FUNDAÇÃO GETÚLIO VARGAS
ESCOLA DE ADMINISTRAÇÃO DE EMPRESAS DE SÃO PAULO

NIKO STÄGER

USE OF THE LEAN MODEL AT PRO SKY
SINGLE CASE STUDY ON HOW THE LEAN STARTUP MODEL CAN BE USED
TO IMPLEMENT A NEW SERVICE AT PRO SKY

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Dissertação apresentada à Escola de Administração de Empresas de São Paulo da Fundação Getúlio Vargas, como requisito para obtenção do título de Mestre Profissional em Gestão Internacional.

Campo do Conhecimento:
Gestão e Competitividade em Empresas Globais

Orientador Prof. Dr. Gilberto Sarfati

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ABSTRACT

The lean startup model represents a recent way of developing new products and services; nevertheless there is little information about the implementation at companies. The author of this thesis addresses this gap in literature by providing a practical example of an organization adapting the lean startup model. The single-case study involves the air solutions provider Pro Sky that tries to develop a new airport concierge service. In-depth insights are gained by interviews, participant-observation and simulation of the new service. In comparison to past new service developments at Pro Sky, the lean model helps to speed up the development process, reduces waste and lowers the negative effects of cognitive biases. The model enforces Pro Sky's aim of developing into a customer-driven company. Obstacles lie within offering the clients an unfinished product and the resulting fear of the loss of reputation.

KEY WORDS: lean startup, entrepreneurship, single case study, cognitive biases.

RESUMO

O modelo lean startup representa uma forma recente de desenvolver novos produtos e serviço. No entanto, existe pouca informação sobre a implementação em empresas. O autor desta tese aborda esta lacuna na literatura, fornecendo um exemplo prático de uma organização adaptando o modelo lean startup. O estudo de caso único envolve o intermediário de serviços aéreos Pro Sky que tenta desenvolver um novo serviço de concierge em aeroporto. Um entendimento profundo é obtido por meio de entrevistas, participant-observation e a simulação do novo serviço. Em comparação com desenvolvimentos passados de novos serviços na Pro Sky, o modelo lean startup ajuda a acelerar o processo de desenvolvimento, reduzir o desperdício de recursos e reduzir os efeitos negativos dos vieses cognitivos. O modelo reforça o objetivo da Pro Sky se desenvolver numa empresa voltada para o cliente. Obstáculos incluem oferecer aos clientes um produto inacabado e o medo resultante da perda de reputação.

PALAVRAS CHAVE: lean startup, empreendedorismo, estudo de caso único, vieses cognitivos

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List of abbreviations

BRL   Brazilian Real

B2B   Business to business

B2C   Business to customer

EUR   Euro

GAAP   Generally accepted accounting principles

GM   General Manager

MBWA   Management by Walking Around

NASA   National Aeronautics and Space Administration

NPD   New product development

NPV   Net present value

PPP   Phased project planning

SAM   Served available market

SME   Small and medium enterprises

TAM   Total addressable market

TPS   Toyota Production System

UAI   Uncertainty Avoidance Index

Glossary

Agile development

"Engineering method used to develop products (hardware, software or services) iteratively and incrementally with flexibility to react to customer feedback. It recognizes that customer needs and the final product spec cannot be fully defined a priori. Agile is the antithesis of Waterfall Development" (Blank, 2012:531).

Business model canvas

"Strategic management and entrepreneurial tool" that facilitates to "describe, design, challenge, invent, and pivot your business model" (Business Model Generation, 2014:531).

Business plan

"A summary of a business's prospects and plans for the future, typically including discussion and analysis of market opportunities, business strategy, key operational issues, and finances, including cost and revenue projections. Used by a company to attract financing or investment capital" (Financial Times Lexicon, 2014).

Customer development

"Four-step process to organize the search for a repeatable and scalable business model" (Blank, 2012:533).

Customer discovery

"First of the four steps of Customer Development. In Discovery, founders articulate their hypotheses about the business model and then run experiments to test problem and solution in

front of customers" (Blank, 2012:533).

Customer validation

"Second of the four steps of Customer Development. In validation, founders take their tested hypotheses and try to get initial orders/ users/ customers" (Blank, 2012:534).

Earlyvangelist

"Concatenation of early adopter and evangelist. In a startupearlyvangelists are the company's first customers, who buy the product very early because it solves a problem or fills an urgent need for them" (Blank, 2012:534).

Lean

"Using the most effective methods and the fewest employees possible" (Financial Times Lexicon, 2014).

Lean startup

"Combination of Customer Development and Agile Development popularized by Eric Ries" (Blank, 2012:536).

Minimum viable product (MVP)

"Smallest group of features that will elicit customer feedback. Initially, the MVP could be as simple as a PowerPoint slide, a video or demo" (Blank, 2012:537).

Pivot

"Substantive change in one or moreof the nine boxes of the business model canvas. (For example, a revenue model change from freemium to subscription model or a customer

segment shift from boys 12-15 years old to women 45-60.)" (Blank, 2012:538).

Startup

A prominent definition of Eric Ries is "startup as an organization dedicated to creating something under conditions of extreme uncertainty" (Ries, 2011).

Waterfall Development

"Engineering process used to develop products (hardware, software or services) linearly, sequentially, with a stage-by-stage method. The entire product and all features are specified up-front. Waterfall is the antithesis of Agile Development" (Blank, 2012:540).

1. Introduction

In 2011, Silicon Valley entrepreneur Eric Ries published his book "The Lean Startup" that raised awareness for how new products/ services should be developed. Ries advised not to collect comprehensive amounts of data, set up extensive business plans and invest large financial resources into marketing campaigns. Rather than that, he proposed that entrepreneurs should first of all simply try out their respective new products/ services taking advantage on the direct feedback of their customers, following the slogan "just do it". As Eric Ries (2011:18) states: "they are also a colossal waste of our civilization's most precious resource: the time, passion, and skill of its people. The lean startup movement is dedicated to preventing these failures". Ries (2011:55) further comments that the principal question should not be how to build specific products but if specific products should be developed at all.

With the lean startup model as a relatively new model in place, the author of this thesis tries to fill the gap in current entrepreneurial literature that involves practical examples of companies, especially established ones, adopting the lean startup model in their new product/ service development process. With the author developing a new "airport concierge service" at the air solutions provider and SME Pro Sky by himself (participant-observer), he has the unique chance to obtain in-depth insights into the lean model's actual adaptability and the obstacles.

The idea for the launch of the airport concierge service at Pro Sky lies in the fact that "airlines are laying the groundwork for the next big step in the increasingly automated airport experience: a trip from the curb to the plane without interacting with a single airline employee" (Michaels andNicas, 2012).Many passengers, including frequent fliers might see less need in human interaction at airports. Nevertheless, Pro Sky assumes that specific travel groups might feel the need for a more personalized service since "airlines aren't considering one crucial interpersonal detail: The machine doesn't say, 'Have a nice flight'" (Michaels andNicas, 2012).

This single case study helps to gain a qualitative in-depth insight into the development of this new service at Pro Sky by the use of participant-observation data collection complemented by in-depth interviews with the Pro Sky CEO Armin Truger and Pro Sky do Brasil general manager Carolina Dal Bello.

In respect to the structure of the thesis, the author first depicts how new services have been developed in the past at Pro Sky and whether they fitted more into the category of the "traditional model"/ business planning or shared more similarities with the recent lean startup model, although the term was coined officially only in 2011.Based on that information, the author goes through the lean model process by means of the airport concierge servicein order to experience how the process works in practice at Pro Sky. Having then the past experience and the experience out of the airport concierge, the author derives findings in respect to time and financial resources consumed, but also how the lean model can fit into the overall strategy of Pro Sky and how it can help to decrease unfavourable business decisions resulting out of cognitive biases. Also, obstacles arising in implementing the lean startup model are given paired with recommendations for Pro Sky.

The research question of this professional master thesis is how can the lean startup model be used to implement a new service at Pro Sky?

Eventually, the topic is very new and of very high importance for companies nowadays, since innovation is one of the principal ways to derive competitive advantage apart from differentiation or cost cutting strategies. Within the form of a single case study on Pro Sky, the thesis covers the areas of entrepreneurship/ new product development as well as organizational theory and design/ organizational change.

The thesis comprises the literature review, methodology applied, the analysis, findings and conclusion. The literature review is divided into four parts including business planning, the lean startup model, SMEs and finally cognitive biases. The author then explains the methodology, with a single case study around the study object Pro Sky and information

gained by participant-observation and interviews. The analysis involves information about the development of new services at Pro Sky in the past. This is followed by simulating the lean model process on the basis of the airport concierge service including testing out the so-called minimum viable product. The resulting findings relate to time and financial resources consumed, HR related issues, fit with Pro Sky's strategy and cognitive biases. In the end, a conclusion is drawn.

2. Literature review

The literature review discusses the current state of research in respect to the lean model and provides basic definitions.

This review is divided into three parts, the first referring to the "traditional" way of entrepreneurship/ business planning and the second part to lean startup model. The third part consists of literature related cognitive biases. Both the online course Udacity as well as Eric Ries' "The Lean Startup" and Steve Blank's book - The startup owner's manual, that builds upon "The Lean Startup" serve as the principle literature to guide through the NPD process and check for adaptability at Pro Sky.

2.1 Business planning

Literature about business planning refers to new ventures and established companies that are entering a major growth phase by expanding into new markets or launching a new product/ service (Entrepreneur, 2014).

Peter Drucker (1959) defines the term long-range planning, as a predecessor of business planning, by describing in detail its scope, its justification and the respective requirements. According to Honig (2004:259), Drucker represented one of the first people writingabout long-range planning by applying an entrepreneurial perspective. Druckerdescribes long-range planning as a structured procedure of conducting decisions related to the management and development of a business.

Takeuchi and Nonaka (1986) propose a different approach for developing new products/ services. Instead of passing through the different stages of a business plan in a sequential way, they argue for a more flexible approach with responsibilities of the involved departments overlapping throughout the entire development process and continous interaction. With this method, inspired by the sport of rugby, companies might gain more flexibility and a faster development process.Cooper (1994:4-7) shares a similar view and proposes a third-generation stage model as a new form of NPD. In contrast to previous models such as NASA's 1960s PPP (phased project planning), where the development process is divided into separated stages, a different procedure is recommended. Cooper recommends a holistic approach from the original idea to the introduction on the market with employees of all involved departments closely working together and partly conducting tasks simultaneously in order to speed up the process. Furthermore, there are established rules for the transition of one development stage to the next that not only involve time and budget criteria, but also product quality. Finally, the development is more orientated to the market so that business risks can be lowered. Despite a more effective NPD process, overall complexibility and management requirements increase.

Shaw, Brown and Bromiley (1998:42-44), working at 3M, draw attention to the fact that business plans usually raised attention for crucial projects that enhance 3M's functional capabilities, nevertheless fell short in conveying the rationale of gaining competitive advantage within the respective market. They voted in favour of storytelling, in order to encourage people being more dedicated to their projects, instead of writing in bullet points and having a superficial perspective. Thus, employees can avoid that the writing leads to generic assumptions, while at the same time leaving crucial linkages unnamed and crucial hypotheses in respect to the business model unspecified.

Thornberry (2003) analyses in how far managers within existing companies can be trained to be entrepreneurs. According to the participants of his study, the creation of a

business plan was seen as the best learning. By establishing a written document, considering all details such as marketing and cash flow planning and presenting the final document to decision makers, managers could verify whether the idea was truly worth being turned into a venture within the company.

Bullinger, Fähnrich and Meiren (2003:8) examine different models for developing new products/ services in existing companies. The most traditional is the „waterfall model", originating in software development, with a sequential approach, where one department is dependent on the completion of work of the previous. The model is easy to implement and provides the opportunity to perceive progress by using milestones. On the other hand, there might be a lack of flexibility and possibility to lower the development time. A so-called spiral model, although currently not widely used in the development of new services, represents an enhanced version of the waterfall model. Thereby, the sequential approach is applied, but repeated a number of times. By doing so, intermediate results can be achieved and possible problems recognized at an earlier stage. A major advantage is the spreading of learning amongst all participants of the project, nevertheless complexity is higher than with the waterfall model. Cooper (2008) proposes a new NPD model incorporating this spiral model based on his previous third-generation stage model. His new model provides more flexibility in adapting to different company sizes, better includes feedback from external partners and with elements of the spiral model enables to test and revise a specific product/ service frequently.

In 2004, Benson Honig contrasts the traditional business planning with two different methods: the so-called contingency approach and simulations. According to a study of Honig (2004:259-270), business planning was offered in 78 out of the 100 leading universities in the USA, without being justified sufficiently on an empiric basis. A business plan is a written document defining the actual situation and presumed development of a company. Honig adds that it should be a paper of around 20 to 40 or more pages depicting a new product/ service,

the strategy in respect to production, marketing, finance, human resources and operations as well as an analysis of the external resources and restrictions. He summarizes that simulations might help students acquire skills related to learning from failure, risk tolerance and leadership in times of uncertainty. Contingency planning as a second option comprises "the promotion of new behaviours, as well as the development and utilization of new tools that exercise and enhance reflective, longitudinal analysis". According to Honig, this allows entrepreneurs to revaluate their strategies and make use of feedback so that in the end the process combines dialectics with flexibility leading to a blend of accommodation and assimilation.

Karlsson (2005:163-167) analyses in how far external parties impact startups in respect to writing business plans. The author concludes that internal pressure outweighs external demands, since most entrepreneurs already write business plans before meeting venture capitalists and in many cases do not stick to the original business plans. External parties pay higher attention to the actual performance of the venture and therefore accept for example the so-called loose coupling, where business plans are not followed as strictly. Nevertheless, internal pressure might be build up by recommendations from business schools and literature advising on writing business plans. Furthermore, banks and investors highlight that the setup of a business plan let companies appear more serious and therefore they are available to consult entrepreneurs. Karlsson states that new ventures apply a soft approach towards business planning, since on the one hand they have to present themselves well in order to obtain financial aids from investors, but on the other hand since decision-makers in the industry do not expect new entrepreneurs to be aware of all facets of business life.Related to that Gruber (2007:801) concluded that planning can be beneficial for startups, nevertheless the business plans should be adapted to the nature of the environment. He states that in dynamic environments the fact of investing time on planning is leading to less favourable results than in lower-dynamic environments. Therefore, in strongly changing environments,

entrepreneurs have to prioritize on effective activities in order to accelerate the planning procedure. On the other hand, in emerging ventures which are distinguished by lower a dynamic, performance increases with entrepreneurs that are more involved in planning their respective business.

For Hindle and Mainprize (2006) the major components of a business plan comprise ten identified principles: expectations, milestones, opportunity, context, business model, team, elaboration, scenario integration, financial link and the deal. They argue that advanced business plans have two major ambitions including clearly illustrating the future development and uncertainty factors for the company as well as providing credibility to stakeholders.

Sharma and Chrisman (2007) harmonize the definitions that exist within the area of entrepreneurial activities inside of established companies. These include corporate entrepreneurship as the most widely used term, internal corporate entrepreneurship, corporate venturing, internal corporate venturing, intrapreneurship and strategic or organizational renewal, latter as a generic term not related to the development of a specific new product/ service.

Karlsson and Honig (2009:41) highlight the fact that business planning is largely used both in the private and public sector as well as in the academic world without being completely empirically justified. Within their study they show that a strict adhering to the business plan at the initial stage over time leads to loose coupling, where companies do not stick to their original ideas in their daily business and infrequently update their respective business plans. The process of loose coupling empowers new companies to demonstrate that the process they conduct is reasonable, while at the same time leaving space for flexibility and self-determination. Despite that, many companies use business plans rather in a symbolic way in order to "gain legitimacy from external actors, making the companies appear structured, well planned, and established".

In a time when the term lean startup model was not coined as a term yet, Brinckmann,

Grichnik and Kapsa (2010) execute a meta-analysis in order to establish deeper insights into the relationship between business planning and performance. Thereby they took into consideration factors that result out of the context of the respective company, including for instance new versus better established firms as well as the so-called uncertainty avoidance index (UAI) by Geert Hofstede. Both increased newness as well as a higher uncertainty avoidance index negatively affects the effect of business planning on the respective performance of the companies. Concluding, these researchers recommend a combination of both business planning and a certain degree of flexibility that can lead an intense learning process.

Within an entrepreneurial environment that is characterized by a shift towards customer-driven businesses, Teece (2010:173-192) highlights the importance of business models by illustrating the concept behind a business, instead of presenting financial figures, and showing how a specific product or service generates and distributes value to customers. In his words, business models mirror the entrepreneurs' assumptions about customer needs, the way of delivering a specific product/ service, the willingness to pay and the company structure that best fits to operate effectively. It can form part of a business plan or financial statements, but not necessarily. Teece highlights the lack on academic literature on the analysis of business models.

2.2 Lean model

The Toyota Production System (TPS) is mostly seen as one of the first steps towards lean processes in manufacturing. The system includes four rules, stating that all processes should be verified as much detailed as possible, customer-supplier relationships have to be direct and unmistakable, all processes follow a specified track and enhancements should be conducted in compliance with the scientific method an at the place where it occurs. Learning among employees is seen as fundamental in order to create a competitive advantage (Spear and Bowen. 1999).As well related to the Toyota principles is the so-called Genchi Genbutsu

that is translated as "go and see for yourself" and shares similarity with the American model "management by walking around" (MBWA). Both concepts state "that when information is passed around within organizations it is inevitably simplified and generalized. The only real way to understand a problem is to go and see it on the ground". One of the most famous examples is the development of a new car after an engineer taking a tour from Alaska to the Mexican border in order find out what customers really need (Economist, 2009).

In 2009, John Mullins and Randy Komisar already address several topics that will later be seen as typical elements of the lean model. The authors see entrepreneurship as filled with uncertainty and therefore the business plan has to be adapted continuously. It is crucial to detect the main hypotheses and test them in order to verify why they might not function. Most of today's businesses that made it through the process, only in rare cases are still identical to the original founder's vision. Nevertheless, by stressing the importance of adjusting five main elements comprising business-model revenue, gross margin, operating, working capital and investment model, the focus is significantly biased towards financial aspects.

In a time when doubts about the traditional new product development process spread, Chandy, Dorotic, Hoyer, Krafft and Singh (2010) as one of the first try to summarize a concept that shared already some characteristics of the lean model, at that time though called customer co-creation. The authors conclude that with the lean model average new product development costs are lower and a better adaption of the product to the respective customer needs possible. On the other hand, the lean model might also lead to a lower control over the company's planning process.

Reuter (2010) tries to explain certain key characteristics about the lean model in the article "Top 5 myths about the lean startup". It is emphasized that lean is less about saving costs but about speed, it can be applied not only in web companies and it may involve entrepreneurs in existing companies, facing large risk and uncertainty. In addition, motivation is important, but the vision should be backed by direct customer contact and the resulting

data. Finally, lean start up does not reject venture capital, but entrepreneurs should wait for the right moment to spend money, once the key aspects of the business model are verified empirically. According to Tam (2010), "some entrepreneurs have misinterpreted lean startups as a reason to remain small and not go for big opportunities".

Although, several researchers such as Reuter already using the expression lean startup, it was Ries (2011) that drew major attention to this new model. Ries concludes that companies should conduct fieldwork directly in order to learn from customer's opinions, thus creating more offers that better suit their customers. The implementation of a new product or service is much faster, thus leaving the respective company with better financial results. A famous example for using the lean model is Dropbox, a company offering cloud services, for developing new features and offering them, as soon as possible without having a perfect product (Tam, 2010).

Steve Blank (2012) complements the previous publications, especially Ries´contributions,by emphasizing the process of launching new products as fast as possible and with the input of consumers from the beginning, which he calls the customer development process. The author also includes the so-called business model canvas and puts a stronger focus on how to detain the customers as well as on financial aspects.

Blank (2013) gives an overview over the current literature on lean and compares it with the traditional way of performing new product development via conducting extensive market research, writing business plans and obtaining financial resources. He argues that the lean model is not the solution for all problems but might significantly lower the failure rate of startups. Blank argues that it is worth sacrificing the secrecy of the new product in order to have valuable customer feedback and a product that is, although not perfect, ready to be sold. Finally, the author states that large corporations increasingly embrace the lean model and highlights the importance of an economy based on effective and efficient innovation creation and implementation in order to guarantee future wealth. As displayed in Table 1, the

differences between the lean model and the "traditional model" can be explained within five major points. In respect to strategy, the lean model is hypothesis-driven, whereas in the traditional model the focus lies on implementing the main ideas of the established business plan. Related to the new product process, the lean model emphasizes the development with the feedback of customers obtained by verifying the hypotheses in the field, while the traditional model involves setting up the "offering for market following a linear, step-by-step plan. Thereby, new products or services are developed with the waterfall method, where one department starts the respective work after another department having finished the development. An important difference also lies in the fact that companies deploying the traditional model normally don´t expect and accept failures and in many cases lay of employees after failures. The lean model in contrast involves an approach where failure is expected and fundamental changes in hypotheses, also called pivot, are recommended. Concluding, the respective differences lead to a more rapid development of a new product or service with the lean model, since it a new product or service is already tested out as soon as the relevant data is available, whereas the traditional set up of a business plan requires more time and the launch occurred after possessing all the entire information.

Table 1

Differences between lean and traditional NPD model

	Lean model	**"Traditional model"**
Strategy	Hypothesis-driven	Implementation-driven
New product process	Customer development	Product management
Engineering	Agile development	"Waterfall development"
Failure	Expected, adjustments legitime	Exception
Speed	Rapid	Longer time period

Note. Author's illustration based on Blank (2013)

Currently, the lean model made its way from technology startups to servicing firms, nevertheless in many companies implementing the lean model it is rather an intent to fix problems like reducing costs in the short term and for a specific project or department rather than changing the firm in general. The authors argue that the key for organizations is to have a true learning curve and implementation of the practices over the whole company in a sustainable way (Liker and Morgan, 2006).Carmen Nobel (2013) also stresses the importance of implementing the lean method not only in startups, but also in well-established companies. Lean methods may serve as a way to overcome inactivity in the innovation process. This may even involve failures in the new product development for companies who may have already become blind by their previous success. It is crucial to overcome the mentality of the employees, responsible for innovation management, who often lack the mentality of startups trying out new things, seeing the advantage of the new model and accept failures as well as changing hypotheses. It is further stressed that in large companies, it makes more sense to develop products that complement the existing product portfolio with the advantage of network effects.

The massive open online course platform Udacity (2014) presently offers a course called "How to build a start up - The lean launch pad". It is a free online course open to the public and tries to go through the so-called customer development process based on Steve Blank's ideas. The focus is to let future entrepreneurs test directly their products based on continuous customer feedback in the field, thus trying to reduce the startup failure rate. The course comprises topics like value proposition or minimum viable product, customer segmentation, sales channels, partners but also financial aspects. The course serves as a guide for going through the lean process by the example of the introduction of an airport concierge service by the company Pro Sky.

One essential element of the lean process comprises the so-called business canvas, of which a commonly used is provided by the website Businessmodelgeneration.com (2014). On

one page, it provides entrepreneurs the opportunity to collect all relevant data in nine clusters comprising customer segments, value propositions, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure.In the meanwhile, several alterations of the traditional business model canvas are available throughout various internet sources like for instance a so-called lean canvas with just six building blocks comprising e.g. problem, solution, key activity, unique value proposition, cost structure and revenue (Canvanizer, 2014).In 2010, Alexander Osterwalder and Yves Pigneur established an extensive guide for innovation management that has been created in cooperation with 470 users of the so-called Business Model canvas from various countries. It comprises a detailed explanation of the so-called business model canvas as a way to focus on the key hypotheses in order to develop a new business.

Burgstone Jon (2012) criticizes the often cited similarity to the Toyota Production System and ISO-9000 despite the fact that latter refer to eliminating waste within the production of mass ware whereas the lean start up relates to starting new businesses/ entrepreneurship. His criticism extends to the minimum viable product, where he cites Google or Facebook as two products that build on imperfect competitive products by refining them rather than launching a MVP. Secondly, he emphasizes the need of real accounting over the so-called innovation accounting, since it is still the financial that matters in the end. He gives Groupon as an example that only after adhering to GAAP accounting rules, realized that the business was still making losses.

2.3 Cognitive biases

In 2002, Daniel Kahneman, psychologist teaching at Princeton University, was awarded the Nobel Prize in the field of economics for his findings especially within the fields of decision-making in uncertain times and thus in a broader sense for building links between psychology and economics (Smith, 2012). Debora Smith of the American Psychological Association states Kahneman could criticize "assumptions of traditional economic theory that

people make rational choices based on their self-interest by showing that people frequently fail to fully analyse situations where they must make complex judgments". In such context, many people employ rules of thumbs instead of analysing a situation in a rational way. Thus, Kahneman's findings illustrates to which large extent human decision-making is irrational (Taylor, 2013).

One definition for cognitive bias is the "systematic selectivity in information processing that operates to favour one type of information over another" (MacLeod and Mathews, 2012). Jim Taylor (2013) states that "Cognitive biases can be characterized as the tendency to make decisions and take action based on limited acquisition and/ or processing of information or on self-interest, overconfidence, or attachment to past experience".

Especially, in respect to business, where problems can quickly lead to a chain reaction (Taylor, 2013), it can be seen that "cognitive biases can result in perceptual blindness or distortion (seeing things that aren't really there), illogical interpretation (being nonsensical), inaccurate judgments (being just plain wrong), irrationality (being out of touch with reality), and bad decisions (being dumb)" (Taylor, 2013).

Taylor (2013) further states that cognitive biases can be classified into information (such as the so-called confirmation bias) and ego (overconfidence effect or optimism) biases, that there are several techniques to confront these biases such as awareness and collaboration and it is crucial to ask key questions such as if there has been a group-thinking tendency.

2.4 Gap in literature

Firstly, current literature explains well the characteristics and development of the "traditional" model/ business planning and the lean startup model. Practical examples of companies, especially existing smaller or medium sized ones, applying these models, especially the lean startup model, are rare. Therefore, the author tries to fill this gap by providing a practical insight into a company that tries to adopt the lean startup model. Since

the author develops a new service at Pro Sky by himself (participant-observer), he has the unique chance to gain in-depth insights into the actual adaptability of the lean startup model and its obstacles.

Blank (2013) states that the lean model may lead to lower failure rates; nevertheless Blank does not provide reasons. Therefore, the thesis also helps to draw conclusions in respect to the theoretical framework of the lean startup model that is not validated yet.

3. Methodology

A qualitative research methodology is applied conducting the analysis at the example of the company Pro Sky. With the lean startup model as a relatively new theory in place and a significant gap of literature, the research is principally of exploratory and descriptive nature. Another focus lies on organizational theory and design with emphasis on cognitive biases.As a result of the time constraint, the author does not go through the so-called customer validation phase. Nevertheless, the author uses this favorable opportunity at Pro Sky, the development of a new service, in order to gain practical insights into the lean startup model.

3.1 Participants

With a single case study, the main participant is Pro Sky, an air solution provider. The author of the thesis uses a single case study, since the research can be of qualitative nature and the author gain a deep insight in how the lean startup model can be applied in practice. This is important, since this relatively new model still has to be validated especially in respect to the implementation at companies apart from startups in the technological field and within the USA. As the researcher is performing an internship at the mentioned company, he can easily obtain information via company documents, interviews and by applying the lean startup model by himself. The company is a present example of a company, in which the founder and CEO Armin Truger wants to alter the development process of new products/ services, since in the past the company faced several challenges (Armin Truger, 2014). Within Pro Sky, the

main participants comprise the CEO Armin Truger, Pro Sky do Brasil General Manager Carolina Dal Bello and the participant-observer and author of the thesis Niko Stäger. In respect to the implementation of the lean startup model, participants are also employees from the Pro Sky headquarter in Cologne/ Germany including the marketing department employees responsible for new product development and the employees of Pro Sky do Brasil, the subsidiary which would introduce the new service being tested.

In respect to the airport concierge itself, the target population or sample consist out of seven major groups including people with children, older people, people with reduced mobility, first time or seldom flyers, VIPs, new rich and groups of people belonging to one or several categories mentioned before.The population from which the sample is drawn comprises the group of people being accessible for providing the specific service. The fieldwork has been conducted on 3 days both on working days and on one day of the weekend in order to better catch both travelling groups that principally make up travellers: business travellers during the week and leisure travellers during the weekend.

Because of the time constraint, but also for convenience and availability at the airport, the procedure for selecting the samples at the airport was accidental sampling/ opportunity sampling. Although the researcher was limited in drawing generalizations out of the small sample, the insights into the topic are valuable since the lean startup method is a relatively new area of research for new product development and this thesis reflects the experience out of the first phase of going to the field and testing out the first hypotheses.

After collecting more experience during the fieldwork and having revised the hypotheses for possible clients, the sample drawn could be adjusted accordingly in order to further strengthen a respective hypothesis. In addition, after a possible sharp change in strategy, called pivot, the sample could be adjusted or changed completely.

3.2 Data collection

With a lack of literature, not only academic but also e.g. non-academic journals like

books, articles and website information like e.g. from the online course Udacity were used. The principal form of obtaining data, which is of qualitative nature, was participant-observation, where "the researcher observes trough participating in events" and retrieves insights on the particpant´s behaviour in their usual environment (Hays, 2004). Thereby, the participant observer could get very deep insights into the process and comment how he personally perceived the process in terms of difficulty or comfort. In addition, the researcher gives personal insights related to cognitive biases especially during the interview phase with passengers at Brazilian airports. After having conducted the service, the respective users were interviewed in order to receive a feedback.

In respect to past NPD processes, the implementation of the lean process in general and the usage of the data out of the experiment, semi-structured interviews were conducted with Pro Sky's CEO Armin Truger and Pro Sky do Brasil general manager Carolina Dal Bello. Collecting data out of interviews provides the opportunity to derive comprehensive insights. In order to avoid the bias of interviewees to answer in a way that best serves the research, gaining information from a larger sample and extremely well informed people is helpful. Since the number of participants is limited at Pro Sky do Brasil, especially the fact of interviewing participants with extensive knowledge and the capability of regarding the object of the thesis from different perspectives. In order to provide a single case study with extensive qualitative data, the author of this thesis tries to develop the thesis narratively and then combining with the respective theories presented in the literature review (Eisenhardt and Graebner, 2007).

The information obtained out of accidental sampling and a case study based on one company cannot be generalized quantitatively to all SMEs, but analytical generalizations can be drawn (Yin,2009:18).

The author of this thesis tries to minimize the researcher bias within the range of possibilities of a single case study. A trustworthy study can be obtained by adhering to the criteria of

credibility/ dependability, transferability and confirmability Credibility/ dependability is tried to be established by using a variety of forms to collect data such as participant-observation and interviews. In respect to transferability, the author of the thesis provides extensive contextual data so that readers can decide whether comparisons to other environments are legitimate. According to Shenton, the criteria of confirmability is adhered to by, same as for credibility criterion by using a variety of sources for data and by displaying comprehensively the process of obtaining data and drawing conclusions out of it. Thereby essential to the "process is the "audit trail", which allows any observer to trace the course of there search step-by-step via the decisions made and procedures described". The author of this thesis uses the proposed process of developing a new business presented in Blank´s book "The startup owner´s manual"(Shenton, 2004).

4. Analysis

4.1 Introduction to the case study object - Pro Sky

The air solutions provider Pro Sky was founded in 1996by Armin Truger in Düsseldorf/ Germany and nowadays has the headquarters in Cologne/ Germany. The first revenue was achieved in the same year. Pro Sky sees its objective in assisting companies to fly better. The firm operates in four business segments: aircraft charter, group tickets on regular flights, private jets and airport and inflight services. The airport concierge service to be launched would be part of the latter segment. The service Media solutions for airline inflight entertainment systems represents a fifth business segment. It is still displayed on Pro Sky's website, though currently not operating.

Figure 1. Pro Sky Business Segments
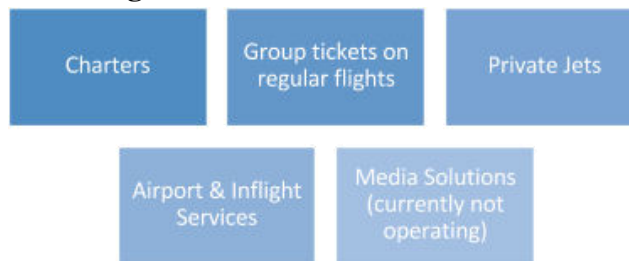
Figure 1. Own illustration based on Pro Sky (2014)

Pro Sky organizes more than 1000 group flights annually and employs 44people worldwide. The company has subsidiaries in Paris/ France, Zurich/ Switzerland and since October 2013 in São Paulo/ Brazil (Pro Sky, 2014). The company is the exclusive supplier of air charters for the Daimler AG and the preferred supplier for air groups for the international divisions of companies such as American Express, Deutsche Telekom and John Deere.

4.2 Historical overview of new product development process at Pro Sky

Information about the NPD in the past is obtained by a semi-structured interview with Pro Sky's CEO Armin Truger.

4.2.1 First NPD: Media Solutions.

The first development of a new service at Pro Sky was media solutions. The idea behind the service was to effectively use air travel passengers as a target group for advertising, since they possess above-average purchasing power and a high propensity to consume. Therefore, clients would include especially large corporations targeting this specific group. The majority of airlines still do not use the possibility to sell capacity on their respective entertainment system to corporations. Some airlines such as Lufthansa, offer capacity within their mileage programmes, nevertheless this represents one out of a few examples. By offering this service, Pro Sky would extend the market significantly. In this area, Pro Sky, with best contacts to airlines and to companies could serve as an intermediary. Pro Sky could offer its clients a price overview for the respective airlines, coordination of

advertisements across a combination of airlines, consulting with the design of the commercials themselves and contract management. Additionally, Pro Sky's idea was to consult airlines on how to be more creative in marketing and better communicate to their clients (Truger, 2014).

For the development of this new service, an external employee was hired. The employee used a very technical/ IT-driven approach and instantly started to build up a database including calculations for so-called 1000-contact prices as well as a comparison of different suppliers. In respect to marketing, an own brand and slogan were developed. When starting to offer the new service to Pro Sky customers, what Blank (2013) calls waterfall development, Pro Sky faced very little demand and even after several months it could not close any contracts. Then suddenly the employee gave up on the project, partly because of losing faith into latter as well as for private reasons. This lead to the loss of the majority of information obtained through the respective learning curve in the course of the NPD. In total, the development lasted for a relatively long period of 18 months. The possibility that the project might lead to a failure was never perceived as realistic and legitimate. Armin Truger as the CEO of Pro Sky concludes that the hypothesis had never been changed and looking back, one of the key mistakes might have also been the lack of setting milestones within the scope of the development phase. Furthermore, an incorrect process approach is seen as one of the key influencing factors of the still not successful operations of the department (Truger, 2014).

Table 2

First NPD - Media Solutions

	Lean model	*Traditional model*	
Strategy	Hypothesis-driven	**Implementation-driven**	
New product process	Customer development	**Product management**	
Engineering	Agile development	**"Waterfall development"**	
Failure	Expected, adjustments legitime	Exception	**Not relevant**
Speed	Rapid	**Longer time period**	

Note. Author's illustration based on Blank (2013) and Pro Sky (2014)

4.2.2 Second NPD: Online Info Centre.

The Pro Sky Online Info Centre, that shares similarities with the Flight Control service to be launched in 2014, was a service for informing passengers about the most important facts they might need during their respective trips. This includes the actual time of departure, actual time of arrival, passengers on board, passenger name list amongst others.The service didn´t provide any interactive functions, so that the customers could only read the provided data without e.g. entering into contact with the key account manager. Customers could access their travel data by obtaining a link leading to a specific area of the Pro Sky website. Pro Sky targeted the travel departments of large companies as well as intermediaries such as event agencies, booking flights for companies via Pro Sky, as main clients. The Online Info Centre is quite similar to services offered by for instance by postal companies where customers can track via an online tool, at which geographical position their letters or parcels are located. Nevertheless, in the aircraft broker business such as service was not existing and therefore a new market would have been created. The service was part of Pro Sky business segment Airport and Inflight service. The respective information was put into the database each evening manually. Therefore, the development phase of around two months was relatively

quick. There has not been launch customer when the service was offered for the first time, again in the form of the so-called waterfall development (Blank, 2013) and actually, there was no demand for the service. The entire new product process involved very much organizational tasks such as which team member would insert specific information into the system, in the sense of product management (Blank, 2013) rather than for instance developing the system by making use of customer feedback. The service existed from 2004 until 2006 before it was closed (Truger, 2014).

Table 3

Second NPD - Online Info Centre

	Lean model	*Traditional model*	
Strategy	Hypothesis-driven	**Implementation-driven**	
New product process	Customer development	**Product management**	
Engineering	Agile development	**"Waterfall development"**	
Failure	Expected, adjustments legitime	Exception	**Not relevant**
Speed	**Rapid**	Longer time period	

Note. Author's illustration based on Blank (2013) and Pro Sky (2014)

4.2.3 Third NPD: Flight control.

After developing the Online Info Centre in 2006, Pro Sky resumed the work on a tool that could provide passengers information about the current state of their travel journey. The idea has been that all involved stakeholders of a project "would have access to the Pro Sky database 24 hours a day in order to retrieve the most important information about their current projects". For example at the day of a flight, Pro Sky "flight managers" will be present at airports in order to update the system will all relevant information for clients like actual flight time, number of passengers boarding or status of slots (Q.Rouxel, personal communication, July 2, 2014). In contrast to the Online Info Center, information is also given on check-in

counters, catering, slots updated on a constant basis. Also, additional services from the department Airport and Inflight Services can be added as well, after having already booked the flight, via this tool. Again main clients are the travel departments of large firms as well as event agencies that serve as intermediaries.

Also, different from the Online Info Centre, this service has been developed in cooperation with a large home selling company that is also a key customer of Pro Sky. This company then became the launch customer of Flight Control in 2013. The development of the service was relatively quick and lasted for around two months. Thereby the launch customer gave feedback on how the product should look like on a constant basis. Hence, the new product process can be seen as customer development and the way of engineering as agile development, since the launch customer could already try out unfinished version of the service before the official launch to the general public (Blank, 2013 and A.Truger, 2014).

Table 4

Third NPD - Flight Control

	Lean model	*Traditional model*	
Strategy	**Hypothesis-driven**	Implementation-driven	
New product process	**Customer development**	Product management	
Engineering	**Agile development**	"Waterfall development"	
Failure	Expected, adjustments legitime	**Exception**	Not relevant
Speed	**Rapid**	Longer time period	

Note. Author's illustration based on Blank (2013) and Pro Sky (2014)

From a historical perspective, it can be seen a development in the new product process from a model sharing more similarities with the traditional business plan model to a process with increasing elements of the lean start up model. According to Pro Sky CEO Armin Truger

(2014) this was due partly of a basic knowledge of the lean model concept, but especially out of the learning of the past development phases which provided large room for improvement.

Table 5

NPD pipeline at Pro Sky

Media Solutions	Predominantly traditional model
Online Info Center	Predominantly traditional model
Flight control	Predominantly sharing similarities with lean startup model
Airport conciergeservice	Lean startup model

Note. Author's illustration based on Blank (2013) and Pro Sky (2014)

4.2.4 Fourth NPD: Airport Concierge Service.

The main analysis concerns the introduction of the airport concierge service that could be offered in the B2C market. Pro Sky perceives the need for a personal service at airports worldwide, such as in Brazil, in an environment where services are automated more and more. An illustration of such an environment can be seen in appendix 2. The main stakeholders involved comprise the author of this thesis and participant-observer Niko Staeger, the General Manager of Pro Sky do Brasil Carolina Dal Bello and Pro Sky CEO Armin Truger. Apart from this project Eva Breuninger and Sabine Thomas from the marketing department in the headquarters in Cologne/ Germany are usually responsible for NPD.

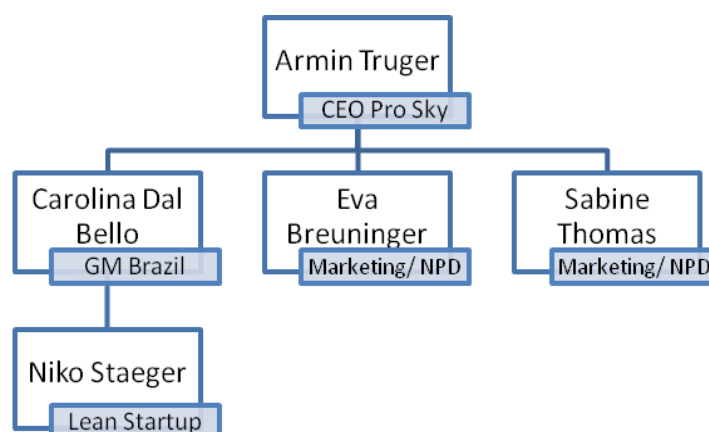**Figure 2. Organogram - NPD project - "Airport concierge"**

Figure 2. Own illustration based on Pro Sky (2014)

4.3 Customer Development

4.3.1 Customer Discovery.

As Blank (2013:69) states, the first phase of the so-called customer discovery

comprises nine steps.

Table 6

Customer Discovery Process

1. Market size hypothesis
2. Value proposition hypothesis
3. Customer Segments: Who/ Problem Hypothesis
4. Channels Hypothesis
5. Value proposition: Market-Type and competitive hypothesis
6. Customer Relationship Hypothesis
7. Key Resources Hypothesis
8. Partners Hypothesis
9. Revenue and Pricing Hypothesis

Note. Author's illustration based on Blank (2013)

4.3.1.1 Phase 1: Set up the hypotheses

1. Market size hypothesis (p.71)

With the market size hypothesis, it is verified, whether there are enough buyers

available worth the high effort to develop a new service (p. 71). The total addressable market (TAM) will comprise people who fly on commercial flights starting at Brazilian airports(p. 72). In respect to the served available market (SAM), at the beginning the service will only be available at large airports with a special focus on Brazil's largest hub for international flights São Paulo-Guarulhos airport. Later, Brasilia, Rio de Janeiro-Galeão and Belo Horizonte-Confins will be served as additional airports (p. 72).

The target market will comprise the main customer segments as later stated such as business travellers or people with children. The target market according to the sales channel will be existing clients, but also new ones visiting the Pro Sky company website.

2. Value Proposition Hypothesis (p. 76)

The product vision is stated as follows: In the past decade, airports around the world have become much less customer friendly with ongoing automation. Pro Sky aims to introduce a personal airport concierge service accompanying passengers from the entrance of the terminal to the final gate of their respective flight. Passengers will save time, travel with less hassle, but regain comfort and enjoy a better airport experience. The service will bring back a focus on personal customer service and on what air travel once was: joy. The service is inspired by the hospitality industry, where personal assistance is standard. After succeeding, further services enhancing our customer's travel experiences will complement the product portfolio.

The respective service features and benefits are as follows:

- Concierge carries luggage throughout the whole process (luggage carrier)
- Concierge takes care of children (nanny)
- Concierge indicates check-in desks of respective airline (guide)
- Concierge guides to security check (guide)
- Concierge advises on up-to-date security screening regulations (adviser)
- Concierge will inform on airport facilities like shops, gastronomy, etc. (guide)

- Concierge does last minute shopping for customer (shopping assistant)

- Concierge guides to the final gate (guide)

- Concierge calls check in/ boarding staff in case of delay (trouble-shooter)

- Concierge advises passengers afraid of flying (psychologist)

- Concierge communicates with passengers in general (assistant)

The Minimum Viable Product (MVP) is planned as follows:

Selecting the right features for the service will be obtained by asking potential customers at the airport of São Paulo-Guarulhos: "What is the smallest or least complicated problem that the customer will pay us to solve?" (p. 80). In this case, since it is a service, more features can theoretically be included, since they are relatively easy to be included in the service. An example is the idea of advising people with fear of flying, where collecting information on how planes technically work would be a task to learn. Nevertheless, according to the lean startup model, the motto should be "less is more"(p. 81).

3. Customer Segments: Who/ Problem Hypothesis (p. 85)

The principal customer segments are expected to include people with children, elderly people, people with reduced mobility, first time or seldom flyers, VIPs, new rich and groups, such as school classes or sport teams, in general.

4. Channels Hypothesis (p. 98)

The focus should be on one key channel at least within the customer validation phase (p. 103). Sales via existing platforms like email and telephone should be fostered. At a later stage a booking tool on the Pro Sky website as well as a mobile application might be considered. For complexity reasons, selling via partners is not considered yet. A physical channel such as a desk at an airport is planned.

5. Value proposition: Market-Type and competitive hypothesis (p. 112)

This information, same as other, can still be changed, but at the beginning it is selected what fits best. In general, it is assumed that Pro Sky is entering a new market. Services in this

segment exist, for example offered by ground handling company Orbital, but they target principally VIPs. Additionally, it is not easy to book for example a service with Orbital as a passenger on a regular commercial flight, since services are solely offered in conjunction with business jet flights and thus less available for the general public (Orbital interview, 2014).

6. Customer Relationship Hypothesis (p. 126)

In order to get customers, paid-media will be used with articles about the new service in the press and in the Pro Sky newsletter that is send out to clients ever one to two months. Also, direct mailings to the so-called earlyvangelists will be used. The strategy in order to keep customers involves conducting customer calls, establishing satisfaction surveys, emails informing on service updates and important information regarding specific airports. Finally, in respect to growing customers, upsell will be difficult, since there will one be one service and other services of Pro Sky are targeting principally corporate groups (group tickets, charter). Some services like private jets can be considered, nevertheless they provide an even smaller niche. Therefore the main focus should be to "get them to refer other customers to you" (p. 142).There should be paid importance to online marketing in order get customers in 21 century (p. 132). Therefore Pro Sky should take the possibility to install a booking tool for the airport concierge service already into consideration, while redesigning its current website.

7. Key Resources Hypothesis (p. 169)

Key resources involve qualified employees with high social competences and English and potentially Spanish language skills. Additionally, a strong brand will also be a major resource at a later stage. Nevertheless, Pro Sky as a brand is still relatively unknown, since the Brazilian office was only opened in October,2013. Also, Pro Sky is operating in the B2C market and entering B2B needs some time to establish customer awareness. Finally, authorizations by the airport authorities (Infraero, Receita Federal, ANAC) at the airport of São Paulo-Guarulhos have to be obtained.

8. Partners Hypothesis (p. 176)

It is planned to work together with the service provider Orbital, since this company is already operating in the field of airport services and being present on all major airports in Brazil, which will help Pro Sky to expand quickly in the market. Thereby, Orbital would represent both a supplier and competitor, since the service has some of features that Orbital already offers e.g. guiding passengers to the check-in desk.

9. Revenue and Pricing Hypothesis (p. 180)

Initially it is planned to work with 7 employees, each with a salary of BRL 900 (EUR 306) per month plus a variable compensation. Variable costs include employee bonus and transportation costs to the airports. Economies of scale are expected to be reached within the areas of human resources, the use of the website booking tool and transportation costs to the airports. The revenue will be gained by a fixed usage fee of BRL 200 (EUR 67) per service, allowing the attendance of maximum 4 clients simultaneously. The price is BRL 250 (EUR 84) for same day order and the payments are processed after the respective service delivery in cash or by credit card. Registered clients would have the right to pay the bill until maximum 30 days after service delivery.

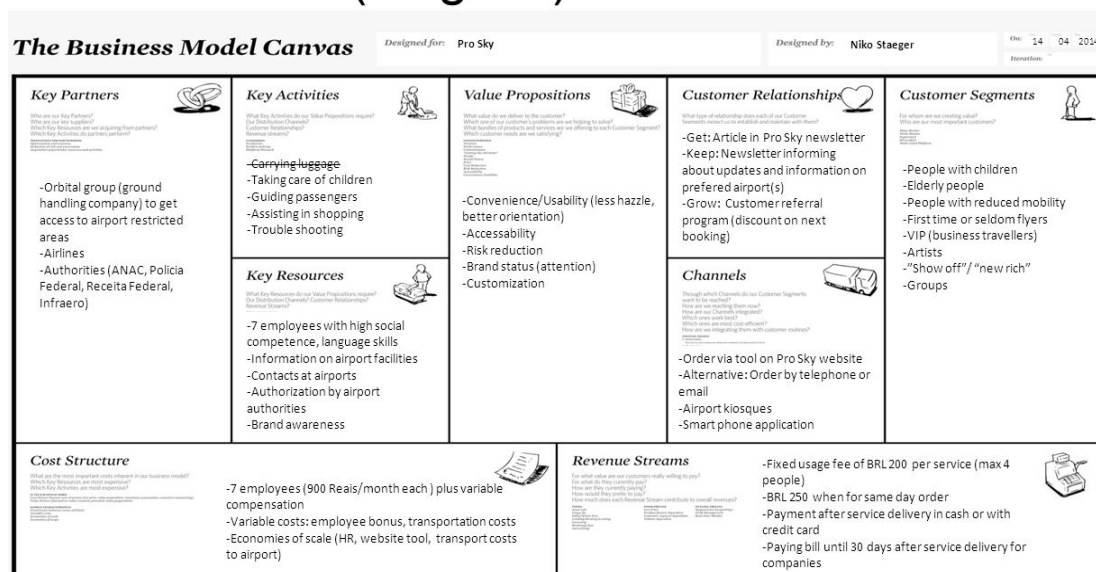**Figure 3. First / original Business Model Canvas**

Canvas No. 1 (Original)

Figure 3. Business Model Generation (2014) with own added text

4.3.1.2 Phase 2: Test the problem

First customer fieldwork at São Paulo-Guarulhos airport (12.04.2014)

At the airport of São Paulo-Guarulhos approximately 3 out of 4 potential interviewees showed primarily certain reluctance in answering the interviewer's questions. This was though resolved by the interviewer's persistency and by sitting next to the people so that they could be better involved into a conversation. Nevertheless, it raised some curiosity whether it might be essential to have an interviewer with a specific degree of experience or at least a person who received a respective training for interviews.

Asking the five why's as e.g. recommended in the Customer Development Labs (2013) was quite difficult to conduct and it shows that many concepts that are currently circulating dispose of a strong US-centric perspective. In contrast to the USA, where people might be more willing to answer interviews from unknown people, in Brazil people seemed to be more resistant towards such thing. Therefore, this specific characteristic same as others of the lean startup model might need adjustments in order to better fit e.g. to the Brazilian

context or to emerging markets in general.

Apart from receiving answers to questions related to the development of the new service, "getting out of the building" according to the lean startup model has also the advantage of scanning the environment, in which a new service would be introduced. This includes for instance gaining information of competitors that already existed and have not been on the radar of Pro Sky. At São Paulo-Guarulhos airport e.g. the airport company managing the airport offers guides that walk around the airport and help customers answering their specific questions e.g. concerning the orientation or special airport facilities.

During the interviews, the author did not experience great emotions about the new service from the side of the interviewees. Blank (2012) states that in such a case a new product might not be good enough and therefore should not be introduced. This might be true, but in the case of Pro Sky, the company works in a specific niche and therefore even if not representing a mass market, some specific customers might still be interested in such a service, since latter would fulfil their respective needs. Resuming it might be true that Blank's view is very much concentrated on disruptive products or services rather than niche products or services.

Talking directly to customers helped to discover new potential customer groups and thus update the original business model canvas, in this case with international travellers as a new customer group. Two interviewed people informed the interviewer about the fact that their respective luggage has already been stolen their at São Paulo-Guarulhos airport. Therefore, protecting valuables could become an additional key activity of an airport concierge. Appendix 1 exhibits the detailed statements of the respondents during the first customer fieldwork. Also, e.g. by doing research, ideas for new business models for Pro Sky emerged such as conducting passenger research and selling this information for instance to airport companies or other players in the aviation industry. The customer insight lead to the setup of the second business model canvas, where previous hypotheses that do not seem to

apply anymore are crossed and new insights/ hypotheses marked in red.

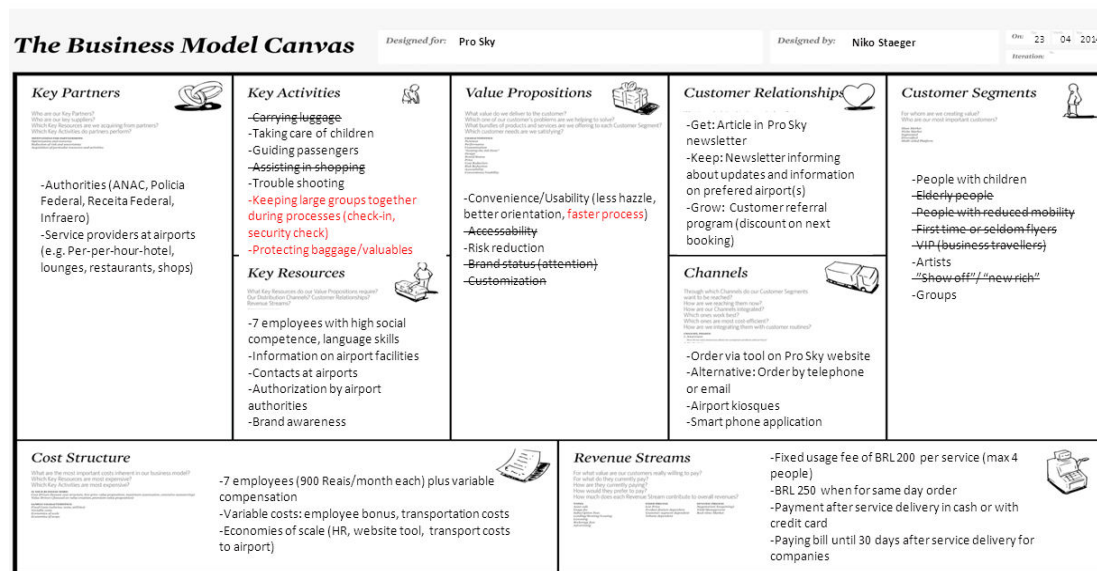**Figure 4. Second business model canvas**

Figure 4. Business Model Generation (2014) with added text

Second fieldwork at São Paulo-Guarulhos airport, asking about prices (04.05.2014)

During the second fieldwork at São Paulo-Guarulhos airport, the concept of the airport concierge service was presented to potential customers as a possible solution for the lack of personal attendance at the airport and they were asked on the amount of money they would actually pay for such a service. This way, the author tested whether the airport concierge service could actually provide a profitable business for Pro Sky. By starting the second fieldwork, the researcher felt already more used to work with direct customer contact. Out of 15 people interviewed, two stated that they were interested in such a service and would pay an amount within the range of USD 50 (EUR 37) to USD 70 (EUR 52) (the interviewee stated amount in US currency) or BRL 100 (EUR 32) to BRL 150 (EUR 49) per service respectively. The insight of this second fieldwork at the airport is that the demand for the airport concierge service was much lower than originally expected and the service would

represent even a niche service at Pro Sky. As a result, the projected demand would not be sufficient to operate an own desk at São Paulo-Guarulhos airport, but the service could be booked up to 3 days in advance so that a Pro Sky employee could plan to go to the respective airport. The main customer group would be people with a high disposable income rather than people of the emerging middle class, as previously expected. Concluding, the second fieldwork helped to quickly update the respective hypothesis and induce substantive alterations, also called pivots, especially on customer segments (demand especially from high-income people), channels (airport desk not viable) and revenue streams (only booking in advance).

Figure 5. Third business model canvas
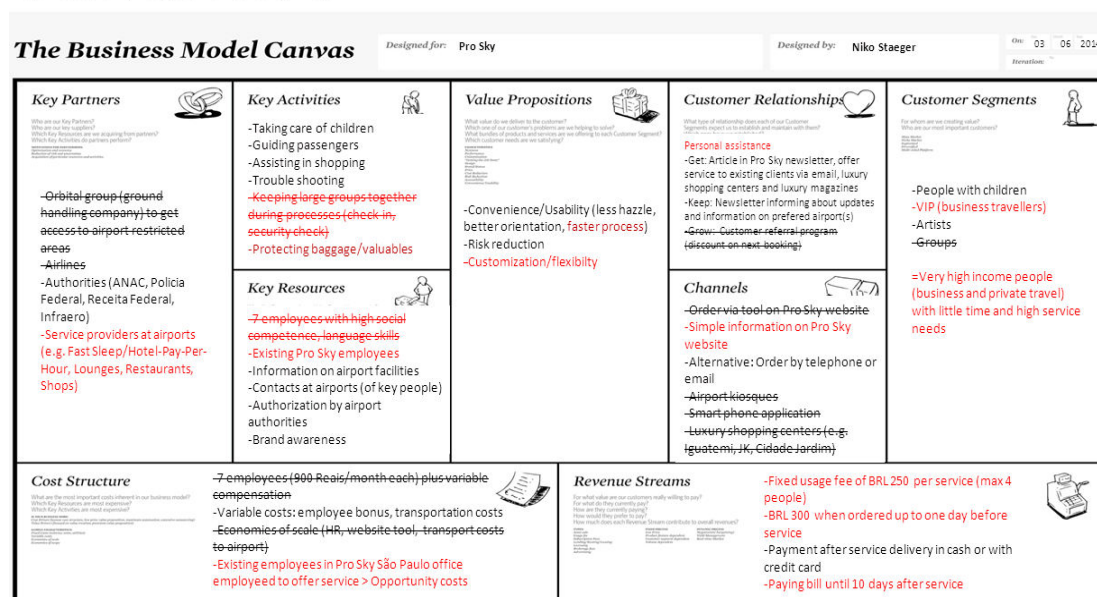

Figure 5. Business Model Generation (2014) with added text

Similar services to concierge service/ Internet research

While conducting the new product development process according to the lean startup model, the participant-observer also gained important feedback from work colleagues and supervisors for example on similar services already existing. In addition, internet research, a

task that is typically conducted for establishing business plans, could not be missed out. Having in mind this new market information, the respective market segment, in which the airport concierge service falls, has changed partly. The concierge service would still be a new service in Brazil, but similar service already exist in other parts of the world.

The airline Air Canada for instance disposes of concierges based at key points of several airports worldwide and available 24 hours. They can take care of key matters such as restaurant or hotel bookings. This service differs though from the service to be developed by Pro Sky, since latter, in order to fit to the Pro Sky philosophy would only take care of things directly related to the flight itself (Air Canada, 2014).

At Frankfurt airport in Germany, a VIP service has been introduced for arriving, departing and transferring passengers. They are accompanied until boarding the aircraft apart from the regular way throughout the terminal. Also, e.g. immigration formalities are handled. It is aimed at "high-ranking government officials, diplomats, corporate heads and others who want to begin or end their trips without stress "(Frankfurt Airport, 2014). The value proposition is to offer "flexibility, security and time savings - independently of your flight class or airline" (Frankfurt Airport, 2014). Additionally, the airport provides a personal shopper e.g. for Russian and Chinese passengers, thus emphasizing that airport increasingly become aware of the importance of a personal attendance (Frankfurt Airport, 2014).

Concluding, similar services exist, but many of them have different service offers or are provided in other parts of the world. The ones existing in Brazil are only, as e.g. in the case of Air Canada, for existing Air Canada clients, but not available for the general public. Other services only offer supervision in the public areas of airports. With exception of a few airlines, most of them reduce their services increasingly by staffing down and replacing services by machines (e.g. self-check-in). Pro Sky with its key resources of information gathering, project management and customer service thinks to be able to provide a concierge service in a better way and tries to fill this gap.

4.3.1.3 Phase 3: Test the product solution/ MVP (13.06.2014)

On June 13, 2014, the participant-observer and author tested out the MVP with a group of 9 people, including two children and two elderly people, who under regular circumstances, have a certain resistance to flying, especially because of the hassle at the airports. The MVP consisted of accompanying a travel group at the airport from their arrival at the terminal until entering the plane (guide), leading them physically trough the terminal (guide), informing them on relevant airport procedures such as security screening (adviser) and keeping the group together, especially by taking care of the children (child-minder). These features were enough in order to test out the service for the first time, but additional features were expected to arise during the simulation.

In detail, the participant-observer met the group at the entrance of the respective terminal at São Paulo-Guarulhos airport and guided them to the check-in counters of the airline TAM. After convincing the TAM check-in employees of the difficulty to handle the check-in process for this large group, the customers could use the priority/ business class check-in of the respective airline, which accelerated the check-in process significantly. Since the flight was almost booked out, the check-in staff could not provide a seating of all the group members next to each other. After finishing the check-in, time was still available before departure and the participant-observer guided the group to a nearby restaurant within the terminal, where latter could enjoy beverages and snacks before the flight. The participant-observer changed manually the allocated seats for the respective group, so that for instance the elderly couple could sit next to each other and the two children would be together and accompanied by an adult passenger. Afterwards the participant-observer guided the group to the security control area, collected them after the security check and guided them to their respective gate. Information about the location of lavatories and several shops was provided to the passengers. While the group was chatting or going to the lavatory, the participant-observer protected the group's valuables not to get stolen at the airport. Besides, he took care

of the children not getting lost within the hassle of the departure area of the terminal. Since the elderly people wished to receive information about the current delay, the participant-observer approached the employees at the boarding gate in order to inform the group.

Testing out the minimum viable product helped to derive the following findings

Processes that were conducted, that have not been within the first/ original business model canvas, comprise getting a respective group access into a priority check-in area, changing allocated seats manually after check-in so that passenger receive their preferred seating allocation, time management/ pushing group e.g. to punctually forward towards gate, providing information about delays and finally keeping the entire group together during the entire process. Activities conducted according to the upfront planning comprise guiding the respective group to the check-in area, guiding the group to specific airport facilities such as a restaurant and taking care of children not getting lost within the terminal area. Activities that have not been wished by the group include information on airport facilities such as shops or toilets. In general, the feedback of the client was as follows. The possibility of being accompanied by a personal Pro Sky airport concierge raised the willingness of the group to conduct the journey that in the past involved a high degree of stress for the group members especially the elderly ones. The next time at the airport the group would book the service again. The group would have paid an amount of up to BRL 150 (EUR 51) for the Pro Sky airport concierge service.

Most updated version of service

After going through the customer validation process, the following fundamental changes in respect to the key characteristics of the new service, also called pivot, are made. Instead of focusing on the emerging middle class and the high-income population. Pro Sky aims to target only latter and an effective way to reach this target group would be advertising for example in high-end shopping centres in the large metropolitan areas in Brazil. A further significant change comprises the fact that the lower than expected demand does not justify a

physical desk at an airport and therefore ad-hoc bookings of the service will not be possible. Pro Sky applies a low cost approach, offering the existing Pro Sky sales channels. Pro Sky will offer the possibility to book the service up to three days in advance. Instead of 7 additional employees, as originally budgeted, the existing employees of the Pro Sky São Paulo office will be available for offering the airport concierge service. The service will be available for individual people as well as for larger groups.
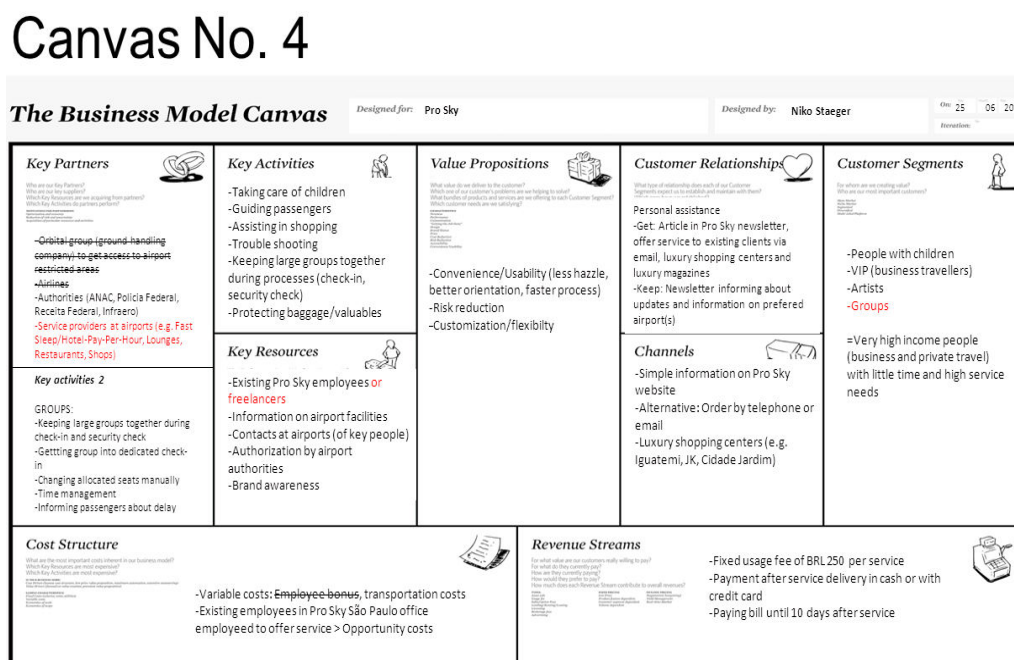
Figure 6. Fourth business model canvas

Figure 6. Business Model Generation (2014) with added text

4.3.2 Outlook customer validation/ next steps.

Within the thesis, the steps of customer discovery have been analysed. The next step would be the so-called customer validation phase. Investment into marketing by setting up flyers and starting to promote service in shopping malls like Iguatemi, JK Iguatemi and Cidade Jardim as well as at prestigious private schools with people of very high purchasing power are the next steps. Also, Pro Sky should start to work on the permission process with relevant authorities. If authorization at São Paulo-Guarulhos airport should take too much

time, then other large airports in other Brazilian states should be considered for starting operations first.These include Rio de Janeiro-Galeão, Brasilia and Belo Horizonte-Confins. At Brazil's second largest gateway for international travel, Rio de Janeiro-Galeão, permission to enter the security area of the airport, and thus accompany passengers from the check-in until the final boarding of the plane, is easier to be granted than for instance in São Paulo-Guarulhos.

Figure 7. Largest airports in Brazil

Brazil's top 20 airports, based on total capacity (seats per week): 21-Nov-2011 to 27-Nov-2011		
Rank	**Airport**	**Total seats**
1	GRU Sao Paulo Guarulhos International Airport	814,046
2	CGH Sao Paulo Congonhas Airport	508,421
3	BSB Brasilia International Airport	475,110
4	GIG Rio De Janeiro-Galeão International Airport	455,570
5	CNF Belo Horizonte Tancredo Neves International Airport	308,810
6	SDU Rio De Janeiro Santos Dumont Airport	288,480
7	SSA Salvador Airport Luis E Magalhaes	271,851
8	POA Porto Alegre Salgado Filho Airport	239,520
9	CWB Curitiba Afonso Pena Airport	229,398
10	VCP Sao Paulo Campinas Viracopos Airport	206,212
11	REC Recife Guararapes International Airport	188,028
12	FOR Fortaleza Pinto Martins Airport	142,924
13	FLN Florianopolis Hercilio Luz Airport	109,003
14	BEL Belem Val De Cans Airport	105,384
15	VIX Vitoria Eurico Sales Airport	92,482
16	GYN Goiania Santa Genoveva Airport	91,484
17	MAO Manaus Eduardo Gomes International Airport	91,012
18	CGB Cuiaba Marechal Rondon Airport	77,602
19	NAT Natal Augusto Severo Airport	70,886
20	SLZ Sao Luiz Marechal Cunha Machado Airport	66,256

Source: CAPA – Centre for Aviation & Innovata

Figure 7. CAPA-Centre for Aviation (2011)

5. Findings

The findings out of the application of the lean model for the development of the airport concierge service are structured into feedback on the customer development phase, financial and timely aspects, cognitive biases, HR related issues, strategy issues and obstacles.

5.1 Feedback on customer development phase

Within the customer development phase that includes the set-up of the hypotheses, the following experience has been made. In respect to verifying the market size hypothesis, Pro Sky faces the obstacle that the company is operating in a niche market so that within the fieldwork at São Paulo-Guarulhos airport a relatively low demand might induce the participant-observer to discontinue the development of the new service.

In respect to the value proposition hypothesis - product vision, Blank (2013:77)states that

"only because earlyvangelists are buying into your total vision will they spend money for an incomplete, buggy, barely functional first product". This might be true for US, but more difficult in this case in the Brazilian market with a culture in which people take much more time to accept new products or services. This might be seen in a broader context in which the so-called uncertainty avoidance index of Brazil (76) is significantly higher than the one of the USA with 46 (The Hofstede Centre, 2014).

5.2 Financial aspects

The costs incurred for the project are relatively limited and comprise the transportation costs to the airport, a journey to the airport of Rio de Janeiro-Galeão for screening the competitive environment, a journey to the airport of Porto Seguro accompanying group (experimenting MVP) as well as opportunity costs/ part of work time dedicated to project (Niko Staeger, Carolina Dal Bello and Armin Truger).

Apart from the limited costs that occurred, many costs could be avoided such as for market research, a marketing campaign aimed at the middle class (which was assumed to be a target group before conducting fieldwork) or the installation of an physical desk at an airport that probably would not have operated at full capacity with the airport concierge being rather a niche service.

5.3 Time aspects

At Pro Sky, past new product development such as the media solutions project took much more time than the airport concierge service. In respect to media solutions, the principal person responsible left the company and thus the learning out of the project was lost. This could also apply for a project developed under the lean startup model, but the (opportunity) costs would be lower and could be recovered more quickly.

An interesting fact is that the idea of an airport concierge service already existed at Pro Sky for several months, but the process to implement the new service was not even started. It

was argued that the process development would take too much time and in this case also the Brazilian subsidiary first had to develop a strong market position within the existing business segments. Also, the bureaucratic procedures such as coordination with the marketing department at the headquarters in Cologne/ Germany would have taken extra time that would then be missing for other especially operational tasks. Concluding, the traditional NPD model does not only take longer time, but also discourages, in this case at Pro Sky, to actually initiate the development process. The author started with the research on February 3, 2014 and concluded the testing of the MVP on June 13, 2014.

As stated under financial aspects, the lean startup model helped to gain customer insights quickly and to avoid time-consuming procedures such as marketing campaigns targeting the wrong customer segment.

Carolina Dal Bello as Pro Sky do Brasil's general manager dedicated to project around 3 times 1 hour for meetings as well as further hours giving advice on the project. Pro Sky's CEO Armin Truger dedicated around two times one hour for meetings as well as additional time sharing part of his experience and giving advice.

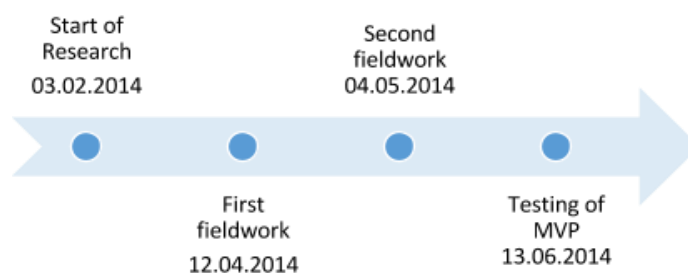**Figure 8. Timeline "Airport concierge service"**

Figure 8. Own illustration

Besides, it can lead much quicker to valuable insights not only from customers, but also from other parties/ stakeholders. In the case of Pro Sky, by doing fieldwork, the researcher found out which airport authorities play a major role for Pro Sky in order to gain

authorization for operating the airport concierge service.

5.4 Cognitive biases

5.4.1 Curse of knowledge.

The curse of knowledge represents a cognitive bias stating that "adults' own knowledge of an event's outcome can compromise their ability to reason about another person's beliefs about that event" (Birch and Bloom, 2006:382).

Therefore, both the traditional/ business plan model and the lean startup model try to give entrepreneurs more information about the implementation of a new product or service. While, the lean startup model might lead to faster learning and thus better information, it can also lower this cognitive bias, since the contact to the end customer is always given. That means, while doing fieldwork, the entrepreneur listens to the consumer and tries to understand him better. This was true in the researchers case at the airport, where the latter gained more qualitative information, but also a better understanding of the customer thinking such as a lower need for the airport concierge service as previously expected.

5.4.2 Desirability bias.

Another bias relates to "the notion that desire for an outcome inflates optimism about that outcome has been dubbed the desirability bias or wishful thinking" (Krizan and Windschitl, 2009). In respect to the airport concierge service project this bias could be clearly identified. The expectations before speaking to passengers were very high and it was assumed that a majority of passengers would use such a service. The participant-observer assumed that during the interview phase passengers would report on unpleasant airport service experiences and thus being interested in an airport concierge service. The disillusionment came at the airport when first asking passengers about their airport experience. First, many passengers had to be convinced to participate in a short interview. The opinions about airport service quality was mixed. During the second phase of interviews talking about the service solution, the

airport concierge service, customers were not really excited about the idea and showed little emotion such as interest, happiness or curiosity. Concluding, Pro Sky is working in a niche and thus not all passengers form part of the target group. Nevertheless, the desirability bias might have been lower, in comparison to the traditional form of NPD. The participant-researcher found out at an earlier stage that demand is lower than expected and hence, conclusions for example in respect to sales channels could be drawn and time saved. Furthermore, the researcher asked customers what price they would actually pay, which also lowered the so-called desirability bias. The contrast to the business planning coincides with Karlsson (2005:167) stating that "the business planning genre is almost by definition an exercise in writing about your business in a positive manner. Once you have written it, the written word produces an illusion of grandeur". He adds that even "if you know that it is an exaggeration when you write it, the persuasion of the written text could make you believe it".

5.5 Human resources

When entering the phase of "getting out of the building", the researcher faced a certain resistance himself, since fieldwork is not part of the daily routine at universities. Working for instance on marketing plans for large companies mainly involves internet research, where students rarely step out of their comfort zone. In contrast to that, the fieldwork provides an effective way to quickly evolve personally and learning out of it is especially valuable for many different tasks in future professions.

Once the researcher accepted that the development of this new service might not work to the same extend as planned, there was a first shock, but then the researcher felt some relief. This could be explained because the researcher was aware of the fact that although fighting to implement its vision, failure is allowed and it should not be stuck to the project, just because time and effort has already been invested. This might be, since in this case less time and resources have been invested and it was easier to cancel a project earlier, since maybe expectations have not built up over time (escalation of commitment).

Another important fact is that job variety can be increased by the lean startup model, since employees might be involved in the new product development process. Out of the researchers view, working with the lean model definitely induces a sharp learning curve and an enrichment in respect to the different tasks conducted at work such as sales. In contrast to developing the new product via the traditional method, the lean startup model helped to actually personally perceive the outcome of the entire project. This certainly helped to better identify with Pro Sky as an employer.

5.6 Corporate Strategy

In strategy, companies can achieve competitive advantage in two different ways, cost leadership or differentiation, with a product or service having specific features that deliver higher value to customers than its competitors do. Pro Sky sees itself especially in the category of differentiation, by offering a combination of products like charter and group tickets. In addition, it sees itself in the category of innovation e.g. with flight manager or flight control. (Prajogo and Sohal, 2006).

In addition, the lean startup model would fit well with a new organizational structure at Pro Sky, where departments are not only structured functionally (e.g. marketing or sales) and geographically but as well according to their key customers such as sports or automotive companies. In such a customer-driven company, it would be easier to develop new services with customer feedback in the sense of the lean startup model (A. Truger, personal communication, June 20, 2014). This provides a chance for Pro Sky, since the company entered on a major growth path and new employees join the company on a constant basis. Since they are new, they can get used to the lean startup way of thinking quickly, as they are not bound to the traditional model. In a broader sense, lean could become a general motto of a customer-driven Pro Sky where the direct customer feedback is essential, whether in NPD, sales or daily operations.

5.7 Obstacles in implementing the lean model at Pro Sky

A disadvantage of the lean startup model might be that by presenting the minimum viable product, and thus an unfinished product, this might harm the reputation of Pro Sky. This is especially so, since it is a rule of thumb that the first impression to customers matters a lot and therefore if e.g. customers would be disappointed, it would take a high amount of time and effort to repair the relationship and restore the brand image. Especially for Pro Sky, reputation is essential since the customer base of the company mainly grows by referrals from content customers in the aviation sector, in which many informal relations consist and news spread quickly. Therefore, there is some resistance of the Brazilian CEO to e.g. conduct the customer development process with the service linked to Pro Sky. As a solution for this problem, during the customer development process where the first hypotheses were tested, the researcher only asked for answers to questions about problems and did not mention the solution in the form of a new service offered by Pro Sky. Thus, customer insights could be won without damaging the reputation of the Pro Sky brand. Another way to do so, would be establishing a brand that is yet not linked to Pro Sky and will only at a later stage, if the service is performing well, showing as well Pro Sky as the mother brand (A. Truger, personal communication, June 20, 2014 and C. Dal Bello, personal communication, June 20, 2014).

Another important point mentioned by the CEO Armin Truger (2014), also related to the reputation of the company, is that the company does not want to promise clients a service and then later not being able to actually deliver. As an example, in previous services, e.g. the service was not finished or in the case of the airport concierge service, the authorization to conduct the service has not been granted yet. Therefore, Pro Sky prefers to offer a service that is already rather perfect than a MVP. This is so in order not to create too high expectations and then disappoint customers, since the real product is performing its below expectations (Pro Sky, 2014).

Finally, by working with the lean startup model, the participant-observer did not

produce an extensive business plan, since progress in updating the respective hypotheses was documented in a new business model canvas. This was perceived as an efficient process, nevertheless it led to the disadvantage of not having an elaborated document that could serve as a visual proof of the work already done and as a justification for the time already consumed for the project. This made it more difficult to ask for additional resources by forgoing to work on the daily operations. Making the responsibility for developing new products/ services, with the help of the lean startup model, part of Pro Sky job descriptions might therefore help to have a clearer structure and to better implement the model across Pro Sky.

6. Conclusion

In respect to the NPD processes, there can be seen a development towards an approach that shares more similarities with the lean startup model than with the traditional one. Partly, this is due to the presence of the lean model in literature, but especially out of the learning curves from the past development phases, which still had room for improvement (Pro Sky, 2014). Actively using the lean startup model for the development of the airport concierge service proved to be successful in respect to eliminating waste time and financial wise. Hypotheses on key topics such as customer segments, value propositions and sales channels could be updated within four months. In contrast to previous new product developments, investments that later would have been regretted such as into marketing have not been made. Additionally, without the lean startup model, which is perceived as resource-saving and flexible, the development of the airport concierge service would have been deferred to the following year. In future, the lean startup model could enforce Pro Sky´s development into a customer-driven company to be structured not only functionally and geographically, but as well according to key customer groups. In some cases, specific elements of the traditional model might prove successful in complementing the lean model.

Nevertheless, there are still some obstacles in order to better use the lean startup model. Firstly, at Pro Sky there are already strong hierarchical structures established, which

complicate the new product development process. Pro Sky has to adjust its processes like e.g. granting employees more freedom and offering a success sharing scheme in order to benefit from a successful new development process.

Secondly, the CEO of Pro Sky and general manager of Pro Sky do Brasil are very worried about the reputation of Pro Sky. Therefore lean startup projects have to be conducted without customers directly recognizing the brand Pro Sky. In general, a change in mind-set would help to better embrace certain risk such as NPD with so-called earlyvangelists as test customers, in order to quickly evolve new services and thus derive a major innovative competitive advantage.

The lean model at Pro Sky as an SME can work, but a significant investments and restructuring is necessary in order to use the lean model as well for other projects, in other Pro Sky subsidiaries and in the headquarter. This would be essential in order to boost the NPD process that is fundamental especially for a company, especially in the fast moving aviation business, that sees its competitive advantage derived by being more innovative and quicker than its competitors. For the lean model itself, an adaptation to a specific version suitable for teams up to three employees is recommended.

A limitation of the thesis is that for reasons of time, out of the so-called customer development solely the customer discovery phase could be tested. During a customer validation phase, the airport concierge service concept could be further verified for viability.

The thesis itself tried to give an insight into the adaption of the lean model with a practical example, but of course generalizations are difficult to be drawn. Therefore, the thesis principally serves as a starting point to analyse implications of the lean model more in detail and on a quantitative basis. Additional case studies about companies adopting the lean model could complement this thesis in granting more practical insights. It is especially important to transfer the lean model to SMEs, since they are the backbone of many economies and provide employment for millions of people.

7. References

Air Canada (2014).Concierge Service. Retrieved June 24, 2014

    fromhttp://www.aircanada.com/en/travelinfo/airport/concierge.html.

Birch, S. A., & Bloom, P. (2007).The curse of knowledge in reasoning about false

    beliefs. *Psychological Science*, *18*(5), 382-386.

Blank, S. (2012). *The Startup Owner's Manual: The Step-By-Step Guide for Building a Great*

    Company. New York, U.S.A.: K & S Ranch.

Blank, S. (2013). Why the lean start-up changes everything. *Harvard Business Review*,

    91(5), 63-72.

Brinckmann, J., Grichnik, D., &Kapsa, D. (2010). Should entrepreneurs plan or just storm the

    castle? A meta-analysis on contextual factors impacting the business planning–

    performance relationship in small firms. *Journal of Business Venturing*, *25*(1), 24-40.

Bullinger, H. J., Fähnrich, K. P., &Meiren, T. (2003). Service engineering-methodical

    development of new service products. *International Journal of Production*

    Economics, *85*(3), 275-287.

Burgstone Jon (2012). What's wrong with the lean start-up. Inc. Retrieved June 24, 2014 from

    http://www.inc.com/jon-burgstone/flaws-in-the-lean-start-up.html.

Business Dictionary (2014).Corporate Strategy. Retrieved March 18, 2014 from

    http://www.businessdictionary.com/definition/corporate-strategy.html.

Business Model Generation (2014).The Business Model Canvas.Retrieved March 18, 2014

    fromhttp://www.businessmodelgeneration.com/canvas.

Canvanizer (2014).How to use.Retrieved March 18, 2014 from

    http://canvanizer.com/new/lean-canvas.

Chandy, R., Dorotic, M., Hoyer, W. D., Krafft, M., & Singh, S. S. (2010).Consumer

    cocreation in new product development.*Journal of Service Research*, *13*(3), 283-296.

Cooper, R. G. (1994). Perspective third-generation new product processes. *Journal of Product*

Innovation Management, *11*(1), 3-14.

Cooper, R. G. (2008). Perspective: The Stage-Gate Idea-to-Launch Process-Update, What´s New, and NexGen Systems*. *Journal of Product Innovation Management*, 25(3), 213-232.

Customer Development Labs (2013).How to nail customer interviews. Retrieved June 26, 2014 from http://customerdevlabs.com.

Davis, C. R. (2012). Calculated risk: A framework for evaluating product development. *MIT Sloan Management Review*. Retrieved August 25, 2014 from http://sloanreview.mit.edu/article/calculated-risk-a-framework-for-evaluating-product-development/.

Drucker, P. F. (1959). Long-range planning-challenge to management science.Management Science, 5(3), 238-249.

Economist (2009).GenchiGenbutsu. Retrieved June 24, 2014 from http://www.economist.com/node/14299017.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: opportunities and challenges. *Academy of management journal, 50*(1), 25-32.

Entrepreneur (2014).An Introduction to Business Plans. Retrieved August 25, 2014 from http://www.entrepreneur.com/article/38290.

Financial Times Lexicon (2014).Pivot. Retrieved June 25, 2014 from http://lexicon.ft.com/term?term=pivot.

Frankfurt Airport (2014). VIP-Service. Retrieved June 26, 2014 from http://www.frankfurt-airport.com/content/frankfurt_airport/en/services_at_the_airport/vip-service.html.

Gruber, M. (2007). Uncovering the value of planning in new venture creation: A process and contingency perspective. *Journal of Business Venturing*, *22*(6), 782-807.

Hays, P. A. (2004). Case studyresearch. *Foundationsforresearch: Methodsofinquiry in educationandthesocialsciences*, 217-234.

Hindle, K., &Mainprize, B. (2006). A systematic approach to writing and rating

    entrepreneurial business plans. *The Journal of Private Equity*, *9*(3), 7-22.

Hoey, P. &Hoey, M. (2012, August 28). The Self-Service Airport. *The Wall Street*

    Journal. Retrieved August 25, 2014 from http://online.wsj.com/news/articles/

    SB10000872396390443545504577567501420272414.

Honig, B. (2004). Entrepreneurship education: Toward a model of contingency-based

    business planning. *Academy of Management Learning & Education*, 3(3), 258-273.

Karlsson, T. (2005). Business plans in new ventures: An institutional perspective (Doctoral

    Dissertation, Jönköping International Business School, Jönköping, Sweden). Retrieved

    August 26, 2014 from http://www.diva-portal.org/smash/get/

    diva2:3939/FULLTEXT01.pdf.

Karlsson, T.,&Honig, B. (2009). "Judging a business by its cover: An institutional perspective

    on new ventures and the business plan." *Journal of Business Venturing* 24.1 (2009): 27-

    45.

Krizan, Z., &Windschitl, P. D. (2009). Wishful thinking about the future: Does desire impact

    optimism?. *Social and Personality Psychology Compass*, *3*(3), 227-243.

Liker, J. K.,& Morgan, J. M. (2006). The Toyota way in services: the case of lean product

    development. *The Academy of Management Perspectives*, *20*(2), 5-20.

MacLeod, C.,& Mathews, A. (2012). Cognitive bias modification approaches to anxiety.

    Annual Review of Clinical Psychology, *8*, 189-217.

Michaels, D.,&Nicas, J. (2012). The Self-Service Airport. *The Wall Street Journal*.Retrieved

    August 10, 2014 from http://online.wsj.com/news/articles/SB10000

    872396390443545504577567501420272414.

Mullins, J., &Komisar, R. (2009). *Getting to Plan B: Breaking Through to a Better Business*

    Model. New York, U.S.A.: Harvard Business Review Press.

Nobel, C. (2013). Lean Startup Strategy not just for Startups. Forbes.com. Retrieved February

15, 2014, fromhttp://www.forbes.com/sites/hbsworking

knowledge/2013/02/25/lean-startup-strategy-not-just-for-startups.

Orbital (2014). Retrieved June 2, 2014 from http://www.grupoorbital.com.br/

atende_passageiro.asp.http://www.grupoorbital.com.br/atende_passageiro.asp.

Osterwalder, A.,&Pigneur Y. (2010).*Business Model Generation: A Handbook for

Visionaries, Game Changers, and Challengers.* Hoboken: John Wiley & Sons.

Prajogo, D. I., &Sohal, A. S. (2006). The relationship between organization strategy, total

quality management (TQM), and organization performance-the mediating role of

TQM. *European Journal of Operational Research*, 168(1), 35-50.

Pro Sky (2014). Pro Sky - Own the skies. Retrieved March 23, 2014 from http://www.pro-

sky.com.

Reuters (2010). Top 5 myths about the lean startup. Retrieved June 24, 2014 from

http://blogs.reuters.com/small-business/2010/04/27/top-5-myths-about-the-lean-startup.

Ries, E. (2011).*The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to

Create Radically Successful Businesses*. New York, U.S.A.: Crown Business.

Shaw, G., Brown, R., &Bromiley, P. (1998). Strategic stories: How 3M is rewriting business

planning. *Harvard business review*, *76*, 41-54.

Sharma, P., & Chrisman, S. J. J. (2007). Toward a Reconciliation of the Definitional Issues

in the Field of Corporate Entrepreneurship*. In *Entrepreneurship* (pp. 83-103).

Springer Berlin Heidelberg.

Shenton, A. K. (2004). Strategiesforensuringtrustworthiness in qualitative research

projects. *Education forinformation*, *22*(2), 63-75.

Smith, D. (2012). Psychologist wins Nobel Prize. Retrieved June 2, 2014 from

http://www.apa.org/monitor/dec02/nobel.aspx.

Spear, S., & Bowen, H. K. (1999). Decoding the DNA of the Toyota production

system. Harvard Business Review, 77, 96-108.

Takeuchi, H., &Nonaka, I. (1986). The new new product development game.*Harvard business review*, *64*(1), 137-146.

Tam, P. (2010, May 20).Philosophy Helps Start-Ups Move Faster.*The Wall Street Journal*. Retrieved June 24, 2014 fromhttp://online.wsj.com/news/articles/ SB10001424052748704635204575242543105830072.

Teece, D. J. (2010).Business models, business strategy and innovation.*Long range planning*, *43*(2), 172-194.

The HofstedeCentre (2014). Cultural Tools - Country Comparison. Retrieved August 12, 2014 from http://geert-hofstede.com/united-states.html.

Thornberry, N. E. (2003). Corporate entrepreneurship: teaching managers to be entrepreneurs. *Journal of Management Development*, *22*(4), 329-344.

Udacity (2014).How to Build a Startup - The Lean LaunchPad. Retrieved March 20, 2014 fromhttps://www.udacity.com/course/ep245.

Yin, R. K. (2009).A (Very) Brief Refresher on the Case Study Method. In Yin, R. K. (Ed.), *Case Study Research: Design and Methods (Applied Social Research Methods)* (pp.3-20). New York, U.S.A.: SAGE Publications.

Taylor, J. (2013). Cognitive Biases Are Bad For Business. Retrieved June 2, 2014 from http://www.psychologytoday.com/blog/the-power-prime/201305/cognitive-biases-are-bad-business.

8. Appendices

Appendix 1. First questionnaire at airport

-Describe the last time when you departed from Sao Paulo-Guarulhos airport (with children, with group)

-How was the process until now at Sao Paulo-Guarulhos airport?

Digging in:

-What was the most difficult part?

-What exactly made it so difficult?

-How do you solve the problem now?

-Why are you not satisfied with that solution?

Asking more specifically (lower weight put on answers on that):

-What do you think about the service quality offered at this airport?

Customer insights:

Possibly speaking in favour of concierge service:

-"With children under 6 it's not easy here"

-"I was even robbed at the airport"

-"At the airport, time is money"

-"Our group many times breaks apart"

Speaking against concierge service:

-People from presumably emerging middle class show higher satisfaction with airport:

"Everything was fine" > no focus customer segment

-Many people feel improvements in the last time concerning the service quality at the airport

-By doing fieldwork: acknowledgement of several services already existing such as airport employees walking around and giving information or group assistance offered by travel agencies for clients

-Emotions shown during interviews were limited

Further insights:

-Demand for airport service improvements especially from parents of presumably high social classes as well as group travellers

-Several people would prefer better facilities (playground, special restaurants for children, lounge access) rather than concierge service

-High demand for special services for groups (e.g. lounge access, separate check-in or fast lane for security check)

-People more practical oriented than assumed before/ many try to solve problems by their own

-Possible service seems to be very much a niche service for high-income people, especially with children and groups

Appendix 2. Caricature "The Self-Service Airport"

Appendix 2. Hoey (2012)