where we can differentiate are:

1. Device and service cost: The Aplicom hardware / system is more expensive than the one we are using
2. Service focus: The HelpTen service is clearly aimed for enterprises first and then consumers

## **Appendix 2 - Interview questions (translated)**

### **Background information**

Q1: Phone number, email, gender (filled based on voice)

Q2: How actively have you used the service up until now? Daily and total use

### **Set-up and starting to use**

Q3: How was the device set-up? Any problems?

Q4: Did something stop you from installing the device or registering to the service?

Q5: Did you feel that you had enough information and guidance to successfully start to use the service? Any improvement suggestions?

Q6: What was your first perception of the service? Please list both negative and positive elements.

Q7: Do you feel the effort of the installation and registration was in-line with gained benefits of the service?

Q8: Was there something you did not understand or was difficult to complete in the service? For example finding a feature

### **Improvement suggestions and possible downsides**

Q9: Do you like using the service? Why or why not?

Q10: Can you tell more about the things you liked and did not like

Q11: Was there something missing or something you would like to add?

Q12: The service is sold together with the device. Would you pay 300 euros for the device and 2 years of service?

Q13: What is the probability you would recommend the service to your friends or colleagues? Where 0 is highly unlikely and 10 is very likely. (NPS)

Q14: What are your recommendations to make it easier to start using the service?

Q15: What is your opinion of the gaming elements in the service?

Q16: Anything else you would like to mention? Possible errors and bugs, feature requests