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Development of an innovative product and its diffusion on the market

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Abstract

Für die Entwicklung eines innovativen Produkts und seine Verbreitung am Markt müssen sowohl die Bereiche der Produktentwicklung als auch die der Geschäftsentwicklung berücksichtigt werden. Im ersten Schritt wird eine Literaturrecherche durchgeführt um für diese innovative Produktidee geeignete Geschäftsentwicklungs- und Produktentwicklungsmethoden zu finden. Im zweiten Schritt erfolgt die Anwendung dieser Methoden.

Für die Produktentwicklung wird ein Prozessmix aus Scrum und Stage-Gate® gewählt um einen projektspezifischen Produktentwicklungsprozess auszuarbeiten. Die Detailplanung sowie auch die Implementierung dieses neuen Produktentwicklungsprozesses werden nicht im Rahmen dieser Arbeit durchgeführt, sondern von einem externen Projektteam.

Ein Geschäftsmodell wird iterativ mit dem Business Model Canvas entwickelt, das Informationen aus dem zuvor erstellten Value Proposition Canvas und einer durchgeführten quantitativen Umfrage enthält. Wie die Ergebnisse der quantitativen Umfrage zeigen, gibt es ein enormes Marktpotenzial für die Produktidee, da dies zur Entstehung eines „Blue Ocean" führt.

Schließlich wird in dieser Arbeit ein umfassender und vollständiger Businessplan erstellt, der auf den bisherigen Ergebnissen dieser Arbeit basiert und anschließend ganzheitlich mit den Ergebnissen und Planungen des gesamten Projekts angereichert wird.

Zusammenfassend lässt sich sagen, dass die Entwicklung eines Geschäftsplans für ein innovatives Produkt und dessen Verbreitung am Markt kreative und unkonventionelle Lösungen sowie ein kooperatives und zuverlässiges Team erfordern. Herausfordernde Überraschungen und eine intensive Phase ebnen den Weg von der Produktidee zum Markterfolg.

Abstract

For the development of an innovative product and its diffusion on the market, both areas, new product development and business development, need to be considered. In the first step, a literature research is conducted to find the appropriate business development tools and new product development tools for that innovative product idea. In the second step, the application of those tools follows.

For the product development a process mix of Scrum and Stage-Gate$^®$ is selected to elaborate a customized new product development process. The detailed planning as well as the implementation of the new product development process are executed by an external project team and not within this work.

A business model is iteratively developed with Business Model Canvases, containing information from a previously created Value Proposition Canvas and a performed quantitative survey. As the results of the quantitative survey show, there is a huge market potential for the product idea as it leads to the creation of a blue ocean.

Finally, this work purveys a comprehensive and complete Business Plan, based on the previous results of this work and subsequently holistically enriched with the findings and plannings of the entire project.

In summary, the development of a business plan for an innovative product and its diffusion on the market requires creative and unconventional solutions as well as a collaborative and reliable team. Surprising challenges and an intense time pave the way from the product idea to the market success.

Contents

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Abbreviations

B2B	Business to Business
B2C	Business to Consumer
BMC	Business Model Canvas
FFG	Forschungsförderungsgesellschaft, the Austrian research funding corporation
IMS	Integrated Mesh System
MVP	Minimal Viable Product
NPD	New Product Development
SGBMN	St. Galler Business Model Navigator
USP	Unique Selling Point
VPC	Value Proposition Canvas

1. Introduction

1.1. Background and motivation

The BSH innovations GmbH has been searching for an innovative product idea for more than three years. Finally, they found an idea that seemed promising. It was a winter cap, that would protect one's hairstyle instead of destroying it. Such a product did not exist on the market yet and therefore had great potential[1]. Rarely one finds an opportunity to develop a completely new to the world product.

But how to bring this idea to the market, successfully?

The first part of this work that covers the development of this innovative winter cap tries to find out which new product development (NPD) model is suitable for this product idea and which process or framework shall be selected. Currently, there exists a lot of literature coping with topic NDP. Different models, processes and tools have been developed to support the procedure of bringing an idea to the market. They can offer frameworks that are proven to be successful most of the time. Even though the focus during the new product development lies on the unique selling point (USP), it is equally important to consider the main characteristics for products within one's market and solve the problems[2] competitors face as well.

The second part of this work deals with the diffusion of the new product on the market. This is the economic part. It deals with the business model behind the product which should support successful commercialisation. Therefore, a sound business model has to be found. To develop such a business model the three key questions of, how does the customer segment look like, what value can the product offer, and what is sales strategy behind the business model, need to be answered. Starting with the customer segment, it is crucial to get insights and find answers to the two core questions: *Who* are the target customers of this new product and *what* exactly are their *needs*? With that knowledge about the customer segment in mind, the value proposition has to be defined. This includes finding out all requirements and characteristics the product needs to fulfil in order to achieve the planned customer satisfaction. Next, a sales strategy has to be elaborated. Tools

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[1]The extent of the potential is shown in figure 19
[2]Table 1 lists and categorizes issues with winter caps

like the 55 patterns from the St. Galler Business Model Navigator[3] facilitate the development of a suitable strategy.

Finally, a business plan shall be created. On the one hand, this was a demand by the BSH innovations GmbH, on the other hand, it is a useful tool for risk management and strategic planning, as it holistically summarizes all findings and outcomes from the product development as well as the business model development.

1.2. Goals

This work is trying to find a sound business model for marketing the innovative product idea. The first step to reach this goal is to search for current business model development tools and to find a state of the art method, that can be applied. However, the focus will lie on the proper application of such methods and the development of the actual business model.

The next step is to collect valid data that build the basis for the business model. Therefore, it needs to be verified whether or not people need a winter cap that protects their hairstyle instead of destroying it. Also, further customer needs have to be identified. Moreover, the customer segment itself has to be found out. To do so, target groups have to be analysed and specified. Furthermore, a good sales strategy needs to be elaborated, meaning it shall be a strategy that generates as much profit as possible under the given circumstances the new winter cap is facing, like its market and the available resources.

A working business model is useless without a working product. Therefore a process for the NPD has to be selected to generate an action plan beforehand. Such a plan is needed to successfully develop a ready for the market product out of the idea. The literature provides many models for this topic, that is recommended differently depending on the product and the development situation. In this case, there already exists a clear vision of what the new product is going to be, but lacks a fixed solution concept as well as detailed features specific requirements. The goal is to select an NPD process that provides the boundaries to develop a product out of this rough idea.

The last goal is to create a document that summarizes all up to date findings and outcomes. This is done by writing and regularly updating a business plan. Maintaining a business plan that way is needed urgently, as precondition especially for an emerging company but even later on for a performing company, because the results of the progress get documented on the one side, and a planning tool for the short-term and long-term future is provided on the other side.

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[3]Compare table 2 in section A.4

1.3. Delimitation of the extent of the work

This work focuses rather on the business development than on the product development. For a successful product innovation, however, both are essential. Therefore the two need to be aligned to each other. This is why the framework for the product development is provided within this work but not the very development of the product. Business model and business plan, however, are fully developed in the course of this work.

What is done:

- The elaboration of a rough action plan for the product development. It shall be a guide for the project team that facilitates their creation of a detailed action plan. Finally, this describes the basis on which the actual product development can happen.

- The development of a valid business model that safely navigates the company that will market the new product idea through the start-up phase, which usually lasts for the first three years of existence of the company. Although some long-term advise will be given the focus lies on elaborating a short-term plan to establish a foothold for a company in the market.

- A business plan - this plan will be created and iteratively updated until a feasible business model is found and ready to be implemented.

What is NOT part of this work:

- The product development - consisting of the control of the product development process as well as the technical development of the product and all its features - is done entirely by the project team and therefore not part of this work.

- Because market predictions are hard to do due to steadily upcoming new technologies, it makes more sense to adapt to the current (market-) situation than acting out long-term plans that were created at some point in the past. This is why long term advice is given sparsely and not further striven for within this work.

- The product development needs the newest findings from market insights to adopt needed features. The business development needs information about the working product features for the strategy formulation. Therefore strong communication and closely working together with the project team is beneficial. As a result the alignment of business development to the product development was done implicitly, but not as part of this work.

2. Description and a rough analysis of the new product idea

2.1. Description of the product idea

When it is winter and it is cold outside, as a logical consequence people with short, styled hair as well as temperature-sensitive people with longer, styled hair are facing one difficult decision: Either they wear a winter cap thus staying warm and sane but messing up their hairstyle or they reject wearing a winter cap therefore staying cool and stylish while risking pain and getting ill. With that simple observation made, the potential need for a product was identified: It has to combine protection of the head against cold temperatures (the main function of regular winter caps) and protection of one's particular hairstyle at the same time. A short quantitative survey about people's own hairstyle as well as winter cap preferences and habits proved the need for such a product[4]. By analysing the current market situation[5] it was discovered that currently there is no product on the market combining those two issues.

The idea to solve that problem is quite simple: The new product will be a winter cap, having some support structure - called the Integrated Mesh System (IMS) due to its function and design - beneath which is creating and maintaining a distinct space between hair and cap. A fitting system, similar to a headband, will provide the needed fit on the head. The winter cap itself can have various designs to match people's styles and should be interchangeable using the same support structure. That way the product will provide complete protection during winter; protection against cold temperatures **and** protection against messed up hairstyle, leading to happier people with less bad hair days[6].

However, it is not enough to just solve the hairstyle-problem, the new winter cap is additionally addressing issues that can currently be found with traditional winter hats, like protection against bad weather, comfort, design, the feel to the materials, durability, production quality, etc.[7]. The aim is to offer a fashionable yet functional product that looks good, protects the hairstyle and keeps

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[4]See the results under 5.2.2.3

[5]Analysis of competitors and the environment in section 2.4

[6]Definition of bad hair day: *A day on which everything seems to go wrong, characterized as a day on which one's hair is particularly unmanageable.* (Oxford Dictionary, 2018)

[7]Compare the criteria of winter caps in table 1

the head warm. Many renounce a headwear for hairdressing reasons. To address this customer group the contradiction of a warming headwear and a perfect hairstyle gets unified.

2.2. Description of the level of innovation

The entirely new, unique and holistic solution concept as described in section 2.1 ensures the high degree of innovation. Conventional winter caps destroy the hairstyle - the new solution does not. Whether people come from the hairdresser or are used to style or restyle their hair after arriving at their desired destination, the new solution is revolutionary as it makes the point in time when people are styling their hair independent from the moment and the situation they need those good looks. In that sense it is way more than a traditional winter cap - it is a style protection solution that provides independence.

Another area of innovation is the topic of comfort. As the headband describes the only part interacting with the head, it conveys the light feeling of a headband instead of a heavy winter cap. In addition the headband provides extreme comfort due the its softness and its form adapting material characteristics whereas most traditional winter caps stick to the same materials needed for the outer design.

The new cap brings innovation even to active health protection, as it motivates people to keep their head warm, therefore staying healthy, as the

> *»Rhinovirus is the most frequent cause of the common cold, as well as one of the most important causes of asthma exacerbations. Most rhinovirus strains replicate better at the cooler temperatures ... Thus, cooler temperatures can enable replication of the common cold virus, at least in part, by diminishing antiviral immune responses.«*[8]

Respectively, the risk of getting a disease as a result of the non-application of protecting measures due to style or comfort reasons is reduced.

Likewise, the degree of innovation in the health sector should not be underestimated, as it will have positive societal implications. On the one hand, there are more healthy people, because they did not catch a cold, who otherwise would have infected more people. On the other hand, this is helping the state budget by saving opportunity costs within the health system. Thus, the new product contributes to a healthier society in the cold seasons, as health and beauty are no longer mutually exclusive.

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[8](Foxman et al., 2015, p. 827)

2.3. Requirements of the product

Using the KANO-model, the characteristics of winter caps, that are identified during the course of this work, are categorized in must-be, one-dimensional, attractive, indifferent and reverse requirements in table 1. Must-be requirements contain criteria that the customer expects from such a product and that need to be fulfilled to enter the market. One-dimensional requirements describe criteria, for which customer satisfaction is proportional to their implementation. The fulfilment of attractive requirements leads to satisfaction whereas a non-implementation has no impact on the satisfaction level of the customer. Indifferent requirements do not impact customer satisfaction at all. Reverse requirements, however, are knock-out criteria, if they are present, and should be avoided.[9]

Kano-Requirements	Criteria of traditional winter caps
Must-be	Protection from cold temperatures; protection from bad weather like snow rain and wind; thus protecting from getting sick; providing a good fit, good audibility and a good design;
One-dimensional	Protecting one's hairstyle; comfortable to wear; durable and long living product; delivered with good production quality;
Attractive	Use of materials that feel expensive; a brand image people want to identify themselves with; usable in different situations like for doing sports and casual events; usable at a wide temperature range; breathable material; easily storable; interchangeable upper hats; reducing emotional stress;
Indifferent	Machine-washable
Reverse	Winter caps that are itching, scratching and unhygienic

Table 1.: Kano-model for categorizing criteria of winter caps

Out of table 1 the following, equally important, main functions are derived for the new winter cap. First is the protective function. The winter cap has to protect the person wearing it in two ways. It shall preserve the person's hairstyle, as this is the USP, and provide protection from bad weather like cold temperatures, rain, snow, and wind. Second, the new winter cap must keep the head warm, because that is what winter caps are ought to be. As last main function, the winter cap needs to be stylish. People to whom style is important will not buy products that are not stylish.

Beside those main functions, several should-meet criteria were identified. They are sorted by decreasing importance. The winter cap should be lightweight and comfortable, as this can be appealing for a lot of people who might not even care about their hairstyle, which is an essential requirement to reach a wider customer base. In addition, the product should fulfil high quality standards, on the one hand to justify its prize point and on the other hand to add a premium touch due to materials that feel fine, expensive, long lasting and durable. As the new winter cap consists of an upper hat and a support structure, the interchangeability of upper hats can be offered as a supplementary feature. Furthermore the cap should be as space efficient as possible. Unless one is

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[9](Xu et al., 2009)

wearing the winter cap, it has to be stored somewhere. Therefore, an ingenious mechanism should convey the feeling to customers, that the winter hat cleverly stored away, but always ready, when they need it.

2.4. Competitors and business environment

There is fashionable, hairstyle-friendly headwear with warming properties available in the market, but there is no product protecting the hairstyle while fully providing protection against cold.

Variants warming the ears only are earmuffs. There are ones with a connection leading over the head or neck area, and also in form of individual loosely connected Earbags. As a temporary fashion trend people wore voluminous headphones covering the whole ear on cold days[10].
Solutions for keeping the ears and parts of the head warm are headbands, running around the forehead, the ears and the back of the head.
Closed to the top, ears warming and gentle on the hair product variants are loosely knit beanie hats, oversize knit hats, hat caps with ear protection, Uschankas (col. "Schapka") with flaps reaching over the ears and voluminous, over the ears reaching fur hats.
Wind protecting, but not covering the ears, are hats, taller caps, newsboy caps, berets, sailors' caps and similar headwear. Hoods integrated directly into garments such as jackets and sweaters are also to be considered into the market environment.
In the broader sense, tight-fitting headwear, in combination with previously applied hair fixing, hair powder, bulk foam, as well as the subsequent styling with a styling set consisting of these same products but in a smaller format, have to be seen as competitive alternatives, too.

Competitors in the market environment are textile trading companies in the traditional clothing market, distributors in the sporting goods sector, speciality shops and online shops for headwear. As mentioned above, drugstores and, depending on the trend, even a part of the electronic retail sector can be seen as competition in the broader sense.

2.5. Strengths and weaknesses

2.5.1. Weaknesses of products currently available

Earmuffs and individual mounted Earbags can not protect the hairstyle from rain or snow. In addition, they cannot keep the head but only the ears warm. Therefore they are not suitable for

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[10]This trend is not scientifically proven. It was a mere observation out of personal experience and confirmed by multiple colleagues. So there is the possibility that it was just a local phenomenon.

really cold winter days.

Although headbands provide better protection against cold temperatures they still cannot protect the hairstyle from bad, hairstyle hostile weather like rain, snow and wind. Moreover, they may destroy some (parts of) hairstyles.

Loosely knit beanie hats, oversize knit hats, hat caps with ear protection, Uschankas (col. "Schapka") with flaps reaching over the ears and voluminous, over the ears reaching fur hats keep the head warm and protect the hair from bad weather. Nevertheless they cannot preserve the hairstyle as they have contact with the hair, thus impacting and deforming the previous hairstyle to some extend.

With hats, taller caps, newsboy caps, berets, sailors' caps and similar headwear people get cold ears as they are exposed to the environment without protection. Furthermore those headgears touch the hair as well, therefore provide no protection for the hairstyle.

Styling gel, moulding paste and hairspray preserve the hairstyle - some special hairsprays claim to even protect the hairstyle against extreme weather conditions . However, they provide no protection against cold temperatures.

2.5.2. Strengths of the new winter cap

This new winter cap has several advantages over regular winter caps. It has features that regular ones do not have and improves areas where regular winter caps lack:

- The new winter cap is the first winter cap on the market that truly protects a broad variety of hairstyles. At the moment there exists one product that claims to not destroy the hairstyle. This however was more of a marketing or PR gag, as it is a winter hats that can protect one specific hairstyle, namely ponytails[11]. So this is another product just addressing one particular issue but not the problem holistically, like the new winter cap is doing.

- Due to the innovative concept there is the possibility to use advanced materials that are completely new to that market, such as high strength materials that guarantee the hair protection function by creating some distance to the hair. The air within that hollow space functions as insulation media thus the wind-blocking cloth on the outside can be very thin. Therefore the new winter cap is particularly light while ensuring good heat insulating.

- The new winter cap shall be astonishingly comfortable. As the outside cloth is mounted separately, the whole system provides by design the possibility to use a different, very comfortable cloth for the fitting system. Thus design does not compromise comfort any more. This is a huge advantage over regular winter caps. Because regular good-looking winter caps may itch or scratch or in case they are comfortable they may not be aesthetically

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[11](Woman.at, 2018)

> appealing. Due to the separation of upper hat and the portion that interacts with the human skin, the factors influencing comfort and design can be optimized independently.

- The new winter cap has a striking design. The bigger-than-normal dimensions make sure that the new winter cap stands out. Especially in a market with high competition[12] it is difficult to protrude from the masses, thus providing an advantage.

- As the new winter cap offers a certain distance to the hair, it provides additional hygiene. Because emerging moisture can be transported away from the hair and therefore the condensation to sweat is avoided. In addition this protects the hairstyle even more.

- The idea is being implemented by a young, innovative team utilizing agile methodologies. Thus, problems can be detected quickly and changes made fast, efficiently and effectively.

2.5.3. Weaknesses of the new winter cap

However, the new winter cap has two weaknesses that mostly correlate to the fact that it is a fashion item:

- As design is a matter of taste, its new and outstanding design may appear ugly to some, because it is unusual, new and has no social proof yet. To handle this weakness it is important to do following two things. First, the right marketing has to address people, who find the design and the product appealing. Secondly, it is important to collect customer feedback and react to it accordingly, which improves the product and its design, as well as it increases the affinity of customers to the new winter cap, which is strengthening the social proof.

- The new winter cap is relatively easy to copy for big fashion brands, in terms of financial expenses. To counterfeit this weakness the technology behind the new winter cap was patented. This does not provide 100% protection against being copied, but defends the idea in the best and most efficient way.

2.6. Description of customer benefits

To describe the customer benefits we need to differentiate between the two main types of customers: People who do not wear winter caps because they want to keep their hairstyle intact and people who do not primarily care about their hairstyle but want to wear comfortable or stylish winter caps mostly to protect their heads against cold temperatures.

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[12](Brinckmann, 2018)

People who have primarily short-hair hairstyles or emphasize, that their hairstyle remains as long as possible the way it was prepared, now have multiple benefits.

Staying healthy: They no longer have to expose themselves to the risk of catching a cold, becoming ill or just the discomfort of freezing, as the new winter cap provides a solution to keep their head warm while their hairstyle stays intact.

Protecting the hairstyle: While traditional winter hats tend to destroy the hairstyle, the new winter cap even helps protecting one's hairstyle against bad weather like rain, wind and snow. This is a crucial benefit, as it saves precious time that otherwise would be needed to fix the hairstyle after wearing a winter cap.

Reducing emotional stress: Trying to look good while the hair is likely to be destroyed by one's winter cap can evoke emotional stress, because one needs steady attention and has to think about precaution measures. With the new winter cap all these worries are gone. Therefore it reduces the stress level which leads to a healthier life[13].

Saving time or money: People, who care about their hairstyle, redo their hair after it got destroyed during their commute, for example to work. This procedure not only costs time but actual money if hairstyling products are needed to fix the hairstyle. With the new winter cap both, time and the costs for hairstyling products can be saved.

Offering more style: Most people who care about their hairstyle are persons who appreciate good style in general. Thus a product with a new and stylish design offers them the possibility to express themselves and their style even better.

Providing better social interaction: People who mind their personal appearance, usually like to get acknowledgement for their looks and feel good when others can value the effort they made. In that sense the new winter cap is a social ice breaker. Due to its outstanding and unusual design people wearing the new winter cap get fascinatingly questioned about the product, what it can do and where one can buy it. Therefore the new winter cap is a door opener for communication and positive social interaction.

On the other hand, people who do not care about their hairstyle wear winter caps because of their main function or their design. For these persons the following benefits were identified:

Comfort: As these customers value comfort over the looks, the new winter cap is one of the most comfortable winter caps available to the present day. This is accomplished by two things: The use of very light materials, resulting in a very lightweight product and the new winter cap comes with a super comfortable headband that provides the pleasant and tight fit. The circumstance that the new winter cap does not touch the hair provides additional comfort.

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[13](Levenstein et al., 2015)

For some people it is unpleasant when there is pressure onto their head. Others are bugged by the feeling when their hair is forced against the direction in which it is naturally lying. Even sensitive people that complain about itching materials have no a comfortably soft product that can protect them against cold temperatures.

Bringing joy: The new winter cap is providing a new, smart solution for the same old function. People tend to talk about new stuff, because novelty stimulates our brain[14], making the new winter cap an interesting topic to talk about. Furthermore, the owner of the new winter cap can share his or her personal experiences then, which is triggering the brain with reward values the same way like food and sex does[15].

Providing a new fresh design: For people who are into winter caps design wise, the new winter cap is meeting their needs for fresh designs and new trends, as it is a world's first in its market segment due to its design and functionality.

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[14](Bunzeck and Düzel, 2006)
[15](Tamir and Mitchell, 2012)

3. Definition of the used terminology

Before all the processes and tools get described in the consecutive chapter 4, the most important terms for this scientific work are clearly defined and described in this chapter to prevent misconceptions due to terminology, for example, what is the difference between the commonly confused expressions invention and innovation or what exactly is meant by product development.
The definition of the terms follows a top-down pattern, as the overall topic of new product development gets defined first, followed by subtopics of NPD until this chapter gets concluded with the definition of the business development and marketing terms blue and red ocean, as they are mentioned throughout this work and therefore are crucial for understanding.

3.1. Definition of the term "new product development"

There are a lot of different definitions for product development. To use the term as it is commonly known, the definition from Business Dictionary is selected as the company managing this online dictionary is currently reaching over 5 million people a month[16]. They describe product development as the

> » ... *creation of products with new or different characteristics that offer new or additional benefits to the customer.*
>
> *Product development may involve modification of an existing product or its presentation, or formulation of an entirely new product that satisfies a newly defined customer want or market niche.*«[17]

Whereas the definition of product development also covers the modification of an existing product, the term *new product development* (NPD) is restricted on the formulation of an entirely new product only. Furthermore, the management of the activities involved in the development of new products is understood by NPD as well[18].

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[16](Businessdictionary.com, 2019a)
[17](Businessdictionary.com, 2019b)
[18](Trott, 2008, p. 389)

3.2. Definition of the term "product innovation"

Innovation is the key requirement for companies to stay ahead of the competitors[19]. According to P. Trott, many people still confuse innovation with invention. From his point of view, an invention only covers the theoretical conception - like a new idea, a thought or a collection of thoughts - and the technical realisation in form of a tangible product or service.[20] An invention becomes an innovation when it was commercialized on the market[21]. In other publications, the term innovation refers to the whole management process involving all the activities from idea generation, technology development and manufacturing to marketing[22].

In the course of this work the terms innovation and product innovation are used as defined by the OECD:

> *» A product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.«*[23]

3.3. Definition of the term "business development"

There exist a lot of publications about the general topic of business development, however there is still no universal interpretation of the term *business development*. For example, Davis defines business development

> *» ... as a capability comprised of routines and skills that serves to enable growth by identifying opportunities and guiding the deployment of resources to extend the firm's value-creation activities into technological or market areas that are relatively new to the firm.«*[24]

Whereas according to Pollack, business development

> *»... is the creation of long-term value for an organization from customers, markets, and relationships.«*[25]

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[19](Annacchino, 2003, p. xx)

[20](Trott, 2008, p. 14)

[21](Müller-Prothmann and Dörr, 2009, p. 7)

[22](Trott, 2008, p. 15)

[23](OECD and Eurostat, 2005, p. 48)

[24](Davis and Sun, 2006, p. 146)

[25](Pollack, 2018, p. 10)

Moreover, the commonly used description for business development within companies mostly covers the strategically oriented task to continue and improve current business operations as well as operative support for marketing and sales[26].

To provide the reader with a clear definition of the term throughout this work, the following findings of Bruhn and Hadwich are used as definition:

The characteristics of business development are the identification and realisation of possible business potentials either on business level or on business field level. These can refer to existing tenders and markets of businesses as well as to the development of totally new business possibilities.[27]

3.4. Definition of the term "business model"

Similar to the term business development there is no general definition for *business model* at the moment. It varies widely in literature, from the definition of Timmers,

> *»A business model is .. an architecture for the product, service and information flows, including a description of the various business actors and their roles; and a description of the potential benefits for the various business actors; and a description of the sources of revenues.«*[28]

one of the most cited according to Burkhart[29], to Osterwalder's definition from the year 2015:

> *» A business model describes the rationale of how an organization creates, delivers, and captures value.«*[30]

However, most authors agree on the fact that a business model is composed of the two elements, a business system and a profit model[31]. In the course of this work Osterwalder's definition is used as it describes the term holistically, short and easily understandable. Furthermore he has reached a wide audience due to his successful handbook "Business Model Generation", that is currently the bestseller on Amazon in the category "Bestseller in Checklists, Handbooks & Lexica for management"[32]. Within this book Osterwalder describes how business models can be developed.

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[26](Becker, Gora, and Michalski, 2014)
[27](Bruhn and Hadwich, 2018, p. 8)
[28](Timmers, 1998, p. 4)
[29](Burkhart et al., 2011)
[30](Osterwalder and Pigneur, 2015, p. 14)
[31](Itami and Nishino, 2010, p. 364)
[32](Amazon.de, 2018)

3.5. Difference between "agile" and "traditional methods"

» Agile methods are designed to use a minimum of documentation in order to facilitate flexibility and responsiveness to changing conditions, implying that less planning and more flexibility is used in agile projects.«[33]

» Traditional project development approaches pursued a goal of logical sequencing that required deliverables to be set in advance and project development evaluated based on performance at a series of capabilities gated reviews.«[34]
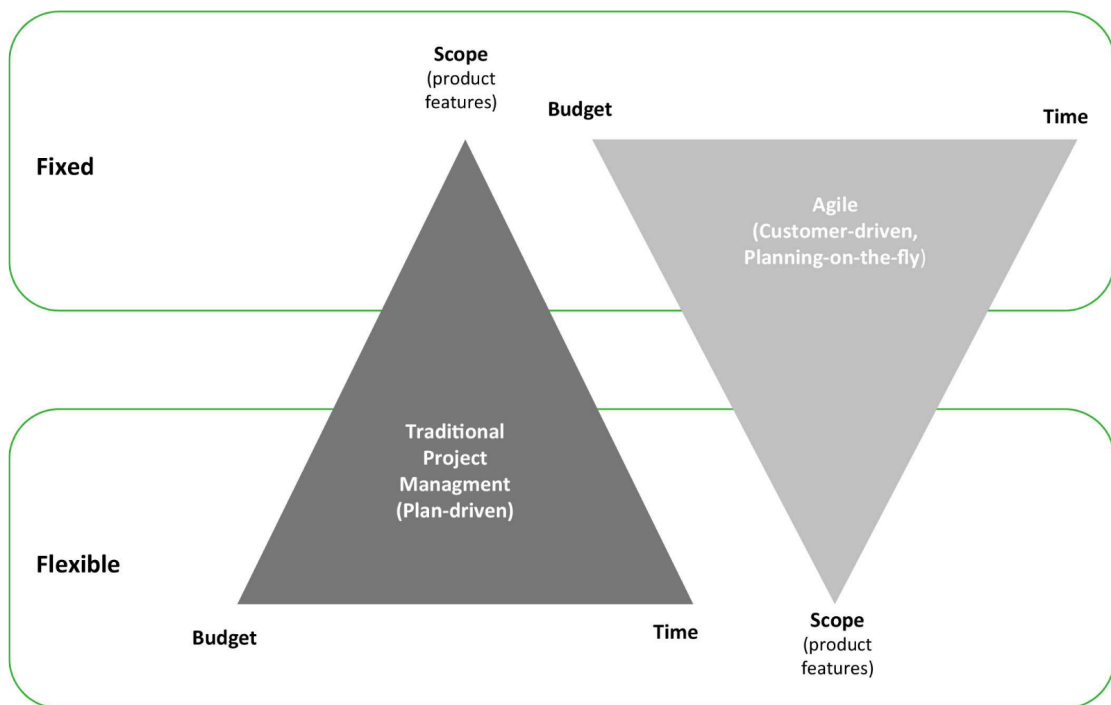
Figure 1.: Fixed versus flexible elements in Traditional and Agile
(Source: P. Fürst, Five Is Innovation Management (Robert G. Cooper, 2016))

Agile[35] enforces the believes that less initial planning is better and that an evolutionary process is the key to more efficiency[36]. Agile methodologies emphasise continuous design, a flexible scope and try to freeze design features as late as possible. They embrace uncertainty and customer interaction as well as modified project team organization. Agile can be described as an iterative and incremental approach.[37]

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[33](Serrador and Pinto, 2015, p. 1042)

[34](Serrador and Pinto, 2015, p. 1041)

[35]For its definition compare *The Agile Manifesto* in the Appendix

[36](Dybå and Dingsøyr, 2008)

[37](Serrador and Pinto, 2015, p. 1041)

Traditional Methods, on the contrary, seek an early design and specification freeze, have a fixed project scope (see figure 1) and need just minimal customer interaction[38]. It is a clear and linear approach that is controllable and measurable[39].

3.6. Definition and the description of the business plan

The business plan is an instrument for detailed planning of a future venture. It is a prescribing model for the future development of a company.[40]

In the academic literature there is an ongoing debate whether the development of a business plan is encouraging the development of a small company or not. According to Hannon and Atherton a business plan shall be more of a process than a result used to acquire resources from other organisations.[41]

To benefit from developing the business plan it will be an ongoing process with steady refinements. The business plan presented within this work contains the final version including all up to date findings, as obsolete information from older versions could be confusing or misleading. It is important to mention that the company is encouraged to keep actively developing the business plan after the end of this work as new information and challenges arise to always have plan for the future.

The structure of a business plan

There is no standardization for business plans as they are so different like the enterprises they are written for. However, business plans consist of recurring elements. These are the Executive Summary, Business Model, Target Market, Plans and Strategy, Service- and Product-portfolio, Marketing and Sales, The Company and management, Chances and Risks, Financial Planning and the Appendix.[42]

Considering requirements of the new winter cap and its novelty to the market, the business model will be handled separately to provide a better overview with more detail5.3 and to be more flexible. The analysis of the market will be extended by a deeper look onto the competition. As the primary focus is on the new product, its strengths, weaknesses, chances and risks, it will be the main point within the business plan. That is why the following structure was chosen:

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[38](Serrador and Pinto, 2015, p. 1041)

[39](Lotz, 2019)

[40](Volkmann and Tokarski, 2006, p. 100)

[41](Hannon and Atherton, 1998, p. 102)

[42](Nagl, 2018, p. 1)

3. Definition of the used terminology

1. Executive Summary

2. Product

3. Market and Competition

4. Marketing

5. Company and management

6. Strategic and Financial Planning

7. Implementation Plan

3.7. Definition of the terms "blue ocean" and "red ocean"

The introduction of the new winter cap to the market not only effects current market shares but also the market size. To describe the magnitude of its impact on the market, the terms *blue ocean* and *red ocean* are used throughout this work. They are important for the understanding of the work and therefore defined within this chapter as well. According to Kim and Mabourgne red oceans consist of all the industries that exist at the moment, in other words, the known market space. Blue oceans however are the unknown market space of all not yet existing industries.
In contrast to red oceans where there is cut-throat competition in existing industries, blue oceans are unexplored, untainted by competition and powerful in terms of opportunity and growth.[43]

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[43](Kim and Mauborgne, 2014)

4. Process and tool selection to bring the new idea to the market

To make an idea become a true innovation it needs to be developed, brought to the market and successfully commercialized. Although there already exist tools like *Lean Start-Up*[44] that combine the tasks of business development and new product development, it was chosen to stick to state-of-the-art and highly approved models. Therefore, suitable product development processes and business model development tools as well as their application are analysed within this chapter. This is done to make the decision which of the processes and tools are appropriate to apply for this work to realize this new idea - the new winter cap.

As the first deliverable of this work is the selection of an appropriate NPD process, the most popular models get highlighted in section 4.1 as preparation for this selection.
Afterwards all business development tools that were used within this work, in order to create the second deliverable, the business model for the new winter cap, are roughly described in section 4.2.

The business plan, which is the last main deliverable, plays a minor role within this work, as its major function is summarizing all the findings and outcomes. Therefore it was already described in 3.6, because it is not actively contributing in bringing the idea to the marked like the other two topics, but passively supporting the whole project outside of this work.

4.1. Rough description of the most popular processes for new product development

The literature on product development was exploding in the early 1990s[45]. Back then was the beginning when NPD became critical as new products were the essence to stay competitive for many firms[46,47]. Since developing new products is a risky and uncertain procedure, companies

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[44]To discover more about this topic read (Ries, 2014) or (B. Cooper and Vlaskovits, 2013)

[45](Brown and Eisenhardt, 1995)

[46](Clark, T. Fujimoto, and P. Fujimoto, 1991)

[47](Takeuchi and Nonaka, 1986)

were desperately longing for guidance and this is why several different processes for NPD showed up in literature[48]. NPD processes are most usually defined by the steps as shown in Figure 2[49].

Idea generation

↓

Idea screening

↓

Concept testing

↓

Business analysis

↓

Product development

↓

Test marketing

↓

Commercialisation

↓

Monitoring and evaluation
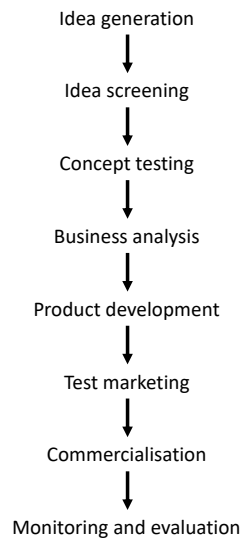
Figure 2.: Commonly presented linear NPD model (Trott, 2008, p. 404)

A well known NPD process, that covers all these steps, is the Stage-Gate® Process. This practice is very popular as it is adopted by around 80% of Global 1000 companies by now[50]. It is a traditional model with phases and gates[51].

As software development was facing several problems during the development of new products while using traditional processes, like for example changing customer requirements and long development times and intervals, agile methods were developed[52]. Scrum[53] is the most common framework used in agile NPD. However, the development of physical products can make use of agile methods[54]. Therefore the Scrum framework is described within this chapter to understand and highlight its benefits that can be integrated into so called *Hybrid Models*.

Hybrid Models try to combine the best of the two worlds. They benefit from the advantages of traditional processes, like fixed targets with a structured plan how to reach those objectives, and agile methods to keep enough flexibility for solving yet unknown future problems that arise during

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[48](Cengiz, Ayyildiz, and Kirkbir, 2005, p. 406)

[49](Trott, 2008, p. 403)

[50](Stage-gate.com, 2019)

[51](Karlström and Runeson, 2006)

[52](Karlström and Runeson, 2006)

[53]Scrum is described in section 4.1.2

[54](Reynisdottir, 2013)

the NPD.[55]

4.1.1. Stage-Gate® Process
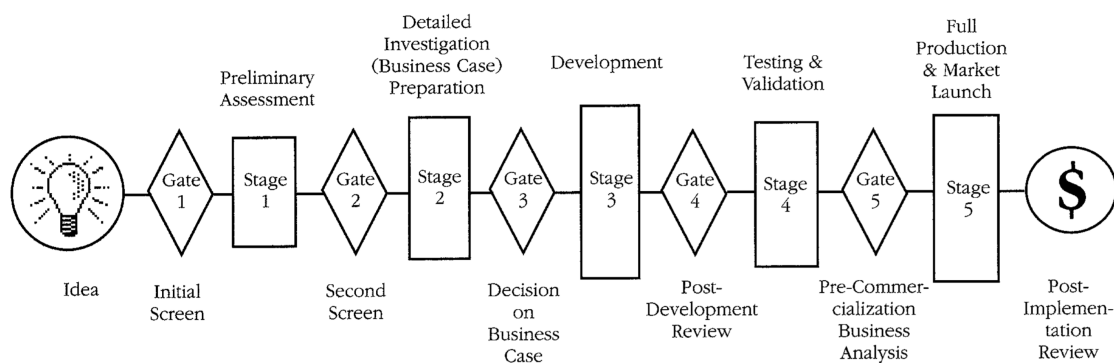
Figure 3.: The Original Stage-Gate Process (Robert G. Cooper, 1990, p. 46)

After doing a broad study by closely observig what separates winning from losing companies[56], Robert G. Cooper published the original Stage-Gate system (see figure 3) in the 1980s to offer a scientifically developed idea-to-launch system for successful NPD[57]. This initial Stage-Gate process got further developed ever since and has a steadily growing adoption rate[58].

The structure of the Stage-Gate System

It is named after its stage and gate format. R. Cooper likes to compare it to the approach of American football. The stages are designed to gather data that is needed to move the project to the next gate. Gates are like the huddles on the football field. They describe *Go-* or *Kill*-decision points where collected information gets reviewed.[59]

Figure 4 provides a good overview in form of a commonly used graphic for the Stage-Gate® Process.

The Stages

The goal of each stage is to gather new information - about the market, technical solutions and

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[55](Vedsmand, R. Cooper, and Kielgast, 2016)

[56]eg. (Robert G Cooper and Kleinschmidt, 1987)

[57](Robert G. Cooper, 2014, p. 20)

[58](Stage-gate.com, 2019)

[59](R G Cooper, 2017, p. 130-134)

operations - for the next gate to drive uncertainties down. Each stage is defined by its own activities, mostly followed by an integrated analysis to get measurable deliverables. The tasks within a stage are cross-functional and processed in parallel. So there is no "R&D-stage" or "marketing-stage" as R&D and marketing work together and in parallel in each stage. The higher the number of a stage is the more expensive it gets and the more commitment to the project is needed.[60]
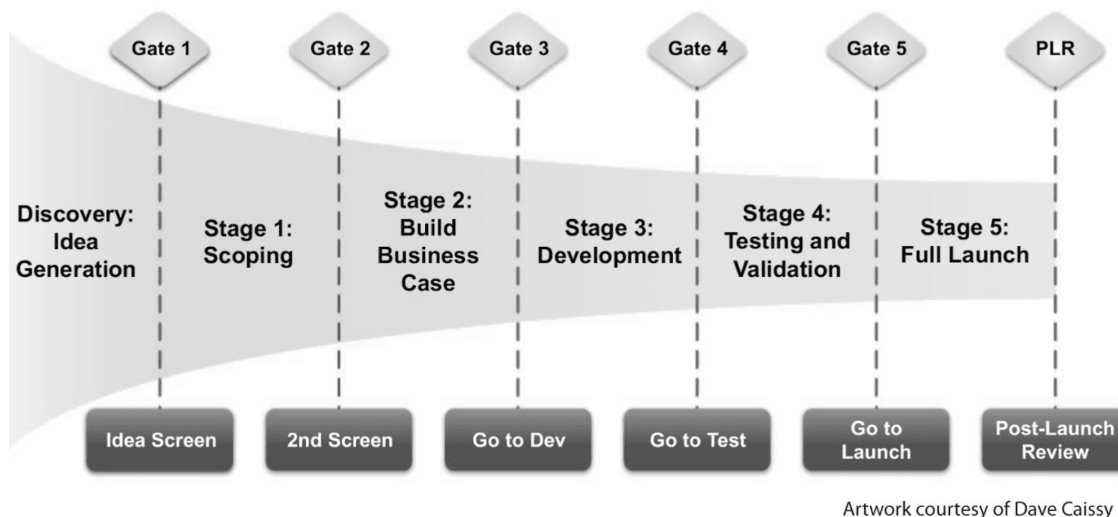
Figure 4.: Common graphic of the Stage-Gate® Process (R G Cooper, 2017)

Stage 0: Discovery Good ideas are the most important precondition for a successful product. This can be achieved by fundamental technical research, working with lead users and strategic planning to uncover gaps.[61]

Stage 1: Scoping This is a relatively inexpensive stage of preliminary investigation. It covers largely desk research like first technical assessment, first market assessment and initial financial and business analysis.[62]

Stage 2: Build the business case It covers a detailed investigation to get a clear project definition, to develop the project justification and to create an action plan. This stage of heavier spending covers activities like technical, market and financial research that should lead to a Business Case.[63]

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[60](R G Cooper, 2017, p. 130-132)
[61](R G Cooper, 2017, p. 131-133)
[62](R G Cooper, 2017, p. 130-132)
[63](R G Cooper, 2017, p. 130-132)

Stage 3: Development   The actual technical development and the detailed design of new product happens in this phase. Desired deliverables are laboratory tested prototypes and marketing plans - all of which is worked on cross-functional and in parallel.[64]

Stage 4: Testing and Validation   Comprehensive testing of product, production process, customer acceptance and economics is done by in-house and user-field tests, pilot productions, test markets and revising financial and business analysis.[65]

Stage 5: Launch   The new product is launched and gets a regular product of the company by implementing marketing, operation and production plans. In addition performance data shall be collected for the post launch review.[66]

The Gates

Each stage is followed by its characteristic gate. Those gates represent checkpoints where a Go/Kill-decision on the basis of the collected and reviewed information needs to be made. Gates also serve as quality-control checkpoints in addition to their function of approving the further proceeding plans for the next stage. The structure of all gates is similar. Each gate has the following key characteristics: A set of required *gate deliverables* gets defined at the previous gate in form of templates that project leader or team must later bring to the decision point. The *gate criteria* include "must meet" and "should meet" criteria against which the project is judged. The last characteristic is the *gate output* which describes the decision for one of the possible outcomes: Go, Kill, Hold, or Recycle. In case of a Go-decision the action plan has to be approved. This document contains the full commitment of resources, like people, money and time required, as well as an agreed timeline and list of desired deliverables.[67]

Gate 1: Idea Screen   It is the first decision whether or not to realize the project and therefore commit resources to it. It consists just of a handful of key must-meet and should-meet criteria dealing with project feasibility, market attractiveness, product advantage and strategic alignment with the company policies. Financial criteria are usually not part of the screening, because there is often very little known at this point and the expenses are too small to be relevant. As Gatekeeper acts a small mixed team of technicians and marketing people. They have to answer all must criteria-questions with "yes" for the project to come alive.[68]

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[64](R G Cooper, 2017, p. 130-133)
[65](R G Cooper, 2017, p. 130-133)
[66](R G Cooper, 2017, p. 130-133)
[67](R G Cooper, 2017, p. 132-135)
[68](R G Cooper, 2017, p. 134-140)

Gate 2: Second Screen It is very similar to Gate 1, but more rigorous as there is more information available due to the research during Stage 1. The "must-meet" criteria of Gate 1 stay the same in Gate 2, but the "should-meet" criteria are extended by new data regarding customer reaction and potential legal, technical, regulatory "killer variables". In addition a short calculation on financial return (eg. Payback period) should be done. Checklists and scorecards facilitate the decision making and project prioritisation. With a Go-decision the project enters a stage of higher spending.[69]

Gate 3: Go to Development This gate is the last possibility to stop a project, before it goes into development and therefore into heavy spending. Here the financial commitment is substantial. The "must-meet" and "should-meet" criteria are evaluated again, but at a deeper level, because a Go-decision means full commitment to the product definition and project plan. The results of the financial analysis play a important role now.[70]

Gate 4: Testing and Validation At this gate the development work gets reviewed:

- Has all the work been completed?

- Does the new product meet the product definition?

- Are the Marketing and Operation plans ok?

Before the Go-decision can be made the test and validation plans for next stage need approval as well.[71]

Gate 5: Go to Launch Marks the door to full commercialisation, full production or full operation start. The focus here is on the expected financial return. It is the last possibility to stop the project. Therefore the marketing plans are diligently reviewed and approved.[72]

Post-Launch Review This review happens approximately 16-19 months after the launch. This final post-audit marks the end of innovation process and covers activities like the discussion of revenue, costs, profit and timing, the comparison of actual performance data and the discussion of strengths and weaknesses of the product. Some companies even do two Post-Launch Reviews, adding the first one shortly after the launch to undertake immediate course changes if necessary.

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[69](R G Cooper, 2017, p. 134-143)
[70](R G Cooper, 2017, p. 140-147)
[71](R G Cooper, 2017, p. 142-150)
[72](R G Cooper, 2017, p. 143-152)

This retrospective analysis is vital for maintaining good quality and a continuous improvement process.[73]

4.1.2. Scrum framework

> *» In recent years, Scrum has increased in popularity and is now the preferred project development methodology for many organizations globally.«*[74]

The concept of scrum was first defined by Hirotaka Takeuchi in the mid 1980s and gained popularity after Ken Schwaber and Jeff Sutherland presented their elaborated model in 1995[75,76]. Ken Schwaber expressed the popularity of scrum by citing Dominik Maximini who pointed out that there already existed 571 book about that topic back in 2012[77].

Rough overview how Scrum works
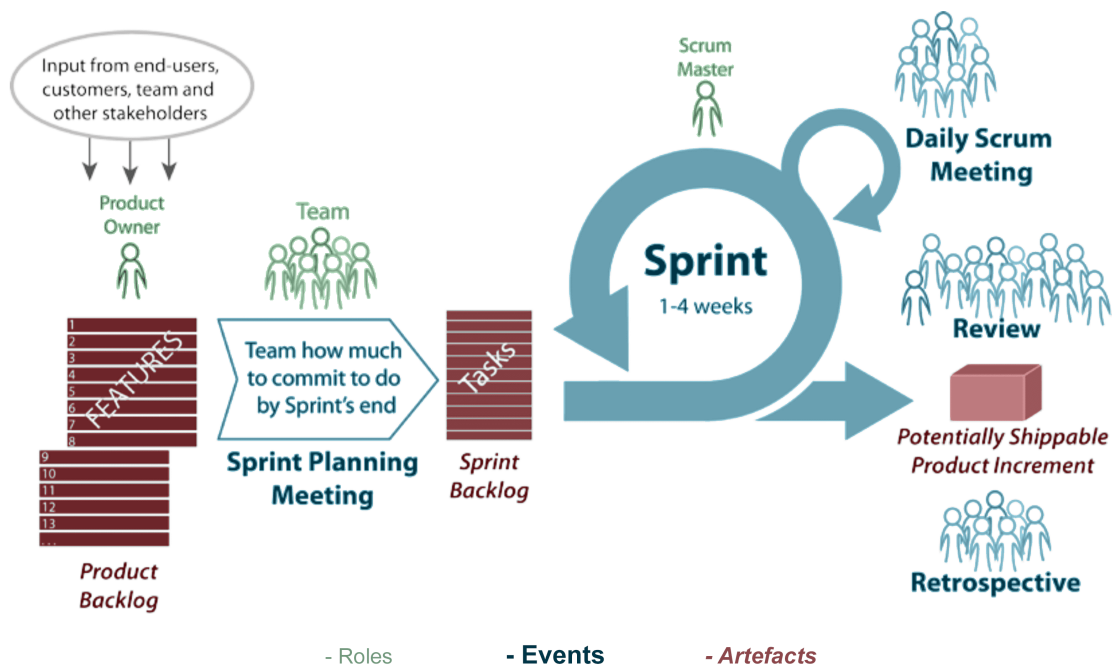
Figure 5.: The Scrum framework (Adopted from (Deemer, Benefield, and Larman, 2010) and (Reynisdottir, 2013))

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[73](R G Cooper, 2017, p. 145-155)
[74](SCRUMstudy, 2013, p. 3)
[75](Schwaber Ken, 2017, p. 19)
[76](SCRUMstudy, 2013, p. 3)
[77](Maximini, 2018, p. V)

Scrum is a framework to iteratively and incrementally develop complex products which would be hard to specify upfront by traditional methods[78]. The definition of Scrum consists of *roles*, *events* and *artefacts* as well as the rules that bind them together like depicted in Figure 5[79].

The *Roles* of the Scrum Team

The Product Owner   is responsible for the outcome produced by the Development Team and for managing the Product Backlog which includes:

- *»Clearly expressing Product Backlog items*

- *Ordering the items in the Product Backlog to best achieve goals and missions*

- *Optimizing the value of the work the Development Team performs*

- *Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next*

- *Ensuring the Development Team understands items in the Product Backlog to the level needed«*[80]

The Product Owner has to be one person, not a committee. Even if the Product Owner just represents the desires of a committee, when changes need to be done in the Product Backlog (eg. the priority of a feature) the Product Owner needs to be addressed.[81]

The entire organisation has to respect the decisions of the Product Owner that are openly visible. So nobody can force the Development Team to work on anything else but the given set of requirements from the Product Backlog.[82]

The Development Team   consists of professionals who actually work on the next increment of a "Done". A "Done" increment[83] is a product, required at the Sprint Review, that is potentially shippable. The characteristics of the Development Team are:

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[78](Deemer, Benefield, and Larman, 2010)

[79](Schwaber Ken, 2017, p. 3)

[80](Schwaber Ken, 2017, p. 6)

[81](Schwaber Ken, 2017, p. 6)

[82](Schwaber Ken, 2017, p. 6)

[83]For a detailed description of a "Done" Increment look to4.1.2

- *»They are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into increments of potentially releasable functionality.*

- *Development Teams are cross-functional, with all the skills as a team necessary to create a product Increment.*

- *Scrum recognizes no titles for Development Team members, regardless of the work being performed by the person.*

- *Scrum recognizes no sub-teams in the Development Team, regardless of domains that need to be addressed like testing, architecture, operations, or business analysis.*

- *Individual Development Team members may have specialized skills and areas of focus, but accountability belongs to the Development Team as a whole.*

- *Development Teams should have less than nine members to stay small enough to remain nimble and more than three to be large enough to complete significant work within a Sprint.*«[84]

The Scrum Master is responsible for running Scrum as defined by helping everyone to understand the Scrum theory, practices, rules and values. He can be described as the servant-leader for the Scrum Team.[85]

The Scrum Master serves the Product Owner by helping the Scrum Team to understand the goals and items of the Product Backlog, finding techniques for effective Backlog management and ensuring that the Product Owner does a good job[86].

The Scrum Master serves the Development Team by coaching them in cross-functionality and self-organisation, helping them to create high-value products, removing impediments to the Development Team's progress and by facilitating Scrum events as requested or needed[87].

Finally, the Scrum Master serves the company by leading and coaching the company in its Scrum adoption, helping employees and stakeholders understand and enact Scrum and this way of product development and causing change that increases the productivity of the Scrum Team[88].

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[84](Schwaber Ken, 2017, p. 7)
[85](Schwaber Ken, 2017, p. 7)
[86](Schwaber Ken, 2017, p. 8)
[87](Schwaber Ken, 2017, p. 8)
[88](Schwaber Ken, 2017, p. 8)

The Scrum *Events*

The Sprint is the heart of Scrum. It has a fixed time-box, as all Events do. A Sprint shall last something between one week up to one month. One-week Sprints are very stressful whereas one-month Sprints often are too long for reasonable planning.[89]

Output is a usable, and potentially releasable product increment. A sprint consists of the Sprint Planning, Daily Scrums, the development work, the Sprint Review and the Sprint Retrospective. During one Sprint no changes must be made that would endanger the Sprint Goal. Quality goals are not allowed to decrease, but the scope may be clarified and re-negotiated between Product Owner and Development Team.[90]

In case of obsolescence of the Sprint Goal (eg. due to changes in company direction or technology conditions) Sprints can be cancelled by the Product Owner only. But this is rarely done as it is highly demotivating the team.[91]

The Sprint Planning shall not last longer than eight hours (for a one month Sprint - for shorter Sprints shorter) and marks the beginning of a Sprint. It covers two main questions:[92,93]

- *What will be achieved this Sprint?* Herefore the input are on the on side items from the Product Backlog and on the other side the latest product increment. The Product Owner, who knows what should be done, and the Development Team, that knows what can be done, elaborate the Sprint Goal, that specifies what will be done in the upcoming Sprint. This aim provides guidance to the Development Team on why it is building the Increment.[94]

- *How will the work be accomplished?* After the Sprint Goal is set the Development Team clarifies how it will achieve a "Done" increment. It may also invite other people to attend to provide technical or domain advice. As a Sprint is just a short period of time the execution plan can be elaborated during the Sprint Planning.[95]

The answers to those questions - the selected Product Backlog items and the plan for delivering them - are retained in the Scrum Backlog.[96]

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[89](Maximini, 2018, p. 198)
[90](Schwaber Ken, 2017, p. 9)
[91](Schwaber Ken, 2017, p. 10)
[92](Schwaber Ken, 2017, p. 10)
[93](Maximini, 2018, p. 198-199)
[94](Schwaber Ken, 2017, p. 10-11)
[95](Schwaber Ken, 2017, p. 11)
[96](Schwaber Ken, 2017, p. 11)

The Daily Scrum is ideally a 15-minute event taking place every day at the at the same time and location. There the Development Team members discuss what was done yesterday, make plans what will be done today and report if there are impediments for achieving the Scrum Goal. The Scrum Master only teaches the Development Team to do the Daily Scrum daily and to keep the 15-minute time-frame.[97]

The Sprint Review is an at most four-hour event at the end of each Sprint where the "Done" Increment gets inspected by the stakeholders. It is meant to be a meeting for further planning.[98] The product shall be tried out by the stakeholders and shall not be presented by the Development Team. The Scrum Team shall take notes of the comments and reactions of the stakeholders to trigger learnings and improvements.[99]

As a result of the Sprint Review the Product Backlog is revised to define probable Product Backlog items for the next Sprint. Additionally, the Product Backlog may be adjusted as well to seize new opportunities.[100]

A Product Owner seeing the "Done" Increment the first time at the Sprint Review neglects this role's opportunities, because it is the main possibility for her or him to get immediate and true feedback from the stakeholders.[101]

The Sprint Retrospective is an at most three-hour meeting that occurs after the Sprint Review and marks the end of a Sprint. There the Scrum Team has the opportunity to inspect itself and to create a plan for improvements and learnings for the next Sprint. The Scrum Master ensures a positive and productive commitment of the team to improvements identified for the next sprint.

The Scrum *Artefacts*

The Increment

> » ... *is the sum of all the Product Backlog items completed during a Sprint and the value of the increments of all previous Sprints. At the end of a Sprint, the new Increment must be "Done", which means it must be in useable condition and meet the Scrum Team's definition of "Done". ... The increment is a step toward a vision or*

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[97](Schwaber Ken, 2017, p. 12)
[98](Schwaber Ken, 2017, p. 13)
[99](Maximini, 2018, p. 199)
[100](Schwaber Ken, 2017, p. 13)
[101](Maximini, 2018, p. 199)

> *goal. The increment must be in useable condition regardless of whether the Product Owner decides to release it.«*[102]

The Product Backlog   contains a list of all requirements and information to be needed in the product. It is no specification book but a mere collection of memories what needs to be done. It is about the Product Owner to make clear to the Development Team what he wants the product to be and that both sides have a mutual understanding of those items within the Product Backlog.[103]

The Sprint Backlog   consists of all the Product Backlog items selected for the current Sprint plus the plan how the Sprint Goal will be realized to deliver the product Increment. To ensure a continuous improvement, it is advised to put at least one of the agreed improvements from the Sprint Retrospective in there as well.[104]

It is a living Artefact that needs daily adjustments by the Development Team to reflect the current state of the work. Redundant items need to be removed. Remaining work and resources need to be adjusted.[105]

> *»The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.«*[106]

4.1.3. Hybrid Models

As agile was created to cope with problems caused by traditional NPD methods within the software development industry, agile has its strenghts were traditional methods have their weaknesses[107]. Traditional methods have their strengths though. That is why people started to develop hybrid models by integrating agile like Scrum into traditional methods like Stage-Gate® . These models often differ from smaller projects like in figure 6 to models for bigger projects that need more and better research and planning as in figure 7.[108]

However, studies show that these hybrid models are way more efficient because traditional methods are good for macro-planning and agile for micro-planning. Therefore the benefits of both worlds

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[102](Schwaber Ken, 2017, p. 17)
[103](Maximini, 2018, p. 193-194)
[104](Schwaber Ken, 2017, p. 16)
[105](Maximini, 2018, p. 194)
[106](Schwaber Ken, 2017, p. 16)
[107](R G Cooper, 2017)
[108](Karlström and Runeson, 2006)

can be used, if implemented correctly (see figures 6 and 7).[109]
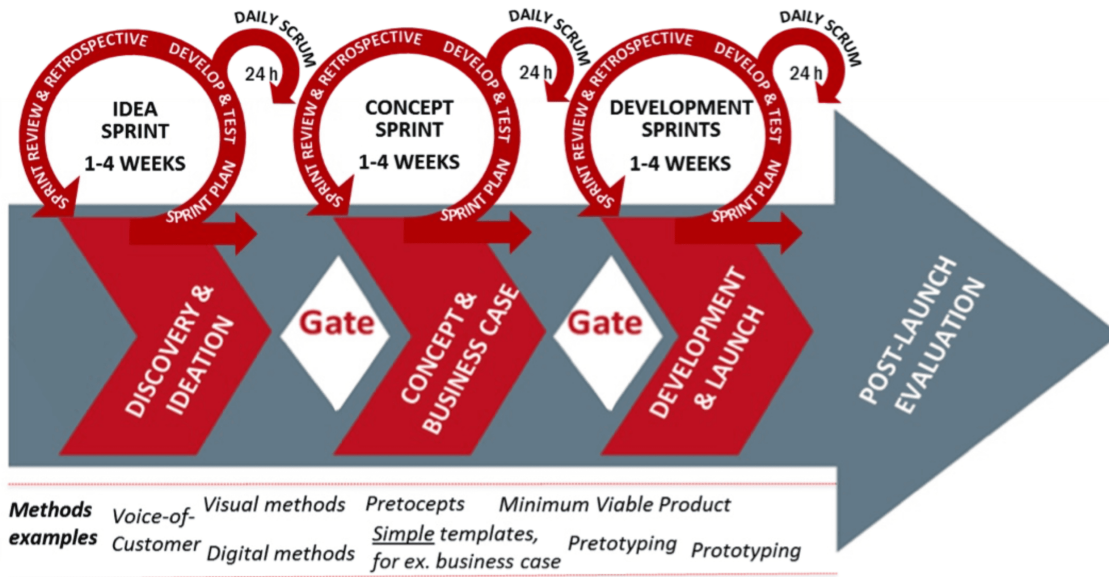
Figure 6.: Agile-Stage-Gate® model using Scrum for the early stage Sprints
(Robert G. Cooper and Sommer, 2016)
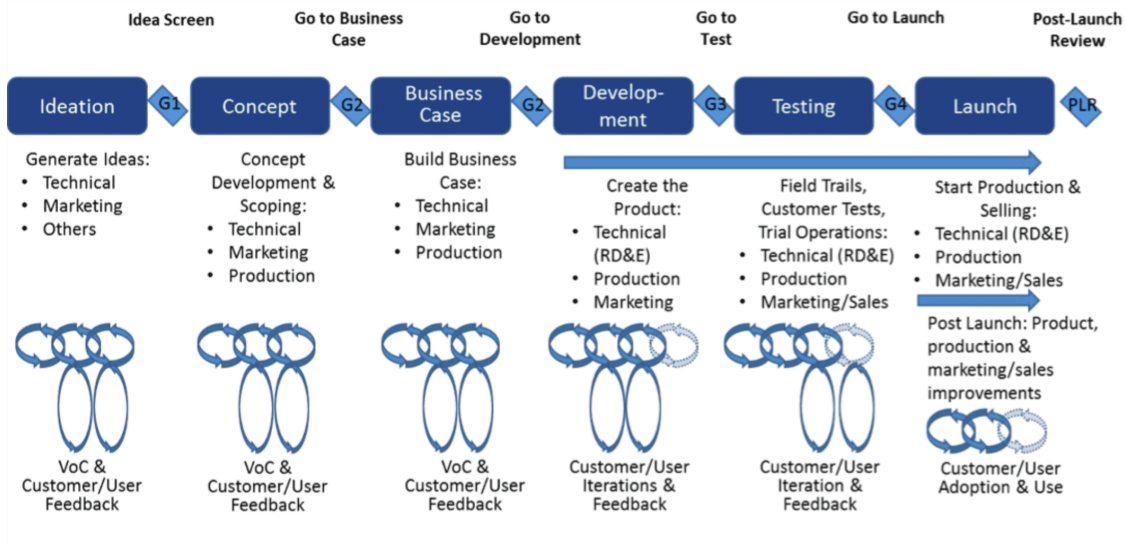
Figure 7.: A typical *Agile-Stage-Gate*® Hybrid Model (Robert G. Cooper and Sommer, 2016)

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[109](R G Cooper, 2017, p. 190-210)

4.1.4. Selection of the appropriate NPD process for this work

For the product development it is recommended to use a customized hybrid model of Stage-Gate$^{®}$ and Scrum as described in section 5.1. Because, it combines the benefits from agile and traditional planning, as the right model can be chosen depending on the fixed and flexible elements depicted in figure 1. Especially for a new company with limited resources and a complex product to develop it is essential to have a framed goal that shall be reached within a fixed time schedule using the available resources (done with traditional planning) while staying flexible to solve all yet unknown problems that will appear on the way and may alter some specifications to reach the framed goal on time. As it is recommended to use different hybrid models for different projects and project sizes[110], it was decided to elaborate an own customized Scrum-Stage-Gate process[111] for the development of the new winter cap.

4.2. Rough description of the most popular tool sets for business model development

There are a lot of business development tools available. Therefore, the range was reduced to the ones that are, according to Mansour, most mature and easy to use[112]. To the selection of the Business Model Canvas and the Business Model Navigator the Value Proposition Canvas was added, as it provides a deeper look into the Business Model Canvas, thus being a valuable addition.

4.2.1. Business Model Canvas

The Business Model Canvas (BMC) is used to describe, discuss, design, challenge, improve, innovate, invent, pivot and choose one's business model[113]. As it has been developed with a design perspective in mind, the BMC is one of the more popular representations and is nowadays widely deployed in corporate practice[114]. Its purpose is to provide a holistic view of the entire business, while decreasing business logic complexity, but clarifying all major points of the business[115]. To achieve this the BMC is structured into nine building blocks. But it is not sufficient to just enumerate and go through those building blocks, they should be mapped out on a pre-structured canvas as in figure 8. This is the BMC. According to Osterwalder it works best when printed out

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[110](Vedsmand, R. Cooper, and Kielgast, 2016)
[111]This is done in 5.1
[112](Mansour, Presser, and Bjerrum, 2018)
[113](Osterwalder, 2018)
[114](Spieth, Schneckenberg, and Ricart, 2014, p. 243)
[115](Barquet et al., 2013, p. 695)

Figure 8.: Template for a Business Model Canvas (Strategyzer.com, 2019)

on a large surface, so that groups of people can start sketching and discussing business model elements together, doing this with Post-it® notes or board markers.[116]

Description of the nine building blocks of the BMC

Starting at the right-hand side of figure 8 the BMC examines the customer situation in the three building blocks, *Customer Segments*, *Channels* and *Customer Relationships*[117]. In the center is the *Value Proposition* with its products and services. The left-hand side describes the infrastructure how value is created, delivered and captured through the *Key Resources*, *Key Activities* and *Key Partners*. The bottom describes the financial situation with the *Revenue Streams* and the *Cost Structure* of the business.

Customer Segment

These are all people and organisations for which value is created. This includes simple users and

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[116](Osterwalder and Pigneur, 2015, p. 42)
[117](Quak, Balm, and Posthumus, 2014, p. 116)

paying customers. It has to be identified, who the customers are, what needs and requirements they have and what they are willing to pay for different aspects of the offer.[118]

Value Proposition

For each customer segment there is a specific value proposition. These are the bundles of products and services that create value for the customers. The value proposition is the reason why customers choose one company over the other. It is about providing help to solve the customer problems and how the customer needs are addressed and satisfied.[119]

Channels

The channels describe, through which touch points there are interactions with the customers in delivering value. Therefore finding the right mix of channels, which satisfy how customers want to be reached, is crucial, as the channels should be cost-efficient, integrated with the customers routines and actually reaching them. It is about finding out, which channels work best.[120]

Customer Relationships

The customer relationships outline the type of relationship that is established with the customers. Within this building block the questions are, what type of relationship the customer segments expect, which of them are already established, how costly are they and how are they integrated with the rest of the business model.[121]

Revenue Stream

The revenue stream makes clear how and through which pricing mechanisms the business model is capturing value. The core question is, what and how is each customer segment willing to pay for the value they gain.[122]

Key Resources

The key resources show which assets are indispensable in the business model. Key resources can be physical (e.g. manufacturing facilities, vehicles, machines, systems), intellectual (like knowledge, patents, copyrights), human or financial such as cash or a stock option pool for hiring key employees.[123]

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[118](Osterwalder and Pigneur, 2015, p. 20)
[119](Osterwalder and Pigneur, 2015, p. 22-23)
[120](Osterwalder and Pigneur, 2015, p. 26-27)
[121](Osterwalder and Pigneur, 2015, p. 28-29)
[122](Osterwalder and Pigneur, 2015, p. 30-31)
[123](Osterwalder and Pigneur, 2015, p. 34-35)

Key Activities

The key activities show things that are really needed to be done for a good performance. Like the key resources, the key activities are essential for creating value. They describe what tasks need to be done to offer the value proposition.[124]

Key Partnerships

The key partnerships show who can help to leverage the business model, since, in general companies will not own all their key resources nor perform all key activities on their own. Thus creating alliances can optimize the own business model, reduce risk or be used to acquire resources.[125]

Cost Structure

Once the infrastructure of the business model is known, it is possible to have an idea about the cost structure, as it describes all costs incurred to operate a business model. The business model cost structures can be classified into cost-driven and value-driven. Most business models fall in-between these two extremes. Choosing one over the other depends whether it is easier to reduce costs or to add more value thus increasing the revenue streams.[126]

4.2.2. Value Proposition Canvas

Creating a Value Proposition Canvas (VPC) is a method to do an in-depth investigation into the two segments of the BMC, Value Proposition and Customer Segment, to describes the core of the BMC in more detail, in order to create an accordingly and valid BMC. That is easier with a proper and well defined VPC, with the goal to reach the desired business success as the risk of false assumptions is minimized.

The purpose is to make the value proposition more visible and tangible in order to design the business model in a better way.[127]

In Figure 9 shows, what an empty VPC looks like.

The VPC consists of two sides. The Customer Profile to the right, a detailed analysis of the Customer segment of the BMC and the Value Map to the left, a detailed analysis of the Value Proposition of the BMC. The structure of the categories of each side is described below in more

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[124](Osterwalder and Pigneur, 2015, p. 36)
[125](Osterwalder and Pigneur, 2015, p. 38-39)
[126](Osterwalder and Pigneur, 2015, p. 40-41)
[127](Osterwalder, Pigneur, et al., 2015, p. XIV-XVII)

detail. The aim is to find a fit between the two sides to get a valid value proposition for building a successful business model around.

To start with this method, the empty VPC is printed out on a large paper, or drawn onto a white board or a big canvas. The content for each category is typically written on sticking notes, one item at a time. This way it is easier to make changes to the VPC. Normally it is started with the Customer Profile, followed by the Value Map to finally identify the fit. Additionally, another dimension like time can be brought to the VPC, for example by redoing the VPC half a year later with different colours. That way the changes are better visible leading to a better understanding of the influencing factors of one's value proposition.

The Value Proposition Canvas

Value Proposition *Customer Segment*

Gain Creators

Products & Services

Pain Relievers

Gains

Customer Job(s)

Pains

Value Map

Customer Profile

⊌**Strategyzer**

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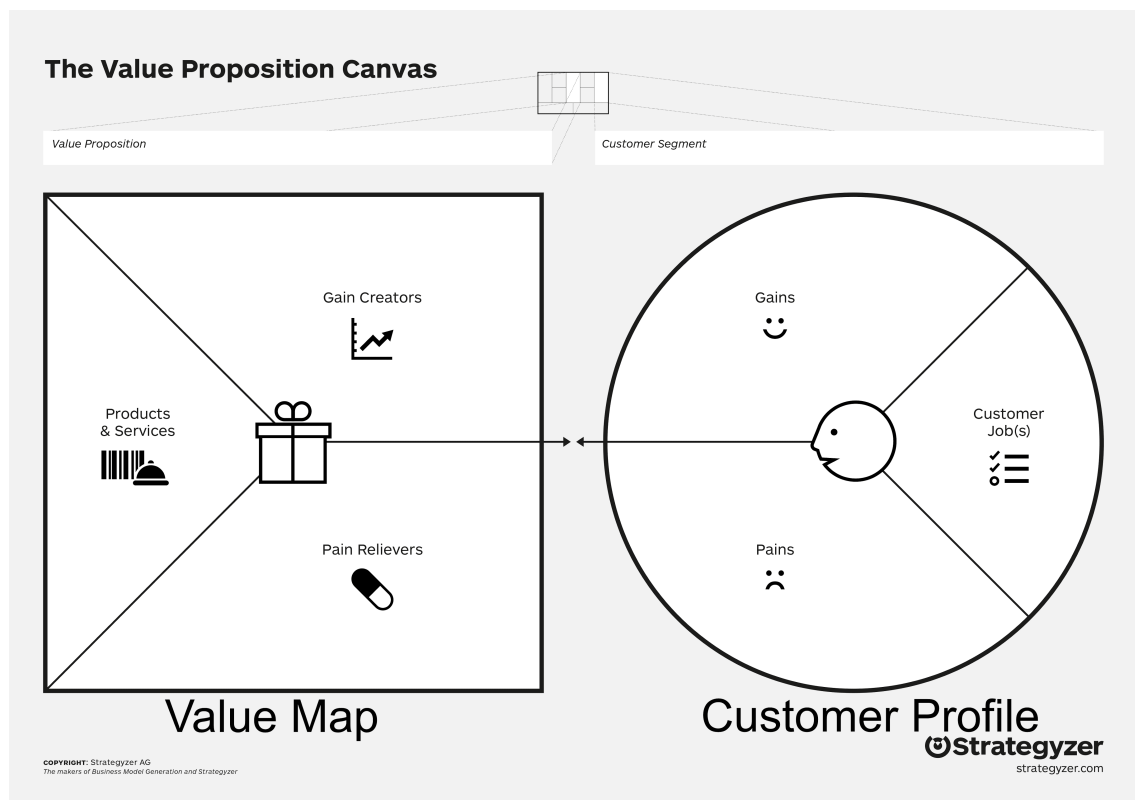
strategyzer.com

Figure 9.: An empty VPC, where the Value Proposition for the BMC can be derived from the Value Map and the Customer Segment from the Custopmer Profile of the VPC. (Strategyzer.com, 2018)

Customer Profile

The Customer Profile is specified by three categories: Customer jobs, customer pains and customer gains. It is recommended to go through each category one after another, as they implicitly build on

each other.[128]

In *customer jobs* it needs to be clearly specified what customers actually try to do at work or in their private life to accomplish tasks, solve problems or fulfil their needs. To identify these jobs it is critical to find out what the customer renders important regardless of one's own opinion. Customer jobs can be categorised into functional jobs, social jobs and personal/emotional jobs as well as supportive jobs. It is relevant to rate the jobs by their importance for the customers to reach their goals.[129]

Customer pains describe undesired costs and situations, negative emotions and risks that customers experience or could experience before, during and after getting the job done[130]. Specific problems shall be listed, described and rated by their intensity[131].

Customer gains describe the benefits the customer desires, expects or would be happily surprised by. Gains can be the functional utility of products or services, positive emotions, cost savings and social gains[132]. The gains should be specific and precise, as well as labelled from indispensable to "nice to have"[133].

Value Map

The Value Map is divided into three categories as well: *Products and services*, *pain relievers* and *gain creators*. The Value Map should show very clearly, how the products and services of a business create value to their customers.[134]

The first step is to list all *products and services* the value proposition is built around. Meaning, which products and services are offered by the business which either help the customers to get their jobs done, whether those are functional, social, or emotional, or help them to just satisfy their basic needs. It is important to note, that products and services alone do not create value. This does not happen until products and services are connected to customer jobs or customer needs. Products and services may either be physical/tangible like manufactured goods, intangible like copyrights or customer service, digital like downloads, online recommendations, or financial like investment funds or financing services. The next step is to rank all products and services whether they are crucial or trivial to the customer.[135]

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[128](Osterwalder, Pigneur, et al., 2015)
[129](Osterwalder, Pigneur, et al., 2015, p. 12-13)
[130](Osterwalder, 2012)
[131](Osterwalder, Pigneur, et al., 2015, p. 14)
[132](Osterwalder, 2012)
[133](Osterwalder, Pigneur, et al., 2015, p. 16)
[134](Osterwalder, Pigneur, et al., 2015, p. 8)
[135](Osterwalder, 2012)

The fields *Pain relievers* shall be filled with descriptions how the products and services will ease the customers' pain before, during and after getting a customer job done[136]. A bad value proposition is trying to solve all the problems stated in the customer pains, but this can be hardly achieved. A good one is rather focusing on the intense problems, because it is important to find out which pain relievers the customers are valuing the most. On that basis pain relievers shall be ranked from "nice to have" to essential.[137]

Gain creators describe how the products and services create customer gains. Analogue to the pain relievers, there is no need to find a gain creator for each customer gain. It is way more effective and efficient to address the customer gains that are the most relevant to the customers. The gain creators shall be ranked according to their importance as well.[138]

The Fit

The fit is the crucial part of the VPC. It is the basis for the right business decisions. There are three types of fit, the fit on paper (*problem-solution-fit*), the fit on the market (*product-market-fit*) and the fit for the bank (*business model fit*).

The goal of the *problem-solution-fit* is to assure to take all the things, the customers care about, into consideration. This is accomplished by taking the value map and the customer profile and checking each pain reliever and gain creator whether they address one or more entries of the customer jobs, customer pains or customer gains. Any matched entry gets ticked. If there is a pain releaser or a gain creator that does not meet any entry of the customer profile it might not create any value for the customer. It is not important to tick all the entries of the customer profile. It is by far more important to question the validity of the value proposition for the customer.

The next step is to achieve a *product-market-fit* to get assurance that the products and services, pain relievers and gain creators actually create value for the customer and to break into the market. If the products or services do not create value for the customer they shall be discarded and new ones should be created. This is a long and iterative process.

A *business model fit* is given, when it is approved that the value proposition fits into a profitable business model. This is the crucial fit, because even the best value proposition cannot survive, if there is no solid business model behind. Therefore the last step is adjusting the business model to the value proposition until there is more revenue than costs.

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[136](Osterwalder, 2012)

[137](Osterwalder, Pigneur, et al., 2015, p. 30-31)

[138](Osterwalder, Pigneur, et al., 2015, p. 32-33)

4.2.3. St. Galler Business Model Navigator

The developers of the St. Galler Business Model Navigator (SGBMN) tried to create an equivalent tool to the product innovation method TRIZ for business model innovation. While the basis of TRIZ is the evaluation of around 40 000 patents, for the SGBMN, most of the successful business models developed during the last 50 years, as well as multiple business model pioneers of the last 150 years were analysed. Business models without success were not taken into consideration but for explanatory reasons in specific cases.[139]

This broad analysis revealed that 90 percent of business model innovations are recombinations of elements from existing business models. The 55 patterns of the SGBMN (listed in Table 2 on Page A1 - 21) represent all of these elements found.[140]

To be able to describe business models with an easy-to-use and still holistic concept they are broken down into four dimensions. Roughly described, there are the *Who-, What-, How-* and *Value-dimension* which are displayed within the magical triangle of business model definition which is displayed in figure 10).[141]
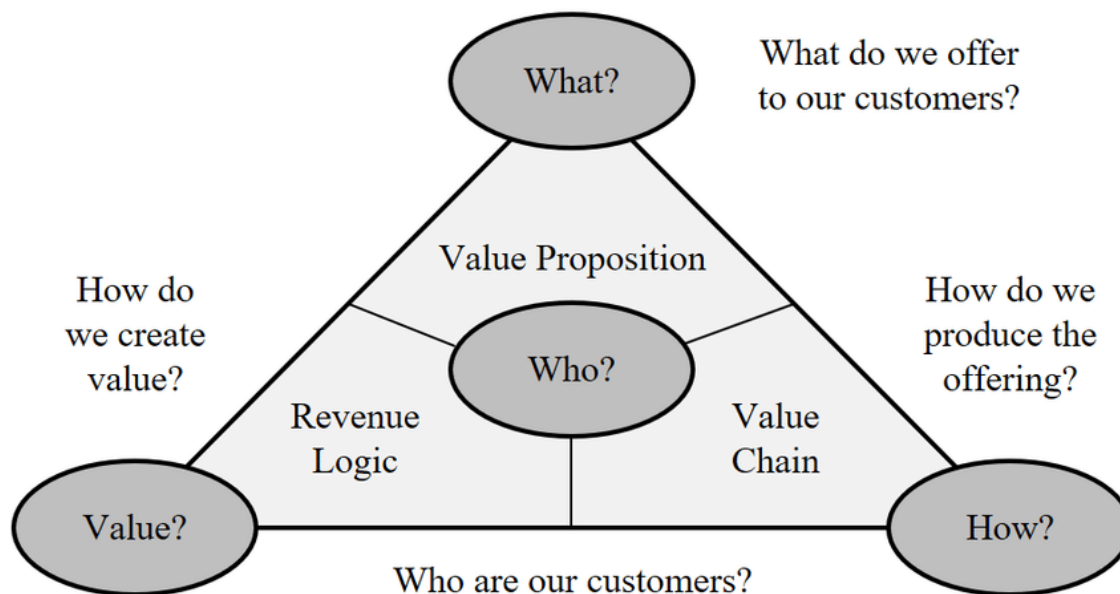
Figure 10.: The magical triangle: Business model definition (Researchgate.com, 2018)

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[139](Gassmann, Frankenberger, and Csik, 2013, p. 15)
[140](Gassmann, Frankenberger, and Csik, 2013, p. 17)
[141](Gassmann, Frankenberger, and Csik, 2013, p. 7)

The magical triangle

Who? - The Customer - Who are our customers? For every business model, the company has to know exactly which customer segments are relevant that should be addressed and which should not. Thus making the customer the center of any business model.[142]

What? - The Value Proposition - What do we offer to our customers? The second dimension describes what is offered to the target customers to satisfy their needs - the value proposition[143]. It can be defined as a holistic view of a company's manual of products and services that are of value to the customer[144].

How? - The Value Chain - How do we produce the offering? A company executes processes and activities to fulfil the value proposition. Those processes and activities together with the involved resources, the capabilities and the coordination along the value chain create the third dimension.[145]

Value? - Revenue Logic - How do we create value? The fourth dimension describes why the business model can survive. It contains aspects like the cost structure and revenue mechanisms. This dimension answers the central question: How can value be created with the business?[146]

Application of the St. Galler Business Model Navigator

The procedure for using the SGBMN was inspired by the iterative, user-centric design-thinking approach[147]. As shown in figure 11, the procedure is primarily divided into a *design* and a *realisation* part with iterations in between. The design part is starting with the *Initiation* phase to get an understanding for the challenges through a deep analysis of the ecosystem. It is followed by the *Ideation* phase where new ideas are generated. The *Integration* phase completes this part by building a new business model thus testing the ideas. The realisation part deals with the overall *Implementation* where the design is a crucial part of.[148]

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[142](Gassmann, Frankenberger, and Csik, 2013, p. 6)
[143](Gassmann, Frankenberger, and Csik, 2013, p. 6)
[144](Osterwalder, 2004)
[145](Gassmann, Frankenberger, and Csik, 2013, p. 6)
[146](Gassmann, Frankenberger, and Csik, 2013, p. 6)
[147](Gassmann, Frankenberger, and Csik, 2013, p. 16)
[148](Gassmann, Frankenberger, and Csik, 2013)
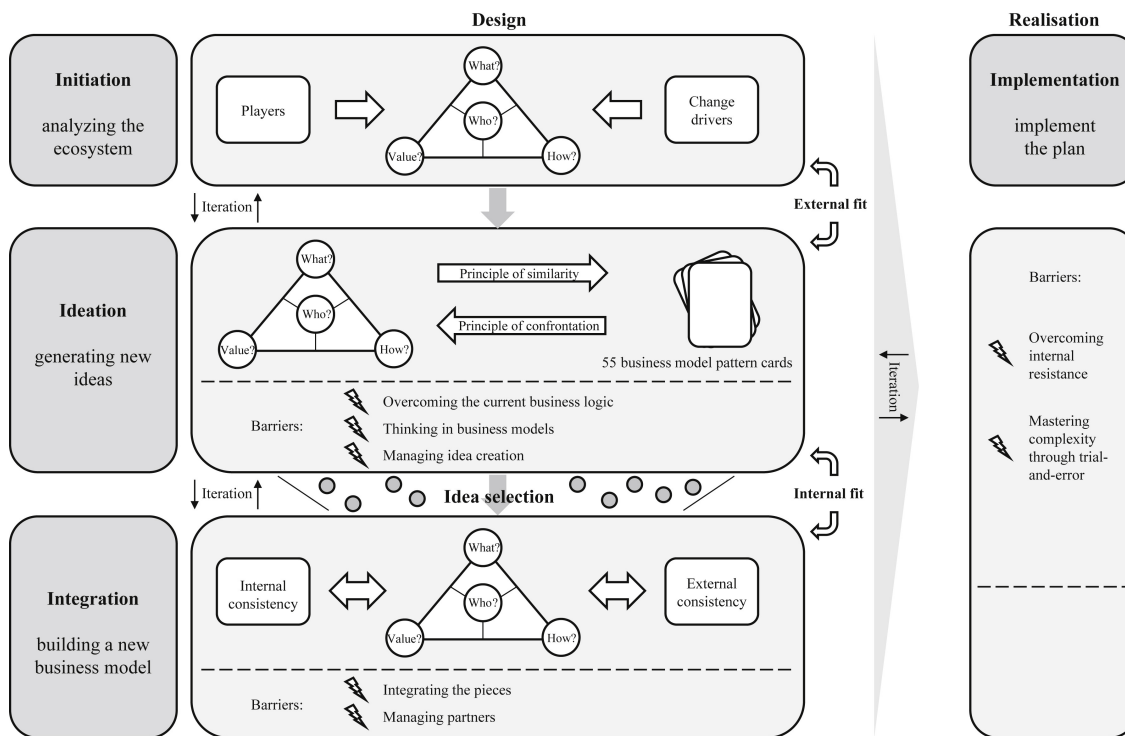
Figure 11.: The St. Galler Business Model Navigator™(Els-cdn.com, n.d.)

Implementation

Implementation is the hardest part to realize, hence there will be a lot of resistance from the market, partners and employees. Therefore it is advised to realise a business model innovation step by step. This iterative process starts with designing using the phases of the design part described below. It is followed by building prototypes of the designed business models that can be realized. Testing them by analysing what works and what does not, marks the end of the process before the next iteration starts again with designing.[149]

Initiation

It is crucial to have a good overview of the whole ecosystem prior to developing a new business model, because only if a company thoroughly understands its industry and ecosystem, it has the ability to actually be successful in conducting a business model innovation[150]. It is important to keep the focus on the overall business model logic and not going into detail.[151]

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[149](Gassmann, Frankenberger, and Csik, 2013, p. 49-54)
[150](Gassmann, Frankenberger, and Csik, 2013, p. 22)
[151](Gassmann, Frankenberger, and Csik, 2013)

>*Nicht Bodenhöhe, sondern 10.000 Meter Flughöhe wird angestrebt, damit die dominante Branchenlogik erfasst werden kann.«*[152]

(The goal is not ground level, but 10,000 meters altitude, so that the dominant branch logic can be captured.)

The analysis should be done in group work. The teams should consist of representatives from all departments to reduce blind spots to the minimum. First they should start elaborating the current business model using the magical triangle. In the end the company should understand, on the one side, the players who are one's customers, partners and competitors, what they want and how they interact, and on the other side, the change drivers like technologies, trends and regulatory changes, in order to answer the core questions: How are all these factors impacting the current business model, how are these factors changing over time, what impact will they have in the future and why is the current business model deemed to die? Last but not least the team should write a funeral oration to the current business model. This makes it easier to let go the status quo and embrace change and the future.[153]

Ideation

According to (Gassmann, Frankenberger, and Csik, 2013) there are two ways to approach ideation. On the one hand there is the *Principle of similarity* and on the second hand there is the *Principle of confrontation*. The goal is to get an external fit, meaning to find ideas for business models that meet the requirements of the user for his specific ecosystem, while mastering the barriers of overcoming the current business logic, thinking in business models and managing idea creation.[154]

The *Principle of similarity* is a deeply systematic-analytic approach from the inside out, starting with pattern cards from very analogue branches moving towards less analogue branches. Gradually solving the current industry logic as well as the deliberate exclusion of new to the industry fields makes the search for new business models clearer and more effective. Therefore this principle is good for developing new business models with a low to medium degree of radical change and a specific problem formulation.[155]

The *Principle of confrontation* goes the opposite direction, starting with extreme variants. It is about challenging the own business model by visualising the gap between the status quo and alternative business model patterns. This requires a high amount of creativity. Thus this principle is more challenging, with the benefit of unbelievably high innovation potential. Therefore the

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[152](Gassmann, Frankenberger, and Csik, 2013, p. 23)
[153](Gassmann, Frankenberger, and Csik, 2013)
[154](Gassmann, Frankenberger, and Csik, 2013)
[155](Gassmann, Frankenberger, and Csik, 2013)

principle of confrontation is recommended for innovation projects with an open or partly known problem formulation.[156]

Integration

After the idea selection, done with common tools like the NACB-method[157], internal fit needs to be achieved. Therefore, *internal* and *external consistency* must be given.[158]

As long as not all 4 dimensions underlie changes due to Ideation, the remaining dimensions have to be adjusted until all 4 dimensions are consistent, to achieve what is called *internal consistency*.

To reach *external consistency*, it needs to be checked how the new business model is satisfying the players and how it copes with change drivers. If there appears a contradiction between the internal and external consistency layer that cannot be solved, iterations with Ideation and Initiation are needed until a consistent business model is available.[159]

4.2.4. Selection of the appropriate tool sets for the business model development

For the business model development of the new winter cap a Business Model Canvas will be created. To fill the BMC with more precise data, an additional Value Proposition Canvas is conducted. The gained information about customer insights through the VPC can be used for the product development as well. Therefore it is very valuable information and this is the reason why both canvases are created. In addition, the 55 patterns of the St. Galler Business Model Navigator are used as inspiration for the business model creation to develop a solid business model with a sound strategy.

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[156](Gassmann, Frankenberger, and Csik, 2013)
[157](Christian, 2012)
[158](Gassmann, Frankenberger, and Csik, 2013)
[159](Gassmann, Frankenberger, and Csik, 2013)

5. Application and discussion of the chosen processes and tools

First, the new product development process gets customised in this chapter . The reason for this is to provide good long term planning and to stay flexible at the same time, as described in 4.1.4. As stated in 1.3 the product development itself is not part of this work but a good NPD process is crucial for the business strategy. Therefore the company is provided with a rough plan how to proceed with its NPD.

Then, the business model is developed, by applying the proper tools. The usual approach is to elaborate the current business model with the BMC and later going into more detail by refining one's value proposition with the VPC. Since, in this case, there do not exist neither products or product lines nor a business behind, it makes more sense to start with the VPC to elaborate the customer needs and the required product characteristics to fulfil those needs at best. This way it is possible to use the VPC as source for the BMC to build a sound business model from the ground up.

As fist step in the business model development, the VPC is filled with valuable information by brainstorming sessions within the project team. As the team members have very different habits concerning the topic of wearing winter caps, they represent a broad spectrum of the customer segment. Furthermore, they are already familiar with brainstorming, thus making it way more effective. In addition, the discovered customer pains and gains are verified by a short quantitative web-survey.

On that basis, the Business Model Canvas is filled with data from further brainstorming sessions, best practice comparisons of successful business models described within the St. Galler Business Model Navigator and data from various statistics.

Finally, with the two canvases ready (whereat the VPC will be an integrated part of the final BMC), the business plan gets written. On the one hand it summarizes all findings. On the other hand it is a planning tool that visualizes future scenarios thus making hurdles and outcomes imaginable. This way better decisions can be made and the risks are more manageable.

5.1. Customised Scrum-Stage-Gate Process for NPD

As the idea already existed prior to the beginning of this work, at the time of developing this process the project was already in the scoping phase. This is the reason why this process starts with gate 2, the called the second screening, which lies between the stages scoping and building a business case.

Figure 12 shows an early sketch of this customized Scrum-Stage-Gate Process.
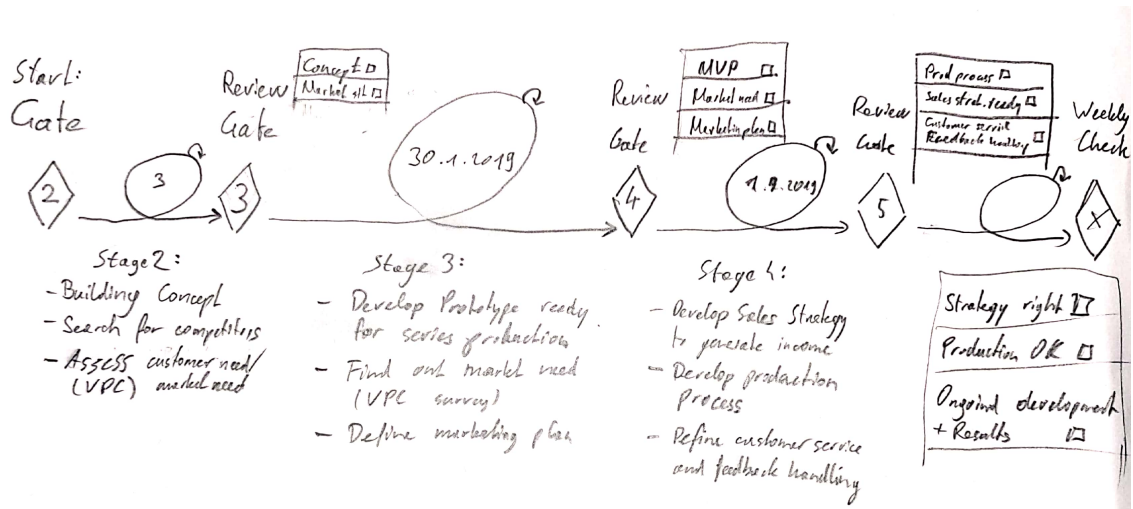
Figure 12.: Stages and Gates of the customized Scrum-Stage-Gate Process for the NPD within the project

5.1.1. Structure

The gates are a mixture of gates, according to the Stage-Gate® Process, and Sprint Reviews, according to the Scrum methodology. The main document representing a gate is a checklist of points that need to be achieved, similar to the Product Backlog. The points within the checklist are defined at the corresponding previous gate.

To pass a gate all checklist items need to be approved. The checklist of a gate gets checked after each Sprint in the review. At the end of the review there are two possible outcomes: Either all checklist items got approved or not.

In case of approval the checklist of the next gate gets defined and fixed. This marks the proceeding to the next stage.

If the checklist is not fully approved there is the possibility of changing checklist items or the

allowed duration for a stage (can be done by the Product Owner only). Afterwards the Sprint Planning Meeting takes place.

The stages are the time between the gates. Stages should have a fixed time frame. This can either be specified by a date or event or a number of sprint iterations. Is it not possible to finish all checklist items within this time frame, it is advised to kill the project or make drastic adjustments to the project and this process respectively.

Sprints shall ideally last one week, at most two weeks.

Gate 2: Kick-off

What gets reviewed:
- all the key findings so far

Define the checklist for the next gate:

- Elaborate two or more different concepts for solving the problem[160]

- Short web research whether or not there exists a solution

- *Duration:* The next stage shall last at most three iterations

Action:
- Decision: Go! ->to start the process, as the project has already started!

Stage 2: Building a business case

- *Duration: Maximum 3 iterations*

- Building concepts

- Searching for possible look a likes

- Assessing the market need for such a product (VPC)

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[160]Read 2.1 for the description of the problem)

Gate 3: Go to Development

What gets reviewed:
- The concepts for a new winter cap that can protect the hairstyle
- Findings about the current market situation, whether there already exists such a product

Define the checklist for the next gate:

- Creation of the prototype of a minimal viable product (MVP)

- Confirm the market need for such a product

- Elaborate a marketing plan

- *Duration:* Until the end of this year.

Stage 3: Development

- *Duration: until 30.01.2019*

- Developing a prototype of the MVP that is ready for series production

- Finding out market needs with surveys and a VPC

- Defining marketing plans for the product

Gate 4: Go to Testing

What gets reviewed:
- Is the prototype already a valid MVP?
- Is there a need for this product in the market?
- Are the marketing plans sound to generate income?

Define the checklist for the next gate:

- Finalize the production process

- Prepare the implementation of the sales strategy

- Elaborate a customer service strategy to handle customer feedback

- *Duration:* Until 1.9.2019

Stage 4: Testing and refinements

- *Duration: until 1.9.2019*

- Setting up the whole production process (Managing everything from sourcing, producing, assembling, packing to shipping)

- Developing a sales strategy and preparing for its implementation

- Setting up customer service and elaborating a system for feedback handling

Gate 5: Go to Launch

What gets reviewed:
- Is the production process set up and ready?
- Is the sales strategy developed and ready?
- Is the customer service and feedback handling elaborated and ready?

Action:
If everything is OK, initiate the weekly checking.

Weekly Check

What gets reviewed:
- Do we follow the right strategy?
- Is the production process OK?
- News from development

5.1.2. Implementation

The Scrum-Stage-Gate Process has been used throughout the project for all the product development, until now. It achieved a prototype that fulfils, so far, all the requirements except the feature

of collapsing for easy storage. But this is due to the material restrictions according to 3D printing. The product owner, however, undertook some minor changes on the time line, proving that the process was fully adopted.

5.2. The Value Proposition Canvas

To proceed like described in 4.2.2 the work is started by elaborating the Customer Profile for the new winter cap.

5.2.1. The Customer Profile

To get a first impression of the customer profile a comprehensive brainstorming is done within the project team.

5.2.1.1. Brainstorming as preparation

As Brainstorming is actually a method for idea creation that builds on creativity it is not the best and efficient way to gather insights into the customer profile, but it is fast and deemed very effective, thanks to the diversity within the project team. However, this implies the very probable event of reworking all gathered data.

The Brainstorming preparations include: Finding a right room where creative thinking is possible and the atmosphere encourages positivity and energy, finding a convenient timeslot, inviting all the team members and preparing a canvas, sticking notes and pens. The members of Brainstorming team shall come from different areas, think differently and have different points of view for the Brainstorming to work best[161]. It is important to create a positively, competitive and mutually encouraging atmosphere to get the most out of it[162].

The rules of Brainstorming during the idea generation phase:[163]

- No criticism, praise, or discussion of any ideas

- Quantity is the sole measure of brainstorming effectiveness

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[161](Eckerson, 1988)
[162](Sutton, 2006)
[163](Wilson, 2013, p. 16-17)

- Ideas can be totally new, modifications of existing ideas, or ideas that come from combining other ideas

The phase shall last for around 20-30 minutes - if more time is needed, there should be short breaks in-between.[164]

In the second phase the ideas get evaluated and rated. There the decision is made, which ideas are good and valuable and which can be discarded.[165]

5.2.1.2. Filling the canvas

The Brainstorming took place in the meeting room at the company site. After a bit more than half an hour there was a big collection of statements that was representing way more than just the customer segment. As there was no criticism allowed, the team ended up with statements for each of the categories within the VPC. Actually statements for the categories Gains, Gain Creators, Pains and Pain Relievers were confused very often. These statements could be transferred to the correct category by just paraphrasing them. This is why the output of the brainstorming needed some sorting afterwards, which was done in the course of this work and is presented in the Results.
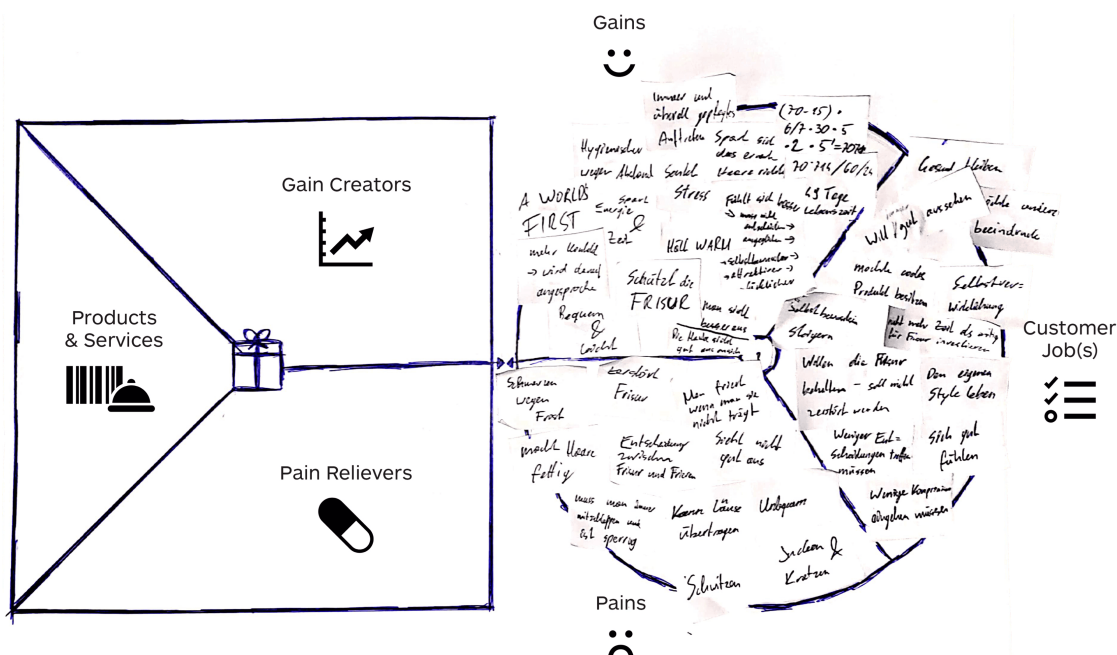
Figure 13.: VPC with filled Customer Profile after first Brainstorming session

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[164](Wilson, 2013, p. 16)
[165](Boddy, 2012)

The Output of the brainstorming session can be seen in Figure 13. For better readability the results were translated, reworked and summarized to the following bullet points:

Customer Jobs:

- Avoiding physical pain due to cold temperatures

- Staying health and sane

- Maintaining a good or perfect hairstyle with the least effort necessary

- Looking good - anytime and anywhere

- Impressing friends, colleagues and family

- Owning better and smarter products than others

- Feeling selfconfident

- Being her- or himself and having the own style

- Realising one's full potential

- Reducing small and nasty decisions that need to be made and induce stress

- Living a good life without compromises, thus reducing stress even further

- Feeling good

Customer Pains:

- Destroys hairstyle so that the hair has to be done after putting the winter cap down

- Freezing unless the winter cap is put on

- Need to decide between worse or worst (destroying hairstyle or freezing)

- Does not look good on ones head

- Uncomfortable due to its cut and built (quality)

- Is itching and scratching

- Transmitting lice

- Increasing the speed of hair getting greasy

- Lacking storability

- Sweating

Customer Gains:

- Keeps head warm

- Saving energy and time because no decision (whether to wear or not to wear) needs to be made

- Preserves hairstyles either done by oneself or by a hairdresser

- Decreases stress level

- Safes even more valuable time that would be wasted by redoing the hair (approximately saving one and a half months of ones life[166])

- Better overall feeling because of the lack of the compromise's burden leading to a more positive attitude and therefore improving self-confidence, attractiveness and happiness.

- The winter cap looks great

- The winter cap makes the person who wears it look even better

- So light and comfortable that it adds no feel to the head

- Comfortable to wear

- More social interaction and contact due to a fancy looking product that is amazingly smart

- More hygienic due to minimal contact with head and hair

- Neat and attractive appearance - instantaneously, anytime and anywhere

- It is a world's first

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[166]Assuming that the person wears the new winter cap twice a day for 6 days a week (going to work and returning home during workdays and going out or to church at the weekend once) during the winter months from October until February and needs only five minutes to go to the bathroom, to redo the hair and to come back where she or he left off from the age of 15 until 70.

5.2.1.3. Discussion of the results

As the results were created by a small group they do not provide a full picture of the situation. However, the brainstorming was done to gain a first impression of the customer segment.

It already showed that the new winter cap is diving into a blue ocean and that there is not only the possibility but also the need for a solution of this known but yet unsolved problem.

Further the results showed, that by solving the core problem additional smaller problems with regular winter caps (like becoming greasy hair or reducing the risk of getting lice) are being solved, too.

Therefore the results of the brainstorming are very good as they provide good data to create a survey with which the information and assumptions of customer pains and gains can be verified for a broader audience.

5.2.2. Validating the data with a quantitative survey

To be more certain about the gathered data there was the decision to do a fast quantitative survey to quickly validate the information about the Customer Profile. This is important because both, the product development and the business development, depend on this information. That is why being accurate at this point is crucial for the success of the business.

5.2.2.1. How to conduct a Quantitative Survey

The quantitative survey done in the course of this work will be a cross-sectional, sample survey, as the market is very big (only a sample survey is economic) and a picture of the current attitude is wanted, categorising it as cross-sectional. Therefore the following check list needs to be accomplished according to Showkat:[167]

- The first and most important step in conducting a survey is to clarify the aim of the survey.

- Reviewing some studies based on the survey method may help the researcher to get things more clear. To achieve the desired goals of the study, selecting an appropriate survey design is of paramount importance.

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[167](Showkat and Parveen, 2017)

- Finalising the sampling method (random, systematic, stratified, convenience judgement, quota or snowball sampling[168]).

- Selecting the method of data collection like a face-to-face interview, questionnaire, telephone interview etc. After finalising the method, a pre-test of the method is important.

- The collection of data. Follow-up is the key to boosting the response rate.

After collecting the data, it needs to be analysed before disseminating the result. It is advised to prepare an easily understandable report of the findings.[169]

5.2.2.2. Preparations and execution

The checklist from 5.2.2.1 was taken to start with the preparations.

Clarifying the aim

As already stated in the introduction of 5.2.2 the aim is to get deeper and more accurate insights into the Customer Profile of the new winter cap. In the best case these insights should support and validate the information collected through the first brainstorming.

Reviewing other studies to select an appropriate survey design

As a student I took part in countless surveys throughout my studies that is how I gained experience what differentiates good from bad surveys. The most important points are:

- It must not last longer than two minutes to complete the survey!

- It has to be easily understandable, intuitive and visibly appealing!

- There has to be questioned just one statement at a time!
  Wrong: Do you have short hair and think wearing a winter hat messes up your hair?
  Right: Q1: Do you have short or long hair? Q2: Do you think wearing a winter hat messes up your hair?

- The question has to be specific and the answers comparable!
  Bad: What does stop you from wearing a winterhat? (Open Question)
  Good: Does having a good hairstyle sometimes stop you from wearing a winter hat?

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[168](StatPac, 2017)
[169](Showkat and Parveen, 2017)

Finalizing the sampling method

A mix of snowball and stratified sampling was used for this survey to get fast results and inexpensive data. On the one hand the survey was sent to friends and they send it to their friends and so forth to get a small basis of data for free. The rest was accomplished by selecting three different target groups with Google-ads. The first group was limited to persons from Berlin and the second to London, two major cities outside of Austria to reduce bias. The third was conducted globally without limitations.

Selecting the method of data collection that provides follow-up questions

The survey was conducted as a web-based survey due to several reasons.

Web-based surveys collect data very fast at hardly any cost. By now there exist several survey-services that offer intuitive interfaces and easy survey management. Tools like Google-Ads make it easy to collect random stratified data at low cost allowing good specification of the target group.

Typeform[170] and Google Forms[171] were chosen as platforms. They both offer templates to create beautiful and intuitive surveys including follow-up questions that are easy to manage. In addition it provides data-download in the Mircosoft Excel format for easier data processing and survey evaluation. Both were used in the beginning to identify better respond rates.

First there was a pre-testing of the survey by a selected group of people who are known to be good in finding typos as well as semantic and textual flaws before it was released. The surveys were online for about one month and collected usable data from 336 persons.

An example of the survey can be found in the Appendix under *Survey about people's individual hairstyle and winter cap preferences*.

5.2.2.3. Evaluation of the statistics

The first and most important question the survey should answer was: "Is the pain real?" Meaning, is there a need for this new winter cap and how intense is the desire to get rid of the problem - not being able to keep a good hairstyle and to stay warm - that was observed and identified in 2.1.

Figure 14 clearly indicates that the majority of people - two out of three persons - believes that winter hats mess up their hairstyle.

For more than 50% this is even the reason why they renounce winter hats. This confirms that there

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[170]https://www.typeform.com/
[171]https://www.google.com/intl/en/forms/about/
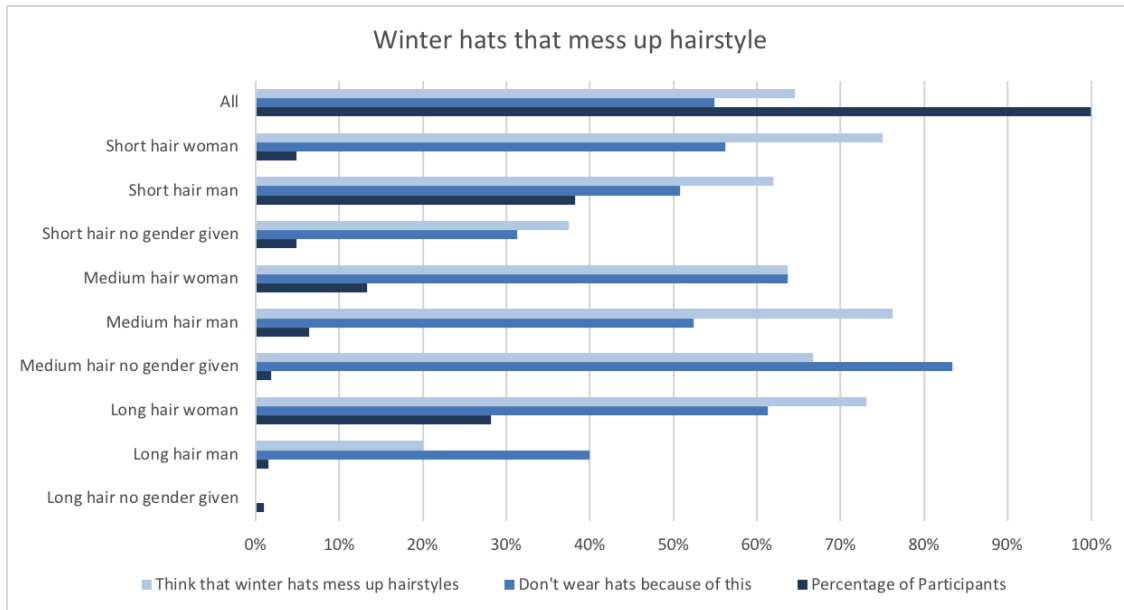
Figure 14.: Shows if people think there is a problem with regular winter hats and if so if this prevents them from wearing winter caps

definitely is a need for the new winter cap. Figure 15 provides an even deeper insight in who is willing to buy the new winter cap and how big the pain for persons of each category is.
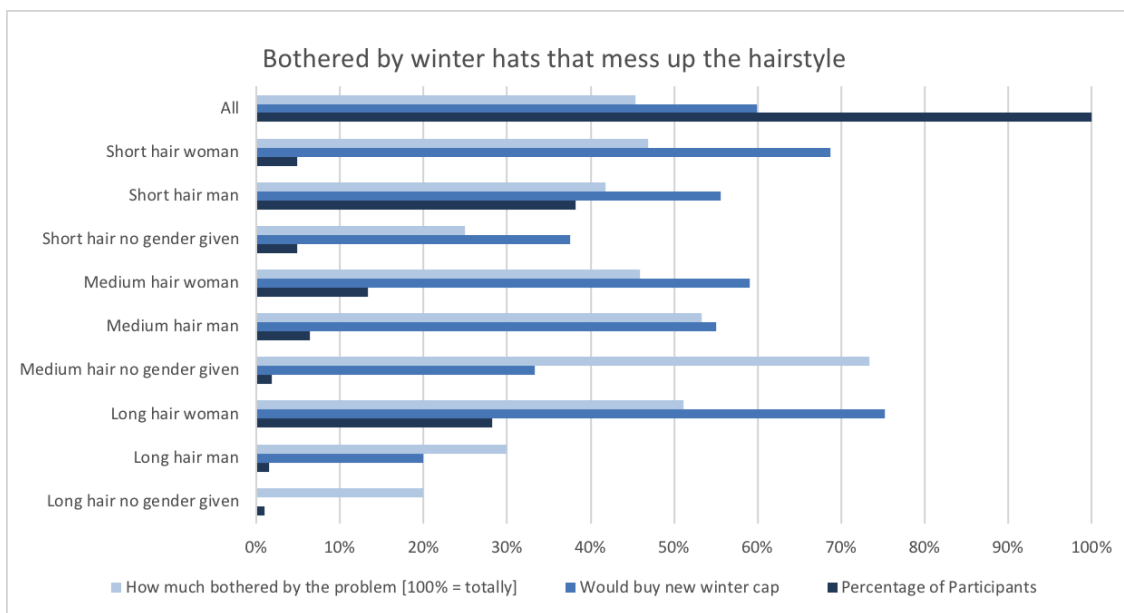
Figure 15.: Shows how much this problem bothers people and if they would buy a product that solves those issues

It seems like the majority is semi-bothered. Only people with short hair who's gender is secret,

with long hair who's gender is hidden and men with long hair do not really care about the problem. On the other side, persons with medium hair enclosing their gender are bothered a lot. To learn more about who can't stand the problem and to whom it does not matter see figures 16 and 17.
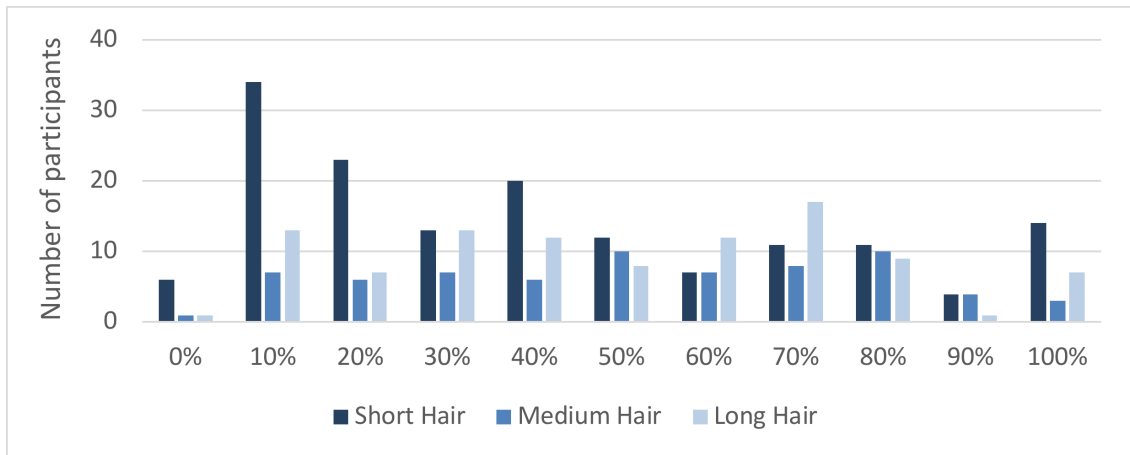
Figure 16.: People bothered by winter hats that mess up their hairstyle - depending on the length of their hair

Looking at figure 16 one can see that this topic is polarizing people. Especially short-haired persons are overrepresented in both groups, the hardly bothered ones and the die-hard-striving-for-a-solution ones. Whereas the problem is still polarizing for people with long hair the difference of the divergence is not as extreme as for ones with short hair. Persons with medium long hair however, are indeed bothered on average.
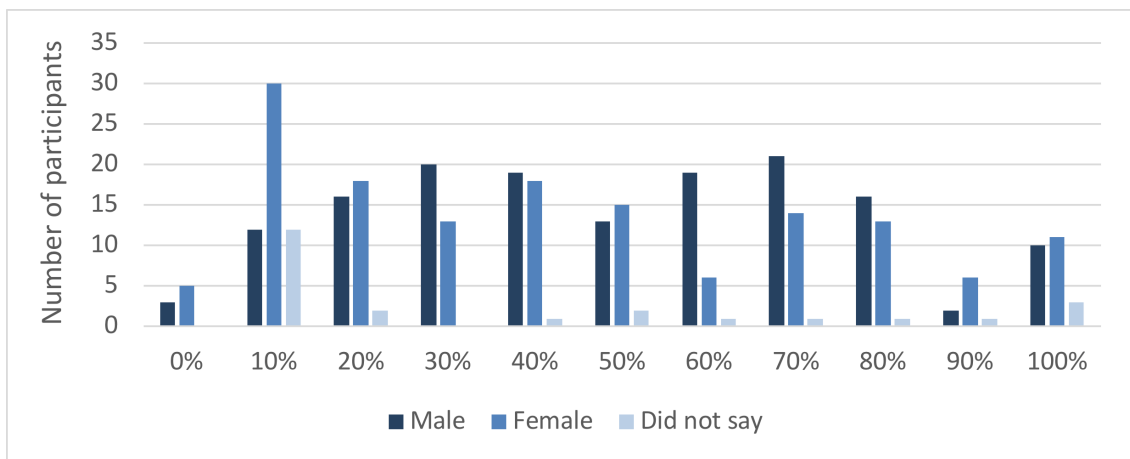
Figure 17.: People bothered by winter hats that mess up their hairstyle - depending on their gender

Going to figure 17, it reveals a beautiful picture of the divergence on this opinion for men, covered in three peaks. The first is at 30% bothered, the second at 70% bothered and the last peak at fully bothered by the problem that regular winter caps destroy the hairstyle and that one has to chose

between freezing or destroyed hair. This shows that it is a real issue for short haired persons as there is hardly anybody who does not care about it.

In contrast, females have a big peak of participants that are not really bothered by the problem. For the rest of the statistic however, the discovered peaks are similar to the one for men.

People that were not revealing their gender mainly do not care (50% of the participants within this group). Whereas the second biggest part (with just 13%) is fully concerned further confirming the polarizing characteristics of the topic.

As known from figure 15 over 60% of the participants would buy the new winter cap. Let's take a deeper look into the customer's decision making for buying the new product.

Figure 18.: Defines the market size by separating non-buyers from buyers and categorises the blue ocean portion and red ocean portion

According to figure 18 43% of the market mark red ocean, meaning that the customers already use regular winter caps and that they are competing with the new winter cap. There even are astonishing 18% blue ocean, meaning that the new winter cap has the potential to increase the existing market of winter hats by nearly 20% and within that portion the new product would be without competitors. Considering the current market size of Germany[172] this would result in over 110 Million Euro of theoretical revenue stream annually.

To see how important the solution to the problem of 2.1 is to the market blue and red ocean were further splitted into the groups of people who believe that there is a problem with regular winter hats and those who do not. As a matter of fact around 70%of people who would buy the new winter cap hold regular winter hats accountable for destroying good hairstyles.

Last but not least: *The Pricing!*

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[172]According to (De.statista.com, 2019b) the turnover was 644 Million Euro in Germany in 2018

Figure 19.: Showing the price expectation of male and female participants for each age range. For better visualisation a 3-dimensional effect was added to better distinguish the data describing male and female preferences.

The horizontal axis of figure 19 shows the age of participants in years. They were categorized in the age ranges 18 and younger, 19 - 24 years, 25 - 34 years, 35 - 44 years, 45 - 54 years, 55 - 64 years and older than 65. A 3-dimensional effect was added to better distinguish the data describing male and female preferences. This was done by shifting the male data a little big to the left of the center point of the corresponding age range and shifting the female group a little bit to the right of the center of the corresponding age range.

The vertical axis of figure 19 describes the price expectations of the participants. The data was collected in price ranges of EUR 20, starting with <20 Euro, followed by 20 - 40 Euro, 40 - 60 Euro, 60 - 80 Euro, 80 - 100 Euro and the last category of >100 Euro.

The circle size is proportional to the percentage of the number of participants in that specific section to the total amount of participants of the corresponding gender. This way the price expectations of Males and Females are comparable within one age range. Inter-age-range comparison by circle size is not valid because the majority of participants was between 19 and 34 years and for all other groups there would have been too little data to gain valid information.

The reason for this age range is the web-based survey, as it reaches people who actively surf the web and thus click on Google and Facebook Ads. Having that data favours an online marketing strategy, because this survey provides good customer insights for exactly the audience of online marketing.

However, the participants expect to pay between 20 and 60 Euro for the new product. Furthermore,

it is discovered that men below 45 years are willing to pay more than women of the same age on average. This trend changes at the age of 45 years where women significantly pay more for such a winter hat than their male counterparts. Although there is too little data available to make profound assessments, a tendency can be discovered that people, starting at an age of 45 years, are willing to pay more at an increasing age.

5.2.2.4. Discussion of the results

The survey clearly emphasizes the assumptions of the Customer Profile gathered in the first Brainstorming:

There is a need for a new winter cap, because there is a problem with regular winter hats. Namely, they destroy persons' hairstyles and force people into the decision between freezing and feeling uncomfortable due to their messed up hair or additional unnecessary work like redoing the hair.

Another outcome was, that the majority (over 60% of the participants) is willing to buy such a new winter cap that resolves those issues from above. In addition the insight was gained that there even exist a significant blue ocean for the new product that would allow a theoretical revenue stream of over 100 million Euro per year within Germany alone.

A nice to have addition was the detail on the price expectations of the future customers who would easily pay between 20 and 60 Euro for the new product.

5.2.3. The Value Map

After the insights from the survey the value proposition could be diligently crafted to design a new product that fulfils as many customer expectations as possible. To do so, another brainstorming session was done.

5.2.3.1. Preparations and filling of the canvas

The preparations for this second brainstorming were similar to the one from the first: Finding a right room where creative thinking is possible and the atmosphere encourages positivity and energy, finding a convenient timeslot, inviting all the team members and preparing a canvas, sticking notes and pens. Furthermore, this session was divided into two parts. First collecting as many statements for the Value Map as possible and in a second step already doing The Fit[173].

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[173] See 4.2.2 for detailed description of the elements and actions referring to the VPC

Figure 20 shows the result after step two of the brainstorming session. According to the project team's view the most important *pain relievers* are:
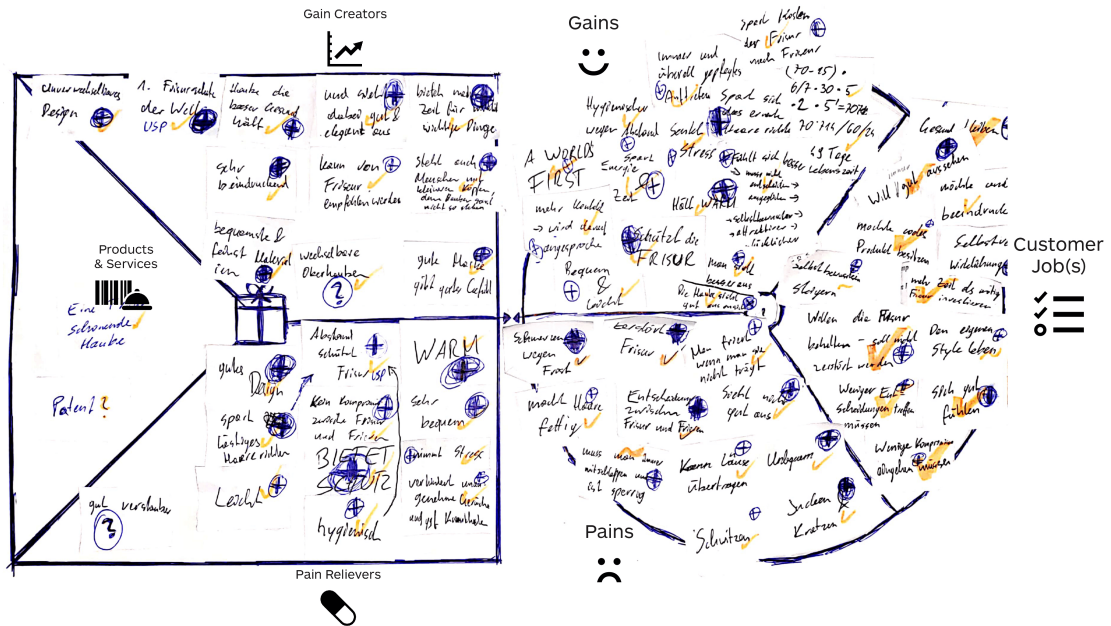
Figure 20.: Fully filled VPC after the second Brainstorming session

- *Providing protection from:*
  - Cold temperatures
  - Hairstyle ruining influences

- No more feeling badly dressed because of the outstanding design

- Has to be a time-saver (no additional time needed to redo the hair)

- Has to be a hassle-reducer (no additional hassles as hair does not need to be redone)

- Reducing the stress level in many ways:
  - No difficult decision needed whether or not to protect the hairstyle
  - No burden of living with compromises
  - Warm and fuzzy feeling as one knows that the new winter cap takes care of oneself either way (Hairstyle and sheltering against cold temperatures)
  - Certainty that one is looking great after taking off the winter cap that is drastically reducing the emotional stress of accidentally looking scruffy

- Super comfortable, so no itching or scratching

- More hygienic, therefore reducing unpleasant smells or unwanted infections

A point that may not be addressable is compact packing or collapsing for easy storage, but as this feature is categorized as medium importance it needs not be a high priority product feature.

The *Gain Creators* are:

- The 1st hairstyle saving winter hat - this is the USP of the new product

- Winter hat that keeps the owner sane

- Provides customers with more time for the really important things in life - time spent by enjoying their life in style instead of styling themselves to get ready for joy

- The product looks astonishingly good and elegant

- The product is outstanding and impressive

- Premium materials that are super comfortable - better than expected

- Product can be recommended by your personal hairdresser who wants to preserve his work

- Looks good on people whose head looks weirdly small while wearing regular winter caps

- New fresh and young brand offers a pleasant feeling

- Providing interchangeable upper hats

The last point may not be realizable in the first product series, but is an intended goal.

5.2.3.2. Discussion of the results

Out of the Pain Relievers and the Gain Creators the following must criteria of the new winter cap are derived. These three main points are equally important:

- An IMS that provides enough distance between the upper hat and the head to protect the hair.

- It has to keep warm

- It needs a great design

The should criteria are sorted by priority:

- It has to be lightweight and comfortable to wear to feel cosy and protected

- Fine and comfortable materials have to be found and used

- The upper hat shall be interchangable

- The new product should be easy to store away while not in use

Further recommendations out of the VPC

Nearly all points of the Gain Creators are suitable for marketing of the product.

Developing a brand strategy is an important piece of the business, but not part of this work. Therefore it is highly recommended to diligently work out a strategy containing online presence to discover the platforms suiting the company best as well as the brand image that shall be created.

5.3. The Business Model Canvas

The goal of this section is to develop a solid business model of a company that can successfully market this innovative new winter cap. For reasons already described in section 4.2.4 the Business Model Canvas (BMC) is used to complete this task.

There were developed two business models. First there was the idea to build on an unconventional but smart retailer strategy for winter caps. However, due to the lack of resources and better developing through rapid customer feedback an online strategy was elaborated as the main strategy, keeping the first in mind for later.

5.3.1. The first canvas

The preparations were relatively easy. A canvas was created, sticking notes and pens provided and a timeslot for the project team to come together had to be found. Now the BMC was ready to be filled.

The first BMC was created shortly after the first brainstorming session of the VPC. This had the advantage that the characteristics of the Customer Profile were still present in the team members'

minds. Another reason was to get an early direction for starting to work on the project. Because speed is the key to success for business types that focus on product innovation[174].

The plan was to reach the customers, people who have beautifully styled hair, in the moment they want the least their hairstyles to be destroyed. This is right after visiting their hairdresser, when they are on the edge to step outside the saloon. Because this is the first time when their hair will be endangered. As a logical consequence the new winter cap needs to be sold by hairdressers in that desperate moment of need.

The business model for this strategy can be examined in figure 21.

Figure 21.: First BMC: Hairdresser-Strategy. Created with little knowledge about the product, the future company and the market

Customer Segment

The Customer Segment consists of B2B and B2C[175] customer groups. There are three B2C customer groups, all of which attend a hairdresser regularly: Women ageing from 10 to 90 years,

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[174](Osterwalder and Pigneur, 2015, p. 59)

[175]Common abbreviations for "business to business" and "business to consumer". For better understanding a detailed explanation can be found at Digital-sales.de, 2019

Men from 10 to 70 years and women that are older than 30 years and have expensive hairstyles. As the last group promises the most revenue in this business model, the focus lies there. The customer group for B2B are single hairdresser and big hairdresser's chains like "KLIPP" or "Coiffure Velly" depending on the contracts made.

Value Proposition

The following values are offered to the customer groups:

- The promise that the hairstyle will be protected and NOT destroyed

- Protection from bad weather and cold temperatures

- A product delivering a lifestyle of beauty

- Easily generated additional profit for hairdressers

As the Value Map was not created and the Customer Profile not fully evaluated yet, a memo was added that the Value Proposition needs to be updated as soon as the corresponding data is available.

Customer Channel

For better visualisation, business and consumer channels and relationships were separated, as different issues need to be addressed. The only common thing is the webshop - the main Customer Channel where both groups order their products.

Sales on the streets were added to the B2C channels. Going from hairdresser saloon to saloon - doing direct sales - was added to the B2B channels.

Customer Relationships

B2B relationships are cultivated through direct contact and innovative marketing, whereas B2C interaction mainly takes place on social media platforms like Facebook, Twitter and Instagram. In addition, both, B2C and B2B customers, can contact the organisation online via the webshop anytime.

Revenue Streams

The major portion should come from sales via the webshop, either from B2C customers whose sales generate the highest profit per sale or from B2B customers who, however, generate more revenue overall, and that on a regular basis. The strategy which of the two is preferred will depend on the marketing expenses for each group which are not known at the moment.

Additional streams come from direct sales at hairdressers' and from initial sales on the street which will be done in order to get immediate customer feedback on the product.

Key Resources

- The team

- Marketing

- Assembly and maybe other parts of production

- Maybe the webshop: The advantages of having this resource in-house are faster responds times if problems occur and more flexibility in design and construction. Besides needing personnel, further downsides are the heavy initial spent and possibly high and unpredictable maintaining costs.
  Alternatively, the webshop can be outsourced to a competent key partner.

Key Activities

The most important key activity is the development of the product. It is soon followed by marketing activities for the various customer groups. Later, production, sales and supply chain management activities will be added to the essentials.

Another key activity is managing the whole patenting process.

Key Partners

- For developing the product, partners like designers and tailors are important.

- For the B2B-strategy, key partnerships with big hairdressers chains need to be established because partnering with individual hairdresser does not provide the wanted leverage.

- For the production, various suppliers will be needed depending on the components of the product. These partners need to be found ahead of time to have valid contracts before delivery is needed.

- As homepage and webshop go hand in hand, the decision whether or not to outsource them shall be done before marketing activities are starting.

Cost Structure

In the early stage there are mainly development and organizational costs. Later, marketing and pre-production costs will be added. All these costs must be covered by some funding until the first regular sales start. This can be achieved through investors and/or governmental funding. Later on, the Revenue Stream has to provide funds for production, marketing, sales, customer service and further product development, and provide small and steady growth.

5.3.2. The second canvas

After the evaluation of the results of the survey, a strategy for faster growth needed to be developed because it is impossible to take full advantage of a blue ocean by slowly growing from generated profit. Big players will copy the idea, develop their own products and expand their market share.

As online marketing is easy nowadays, worldwide shipping that provides the needed leverage is possible. Moreover, crowdfunding platforms like Kickstarter and Indigogo provide the perfect framework for such a project. There meet thousands of people who are interested in new products with the purpose of supporting projects they like. In return they get a reward - for example one or two final products, as soon as they are developed, produced and shipped - depending on the sum of their support, called pledge. This way a high funding can be reached without the need of selling shares to one single investor.

Concluding, an online-strategy is needed to make use of the full potential of this innovative new winter cap. With a crowdfunding campaign enough funding can be collected to complete development and start production. Furthermore, the marketing experiences gained from these campaigns can be used for the online-marketing of the regular products later on.

The implementation of this online-strategy into a sound business model can be seen in figures 22, 23 and 24. The business model there is divided into two phases, the crowdfunding phase and

regular sales. Items occurring during both phases are marked in orange. The green statements indicate what is only needed during crowdfunding-phase and the pink sticking notes relate to points relevant for regular sales.

5.3.2.1. Business Model for the crowdfunding phase

Figure 22 shows all relevant items for the crowdfunding phase.

Figure 22.: Business Model for online-marketing during crowdfunding phase

Customer Segment

There are two customer groups.

- Men ranging from 20 to 45 years

- Women ranging from 20 to 65 years

The characteristics for both groups are the same. They use Facebook on a regular basis and are

familiar with Kickstarter or at least similar crowdfunding platforms. Furthermore, they care for their appearance, value good hairstyle and are excited by new stuff. The last main criteria is that they live in an area where it is cold some time during the year.

Value Proposition

To the values identified in section 5.2.3.1 of which

- providing a world's 1st product,

- maintaining perfectly styled hair,

- protecting against bad weather and cold temperatures as well as

- offering an extraordinary design

- and superior comfort

are the most important, an Early-Bird discount can be offered, additionally.

Moreover, the chances to get a patent for this hair-saving-technology have drastically increased over time, as product development has been preceding.

Customer Channel

During this phase the current crowdfunding page is the only place where to "buy"[176] the product.

Customer Relationships

All customer interaction happens virtually, via the social media platforms Facebook, Instagram and Twitter, via the current crowdfunding page and via email.

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[176]Actually, the customers just fund the project. However, as they receive the product in return, one can speak of buying through pre-ordering.

Revenue Streams

In case that the receipts from Kickstarter and Indigogo are not sufficient for developing and marketing the new product, investors could provide additional cash.

In addition the application for governmental fundings was initiated.

Key Resources and activities

They stayed the same like in the first BMC. For details please see page 67.

Key Partners

Key Partners for the product development are:

- The tailor Waltraud Gruber

- The designer Christine Rohr

- The injection molding firm Hiebler

- The cap producer Atlantis

- The Technical University of Graz

The Key Partners for a successful Kickstarter-Campaign are:

- Fabian Pirker as a Kickstarter-Coach who already did successful Kickstarter campaigns that were funded with over 100.000 Euro.

- &Revenue collecting Email-addresses and actively supporting with the Facebook marketing

- Possibly Jellop, a marketing company that boosts sales on commission basis, specialized on Kickstarter projects that generate over 100.000 Euro in turnover.

Cost Structure

There are the development costs, heavy marketing spendings and the fix costs for the injection mold form. The variable pre-production costs are covered by the Kickstarter sales.

5.3.2.2. Business Model for regular sales

Figure 23 shows all relevant items for regular sales. As the own online store would be the only source of income in a pure online-strategy, it was expanded by a licensing-strategy to reduce risk and generate more revenue at little expanses. Fields referring to the licensing model are marked with a question mark in figure 23 because the idea for this strategy is quite new and needs to be elaborated to see if it will work as ideated.

Figure 23.: Business Model for online-marketing during regular sales

The items within this phase are very similar to the previous phase. As this information is relevant for the near future of the company, it was chosen to describe the building blocks as such rather than pointing out the differences between the phases. The differences will be shortly discussed in section 5.3.3

Customer Segment

There are two customer groups.

- Men ranging from 20 to 45 years

- Women ranging from 20 to 65 years

The characteristics for both groups are the same. They care for their appearance, value good hairstyle and are excited by new stuff. Furthermore, they live in a areas of the world where it is cold some time during the year.

Although the Key Partners for the licensing model are actually partners not customers, they should be mentioned here as a customer group, as they generate revenue streams and to whom different values can be offered.

Value Proposition

To the values offered to the customer groups are[177]:

- providing a world's 1st product,

- maintaining perfectly styled hair,

- protecting against bad weather and cold temperatures as well as

- offering an extraordinary design

- and superior comfort

Value offered to licensing partners are:

- Providing a fully developed innovation

- Always provided with the latest development - meaning no need for additional R&D expenses for this product line

- Monopoly position within their specified area

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[177]Represent the main findings from section 5.2.3.1

Moreover, the chances to get a patent for this hair-saving-technology have drastically increased over time, as product development has been preceding.

Customer Channel

During this phase, the only place where customers can order the product is from the company's webshop.

Customer Relationships

All customer interaction happens virtually, via the social media platforms Facebook, Instagram and Twitter, via the webshop and its website and via email.

Revenue Streams

- Sales from the webshop.

- 10% of the revenue from licensing partners' sales

- Governmental funding, in case the application was successful and accepted.

Key Resources

- The team

- Marketing

- Assembly and maybe packaging

- Maybe the webshop unless it is outsourced to a competent key partner. This strategic decision needs to be made right after the Kickstarter campaign ends to have enough time for setting up the webshop during the Indigogo campaign either way.

Key Activities

The most important key activities are marketing and sales for the various customer groups, followed by activities of production management, supply chain management and customer support. Last but not least is the further product and technology development.

Another key activity, done in parallel to the technology development, is managing the patenting process.

Key Partners

Key Partners for the product development are:

- The tailor Waltraud Gruber

- The designer Christine Rohr

- The injection molding firm Hiebler

- The cap producer Atlantis

- The Technical University of Graz

Key Partners for a production are:

- Hiebler GmbH for producing the injection molded support structure.

- Atlantis (Master Italia Spa.) for producing the upper hat and the fitting band as well as connecting those two.

Key Partners for marketing are:

- Lopez Twins for Instagram

- &Revenue for Facebook

Key Partners for sales and shipping:
Currently there are negotiations with partners that can do packaging and shipping - what is preferable. If those negotiations fail, the packaging has to be done by the company itself and shipping will be done by the Austrian Post AG.

Big companies are needed to push the new winter cap to the market in some specific areas and thus generating more awareness that results in more interest globally. Key Partners for the licensing strategy:

- One partner for North America: As this huge market[178] shall be served with the new hairstyle protecting technology and shipping costs are relatively expensive as they range from 20% - 30% of the product price.

- One partner for Russia: Due to customs reasons it is advised to partner with a big fashion company having its location in Russia. The Russian market is attractive because of its size and the temperatures there.

Cost Structure

There are the development costs, heavy marketing spendings, fix costs for the injection mold form, variable production and logistic costs, resources for packaging, management costs, taxes, and more. A detailed breakdown of all costs can be found in the appendix under Financial Plan.

5.3.3. Discussion of the current canvas

Figure 24 provides an overview of the current business model and the company's near future.

As already stated in the introduction of this section, pursuing an online-strategy offers the possibility of great leverage[179]. Therefore, such a strategy is highly advised.

Another reason for choosing the online-strategy: While working for the project, the contact with and feedback from elderly people showed the strong interest in the product, but their irrevocable resistance to change. Even if they are truly excited about the new winter cap, they would not buy it as they would have to let go their old habits. However, young persons embrace new products. In addition, they can be reached easier online than in the real world which approves the strategy decision even more.

Using different business models for the dedicated phases is essential as the revenue streams are completely different thus requiring to act accordingly.

The retailer strategy elaborated in section 5.3.1 can be kept in mind for the future. It may either be further developed to strengthen the market position or it may be used as a basis for a business

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[178] See Market size on page A1 - 7

[179] The reasons for this decision are further described under section 5.3.2

Figure 24.: Business Model for regular sales with integrated crowdfunding phase

model innovation. Therefore an updated version of the first BMC, integrating the hairdressers'
strategy into the current BMC, was added to this work in form of figure 25.

Figure 25.: Current Business Model integrating a retailer strategy

5.4. Discussion of the work

One of the goals was to find a suitable model of an NPD process for the new winter cap. The elaborated Scrum-Stage-Gate process was spot on and worked perfectly, as expected. The Sprints facilitated the quick development of the initially unknown functions and features that work now and are responsible for protecting the hairstyle. This was mostly due to the immediate feedback of function prototypes which represented the product increments.

It was perceived as negative that a lot of time was wasted, because numerous functions and solutions had to be discarded, as they worked individually but not together. However, the huge gain of knowledge overcompensated this loss of time, because now future development is way more accessible as the boundaries and behaviour of various materials and functions are known already.

The central part of the work was the business model development. As described in 5.3.3 this was accomplished by using a BMC. However, the BMC was done twice. Originally, it was planned to start with the VPC to develop the business model bottom up, as described in the second paragraph of 5. During the creation of the VPC, an early BMC was needed on which strategic decisions could be based on. This is how the first BMC[180] originated. As a positive aspect of the double creation, first strategy that may be used as a backup, although it is very unlikely unless an investor is found and a slow growing rate is accepted.

The creation of the VPC was very beneficial, especially because of the insights due to the quantitative survey. Although the participants of the online survey were representing mostly the customer group ageing between 18 and 45 instead off the full spectrum, it demonstrated who and how old the target group for online marketing is. This was supportive for creating a business model with an online strategy. In addition the survey verified the data generated within the VPC, as hoped, and therefore made the VPC very valuable.

Finally, it was decided to go for an online strategy including a prior Kickstarter campaign based on the reasons in 5.3.3. However, it needs to be mentioned that this strategy still carries some risk, in the unlikely event of an unsuccessful Kickstarter campaign. This can happen for example when the target customers are not reached by the marketing, or when people that are reached are still not ready for this innovative idea even though the numbers of the survey indicated readiness or when the design is too outstanding and radical. Either way, the situation has to be analysed and changes in the strategy need to be taken accordingly. This may include getting investors on board or, in the worst case, selling parts of the developed technology to competitors. However, as the gains are significantly higher than this risk, it was decided to recommend doing a Kickstarter campaign and going for an online strategy.

Surprisingly, the business plan had a bigger impact than initially expected. It started as a requirement from the BSH innovations GmbH, commissioner of this work, but after the first complete

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[180]For more details and the results take a look at 5.3.1

version it unveiled its planning function. Because it holistically pictured the situation then, first strategic changes were undertaken - for example it was decided to buy the injection moulding tool instead of letting it be an investor's contribution. To keep the business plan a planning and controlling tool it was regularly updated. The latest version can be found in the appendix under A.1.

6. Summary and Outlook

In the course of this work, a business model was developed as the first main deliverable, depicted on a Business Model Canvas, containing information from a Value Proposition Canvas and a performed quantitative survey. As second main deliverable the a NDP process was selected and roughly elaborated for the development of a new innovative product, a winter cap that can protect one's hairstyle. The third main deliverable purveyed a business plan, based on the results of the first two deliverables and subsequently holistically enriched with the findings and plannings of the entire project.

As the results of the quantitative survey show, there is a huge market potential for the product idea. On the one hand it is supposed to take over a significant market share from regular winter caps and on the other hand it will create a new market segment, a so called blue ocean, were it will be without competition for some time, as the product will be protected by a patent thus making it hard for competitors to copy it.

Considering the findings of the survey and the Value Proposition Canvas, an online-marketing strategy was elaborated to provide better leverage and full usage of the market potential. With the online strategy in mind, doing a Kickstarter campaign is a good way to start a company, because promoting a Kickstarter project online fosters experience for companies' later online marketing. In addition, Kickstarter will be the first approval of the product on the market.

Furthermore, a licensing strategy was developed. Due to the patentability of the technology the product is based on, a licensing strategy is possible. Selected companies in predefined areas around the globe will have the explicit right to produce and sell their own products, based on the technology, in their area only. This is a win-win situation, where partners can profit from the innovative idea, whilst strengthening the market presence of the patented technology at the same time.

Another finding of this work is, that the product is polarizing people. Thus it is either loved or hated, making it a highly emotional product. This was confirmed in first customer tests of the prototype. Offering an emotional product facilitates marketing.

In summary, the development of a business plan for an innovative product and its diffusion on the market requires creative and unconventional solutions as well as a collaborative and reliable

team. Surprising challenges and an intense time pave the way from the product idea to the market success.

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A. Appendix

A.1. The business plan

The original business plan and all its iterations were written in German. This is, because the company is located in Austria and needs the business plans in German language. Writing the business plan was always used as guidance for planning the next steps while integrating information gathered through the VPCs and the BMCs and the survey.

As agreed with the company, the version from 13 January 2019 marks the end of supervising the business plan in the course of this work. All future iterations and further development of the business plan will be done by the company itself. For documentation reasons of all the researched data and gathered information in the course of this work, the latest version of the business plan was translated to English in this chapter.

Due to this the formulations of "we" and "our" represent the interests and views of the company and of the project team respectively.

A.1.1. Executive Summary

The Idea

Many people in permanently or seasonally colder areas do without a warming winter cap during winter for reasons of hairstyle. They deliberately risk a cold head and a possible cold in order to protect their hairstyle. We solve this problem and aim to provide a stylish and at the same time functional product that looks good, protects your hairstyle and at the same time warms your head - the first really hairstyle-protecting winter cap in the world!

The Team

Our team consists of four solution-oriented and innovative technicians (Ing. Pascal Heer, BSc. // Dipl. Ing. Alexander Schachenmann // David Kirchengast, BSc. // Kamillo Mader, BSC) with an economic background, as well as a very precisely acting lawyer (Mag. Andrea Vasold). With Pascal Heer and Alexander Schachenmann there are experienced senior consultants on board, who have

founded and led a successful management consultancy firm. As a result, cutting edge know-how is available, encompassing the areas of business development, innovation and operational excellence, and thus the key success factors of a company. This is thought in holistic business models, which represents a great added value not only for the product but for the entire AuMieux GmbH. Due to his personal strengths, the very ambitious and creative TU graduate David Kirchengast is more than well suited as managing director for this special start-up, which he has already successfully demonstrated in cooperation with BSH innovations GmbH. The involvement of Andrea Vasold in the team is on the one hand conducive because the main target audience of the product is expected to be female and therefore more targeted to address gender-specific needs. On the other hand, because of her legal training, she offers know-how that would otherwise have to be bought at a high price. Kamillo Mader is a very accurate, analytical thinking employee who can solve even complex problems competently and with ease. In addition, the know-how of Graz University of Technology will be made available to us. Other services (product design, homepage, marketing, special assignments, etc.) are purchased or have already been purchased.

The Company

For the purpose of product development and marketing, AuMieux GmbH, based in Graz, was founded.

The Marketing

Our ideal customers have short hair and feel the need to protect them with a fashionable product from wind, weather and cold. The new winter hat is sold internationally after our successful Kickstarter campaign and a subsequent Indiegogo campaign through our own webshop. In the Kickstarter campaign and on Indiegogo, products are pre-sold - which are then produced and delivered to these first customers. The Kickstarter campaign (and Indiegogo) will also be used as a marketing jump board. Therefore, the media attention is used to further distribute even more products (newspaper / television / radio, etc.). The Kickstarter campaign is accompanied by a competent partner, who has already led campaigns with well over EUR 100,000 in pre-sales. Furthermore, the product will be heavily advertised on Facebook and Instagram. Later, influencers will also be used (Instagram). A cooperation model with retail partners is planned in the future as well as an online shop, or the licensing to other companies, so that they are entitled to produce our technology or even our actual product and distribute it. In this scenario, the AuMieux GmbH participates at the revenue generated through the sales that these companies achieved with our technology or our product.

The Finances

The AuMieux GmbH finances the project through its shareholders and through Kickstarter and Indiegogo. In addition, Pascal Heer and Alexander Schachenmann will provide loans to AuMieux

GmbH, which will not be overcommitting the AuMieux GmbH.

A.1.2. Product

Product description

The unique shape opens the possibility to provide a complete protection for almost all hairstyles. This is realized by a support structure, the IMS, that provides a space between itself and the head. In there, the hairstyle remains untouched and thus protected. The IMS, the core element, is surrounded by a warming fabric. With its patterns and colors, it represents the second central design element of the winter hat. The overall concept of the hairstyle protecting winter cap is completely new and unique. The IMS is produced by injection molding. According to the Austrian patent office, it is a new and patentable technology for the protection of the hairstyle. The patent check of the Austrian research funding corporation, called FFG, has already been approved for our company and may be used by us for the patenting process.

Strengths and weaknesses

Strengths:

- It is the first winter cap on the market that protects the hairstyle. Even if there are products that claim not to destroy the hairstyle, in comparison to our new product these are mere marketing and PR gags, since these products lack innovation. An example of this is given under the point Unique Selling Points (USP).[181]

- Thanks to its material, the new winter hat is particularly lightweight, resistant and heat insulating - the space between hair and the IMS creates an air cushion, which has a strong insulating effect that is not present in a normal winter caps in a form like this. All these characteristics ensure the main criteria of winter hats, namely good wearing comfort and the best possible heat protection. On the other hand, the material has sufficient rigidity to protect the hairstyle sufficiently.

- Striking design sets the new winter hat apart from regular winter cap designs, but still has the look and feel of a classic winter hat.

- The upper hats are interchangeable and can therefore be detached from the IMS and washed in a row. Therefore, different top covers can be combined with the same IMS. Furthermore, it is possible to combine these different upper hats with another IMS, if they differ either in their design and / or color.

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[181]Compare USPs on page A1 - 5

- Incidentally, the idea is being implemented by a young and innovative team. Thus, problems can be quickly identified and changes made fast and efficiently.

- With a successful Kickstarter campaign the sales of the new winter caps is almost guaranteed. For this purpose, a professional is helping with his know-how.

Weaknesses:

- The product, if our coming patent protection is bypassed somehow, may be copied with relatively small amount of financial expenses.

Current status of product development

Concerning the basic principle of the function there exist already functional prototypes of the IMS. Furthermore, concepts of the upper hat were realized to get an idea about their form and size. First function tests were already carried out successfully. Currently unresolved challenges are: On the one hand the size adjustment of the winter cap. Because the hood should fit people with various head sizes. On the other hand, there is the challenge to compress the winter cap so that it can be stowed away easily and to save space in unused condition. Foldable or twisting solutions as well as flexible variants of the IMS are conceivable for this purpose thus being fields of future research.

Trademark protection and patents

Patent protection is available for this product. The patenting process has already been started and the patent check of the FFG worth EUR 10,000 for this project has been confirmed / promised and appears indirectly in the Revenue / Cost Overview (comments).

Trademark protection was applied for the following word mark and confirmed in succession: "Hairkules".

Customer benefits

People who have styled short hair, or have longer hair and are very cautious about keeping their hairstyle intact as it has been prepared as long as possible, no longer have to expose themselves to the risk of catching a cold. Neither will they get sick or suffer from "just" an unpleasant cold, in favour of preserving their hairstyle, because our product provides a solution to this problem for nearly everyone - including you. Despite its functional aspect resulting into its exceptional shape, the winter hat is a fashionable item that is an opener for a pleasant conversation. The possibility to personalize the design afterwards increases the satisfaction and the emotional attachment to the product.

USPs

It is the world's first winter cap that protects your hairstyle. All previous products putting on this claim are not a real solution but PR gags only. For example, a winter hat with a hole for the ponytail, or loosely resting beanies, which still easily displace the hair.

Secondly the winter cap has a striking design that will bring a new breed of winter caps.

Competing products

There is fashionable hairstyle-friendly headgear with warming properties available in the market environment, although there is currently no option available that is warming the head and at the same time fully protecting one's hairstyle, that is covering the entire top of the head to the ears (like conventional winter hats do). The product that resembles the properties of the new winter cap the most is the Russian Ushanka, but this hat is not optimized for hair protection. Here is a market overview of potential competitors:

The first group are exclusively the ears warming variants. These include earmuffs, with a bow-shaped connection leading over the head or neck area, as well as individual, loosely connected Earbags. As a temporary fashionable appearance, the wearing of voluminous, the entire ear enclosing headphones was observed on cold days.

The second group are headbands. These are closed ring-shaped bands covering the ears, as well as parts of the head and the forehead.

The third group are closed at the top, hair-conserving and the ears warming product variants like loosely knit beanies, oversize knit caps, flat cap with ear protection, Uschankas (colloquial "Schapka") with flaps that are reaching over the ears, and voluminous over the ears reaching fur hats. Protective from the wind, but not covering the ears, are hats, higher-fitting caps, balloon, Basque, sailor hats and similar headgear.

The fourth group are directly in cloths integrated hoods, such as jackets and sweaters.

Degree of innovation

The completely new, unique and holistic solution concept ensures the high degree of innovation. Because of the distance to the hair, the hairstyle is nearly entirely protected; nearly, because there is some interaction with the hair, namely, in the area of the fitting system that connects the winter cap with the head. However, this interaction area is reduced to a minimum, like there is no comparable product with similar features and benefits currently available on the market. Thus, one gets more for his or her money and therefore gets a significantly value added compared to regular winter hats marking the characteristics of an innovation.

The concept of the new winter cap (hence the new approach is described here) represents a new evolutionary stage of the winter cap innovation and technology wise and thus has absolutely the potential to disrupt the existing market. Since a new technology was born with this product, even patentability is given.

In addition, the degree of innovation in the health sector should not be underestimated, as it will have a positive impact on society. On the on hand people wearing the new winter hat are less likely to catch a cold or get a disease. On the other hand this has a snowball effect as people getting in contact with those persons will not get infected neither. This is good for the personal well-being of all individuals who now stay healthy thanks to this innovation in winter hats. Moreover, people who stay healthy thanks to the winter cap also benefit the national budget by saving on opportunity costs in the healthcare system. Thus, our product ensures a healthier society in the cold seasons, since health and beauty are no longer mutually exclusive.

Since our customers no longer have to worry about whether they can appear at the destination with a destroyed hairstyle unseen or whether there is the opportunity to redo the hair, it is suddenly easy carefree to use a winter cap. This will further strengthen social acceptance of wearing winter caps, which in return will boost the winter cap trend.

Development and production

The heart of the new winter cap is the IMS. It is made from plastic that is 3D-printed during the prototype phase. Later it will be injection-molded using prototype tools. The series product is produced by conventional injection molding for cost reasons. The IMS will have a coral-mesh-like structure. Beside aesthetics this also has mechanical reasons (low weight with good stiffness, stability and flexibility).

A special fabric is covering the IMS. It has certain properties to provide good heat-insulating properties in combination with the IMS. At the same time fabric and IMS are very light and elastic as well (important for mountability). In addition the cloth adapts well to the contour of the IMS without displacing it too significantly. Moreover, by stretching the fabric it interacts with the IMS insofar that it slightly deforms the IMS in a way that they both enforce each other and keep each other in place and shape.

The main part of the fitting system consists of a sort of headband. It is attached to the lower end of the fabric as well as to the lower end of the IMS, thus the central element that connects all parts and shows massive interaction with them. Together with the specially designed lower part of the IMS it builds the entire fitting system.

During prototype development and construction, there will also be a series of tests to check the fit, the comfort, everyday use, long-term use, auditory restrictions and the compatibility with other items you wear (like hoods, scarves, headphones, earrings, hearing aids, glasses,...) to ensure a high quality product.

A.1.3. Market and Competition

Market size

The market is currently generally poor on real innovation. There are isolated attempts to integrate electronic devices in headgear - however, these market expansion attempts seem not to be successful at the moment. The market turnover for clothing accessories has been stable in recent years. The turnover for hats and caps in 2019 was estimated to be 5,3 Billion Euro in Europe and 7,3 Billion Euro in North America with tendencies to grow[182,183].

Market segmentation

According to a survey of the Apotheken Umschau, almost 90% of all women care about their hair. That affects all age groups. For men, the percentage is not that high. Exceptions are young men, especially at the age of 20 - 29 years, as well as the men 60+. For these groups, the look of their hair is almost as important as women's.[184]

Target group

Persons with the following hairstyle characteristics or hair care needs:

- People with hairstyles whose hair is not reaching over their ears and neither over their neck (and therefore have relatively short hair)

- Persons with short or medium curls

- Persons who use hairstyling products (gel, wax, hair spray, etc.)

- Persons with longer hair who want to put on our winter cap, so that her or his hairstyle is protected.

- Women between the ages of 20 and 65

- Men between the ages of 20 and 45

Persons with the following infrastructure equipment or user behavior:

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[182](De.statista.com, 2019a)

[183](De.statista.com, 2019c)

[184](GfK Marktforschung in Nürnberg im Auftrag der Apotheken Umschau, 2014)

for Kickstarter or Indiegogophase: Primarily, existing and regularly buying Kickstarter and Indiegogo users. Furthermore, all persons for whom the topic of hairstyle destruction by winter hats is a particularly big problem and who are also pioneers, meet the target group description and are early adopters, according to the understanding of business administration.

for online distribution phase: All persons (according to the target group description) who regularly or irregularly buy products online (especially clothing products).

for retail phase: All persons (according to the target group description) who regularly or irregularly buy products (especially clothing products) in retail stores (for example in clothing store).

Trends

Already in spring of 2018, the following headline was published: "First winter cap, which protects the hair!" Behind this headline hid the already mentioned winter cap with a hole for one's ponytail. This confirmed the first public manifestations of an unfulfilled need that we also feel and have proven in a survey. For innovations exist the phenomenon that it has to be the right time for certain ideas / inventions. It occurs that similar or even same thoughts take place in several places around the world at the same time. These entrepreneurial thoughts are often implemented in quick succession. This phenomenon is attributed by some to the existence of the "morphic field" - for which there is no scientifically usable evidence. Rather, it is likely that this phenomenon results from the interaction of already known mechanisms and this interaction is just very complex and therefore could not be described well so far.[185]

Market share and market potential

The global market size for hats and caps totals around 13 Billion Euro. It is estimated that winter hats contribute around one quarter to this sum. Ten percent of this market would therefore amount to 300 Million Euro. This can be set as long term goal - achieving the ten percent market share. On top of that, we are able to reach many new end customers by extending the market with blue ocean customers. According to a recent survey this could add another 18% to the global market size of winter hats.

The market entry is done via Kickstarter. Thanks to Facebook marketing and the presence of social media, about EUR 135,000 will be achieved through pre-sales through 3000 hoods. Surveys and trend analysis could even significantly surpass this goal and we may not aim to do so as our production capacity will be limited in the first year.

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[185](Sheldrake, 1983)

Competition

With our new winter hat we create a blue ocean, because currently there does not exist a serious competitor in the category of hairstyle protecting winter caps.

Conventional hats and caps count the competition in the broader sense. However, this market is a so-called red ocean - a highly competitive market, whose product-side logic no longer follows clear rules, as essential innovations no longer take place and therefore only styling oriented trends define what sells well and what does not. However, these trends are difficult to predict and the successful taste development of people is hard to achieve. Therefore, the product-side logic within this market changes again and again - as it is common in the fashion industry. On the other hand, the market has a low volatility rate[186].

Entry barriers

(technological challenges are not taken into consideration)

Important hurdles to successful market entry for AuMieux GmbH are:

- *Capital requirements:* High capital requirements for research and development on the one hand, and tooling costs, logistics and material costs for production on the other. There are also very high marketing costs ... see next point.

- *Human Resources:* Due to the initially scarce financial means of the AuMieux GmbH, just limited personnel resources are available (see "Capital Requirements").

- *Awareness:* This can, however, be managed through good and intensive marketing (see "Capital Requirements")

- *The product price:* It will cost a lot of effort to offer good consumers prices, especially since batch sizes will be relatively small in the beginning and therefore mass production prices will be difficult to realize. This is not an unsolvable task, but it is a serious challenge.

The most important challenge - the need for capital - can be defused on the one hand through subsidies. On the other hand, if necessary investors can be brought into the company to bring in missing capital.

Other hurdles, that the AuMieux GmbH has under control, such as a good team mix for the project, need not to be mentioned here.

It looks as if the new winter cap will get a comprehensive patent protection, which is very good for the AuMieux GmbH in general. But even if Hairkules gets a good patent protection, the

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[186](De.statista.com, 2019a)

competition in the clothing industry will somehow try to copy the product. Costly litigation could follow, in which the currently low funded AuMieux GmbH is very disadvantaged, if the opponent is a larger company ... such as Adidas, Nike or Puma just to have named some well-known examples.

A.1.4. Marketing

Customer approach

The winter cap will inspire people who value their hairstyle and live in areas where winter temperatures and weather conditions prevail.

People who fall into our target group have e.g. following behavioural patterns:

- People who look in the mirror in the morning and the first thing they do is going through their hair to get rid of the out-of-the-bed look, or, because currently it is a trend, to optimize it.

- People who put on their clothes first and then fix the hairstyle so that they do not destroy it by putting on the pullover.

- People who put on gel, taffeta, hair dryer, and use all other tricks on windy days only to save the hairstyle to possibly arrive in good condition at work.

- People who macro-manage their hair after washing their hand when they had to go to the toilet

- People who prepare an extraordinary hairstyle for a special occasions and need assurance that they arrive safely with this hairstyle at the destination - until now they could only hope or use special tricks.

- And last but not least people who always have to have the latest gadgets, or like to wear winter hats, or are interested in fashion, or just excited about innovative solution concepts.

Our target customers are women and men, in areas with partial winter conditions, who
- want to wear styled short hair and preserve that style
- have longer hair and put on our winter hat to preserve the styling of their hairstyle
- want to protect their curls
- or want our winter cap because it looks good and is comfortable.

This spectrum ranges from teenagers doing their best on Snapchat and Instagram, via business-women and men who need a sleek and competent appearance to be successful, to older ladies dressed up for church to beautifully stand in front of God.

»We will tell stories in which our customers find themselves, because our hairstyle plays a central role in our daily appearance. Every person has an opinion on hairstyles as they decided to have the one they wear. So everyone has their personal story and we want to tell these stories in order to create a reference to their personal hairstyle choice, because your hairstyle does deserve a little protection or even a compliment.[187]*«*

Advertising media and communication channels

During the Kickstarter phase, our customers are reached through relatively expensive Facebook marketing. But through Facebook, we have the ability to accurately and quickly identify those audiences for whom our marketing works best, and we therefore get the best ratio of marketing costs per real online sale. This determination is made by comparing the so-called ad-spend per product sold. Therefore trial and error optimizes the most efficient marketing method as well as the identification of those target groups that best address these marketing methods. Thus, after a certain time, only those groups of people will get the ads that we know to be interested. For example:

We realize very quickly that people who like Facebook pages, showing hairstyling products, very often click on our Facebook ads and consequently buy our product. As a result, we push Facebook advertising on this group of people.

Distribution channels

In the first step, all hoods are distributed via Kickstarter and subsequently via Indiegogo (Indiegogo is a platform similar to Kickstarter). Customers are forwarded directly to Kickstarter via a so-called landing page, until our own online shop is activated in the second step.

In the second step, everything is already handled via our own online shop.

In the third step, it is possible to distribute our products either partially or completely in retail stores.

It is also possible as a parallel strategy to grant licenses to other companies for the production of our product.

Sales strategy

We have a globally unique product - a world's first that combines function with aesthetics. The sale focuses on the three main aspects of the product:

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[187] Quote from David Kirchengast from August 2018

- On the function (protection of the hairstyle)

- On the aesthetics (design)

- On the comfort (wearing comfort, warmth)

It is the first product of its kind and people love new products. Everyone wants to be the first and the winner. Of course, having a world's first makes it much easier to satisfy this need.

It is a premium product with an innovative technological and technical solution, for which one is willing to pay a premium price.

Pricing

The winter cap is offered at Kickstarter between EUR 43,- and EUR 65,- (including 20% VAT). According to Kickstarter, the prices for the same product will be between EUR 99,- and EUR 119,- after the crowdfunding campain - depending on the version (including 20% VAT). Thus, the product is definitely placed in the premium segment between lower and upper midfield regarding the design. This ensures value and at the same time offers pricing flexibility up and down - an important and rare feature for this market called strategic flexibility.

Depending on the version, the production costs per piece will be between EUR 10, - and EUR 19, - (initially excluding tool costs per piece ... later including tool costs per piece ... due to scaling effects).

Payment conditions

(All prices include 20% VAT)

The pre-financing over Kickstarter starts on 30.01.2019 and will be staggered:

The first 250 pieces of the two basic variants will be sold for EUR 43.50, the next 400 pieces will be sold for EUR 46,- and thereafter the price will be EUR 49,- until the end of the Kickstarter campaign. The Kashmir wool stretchgoal version will be released for sale for sales above EUR 75,000 and will be sold to Kickstarter for EUR 64,- per piece.

After the Kickstarter campaign, the base versions of the winter cap will be sold at the planned nominal price of EUR 99,-. The premium version made of cashmere wool, on the other hand, costs EUR 119, -.

After Kickstarter: In the online shop hats are paid in advance.

If a retail strategy is accessed: Sales with dealers are also made in advance.

Customer service

The customer service is currently done entirely by the AuMieux GmbH itself. Customers can contact us by phone, e-mail, Facebook or Twitter comments or later via our own homepage.

Market entrance strategy

With the 1st of December 2018 the Pre-Campaign-Marketing started on Facebook in order to build up the needed know-how and to collect email addresses of those interested in buying, with the aim to achieve a successful Kickstarter start on the 30th of January 2019. Furthermore, since December 2018 the AuMieux GmbH is working together with Instagram influencers.

By the 30th of March 2019 the desired volume of at least 3000 pre-sales is to be reached via Kickstarter in order to start production and to be able to deliver in autumn 2019. However, the official Kickstarter goal is only at a turnover of EUR 10,000,- as this is better for psychological reasons for selling at Kickstarter[188].

Costs for customer acquisition

For the Facebook marketing and the Kickstarter campaign DI Fabian Pirker was hired by us. He has already carried out successful Kickstarter campaigns (some with more than EUR 100,000 in sales).

The German company "& Revenue" was hired for pre-campaigning. Also for the actual Facebook campaign, "& Revenue" was booked for marketing (Facebook ad optimization), with the aim of adding another revenue share partner in the campaign (eg. Jellop).

The Kickstarter video is directed by Elias Jerusalem.

The Instagram influencers are Jeremy and Moaci Lopes.

Furthermore, the AuMieux GmbH works with many small partners ... like Steffanie Hödlmoser, the Bolivian marketing agency ABK, as well as various partners at UpWork.

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[188]Advice by our Kickstarter-Advisor Fabian Pirker

Target marketing

The major marketing agencies know how to use the existing Facebook algorithms efficiently to

- find the relevant target groups for us

- analyse them

- and, as a result, to optimally align our marketing with them.

A.1.5. Company and Management

Information about the company

The AuMieux GmbH was founded the 25 April 2018. Shareholders are Pascal Heer (45% shares), Alexander Schachenmann (45% shares), David Kirchengast (5% shares), as well as Ingo Stefan (5% shares). The company's CEOs are: Pascal Heer, Alexander Schachenmann and David Kirchengast.

Headquarters

Hafnerriegel 14/1/5 in 8010 Graz

Analysis of the company

The AuMieux GmbH works on the development, the construction of prototypes, the testing as well as the marketing of the first hairstyle protecting winter hat. Besides the three CEOs (Heer, Schachenmann and Kirchengast), Kamillo Mader and Andrea Vasold support the company. The small size and flat hierarchy permit a fast and efficient workflow. Therefore flexibility, adaptability and short reaction times to unpredictable plan deviations are possible.

Goals

Our short term goal is to create our own blue-ocean and highly innovative product. Afterwards – speaking of middle and long term – we want to establish ourselves as the top seller in that new blue-ocean. Bringing other innovative products to the market is just another possibility for the future

A.1.6. Financial Plans

Investment planning

The first production batches of the first product generation will be largely pre-financed through the pre-sales of the Kickstarter campaign and subsequently through the Indiegogo campaign.

Thus, the cash flow is kept under control and the development still has enough time to technically develop the first generation of products prior to delivery. This provides the first customers with a good to high quality product.

The pre-calculation

The corresponding excel sheet can be found in the Appendix under the section *Financial Plan*.

A.1.7. Implementation Plan

Milestones

- 1.11.2018: First representative prototype with limited functionality but with a reasonable design

- 1.12.2018: Going Public!
  - First public appearance
  - Precampaigning starts

- 30.1.2019: Start of the Kickstarter-Campaign

- 30.3.2019: End of Kickstarter-Campaign
  - The amount of real pre-financing from the Kickstarter campaign is now easily predictable.
  - First series concept ready.
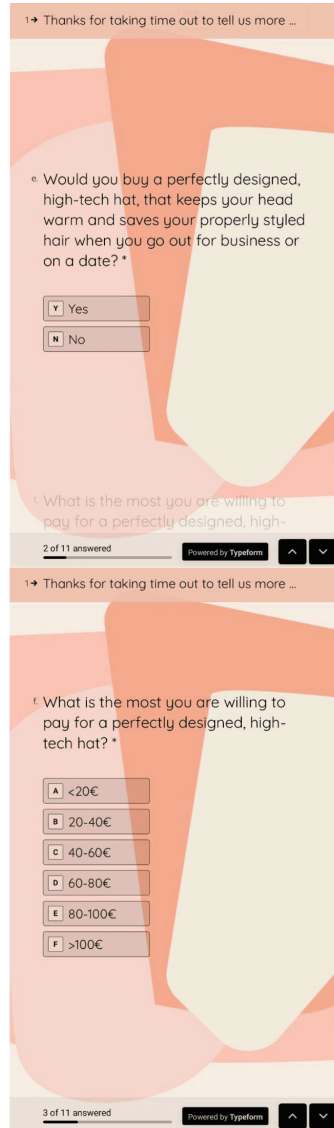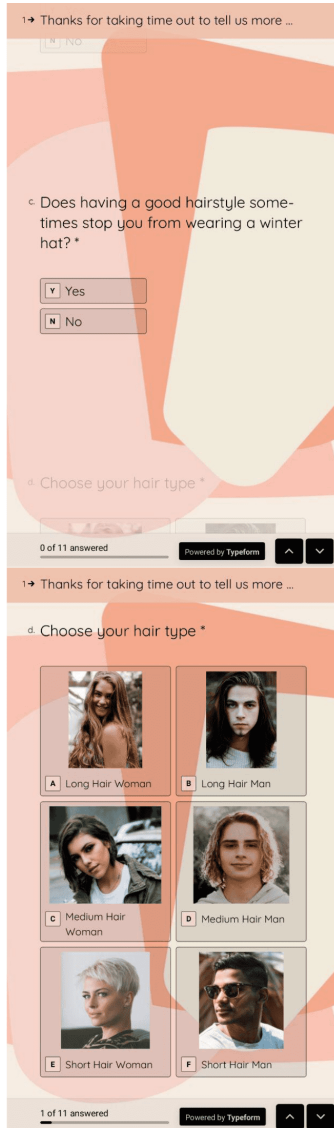 - Platform change to Indiegogo

- 21.4.2019: Pay-Day
  - Money from Kickstarter-Campaign arrives on our bank account

- 1.8.2019: Start a of scientific project at the Montan-University of Leoben searching for solution to compress the IMS by material optimizations.

- 1.10.2019 Master thesis at the University of Graz for developing a mechanically collapsing system for the IMS.

- Beginn of October 2019:
  - Delivery of first winter caps
  - Controlled marketing to serve the demand with enough supply
  - Expansion to a stable market position

- 31.5.2020: End of project at the Montan-University of Leoben
  All scientific work for the further development of the hair-preserving technology completed

- 31.12.2020: 2nd Generation is ready
  The technological successor of the new winter cap is ready for series production.

A.2. Survey about people's individual hairstyle and winter cap preferences

This are pictures of the Typeform-Survey. One could swipe from one to the next question or use the arrow-buttons in the corner. When clicking onto an answer it conveniently swiped automatically to the next question. The progress bar had its place on the bottom left and showed only the answered questions. Skipped questions were not taken into account. The Google-Forms-Survey contained the exact same questions, but had a different layout.
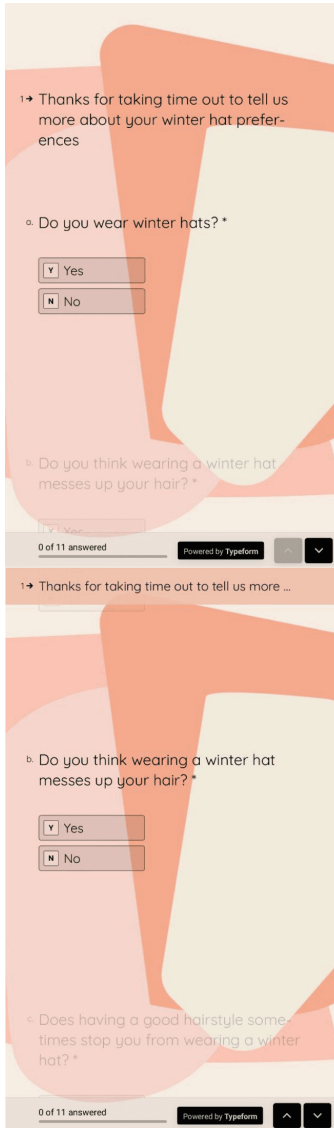
A. Appendix

Continuation of the survey:

A.3. The Agile Manifesto

»Principles behind the Agile Manifesto

We follow these principles:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity–the art of maximizing the amount of work not done–is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.«[189]

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[189](Beck et al., 2001)

A.4. The 55 patterns of the St. Galler Business Model Navigator

	Name of pattern	Effects	Examples of companies
1	ADD-ON	What, Value	Ryanair (1985), SAP (1992), Sega (1998)
2	AFFILIATION	How, Value	Amazon Store (1995), Cybererotica (1994), CDnow (1994), Pinterest (2010)
3	AIKIDO	Who, What, Value	Six Flags (1961), The Body Shop (1976), Swatch (1983), Cirque du Soleil (1984), Nintendo (2006)
4	AUCTION	What, Value	eBay (1995), Winebid (1996), Priceline (1997), Google (1998), Elance (2006), Zopa (2005), MyHammer (2005)
5	BARTER	What, Value	Procter & Gamble (1970), Pepsi (1972), Lufthansa (1993), Magnolia Hotels (2007), Pay with a Tweet (2010)
6	CASH MACHINE	How, Value	American Express (1891), Dell (1984), Amazon Store (1995), PayPal (1998), Blacksocks (1999), MyFab (2008), Groupon (2008)
7	CROSS SELLING	How, What, Value	Shell (1930), IKEA(1956), Tchibo (1973), Aldi (1986), SANIFAIR (2003)
8	CROWDFUNDING	How, Value	Marillion (1997), Cassava Films (1998), Diaspora (2010), Brainpool (2011), Pebble Technology (2012)
9	CROWDSOURCING	How, Value	Threadless (2000), Procter & Gamble (2001), InnoCentive (2001), Cisco (2007), MyFab (2008)
10	CUSTOMER LOYALTY	What, Value	Sperry & Hutchinson (1897), American Airlines (1981), Safeway Club Card (1995), Payback (2000)
11	DIGITIZATION	What,How	Spiegel Online (1994), WXYC (1994), Hotmail (1996), Jones International University (1996), CEWE Color (1997), SurveyMonkey (1998), Napster (1999), Wikipedia (2001), Facebook (2004), Dropbox (2007), Netflix (2008), Next Issue Media (2011)
12	DIRECT SELLING	What, How, Value	Vorwerk (1930), Tupperware (1946), Amway (1959), The Body Shop (1976), Dell (1984), Nestle Nespresso (1986), First Direct (1989), Nestlé Special.T (2010), Dollar Shave Club (2012), Nestlé BabyNes (2012)
13	E-COMMERCE	What, How, Value	Dell (1984), Asos (2000), Zappos (1999), Amazon Store (1995), Flyeralarm (2002), Blacksocks (1999), Dollar Shave Club (2012), Winebid (1996), Zopa (2005)
14	EXPERIENCE SELLING	What, Who, Value	Harley Davidson (1903), IKEA (1956), Trader Joe's (1958), Starbucks (1971), Swatch (1983), Nestlé Nespresso (1986), Red Bull (1987), Barnes & Noble (1993), Nestlé Special.T (2010)
15	FLAT RATE	What, Value	SBB (1898), Buckaroo Buffet (1946), Sandals Resorts (1981), Netflix (1999), Next Issue Media (2011)
16	FRACTIONAL OWNERSHIP	What, How, Value	Hapimag (1963), Netjets (1964), Mobility Carsharing (1997), écurie25 (2005), HomeBuy (2009)
17	FRANCHISING	What, How, Value	Singer Sewing Machine (1860), McDonald's (1948), Marriott International (1967), Starbucks (1971), Subway (1974), Fressnapf (1992), Naturhouse (1992), McFit (1997), BackWerk (2001)
18	FREEMIUM	What, Value	Hotmail (1996), SurveyMonkey (1998), LinkedIn (2003), Skype (2003), Spotify (2006), Dropbox (2007)
19	FROM PUSH-TO-PULL	What,How	Toyota (1975), Zara (1975), Dell (1984), Geberit (2000)
20	GUARANTEED AVAILABILITY	What, How, Value	NetJets (1964), PHH Corporation (1986), IBM (1995), Hilti (2000), MachineryLink (2000), ABB Turbo Systems (2010)
21	HIDDEN REVENUE	What, How, Value	JCDecaux (1964), Sat.1 (1984), Metro Newspaper (1995), Google (1998), Facebook (2004), Spotify (2006), Zattoo (2007)
22	INGREDIENT BRANDING	What, How, Value	DuPont Teflon (1964), W.L. Gore & Associates (1976), Intel (1991), Carl Zeiss (1995), Shimano (1995), Bosch(2000)
23	INTEGRATOR	What,How	Carnegie Steel (1870), Ford (1908), Zara (1975), Exxon Mobil (1999), BYD Auto (1995)
24	LAYER PLAYER	How, Value	Dennemeyer (1962), Wipro Technologies (1980), TRUSTe (1997), PayPal (1998), Amazon Web Services (2002)
25	LEVERAGE CUSTOMER DATA	What,How	Amazon Store (1995), Google (1998), Payback (2000), Facebook (2004), PatientsLikeMe (2004), 23andMe (2006), Twitter (2006), Verizon Communications (2011)
26	LICENSE	How, Value	BUSCH (1870), IBM (1920), DIC 2 (1973), ARM (1989), Duales System Deutschland (1991), Max Havelaar (1992)
27	LOCK-IN	What, How, Value	Gillette(1904), Lego (1949), Microsoft (1975), Hewlett-Packard (1984), Nestlé Nespresso (1986), Nestlé BabyNes (2012), Nestlé Special.T (2010)

	Name of pattern	Effects	Examples of companies
28	LONG TAIL	How, Value	Amazon Store (1995), eBay (1995), Netflix (1999), Apple iPod/iTunes (2003), YouTube (2005),
29	MAKE MORE OF IT	Who, What, How, Value	Porsche (1931), Festo Didactic (1970), BASF (1998), Amazon Web Services (2002), Sennheiser Sound Academy (2009)
30	MASS CUSTOMIZATION	What, Value	Dell (1984), Levi's (1990), Miadidas (2000), PersonalNOVEL (2003), Factory121 (2006), mymuesli (2007), My Unique Bag (2010)
31	NO FRILLS	How, What, Value	Ford (1908), Aldi (1913), McDonald's (1948), Southwest Airlines (1971), Aravind Eye care System (1976), Accor (1985), McFit (1997), Dow Corning (2002)
32	OPEN BUSINESS MODEL	What, Who, Value	V alve Corporation (1998), Abril (2008)
33	OPEN SOURCE	Who, What, How, Value	IBM (1955), Mozilla (1992), Red Hat (1993), mondoBIOTECH (2000), Wikipedia (2001), Local Motors (2008)
34	ORCHESTRATOR	How, Value	Procter & Gamble (1970), Li & Fung (1971), Nike (1978), Bharti Airtel (1995)
35	PAY PER USE	What, How, Value	Hot Choice (1988), Google (1998), Ally Financial (2004), Better Place (2007), Car2Go (2008)
36	PAY WHAT YOU WANT	How, Value	One World Everbody Eats (2003), NoiseTrade (2006), Radiohead (2007), Humble Bundle (2010), Panera Bread Bakery (2010)
37	PEER-TO-PEER	What, Value	eBay (1995), Craigslist (1996), Napster (1999), Couchsurfing (2003), LinkedIn (2003), Skype (2003), Zopa (2005), SlideShare (2006), Twitter (2006), Dropbox (2007), Airbnb (2008), TaskRabbit (2008), RelayRides (2010), Gidsy (2011)
38	PERFORMANCE-BASED CONTRACTING	What, Value	Rolls-Royce (1980), Smartville (1997), BASF (1998), Xerox (2002)
39	RAZOR AND BLADE	What, How, Who	Standard Oil Company (1880), Gillette (1904), Hewlett-Packard (1984), Nestlé Nespresso (1986), Apple iPod / iTunes (2003), Amazon Kindle (2007), Better Place (2007), Nestlé Special.T (2010), Nestlé BabyNes (2012)
40	RENT INSTEAD OF BUY	What, How, Value	Saunders System (1916), Xerox (1959), Blockbuster (1985), Rent a Bike (1987), Mobility Carsharing (1997), MachineryLink (2000), CWS-boco (2001), Luxusbabe (2006), Flexpetz (2007), Car2Go(2008)
41	REVENUE SHARING	What, How, Value	CDnow (1994), HubPages(2006), Apple iPhone / AppStore(2008), Groupon (2008)
42	REVERSE ENGINEERING	What, Value	Bayer (1897), Pelikan (1994), Brilliance China Auto (2003), Denner (2010)
43	REVERSE INNOVATION	What, Value	Logitech (1981), Haier (1999), Nokia (2003), Renault (2004), General Electric (2007)
44	ROBIN HOOD	How, What	Aravind Eye Care System (1976), One Laptop per Child (2005), TOMS Shoes (2006), Warby Parker (2008)
45	SELF-SERVICE	What,How	McDonald's (1948), IKEA (1956), Accor (1985), Mobility Carsharing (1997), BackWerk (2001), Car2Go (2008)
46	SHOP-IN-SHOP	Who, Value	Tim Hortons (1964), Tchibo (1987), Deutsche Post (1995), Bosch (2000), MinuteClinic (2000)
47	SOLUTION PROVIDER	What,How	Lantal Textiles (1954), Heidelberger Druckmaschinen (1980), Tetra Pak (1993), Geek Squad (1994), CWS-boco (2001), Apple iPodiTunes (2003), 3M Services (2010)
48	SUBSCRIPTION	How, What	Blacksocks (1999), Netflix (1999), Salesforce (1999), Jamba (2004), Spotify (2006), Next Issue Media (2011), Dollar Shave Club (2012)
49	SUPERMARKET	What, Value	King Kullen Grocery Company (1930), Merrill Lynch (1930), Toys"R"Us (1948), The Home Depot (1978), Best Buy (1983), Fressnapf (1985), Staples (1986)
50	TARGET THE POOR	What, How, Value	Grameen Bank (1983), Arvind Mills (1995), Bharti Airtel (1995), Hindustan Unilever (2000), Tata Nano (2009), Walmart (2012)
51	TRASH-TO-CASH	Who, What, How, Value	Duales System Deutschland (1991), Freitag lab.ag (1993), Greenwire (2001), Emeco (2010), H&M (2012)
52	TWO-SIDED MARKET	What, How, Value	Diners Club (1950), JCDecaux (1964), Sat.1 (1984), Amazon Store (1995), eBay (1995), Metro Newspaper (1995), Priceline (1997), Google (1998), Facebook (2004), MyHammer(2005), Elance (2006), Zattoo (2007), Groupon (2008)
53	ULTIMATE LUXURY	How, What	Lamborghini (1962), Jumeirah Group (1994), MirCorp (2000), The World (2002), Abbot Downing (2011)
54	USER DESIGNED	What, How, Value	Spreadshirt (2001), Lulu (2002), Lego Factory (2005), Amazon Kindle (2007), Ponoko (2007), Apple iPhone/AppStore (2008), Createmytattoo (2009), Quirky (2009)
55	WHITE LABEL	How, What	Foxconn (1974), Richelieu Foods (1994), Printing-In-A-Box (2005)

Table 2.: List of the 55 patterns of the St. Galler Business Model Navigator (Gassmann, Frankenberger, and Csik, 2013, p. 267-280)

A.5. Financial Plan

Last revised on 13th of January 2019

Hairkules: Finanzplanung, ab Fördereinreichung (24.01.2019)	2018/19 Kickstarter + Prekickstarter (24.01.2019 - 29.03.2019)	2019 Indigogo & Verkauf bis Jahresende (30.03.2019 - 31.12.2019)	2020	2021
UMSATZ	**€ 150.000**	**€ 252.567**	**€ 1.483.333**	**€ 2.966.667**
STÜCKPREIS für Endkunden (daher inkl. USt.)	€ 44	€ 79	€ 89	€ 89
STÜCKPREIS NETTO (daher exkl. USt.)	€ 37	€ 66	€ 74	€ 74
VERKAUFTE STÜCK	4100	3820	20000	40000
Marketing und Logistik: nicht Förderbare FIXKOSTEN	**€ 49.500**	**€ 128.147**	**€ 531.633**	**€ 1.041.733**
- Kaution für Büroräumlichkeiten		€ 1.800		€ 1.200
- Musterschutzthemen			€ 400	€ 800
- Lagerhalle für Logistik usw.		€ 2.500	€ 8.400	€ 12.000
- Zusatz-Büroplatz (Marketing und Sales) inkl. BK, HK&Strom				€ 14.400
- Einrichtung für Zusatzbüroplatz, IT-Infrastruktur usw.				€ 10.000
- Sonstige Kosten		€ 500	€ 2.000	€ 10.000
- Kosten + Gehälter: Marketing		€ 20.000	€ 100.000	€ 300.000
- Kosten + Gehälter: Supplychain&Logistik		€ 20.000	€ 50.000	€ 100.000
- Werbekosten (Umsatzvariabel)	€ 49.500	€ 83.347	€ 370.833	€ 593.333
Altlasten vor Förderungseinreichung		**€ 3.300**		
- KM Gelder Team		€ 3.300		
Produktionskosten: nicht förderbare VARIABLE KOSTEN	**€ 47.150**	**€ 56.070**	**€ 294.000**	**€ 572.000**
Kosten Spritzguss/STÜCK	€ 4,00	€ 4,00	€ 3,70	€ 3,50
Kosten Spritzguss: GESAMT	€ 16.400	€ 15.280	€ 74.000	€ 140.000
Kosten Oberhaube/Stück	€ 6	€ 8	€ 8	€ 8
Kosten Oberhaube: Gesamt	€ 24.600	€ 30.560	€ 160.000	€ 320.000
Verpackungsmaterial/Stück	€ 1,50	€ 2,68	€ 3,00	€ 2,80
Verpackungsmaterial: Gesamt	€ 6.150	€ 10.230	€ 60.000	€ 112.000
PRODUKTENTWICKLUNG	**€ 14.444**	**€ 219.233**	**€ 193.673**	**€ 105.233**
-PROTOTYPEN (3D-Druck)	€ 3.724		€ 10.000	
-3D-Scan	€ 220		€ 440	
-Externe Konzepte (Haltesystem)	€ 1.400			
-Externe Konstruktionsleistung (CAD)	€ 3.000	€ 2.000	€ 5.000	€ 1.000
-Design Stützstruktur (Mario Paukovic)	€ 500		€ 1.000	
-Einspritztests mit verschiedenen Materialien (Hiebler)		€ 5.000		
- Designwettbewerbe		€ 2.500	€ 2.500	
- Design Oberhaube (noch unbekannte Designer)		€ 2.500	€ 2.500	€ 2.500
-Honorar wissenschaftliche Arbeiten		€ 5.000	€ 15.000	
-Personalkosten intern	€ 5.000	€ 165.000	€ 155.000	€ 65.000
-"Prototypen Oberhaube Stoff"	€ 600	€ 1.900	€ 1.900	€ 1.400
- Honorar Testpersonen		€ 333	€ 333	€ 333
-PrototypenSpritzgusswerkzeuge	€ 0	€ 35.000	€ 0	€ 35.000
VERMARKTUNGSTRAGTEGIE	**€ 6.775**	**€ 14.333**	**€ 7.483**	**€ 7.083**
-AndRevenue: Kickstarterbegleitung	€ 5.375			
-KICKSTARTER VIDEO (durch Crowdfunding Förderung gedeckt)	€ 0			
-CROWDFUNDING-FEES		€ 9.000		
-Social Media Coaching (Cloudthinkn)		€ 2.000		
-Social Media Coaching (Lopes Twins)			€ 400	
- Kickstarter Coaching (Fabian Pirker)	€ 400			
- Vermarktungsstrategie (Cloudthinkn)		€ 2.000		
- Messekosten (inkl. Druckmaterial)			€ 4.750	€ 4.750
-Press Release Publishing		€ 333	€ 333	€ 333
-Externe Grafiker	€ 1.000	€ 1.000	€ 2.000	€ 2.000
SONSTIGE FIXKOSTEN	**€ 300**	**€ 30.094**	**€ 37.494**	**€ 30.494**
-Patentkosten	€ 0	€ 0	€ 6.000	
-Büro (FE-seitig)		€ 10.200	€ 14.400	€ 14.400
-Büroeinrichtung, Nähmaschine, Kleinwerkzeug, Laptops, Drucker, Telefon, Telefongebühren, Internetgebühren, IT Hard- und Software etc.	€ 100	€ 7.900	€ 4.000	€ 3.000
- Bürokleinmaterial, Druckerpatronen, Paier, Post, Klopapier	€ 200	€ 800	€ 1.000	€ 1.000
-Büroreinigung		€ 900	€ 1.800	€ 1.800
-REISEKOSTEN		€ 6.000	€ 6.000	€ 6.000
-WKO		€ 294	€ 294	€ 294
-Buchhaltung und Jahresabschlüsse		€ 4.000	€ 4.000	€ 4.000
UMSATZ (exkl. Ust.)	**€ 150.000**	**€ 252.567**	**€ 1.483.333**	**€ 2.966.667**
GESAMTKOSTEN	**€ 118.169**	**€ 451.178**	**€ 1.064.284**	**€ 1.756.544**
Vorläufiger Saldo (Ende der Periode)	**€ 55.027**	**-€ 143.584**	**€ 424.165**	**€ 1.610.488**
Finanzierung	**€ 0**	**€ 148.700**	**-€ 23.800**	**-€ 166.400**
Aufnahme von Darlehen		€ 160.000		
Rückzahlung Darlehen		-€ 8.000		-€ 160.000
Zinsrückzahlungen		-€ 3.300	-€ 6.400	-€ 6.400
Kapitaleinlagen		€ 0		
Rückzahlung Kapitaleinlagen			-€ 17.400	
Finaler Saldo (Ende der Periode)	**€ 55.027**	**€ 5.116**	**€ 400.365**	**€ 1.444.088**

Vorraussichtlicher Kontostand mit 24.01.2019
€ 23.196

Förderbare Kosten