



Application of the Customer Development Process

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From an Idea on Superfoods to a Problem-Solution Fit for Individuals with the Irritable Bowel Syndrome

Master thesis

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A thesis on a business idea carried out on the Master in Management Program, under the supervision of Miguel Muñoz Duarte, Professor at Nova School of Business and Economics

Lisbon, 06th January 2017

Disclaimer

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Preface

This thesis is a final piece of my Master of Science degree in Management at the Nova School of Business and Economics. It illustrates the possibility for me to put on a pirate hat, get on the lean startup boat, and take on the adventure of hunting for a treasure: a business idea solving a real need.

I would like to thank Miguel Duarte who has made this adventure possible by supervising and supporting this thesis.

Furthermore, I would like to thank my fellow students, who have engaged in similar journeys, for the support and cohesion in times of big waves and storms.

Lisbon, 06.01.2017

Judith Mathes

Abstract

For individuals affected by an Irritable Bowel Syndrome, the consumption of appropriate food is key to their wellbeing. The low-FODMAP diet is a way to relief symptoms, but requires a lot of knowledge, planning, and preparation. The lack of support illustrates a problem for individuals with the disease and thus a need for a solution. This paper provides insights how a problem-solution fit for this need is discovered based on the Customer Development Process. The process starts with an idea around superfoods, applies prototyping and user tests to unveil true customer needs, and pivots to a value propositions that can make a real impact on people's lives: an IBS-safe meal delivery.

Keywords:

Customer Development Process, Problem-Solution Fit, Irritable Bowel Syndrome, Meal Delivery

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List of Abbreviations

CDP:	Customer Development Process
BMC:	Business Model Canvas
MVP:	Minimum Viable Product
VPC:	Value Proposition Canvas
IBS:	Irritable Bowel Syndrome
FODMAP:	Fructose, Oligo-, Di-, Monosaccharides, And Polyols
KPI:	Key Performance Indicator
CTR:	Click-Through-Rate
CTC:	Cost-per-Click
CPM	Cost-per-Impression

1 INTRODUCTION AND METHODOLOGY

1.1 Objective

“Ideas are worth nothing unless executed”

Steve Jobs, Founder of *Apple*, 1995

Simply said, anyone can have an idea. The problem Jobs (1995) points out is the “tremendous amount of craftsmanship in between a great idea and a great product”. Based on this notion, this thesis starts to execute on a personal idea. On the idea of integrating superfoods, foods with the highest nutrient-density, into daily diets to get varieties of micronutrients. So far, superfoods are only a trend, and it is questionable whether they can serve a need and deliver value for costumers. Therefore, the thesis applies the Customer Development Process by Steve Blank (2010) that puts startups into a “search mode” to uncover how to create value with products and services for customers. The goal of this paper is to answer this search by finding the Problem-Solution Fit: The fit of customer needs and the value proposition of an idea. The following subsections and Chapter 2 illustrate the methods of the CDP used to conduct this search. The Research Fieldwork of Chapter 3 applies these methods that lead to the identification of a real problem and the need for a solution for people who are highly dependent on their diet: People affected by the Irritable Bowel Syndrome who find relief from a low-FODMAP diet. In Chapter 6, Service Design theories are applied to make further considerations on the business model. Finally, Chapter 7 and 8 draw conclusions on the methodology and findings of this paper and end with an outlook on the further development of the idea.

1.2 Research Question

Starting with the idea to integrate superfoods into people’s daily diet leaves many questions that Alexander Osterwalder addresses in his Business Model Canvas (BMC see Appendix A Figure

7). The BMC is a tool that defines the business model as “rationale of how an organization creates, delivers and captures value” (Osterwalder and Pigneur 2009). A business model contains questions on the Value Proposition (what value is delivered to the customer?), the Customer Segments (for whom are we creating value?) Channels (How is the value delivered?), the Customer Relationship (What type of relationships should be established with the customer?), Revenue Streams (For what value are customers willing to pay?) the Key Resources (What resources does the value proposition require?), Key Activities (What are the activities undertaken to deliver the value proposition?), Key Partners (Who are they?) and Costs (What are the most important costs?). In the beginning, the business model only states hypotheses for each of the above segments that according to Blank (2013), customers need to test for validation. However, two more types of fits precede achieving a Business Model Fit with a value proposition embedded in a profitable and scalable business model, (Osterwalder, Pigneur, Bernarda and Smith 2016). Preliminary, a Product-Market Fit is present when products or services are pain relievers or gain creators for customers. Even before that, the Problem-Solution Fit has to be discovered. This fit combines two segments of the BMC in a new canvas: The Value Proposition Canvas (VPC) by Osterwalder (2012a), defining the Value Proposition and the Customer Segment (see Appendix A Figure 8-9). Osterwalder bases the objective of the canvas on the “jobs-to-be-done” approach by Christensen (2003). The aim is to find out what jobs the customer tries to get done for a specific need or problem and what pains or gains there are from doing this job. Once identified, a value proposition with matching *painkillers* and *gain creators* to customer’s jobs, pains, and gains creates the solution. Finding this Problem-Solution Fit is the aim of this thesis as stated in the research question:

1. What is the value proposition that creates painkillers and gain creators for respective customer jobs, pains and gains, and thus finds the problem-solution fit?

The underlying hypotheses are based on the two segments of the BMC that the research question addresses: the value proposition and the customer segment. As hypotheses are defined in the beginning and validated throughout the CDP, they are stated in the respective sections of the Research Fieldwork in Chapter 3.

1.3 Research Methodology

The VPC, describing how a designed value proposition fits a customer segment's jobs, pains, and gains, involves two different approaches: On the one side, the customer segment requires an observation of the customer (outside of the building) and on the other side, the value proposition involves making choices on the design of the value (inside of the building). The exploration of both sides connects the VPC, as part of the BMC concept, to the Customer Development Process (CDP) by Steven Blank (Osterwalder 2012a). The CDP allows a startup to search, test, fail and pivot to become a company (further described in Section 2) - beginning in a "search" mode with the two phases of Customer Discovery (Problem-Solution Fit) and Customer Validation (Product-Market Fit) and ending in an "execution" mode including Customer Creation (Sales Execution) and Company Building (Scale). For the purpose of the thesis, only the Customer Discovery is considered, starting (1) "inside of the building" with a definition of hypotheses for the parts of the BMC. Next, (2) these hypotheses are tested against customer feedback with prototypes of the solution, interviews, and experiments. By running these tests (3) and collecting data, results can validate hypotheses. Finally, (4) if hypotheses do not match reality, they need to be adjusted for the next iteration of the process. Figure 1 provides an overview of the processes undertaken in this paper by performing Customer Development. Overall, the first round of Customer Discovery includes the design of business model hypotheses and a survey (inside the building) as well as interviews and prototyping to get customer validation (outside of the

building). As shown later on, these steps lead to a pivot of the value proposition and therefore the second iteration of Customer Discovery, which eventually reaches a Problem-Solution Fit. From this point on, a theoretical approach based on the Service Design Frameworks by Frei (2008) and Pawar, Beltagui and Riedel (2009), is used to take further steps towards the definition of the business model.

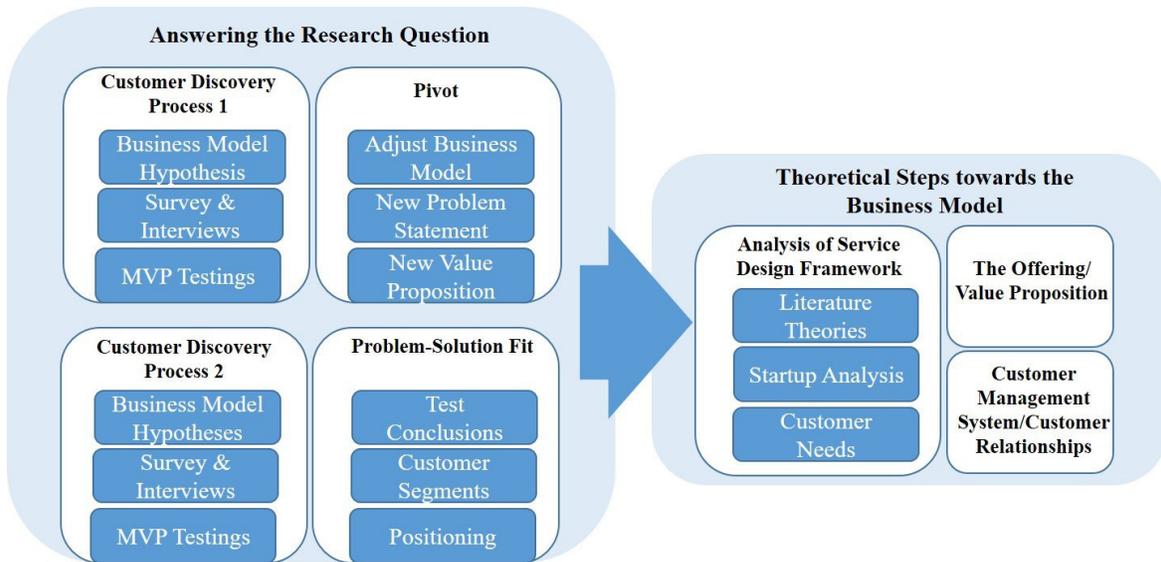


Figure 1: Applied Methodologies

2 LITERATURE REVIEW: Customer Development as part of Lean Startup

This section lays out the theoretical grounds of the method incorporated in this paper. It is crucial to stress the underlying concepts of this method since it is a rather new approach in contrast to traditional methods of Business Planning (Ghezzi, Cavallaro, Rangone, and Balocco 2015). The main difference is that a startup is in search for a business model, while established firms “execute that model,” which is why according to Blank (2013 p.5), entrepreneurs need to use different skills to succeed at this search. Eric Ries (2008a) refers to the Customer Development Process as one of the three pillars of the lean startup, a concept first coined by Ries (2008b) in his blog *Startup Lessons learned*. Aiming to grasp changing trends in the startup landscape, he used

the word “lean” in the sense of (1) building solutions with the least amount of waste, while (2) unlocking creativity by using a minimum of resources in product development and (3) creating customer-centric solutions. Based on extensive data gathering, startups cannot only create higher product quality but also reduce risk despite uncertainty and achieve a faster time to market (Eisenmann, Ries, and Dillard 2012) (Ries 2011). The focus is on the following three concepts that Blank’s CDP applies. (1) The Business Model Canvas introduced by Alexander Osterwalder and Yves Pigneur (2010), provides a standard framework recognized by academics (Chesbrough 2006) and practitioners (Blank and Dorf 2012) (Maurya 2012, 2016), focusing on the need to constantly adapt business models due to the fast pace of changing environments. Entrepreneurs start with mapping assumptions on the Canvas and test hypotheses using minimal viable products with customers during (2) the CDP. In his book, “The Four Steps to the Epiphany” (2003), Blank first coined this method to differentiate startups from smaller versions of large companies. The underlying working method uses (3) Agile Development, which originated in software development such as *Extreme Programming* defined by Kent Beck (2004). This approach applies iterative and incremental product development by integrating the customer feedback loop in the lean startup phases of *Build, Measure, Learn* (Ries 2011). The product development in the *Build* phase prototypes minimal viable products, (MVPs). According to Ries (2009), the MVP is the version of a product that “collects the maximum amount of validated learning about customers with the least effort.” The design of the research fieldwork in the next section is based on these concepts to uncover real customer needs.

3 RESEARCH FIELDWORK CUSTOMER DISCOVERY I

3.1 Inside the Building

3.1.1 Market Analysis

Before starting the Customer Discovery for the superfood idea, a market analysis on superfoods is used to identify food trends and consumption in the past years as well as new players arising on the market (see Appendix B Figure 10-11, Table 9-10). A detailed competitor mapping regarding online and offline channels versus the type of product identifies seven possible business models in the superfood area, including a superfood restaurant chain, superfood meal delivery, ingredients, drinks, snacks, supplements, and a personalized superfood plan (see Appendix B Figure 12-13). In the next section, a filtering process applies critical success factors on the seven business models and selects the top two to narrow the scope of testing during the CDP.

3.1.2 Business Model Pre-Evaluation and Design

The critical success factors employ the NICE framework by Amit and Zott (2001 p.504) that evaluates business models based on four value creation criteria (see Table 1). The second set of criteria from Hamel (2000) identifies four factors in assessing the business model's value, feasibility, and profitability. Since the idea on superfoods is a personal one, a third rating is done based on personal criteria related to mission fit.

Amit & Zott (2001)	Hamel (2000)	Personal Criteria
Novelty	Uniqueness	Scalability
Lock-In	Fit	Technical Feasibility
Complementaries	Profit Booster	Leanability
Efficiency	Efficiency	Mission Fit
		Time to Market
		Relevancy
		Recurrent Revenues

Table 1: Business Model Evaluation Criteria

The rating for each of the seven business models utilizes a four-point-scale (4 = highest, 1 = lowest) in each of the criteria established above. The overall score allows a ranking of the different business models of which the top two, *Personalized Superfood Plan* and *Superfood Ingredients Delivery*, are used for the continuation of the CDP (see Appendix C Table 11). For these business models, the fictive brand *Mixtbowls* is created (see Figure 2). Both models, the *Personalized Superfood Plan* and the *Superfood Ingredients Delivery*, use Mixtbowls’ brand name/logo to avoid branding influences.



Figure 2: Mixtbowls Logo

The first step of the CDP is to make “good guesses” (Blank 2013 p.5) on hypotheses for the business model. Since only the Value Proposition and Customer Segment are relevant for the Problem-Solution Fit, the subsequent testing only considers these segments (see Table 2).

Idea	Value Proposition	Customer Segment
Superfood Delivery Iteration I	Local Superfood Ingredients delivered home	Young Professional/Student, female/male, 25-40, health conscious, does sports, busy lifestyle, likes to cook
Personalized Nutrition Matching Iteration I	Personalized Nutrition – Body Tracking & Nutrition Matching	Diet & Health Conscious Person, Female/Male, goal-oriented and body performance, tracks activities

Table 2: BMC Iteration I for Value Proposition and Customer Segment

3.2 Outside of the Building

In the next step to “get out of the building,” the goal is to get feedback from potential customers on the previously assumed parts of the business model (Blank 2013 p.5). This step outside is to be done with “nimbleness and speed” by creating MVPs to be tested by customers and collecting their feedback (p.5). The feedback is used to validate assumptions and make necessary

adjustments that result in iterations or pivots (more substantial changes to the business model) of the CDP. Osterwalder's (2016) online platform *Strategyzer* provides the tools for prototyping and user tests: The VPC (testing jobs, pains and gains) and a customer survey (testing interest in value proposition) test the customer problem. A Facebook Page, Posts, an App Mockup, an Explain Video (testing first actions based on Facebook measures), and a Landing Page (testing further actions and commitment) test the solution and its relevance for customers. Lastly, A Facebook Ad Split tests which value proposition indicates increased customer interest.

3.2.1 Testing the Problem

3.2.1.1 Survey and Interview Design

The VPC is the basis for the design of the online survey and personal interviews to get more insights on customer problems and validate hypotheses (see VPC filled out by interviewee Appendix C Figure 14). Osterwalder (2016) provides a set of questions on the value propositions to address customer jobs (e.g. How do you ensure to get a variety of nutrients? Do you have a goal for your diet?), pains (e.g. what are the challenges with your diet? What social consequences do you encounter?), and gains (e.g. What would make your life easier? What quality level do you expect?). Overall, the questions cover personal food habits, goals, and challenges.

3.2.1.2 Survey and Interview Results

The collected answers from the survey (N=86) and interviews (N=10) are summarized and used to verify assumptions for the value proposition and customer segment (see Appendix D). People care about nutrition and their main problems in achieving a healthy diet are time (60%), creativity (37%), and cooking (34%). The customer segment can be described as young and sportive, aiming for a healthy lifestyle. More women (64%) responded than men (36%) and the largest age group is between 21-26 years. Nearly 40% do sports one or two times a week, and 50% do sports

at least three or more times. 19% of respondents buy food directly from farmers, and 40% go shopping at organic stores, which demonstrates the values of local and high-quality food. When asked how often they cook at home, 79% replied every day or every other day. However, the interviews showed that people do not like to cook but rather chose it as a cheaper way. In fact, they would like to have more assistance regarding recipes, quick meal options, and preparation. Regarding the second idea of a *Personalized Superfood Plan*, 73% of survey respondents were interested in trying it, but insights from biotech professionals (Hugo 2016) showed that there is no innovative solution besides a blood test to track people's nutrients. As this would result in bad user experiences, the value proposition needs to be adjusted.

3.2.2 Verifying Assumptions and Iterating

Based on the findings, the value proposition on *Superfood Ingredients Delivery* illustrates too much effort for customers in creating meal ideas, preparing and cooking the ingredients. Therefore, the value proposition is adapted to solve the three identified challenges of time, creativity, and preparation with a *Superfood Mealkit Delivery*. Meal kits are prepared ingredients for a given recipe and only require cooking, thus saving time in meal creation, shopping, and preparing. The collected data on survey respondents allows adjusting the customer segment regarding age group (people in their twenties) and preferences (values healthy food but does not enjoy cooking). Regarding the *Personalized Superfood Plan*, instead of blood tests, the use of an app that integrates with Samsung/Apple Health illustrates a simpler way for users to fill out their daily food consumptions and track nutrients. Nutrition analysis matches users with the right superfoods to make up lacking nutrients. Table 3 summarizes the verified assumptions.

Idea	Value Proposition	Customer Segment
Superfood Delivery Iteration II	Superfood Meal Kit delivered to your home	Young Professional/Student, male/female, 20-30, health conscious, does sports, busy lifestyle, value high-quality foods and looks for solution to saving time in cooking, preparation, and shopping
Personalized Nutrition Matching Iteration II	Personalized Superfood Nutrition – Using your health tracker to match you with superfood nutrients	Young Professions/Student, mid-twenties, Women aim for a healthy diet; Men focus on muscle building, goal-oriented and body performance tracks activities

Table 3: BMC Iteration II for Value Proposition and Customer Segment

3.2.3 Testing the solution

3.2.3.1 MVP Design

For the new value propositions, MVPs are developed and aligned with Blank’s Marketing Funnel (2010) for business ideas using digital/web channels to target potential customers. The first step of the funnel, “GET”, includes the Acquisition and Activation of customers shown in Table 4.

MVPs	Funnel Stage	Goal
See Facebook Ad (Posts, Explain Video)	Acquisition	GET
Go to Facebook Page		
Go to Landing Page		
Click through App Mockup	Activation	
Take part in the Pop-up Quiz		
Sign up for Launch Notification		

Table 4: Aligning MVPs with Marketing Funnel

The creation of MVPs includes the design of a Facebook Page for Mixtbowls with a Cover Picture and a description of the offering and the value proposition. When creating a Page, one can invite Facebook Friends to like the Page and increase awareness. With a minimum of 30 Likes, one can track Page Performance including Actions on Page (comments), Page Views, and Page Likes. With Publishing Tools one can share posts on the page and launch paid promotions. Posts include a picture with a description of the value proposition but also use the Explanation Video to show images of a mockup app. Instead of developing an app, a mock-up app uses minimal

resources of Powerpoint, combining images, text and phone wireframes. Moreover, a landing page is designed to track higher commitment of potential customers. Using Facebook as a channel to create awareness and attract customers to the landing page allows testing for interest. A landing page is a one-page website including a call-to-action, a button that makes visitors take action in the form of a signup, sharing or ordering (see Appendix E Figure 15-20 of MVPs). Moreover, a Facebook Ad Split test is designed with the Ad Software *AdEspresso* to test which value proposition gets the higher conversion. Split test means that the software creates multiple versions of ads combining an image, a title (stating the value proposition), a headline (a more detailed description), a link (to the Facebook Page or Website), and a call-to-action (to track viewers interest). Recent findings on the customer segment define the audience of the ad (Age: 20-30, male/female, interests in nutrition, sports, health, body). Facebook users in this audience can see the ad on the desktop and mobile applications of Facebook (see Figure 3).

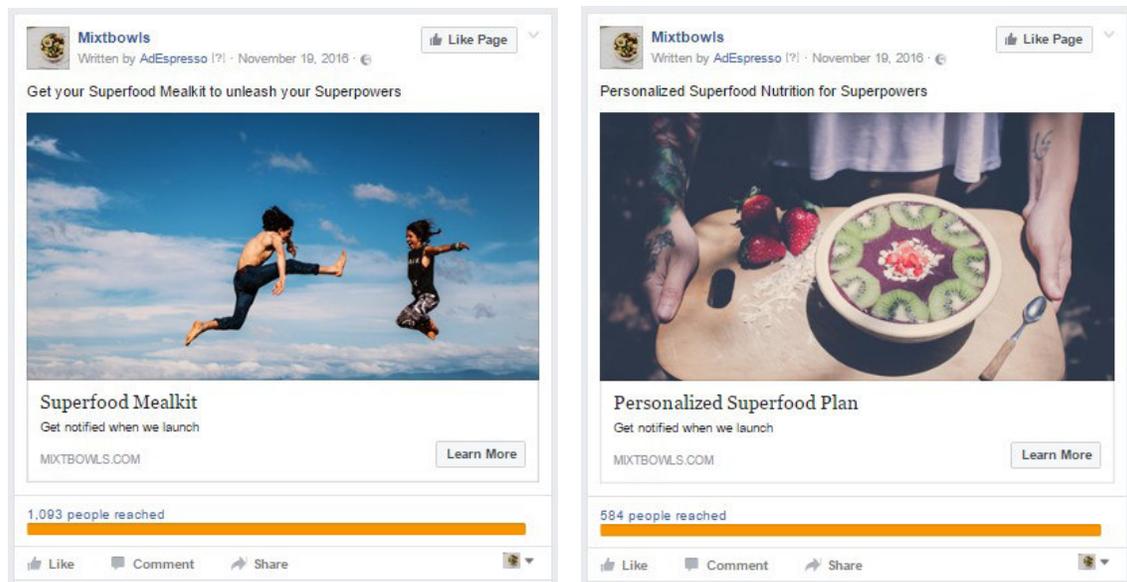


Figure 3: Facebook Ad Split Test

3.2.3.2 Measures

The measures Facebook Ad Manager (2016) uses are important to understanding the analysis of the ad results. Measures include “Reach,” defined as the number of people who saw the ads at least once, and “Impressions”, which may include multiple views of the ads by the same individuals. Moreover, “Clicks” counts clicks on posts or call-to-action buttons sending people to the Facebook Page. “Actions/Engagements” defines the total number of actions that people take on the Facebook Page. A conversion rate based on these measures and ad costs calculates the following KPIs (Key Performance Indicators): The Click-Through Rate (CTR), which is the number of clicks divided by the number of impressions per ad, the Cost per Click (CPC), which is the total cost divided by number of clicks per ad, and the Cost per Impressions (CPM), which is the total cost divided by number of impressions per ad, multiplied by 1000 (Salesforce Social 2013). As a guidance for the performance of the Ads, *AdEspresso* (2016) provides statistics on the average costs of KPIs, however, there are no established benchmarks for Facebooks since costs change continuously.

3.2.3.3 Results

The Facebook Page received 61 Likes, the first post reached 153 people and 2 Likes, with 1€ spent. The Explanation Video reached 315 people out of which 102 saw the video and three people liked it. These results show a considerable amount of interest and awareness, however not a good conversion towards actions (likes/shares). Regarding the ad split test, the value proposition for *Superfood Mealkits* received 83 clicks out of 3788 impressions with a CPC of 0,036€ (see Appendix F Figure 21). In comparison, the ad for a *Personalized Superfood Plan* received 74 clicks out of 4117 impressions resulting in a higher CPC of 0,038€. Regarding the average CPC of 0,10€ for the food industry during the duration of the ad’s running time, both ads

show a lower conversion (AdEspresso 2016). While the *Superfood Mealkit* ad performed better, there were no conversions to the Facebook or Landing page from neither one of the ads.

3.2.4 Verifying Assumptions and Pivoting

The results align with the ones from the personal interviews, in the sense that interviewees showed an interest in the solution, but no deeper commitment. These findings can be attributed to superfoods being a current trend that raises awareness but does not stimulate actions that expresses real customer needs. According to the CDP model, in case the results turn out to be different from the hypotheses, the process says to iterate if there are only minor changes and to pivot, if the changes influence larger parts of the business model hypotheses (Blank 2013). The discovery of a real need during the conducted interviews leads to the decision to pivot. The proposed meal kits turned out to consist of foods people eat to follow the so-called low-FODMAP diet, a diet for people with IBS¹ (Irritable Bowel Syndrome), a chronic gastrointestinal disorder including symptoms such as diarrhea, constipation, and bloating. The causes of IBS are not clear, and there is no cure. However, there are treatments including a change of diet, stress relief, medications, and probiotics (Gibson and Shepherd 2010). Food that contain the so-called FODMAPs (Fermentable, Oligosaccharides, Disaccharides, Monosaccharides, And, Polyols) can trigger digestive issues “including gas, bloating, distension, abdominal discomfort, pain, diarrhea and constipation” (EEPIA 2016). The Monash University of Australia (2016) found a way to classify foods based on the amounts of FODMAPs they contain into low and high FODMAP foods (see Appendix G Figure 22). Thus, a low-FODMAP diet helps to relieve symptoms (Roest et al. 2013). While the University developed an App, listing low and high FODMAP foods, people with IBS face a significant effort on the consistent realization of the diet. Identifying this

¹ Note: I am myself affected by a mild version of IBS and can therefore identify with the problem and know of the lack of solutions.

lack of a comprehensive solution for people with IBS illustrates the turning point of the Customer Discovery Process. Based on this insight, a real need is identified that demands a new value proposition. Designing a new value proposition is a profound decision in accordance with the mission of this paper to achieve a Problem-Solution Fit. A quote from an interviewee demonstrates the problem of the disease and the need for a solution:

“I think socially it is really a challenge. I always have to bring some of my own foods. I think it is difficult to live spontaneously; I always have to be prepared. F.ex. I can not just say that I eat gluten free. No, no it is SO much more complicated than that!” - Anonym

4 RESEARCH FIELDWORK CUSTOMER DISCOVERY II

The pivot results in a restart of the Customer Discovery Process. Therefore, a new problem statement is defined:

While the low-FODMAP diet has proven to help over 75% (Roest et al. 2013) of people with IBS, in most cases people do not know about it or fail to do the diet based on the tremendous effort it requires in planning, cooking, and knowledge. Therefore, there is a need for a solution that helps people with IBS in starting and following a low-FODMAP diet.

An initial market research in the next section forms the starting point of the CDP inside the building to understand this problem as an opportunity for a business idea.

4.1 Inside the building

4.1.1 Market Check

Approximately 10-15% of the global population lives with Irritable Bowel Syndrome (IBS). Statistics from the International Foundation for Functional Gastrointestinal Disorders report that mild symptoms affect about 70 per cent of people, moderate symptoms affect about 25 percent of patients, and severe symptoms affect about 5 percent of individuals with IBS (iffgd 2016). Regarding treatments, mild cases are directed towards education, reassurance, change of lifestyle,

avoiding offending foods that are thought to have been triggering symptoms in the past and occasional medication. So far, there are mainly communities, coaches, recipes, and diet plans as a way for people to find out and learn about IBS specific diets such as the low-FODMAP diet. Since much support exists in regards to home cooking (e.g. recipes, know-how), there is a niche opportunity in the field of convenience services, such as food or meal deliveries, that are already proving to be successful for food trends such as vegan, paleo, and clean eating (CB Insights 2016). Therefore, a ready-made meal delivery service is the business model under consideration for this Discovery Process. Based on these first insights, the customer segment and value proposition state new hypotheses in Table 5.

Idea	Value Proposition	Customer Segment
Ready-made Meal Delivery for IBS and low-FODMAP	<ul style="list-style-type: none"> - Order meals to relief their symptoms - Reasonable prices - Served chilled, so users can heat it up when they want - Delivered weekly to support them consistently 	People with IBS <ul style="list-style-type: none"> - People with IBS who follow a low-FODMAP Diet - Who want to save time on planning, shopping, cooking - People who want support in starting and sticking to the diet - male/female

Table 5: Business Model hypotheses for NAMI

The brand name for the solution is NAMI, meaning “wave” in Japanese, to refer to the ups and downs of IBS symptoms, but also the potential calming characteristics of waves. Figure 4 shows the logo.



Figure 4: Logo and Brand Name

4.1.2 Survey

A survey allows understanding the customer problems related to the need for NAMI (see Appendix G Table 12). The questions are based on the VPC and address the customer jobs, pains and gains of the low-FODMAP diet, besides asking for preferences of solutions and its features.

The survey was posted in IBS and FODMAP Facebook Groups and received 27 answers. Major challenges include sticking to the diet and the high effort necessary for preparation, aligning with the need to plan meals better. Out of suggested offerings for a low-FODMAP ingredient delivery, a recipe plan, and ready-to-eat meal delivery, the last one received the highest interest (14 votes). The most important features of such a solution are Transparency (17 votes) and Variety (16 votes). Table 6 summarizes customer findings.

VPC	Customer Jobs, Pains, Gains		
Priorities	Jobs	Pains	Gains
1	Planning, shopping, preparing meals	Food Choice: what to eat vs. what is good for one	Food Transparency
2	Sticking to the diet	Time consuming	Meal Variety
3	Knowing which foods are ok	Sticking to the diet	Convenience
4		Lack of knowledge	Food Quality
5			Meal Planning

Table 6: Customer Jobs, Pains, and Gains

Furthermore, 25% of people did not know the diet, and out of the people who know it, 27% have not tried it. Since this is a large group of individuals with a disease who do not know about this treatment for the diet or have not tried it, this illustrates a relevant finding for the business opportunity and sets the base for the next part of the CDP.

4.2 Outside of the building

Based on the research inside of the building, the testing for customer validation outside of the building has a clear focus: there are two types of people with IBS: either they know of the low-FODMAP diet or they do not. Therefore, the question to ask is whether to target individuals with IBS in general or people who already know about the diet. This is done using an Ad split test described in the next section.

4.2.1 Testing the solution

4.2.1.1 MVP Design

The following MVPs test for a Problem-Solution Fit and the appropriate value proposition: A Facebook Page, a Landing Page, an Explain Video, an App-Mockup (see Appendix H Figure 23-26). The Ad Split test sets up two ads to test for targeting. One ad, referred to as “IBS” ad, targets people with IBS in general (Title: “IBS from the wrong food?) who might not know about the diet yet. The second ad referred to as “FODMAP” ad, targets people who know about the diet already (Title: ”Get relief with low-FODMAP meals”) (see Figure 5). With the support of Balasz Barany (2016), Marketing Expert from Facebook Portugal, the ad campaign is set up and sponsored by a coupon worth of 75€.

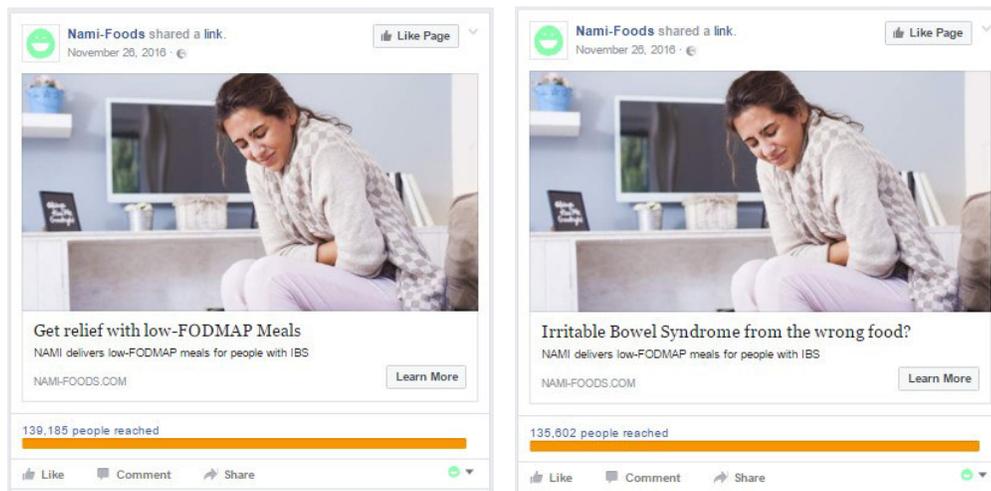


Figure 5: NAMI Facebook Ad Split Test

Facebook’s Ad Manager tool offers ads aligned with the stages of the marketing funnel including awareness, consideration, and conversion (see Appendix I Figure 27). Each of them converts on different user actions that are measured. Therefore, one ad in the Awareness stage with the objective of “Reach” is selected with an audience in the age of 25-34. The second ad is part of the

Consideration stage with the aim of “Click” and targets an audience in three age groups (18-24, 25-34, 35-44) to get insights on the customer segment.

4.2.1.2 Test Results

Based on the Facebook Ad running for five days, the following results are collected. **Awareness Stage Reach Objective** - The “IBS” ad reached 5732 people resulting in 6194 impressions, while the “FODMAP” ad only reached 3632 people with 3891 impressions. Furthermore, seven Facebook user went to the Facebook Page after seeing the ad for “IBS” and only one for the “FODMAP” ad. Further actions, including clicks to the website, page likes or post comments, showed ten actions for “IBS” and three for “FODMAP.” Regarding Gender, 40% of the results came from women and 58% came from men. The KPI for this objective is the CPM, Cost per Impression, which was the same for both ads (1,49 €, see Appendix I Table 13, Figure 28). Since for the same cost, the IBS ad reached more people; it converted better than the “FODMAP” ad. **Activation Stage Click Objective** – The “IBS” ad reached fewer people (137.087) than the “FODMAP” ad (138.304) but received the same amount of clicks (18) for the same CPC, Cost per Click, of 1,67 €, and thus converted better. Regarding gender, men (61-67%) show higher engagement than women (22%-33%). For women in the age group of 35-44 and men in the age of 18-24 engaged most. Besides, both Facebook ads achieved conversion to the landing page. Reporting from Google Analytics that measures website traction counts 56 Sessions, 25 Users, and 86 Page views, with 63% returning visitors and 37% new visitors. According to Website Acquisition Channels, 56,3% come from Facebook (25% Referrals, 19,9% Direct). In comparison to the superfood ad campaign, which did not convert to the landing page, this time there was a higher interest and action taken from the target group.

5 FIELDWORK CONCLUSIONS

The results allow making the following conclusions regarding the customer segment. The better conversion of the “IBS” ad shows that there are more people with IBS who do not know about the FODMAP diet than people who know the diet. This result indicates the need to make them aware of this treatment for their disease and illustrates the opportunity to target them with the proposed solution. The fact that men showed a higher interest than women did contradicts disease statistics stating that twice as many women than men have IBS (iffgd 2016). However, this can be due to differing user behavior in the search for a solution. More men seem to look online for possible treatments, while women might rather be looking for help in offline conversations. These insights are used to verify the customer segment and the respective alignment of the value proposition in more detail with the following customer segmentation, targeting, and positioning. Customer segments should rather be seen as “customer operating segments” and defined based on “attribute preferences,” that is the customer needs (Frei 2008). The conducted user tests and results allow separating customers based on their knowledge about FODMAP. Customer needs directly derive from their knowledge background. Therefore, one segment, “The FODMAP Starter,” includes people that have never heard of the diet before and people who know about it but have never tried it. The second segment, “The Experienced FODMAPer,” has tried the diet already (see Appendix J Table 14). Based on a Targeting Board Analysis on the criteria of Measurable, Accessible, Responsive, Substantive, and Actionable customers (Armstrong, Adam, Denize and Kotler 2012), the “Starter” segment fulfills best the targeting principles (see Appendix J Table 15). In line with the Facebook Ad split test, this segment should be targeted with the value proposition for *IBS-safe meals*, since they have not heard of FODMAP before. The next part of the paper only considers the “FODMAP Starter” segment, as it allows making the

biggest impact for people who will start the diet. Besides, there is a need to inform more people about the positive effect of the diet and help them find relief from their symptoms. This target group has an informational need of learning about the diet based on trustworthy information but also from experienced FODMAPers. It requires support in starting the diet, mainly regarding the type of foods that are safe to eat, but also needs tasty meals to make the transition to the diet easier. The segment consists of a younger age group of 18-24 and 25-34, which is usually the time people start having symptoms and are searching for solutions (iffgd 2016). As this target group is socially connected, they are assumed to find help online in communities or Facebook groups and are open to experiment with solutions in different areas. The previous part identified a customer segment with jobs (learn about the diet and start it to get relief), pains (knowledge on diet, planning, sticking to the diet) and gains (relief of symptoms, support, flexibility). The value proposition of an *IBS-safe meal delivery* addresses this segment. Thus, the research questions can be answered with a positioning statement for NAMI.

1. What value proposition allows a match with respective customer segment jobs, pains and gains to find the problem-solution fit?

For FODMAP starters, who have yet little or no knowledge about the diet and are searching for solutions to relief symptoms, NAMI offers an *IBS-safe meal delivery* of pre-cooked meals that helps them to kick off the diet, takes care of planning, shopping and cooking, and even relieves their symptoms.

6 CONSIDERATIONS ON BUSINESS MODEL

The stated value proposition implies a business model for a meal delivery, which is relevant for designing and delivering the value proposition. There are several models of meal deliveries based on the service they own shown in Figure 6: *Order, Cook, and Deliver* (Mignot 2015).

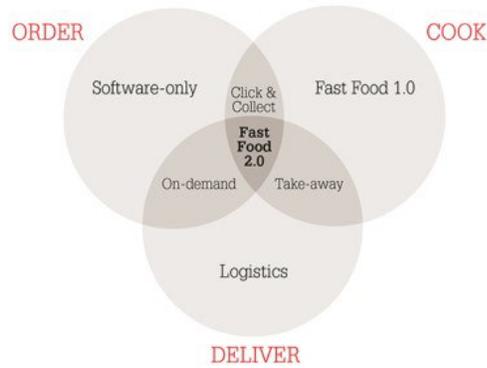


Figure 6: The three main sequential steps involved in meal ordering

The needs of the customers identified during the fieldwork define the choice of business model. As stated before, a business model states how a company creates, delivers and captures value (Osterwalder 2009). Defining and designing the value delivered to customers, is a process also addressed in Service Design theories (Pawar, Beltagui and Riedel 2009) (Frei 2008). Since NAMI, as an *IBS-safe meal delivery*, consists of a product (meal) and services (e.g. cooking, packaging, delivery), these theories are applied to define NAMI’s business model further. Additionally, service design best practices by established startups in the food delivery space are analyzed. The final part establishes the areas of the service design relevant for the business model of NAMI.

6.1 Service Design Frameworks

Defining the details of the service design is a process of aligning marketing and operations that literature and studies address for product-service companies. Cronin, Brady, and Hult (2000) have emphasized the importance of integrated marketing and operations in the service sector. Findings from studies on Online Grocery (Boyer and Hult 2005) and the Fast Food Industry (Shahid and Khan 2016) show that the degree of integration of e-business, product quality, and service quality are significantly related. Particularly in a new market, there is an even greater pressure on the integration aspect, since the market needs to be driven from a marketing

perspective “while simultaneously keeping a tight rein on operational costs” (Boyer and Hult 2005 p. 645). A study by Pawar, Beltagui, and Riedel (2009) goes a step further by defining the “PSO Triangle,” aligning product, services, and the organization’s partner network to create value (see Appendix K Figure 29). Specifically, necessary resources and capabilities that are not internally available “should be acquired through [...] external partners” (p.487). The core message, designing a service that allows delivering value through its operations and organizational structure, is what Frei (2008) also stresses in his service design principles. The alignment of the funding mechanism, the employee management system and the customer management system enables products and services (see Appendix K Figure 30). Table 7 provides an overview of both theories aligned with marketing and operations.

Theory	Process			
PSO Pawar, Beltagui and Riedel (2009)	Define Value	Design Value		Deliver Value
	Propositions that will satisfy customers	Capabilities		Partner Network
Service Design Frei (2008)	The Offering	Funding Mechanism	Employee Management System	Customer Management System
Functional activity	Marketing	Operations		

Table 7: Alignment of PSO, Service Design and Functional Activities

6.2 Startup Benchmark Analysis

Established food deliveries, being service companies that put customers into a highly integrated position, illustrate best practices on how they balance excellent services, and the management of its customers. The analysis of best practices focuses on five food deliveries (Munchery, Sprig, Freshly, Everdine, HelloFresh) regarding the processes they own (Order, Cook, Deliver), what they offer (hot, frozen or cold meals), what their excellence focus is (e.g. price, quality, variety, speed), and how they integrate and educate customers (FAQs, Instruction Guides, Curation) (see example in Table 8 and complete analysis in Appendix K Table 16).

Service Design Principle	Excellence Focus							
	Price	Quality	Diet	Health	Transparency	Variety	Convenience	Flexibility
Startups								
Munchery	x	x	x			x		
Sprig		x			x		x	
Freshly			x			x		
Everdine		x	x			x		x
HelloFresh		x		x			x	

Table 8: Startup Analysis Example for Excellence Focus

6.3 Service Design for NAMI

The research fieldwork, the service design theories on defining, designing and delivering value, as well as the startup benchmarks allow specifying the value proposition, the customer segment and the customer relationships on the business model canvas of NAMI. The relevant service design principles on The Offering (Design Value) and The Customer Management System (Deliver Value) are applied. To understand the details of the framework, these four steps provide a simple overview how NAMI works.

1. Chefs prepare meals in NAMI production kitchen
2. Meals are listed on online platform along with ingredient info
3. User selects weekly meal plans and pays online
4. Meals are delivered frozen to users by delivery partner, can be heated and consumed when needed

6.3.1 The Offering

According to Frei (2008), to “offer excellent service, one has to determine which attributes to target for excellence and which to target for inferior performance.” Based on the previous research, the biggest problems for consumers lie in planning, shopping, and preparing jobs, but also in sticking to the diet. Besides, preferences on solution features are meal variety, transparency, and convenience (see Appendix K Table 17). The first high-fidelity MVP will offer four of seven meals per week including new recipe guides. In this way, reorders can test what customer needs to serve. By ordering less, customers show a higher preference for input on the diet and recipe inspiration. By ordering more, customers enjoy the service and relief of effort in

cooking. Therefore, the offering is excelling in convenience, variety, transparency and planning. This product and service focus puts NAMI into a business model of *Order* (creating a transparent and information-driven Website) and *Cook* (producing high-quality meals in an own kitchen). Ready-to-eat meal deliveries such as *Everdine* (2016) are successful in owning these two processes and outsourcing *Delivery* (Robinson 2016). Therefore, NAMI uses a delivery partner to ship meal boxes weekly. Based on the startup analysis, meals are pre-cooked and delivered frozen and ready-to-eat in 10 min. This process allows saving nutrients, meal storage, and flexibility in consumption, which are essential features of a service for people with health problems.

6.3.2 The Customer Management System

Using NAMI, the customer is a part of the value-creation process of ordering, receiving, storing, and heating the meals. Therefore, designing the service in a way customers understand their role is crucial for good experiences (Merz, He, and Vargo 2009). Guiding customers in co-creation is done by focusing on website quality regarding user interface and experience for profile setup, meal selection, and order/check out process. The following features of the platform are crucial: Saving user order information, simple re-ordering, and meal plan creation (Hayley 2016). The curation of meals with information on ingredients and nutrients helps to guide users regarding meal choice. Besides, Social Media Channels, Customer Support, as well as reviews and ratings establish the relationship with customers (Juggernaut 2015). Informational flyers received with the delivery, including heating instructions, meal information, and freshness guide the consumption of meals. Additionally, every meal contains instruction symbols on the packaging. There will be recipes delivered in the box for customers to learn more about the low-FODMAP diet and support them in sticking to it.

7 REVIEW OF METHODOLOGY

The CDP, as the methodological basis for the paper, led to the identification of a real need while starting out with only an idea. The underlying approach of the method to define hypotheses on the business model and collect customer feedback as early as possible allowed identifying true customer problems without investing many resources. Therefore, it illustrates an efficient and quick process for startups to achieve relevant results. However, precisely the results should be interpreted with caution. Regarding the iterative aspect of the process, it is questionable at what point to move on. Especially, when does one have enough feedback to make iterations or pivot? The limited scope of this paper restricted the amount of testing, and first findings resulted in quick conclusions to adapt the value proposition. While it was successful in this phase of the search-mode, concerning the further implementation of the idea on the market, a greater amount of customer feedback needs to be collected to make a profound decision. Besides the practical methods of the Customer Development Process, this thesis also expands upon service design theories. This approach illustrates an appropriate framework to align customer needs and the delivery of the value proposition, especially for the business model of a meal delivery with a product and a service that the customer is part of. In fact, it defines the minimum features of NAMI's products and services and thus can be used to create the first high-fidelity MVP for the next part of the CDP.

8 FINAL CONCLUSION AND OUTLOOK

Using the words of Steve Jobs, the aim of this thesis was to take on the “tremendous amount of craftsmanship” (Jobs 1995) necessary to turn great ideas into great products. The application of the CDP defined this to be the search for the Problem-Solution Fit. In the first cycle of the

Customer Discovery Phase, the Superfood idea raised much awareness on Facebook, however, performed badly regarding further actions. The conduction of interviews helped to classify superfoods as a trend, rather than a solution to a problem. Besides, interview conversations uncovered a real problem and an opportunity to pivot the business model towards making a real impact on the life of people affected by IBS. With adjusted hypotheses, the second Customer Discovery cycle revealed that a meal delivery, based on the low-FODMAP diet, addresses the problems individuals with IBS face when doing the diet: knowledge, planning, and sticking to the diet. A Facebook Campaign identified the target group of people who have IBS, but do not know about the low-FODMAP diet yet. Based on the customer jobs, pains, and gains aligned with service design principles, it was possible to define the Offering and Customer Management for the solution NAMI. Overall, the goal of the first step of the CDP, to find the Problem-Solution Fit, has been achieved in NAMI – an *IBS-safe meal delivery*.

The further conclusions on the Offering and Customer Management state the minimum features of NAMI that build the base for the first- high fidelity MVP. According to Blank's CDP (2003), the high-fidelity MVP is necessary for the next phase, the Customer Validation, to find the Product-Market Fit. During this phase, testing is about getting ready to sell and receive first orders. Therefore, building a high-fidelity MVP of the website and the first creation of meals is necessary to collect customer feedback and adjust the product to customer needs. Regarding the offering, it is crucial to find out what features customers value most. These results are used to verify assumptions and repeat the process. According to Blank (2010), the phase of Customer Validation aims to assess the business model for repeatability and scalability, moving a step forward in Customer Development Process and from a great idea to a great product.

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