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MASTER THESIS

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MASTER THESIS

**THE ASSESSMENT OF BUSINESS OPPORTUNITIES FOR A
SOFTWARE DEVELOPMENT COMPANY IN THE MHEALTH
FIELD**

Ljubljana, December 2013

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AUTHORSHIP STATEMENT

The undersigned Brent LaRue and Marko Nikolovski, students at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), declare that we are the authors of the master's thesis entitled The Assessment of Business Opportunities for a Software Development Company in The mHealth Field, written under supervision of Prof. Irena Vida, PhD and co-supervision of Prof. Mateja Drnovšek, PhD.

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1 INTRODUCTION

Mobile health, or the use of mobile phones for healthcare, is a young and dynamic field that has the potential to improve the ~~well being~~wellbeing of people in developed and developing countries alike. Mobile applications ~~can be~~are used to lower costs and improve the quality of healthcare as well as help raise awareness for disease prevention, all of which can improve the health outcomes over the long term. Placed at the intersection of health, technology, and finance, mobile health, or mHealth, is also a complex industry where it can be difficult to develop sustainable business models (Qiang, Yamamichi, Hausman, & Altman, 2011, pp. 11-12).

The term mHealth was coined in 2003 as ""wireless telemedicine involving the use of mobile telecommunications and multimedia technologies and their integration with mobile healthcare delivery systems"" (Istepanian & Lacal, 2003, p. 1414). Since the proliferation of smartphones, thousands of medical, health and fitness apps have appeared on the various app stores. The mHealth app market has grown sevenfold from around $US 100 million in 2010 to $US 718 million in 2011 (Research2Guidance, 2011).

With substantial investment and development over the past decade, mHealth has found its way into the hands of forward-thinking hospitals, early adopters, and tech-savvy physicians. As this technology continues to advance and decision makers begin to understand its function and capabilities, mHealth will reach a much greater audience including a greater number of physicians, nurses, patients, technicians, administrators, and consumers (mobileStorm Inc., 2011, p. 3).

Mobile technologies cannot physically carry drugs, doctors, and equipment between locations, but they can carry and process information in many forms: coded data, text, images, audio, and video (Qiang, Yamamichi, Hausman, & Altman, 2011, p. 12). The challenge is to provide such information whenever and wherever it is needed. A few companies exemplifying excellence in the mHealth field include Epocrates, Medscape, Medcalc, and Skyscape.

1.1 Description of the Problem

Despite the potential ~~of the mHealth market~~of the mHealth market, there are still many obstacles that must be overcome. In our thesis, we will be chiefly concentrating on two types of stakeholders in the mHealth field: healthcare providers, such as hospitals and clinics; and private and public companies in the healthcare market, such as pharmaceutical and medical supplies companies. As an emerging, independent application development company, Modra Jagoda will position itself to serve these types of companies within the mHealth field.

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In a recent study by the World Health Organization (hereinafter: WHO), 83% of WHO member states reported having at least one mHealth initiative in their country., and oOf those, three quarters reported implementing four or more types of mHealth initiatives. However, evaluation of the initiatives was sorely lacking, with only 12% of the countries reporting to have assessed their effectiveness (World Health Organization, 2011, p. 7).

Pharmaceuticals and other companies in the healthcare field are approaching the mobile revolution much more cautiously (Moukheiber, 2012). A recent survey by KPMG indicated that 36% of pharmaceutical companies plan on usingto use mobile health to gain customer insights, 31% to interact with customers, and 29% for recruitment and use for brand promotion (KPMG, 2012). There is definitely interest, but adoption is lacking.

Both healthcare providers and companies in the medical field are faced withface various issues pertaining to mHealth. In the case of healthcare providers, good evaluation methods would be vital for the continued development and growth of any initiative, especially when there are underlying commercial interests. Why is there such a scarcity of information? On the other hand, pharmaceuticals have been slow to adopt mobile technologies, even though they can be a great partner for health technology companies. What is behind their reluctance to join the mobile bandwagon? In order to understand the our business, we need to understand those issues.

The business, referred hereafter as Modra Jagoda, or as the Company, is a software design and development business operating exclusively in the mobile health (mHealth) field. Modra Jagoda will be positioned primarily as a service-based company offering design and development services for medical and health-oriented clients. Modra Jagoda will also offer mHealth products as a complement to its service offerings.

1.2 Purpose and Objectives of the Master Thesis

The main objective of this master thesis is to explore research the opportunities present in the mHealth market today in order to see if a mobile development start-up based in Slovenia, and working in this field, is feasible. The focus of our research will be the mobile application software industry and more specifically the area of mHealth application software. We hope to gain a more intimate understanding of this market and learn how to best develop and position a company within that market for future success. While the company is still in its infancy, it has many opportunities to grow and alsoand many obstacles to surpass. By performing proper market analysis and preparing a market strategy, estimating the company's financials and looking at our Modra Jagoda's team and resources we hope to better fit the Ceompany to the market and structure it to better suit the consumer needs. AlsoIn addition, with an improved understanding, we expect to learn how to more effectively promote the Ceompany and its products more effectively.

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The market analysis will include research about consumers, competitors, market and the overall industry. The benefits of such an analysis are numerous including: more informed decision-making, understanding of key threats and opportunities, ~~an~~ enhanced relationship with potential~~our~~ consumers, ~~a~~ greater insight into future~~our~~ competitors, and a deeper understanding of the market. By enabling ourselves to make better, more informed decisions, we are more likely to develop ~~our~~ the Company's competitive advantage and avoid making costly mistakes. This analysis will be conducted using PEST, SWOT, and competitor analysis. Once the analysis is ~~conducted~~conducted, we will use the information to propose a strategic marketing plan. A strategic marketing plan enables us to focus ~~our~~ the Company's limited resources on the best opportunities to drive sales and achieve a sustainable competitive advantage. With such a plan in place, we can more accurately direct resources to the areas that will prove the most profitable. Given the nature of start-ups, maintaining a lean company profile is of the utmost importance. While the company is young, it is vitally important to not waste resources, and having a well-researched plan helps ensure that resources are being used in the most effective manner. As the company grows, the strategy must also adapt to the new capabilities of the company, as well as the needs of the market. The initial strategy proposed is designed for the initial phases of the company's life.

As with any new venture, the future is largely unpredictable. Given this, we will as accurately as possible estimate the position and resources of the company in the future. The objectives of the business plan are to understand where you are, decide where you want to go, and plan how to get there. The topics covered in this business plan will include an analysis of the industry sector, product and services, human resources and organization, product or service development, business process, production planning key threats and problems, and financial estimates. By covering such topics, we hope to gain a deeper understanding of the ~~organization~~ Company and as a result, consciously guide its growth.

~~1.3~~ Research Questions

The assessment of the mHealth market potential for a software development start-up in Slovenia will be based on market research and analysis. Likewise, a proposed plan for such a business will be constructed. Based on the insight gained from the research, analysis, and planning, a marketing strategy will be proposed. Two research questions were developed:

Research question 1: What is the appropriate marketing strategy for a software development company focused on mHealth?
By addressing this question, we will develop a marketing strategy for an mHealth software development company including objectives and different strategies to obtain them, customer targets, brand strategy, etc. As a result, the Ccompany will better understand how

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to position itself in the market. The ~~final result~~result will be a proposition of a focused marketing strategy and how it will be implemented.

Research question 2: What is the best use of resources for an mHealth software development company?

The business plan seeks to organize the ~~C~~company, its members, resources, processes, and objectives. With such a plan, we will learn more about the industry sector, product and services, human resources and organization, product or service development, business process, production planning, and key threats and problems. In the start-up arena, potential investors use business plans to gain a clearer understanding of the company and its potential. We hope to use this plan to effectively organize the ~~company~~ Company and position it best for future success.

~~1.4~~ **Methodology**

Initial research will be conducted using traditional methods such as literature review in the form of books, journals, articles, databases, and periodicals. Additional resources include websites, conferences, presentations, and other electronic documents ~~which~~ that provide credible and referenced theoretical background.

An overall examination of the market is important to see if it is sufficiently appealing for the investment of scarce resources. Furthermore, ~~except~~ apart from the potential for financial returns, the market analysis shows how to better compete with the incumbents in the industry. The mHealth market, in the form we are discussing in this master thesis, i.e. the market of medical- and health-focused mobile applications for modern smartphone ~~platforms like~~platforms, like iOS or Android, has existed since late 2008. It is a young market, but ~~its potential is recognized by a number of companies and organizations~~a number of companies and organizations recognize its potential. Secondary research data from the World Health Organization (2011), World Bank (2011), World Economic Forum (2011) and other institutions will provide insight into the current mHealth initiatives from around the globe, as well as the current issues, obstacles and opportunities regarding the market. This data will enable us to perform a high-level industry analysis, comprising of market factors, such as market size and market growth, and the environmental analysis, in the form of PEST and SWOT analyses. In showing the market potential, we will include ~~TAM (~~Total Available Market (hereinafter: TAM)~~)~~, ~~SAM (~~Served Available Market (hereinafter: SAM)~~)~~ and ~~SOM (~~Share ~~O~~of Market (hereinafter: SOM)~~)~~ analyses.

In today's competitive landscape, it is important to meet the needs and wants of the customer better than the competition, and frequently at a lower cost. The competitor analysis helps us answer~~Knowledge of the market encompasses competitor analysis — today it is not enough to be aware of and meet the needs of the customer, but also to meet~~

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~~them better than the competition and frequently at a lower cost.~~ ~~q~~Questions ~~like who are our~~about the Company's major competitors, ~~what are the strong/weak points of their products~~the strong and weak points of their products, and ~~what are they likely to do in the future~~forecast their future market strategy. We will use the output from the analysis~~have to be addressed in order~~ in order to formulate a marketing strategy that does not rely on happenstance. The main points of comparison include the company size, their current products/services and their pricing, their brand recognition, and other pertinent information. Secondary sources of information including press releases, independent analyses by trade and business press, annual reports and app download statistics from sources such as the Google Play market will be used to examine international and local competition. For local competition, we will additionally use web sites that aggregate their financial and other info, such as GVIN.

~~In the end, the money needed to run the company comes from the customers.~~ Except secondary sources of the kind mentioned above, qualitative primary research data will be gathered from our meetings and interviews with potential and current customers, and users who are currently using our products and services. Aggregated primary usage data will be gathered from built-in analytics software in our applications which tracks information like what feature(s) are the users using consistently, and what is not that important; what kind of hardware are they using, and their demographics; and other data points, enabling us to do segmentation of the market. We also have a direct feedback button in all of our products, enabling the customers to have a direct line of communication with us. Finally, there is the review section of the App Store and the Play Market where customers who downloaded the app can leave a rating and a short review of the app. All of this will help us make informed choices when deciding how to continue the development of ~~our~~ the Company's products.

A thorough business plan is important to consciously guide the ~~C~~company to reach its desired goals. To develop a well-rounded business plan, we must understand ~~where we are~~the current position, ~~decide where we want to go~~formulate strategic goals, and ~~plan how to get there~~devise a plan of action. In order to perform these three tasks we will need to:
- ~~d~~describe ~~of~~be the industry, and the ~~C~~company's ~~y and its~~ products and services;
- ~~c, c~~onduct market research via the methods stated earlier and~~,~~ propose a market strategy~~as will be discussed later, ~~;
- ~~d~~discuss the business processes, production planning, and the human resources and organization~~, describe the business process and production planning~~; and~~.~~
- ~~d~~demonstrate business opportunity over a ~~three year~~three-year period, including a cash flow estimate, profit and loss account estimate, balance sheet estimate, and an examin~~ation of~~e financial indicators.

This method for ~~conducting this business plan~~analyzing a company and the market environment is derived from Rus and Rebernik's handbook *Planned to Success: Handbook*

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*F*for Making *t*The Efficient Business Plan, (Rus & Rebernik, 2011) (2011) and Eric Ries's *The Lean Startup* (Ries, 2011)(2011).

Based on these methodologies as described above, we will define a clear marketing strategy for theour company. The marketing strategy concentrates on how to position our the Company's products, how to market them to healthcare professionals and other customers, how to go about further product development and which type of marketing strategy is the best for an mHealth startup based in Slovenia.? We will propose a marketing strategy adapting a hierarchical objective model to our specific needs. The highest level constitutes the company's mission and vision, and then drills downcontinues on to corporate, divisional and specific product/brand objectives and strategies on how to reach those objectives. In the end, the marketing strategy should provide a clear statement of the place we want to be inwhere Modra Jagoda wants to be positioned in the future, both for the company as a whole and for our separate productsat a company and product (i.e. application) level (i.e. applications). This will be done ,Namely, through defining clear goals and objectives, ways to measure their attainment of the goals, a time frameperiod, and a plan of actioncontingency plan in case things do not go along as plannedforecasted.

Our analysis will be based upon models and frameworks found in several books on the topic of marketing planning: *Analysis for Marketing Planning, 7th ed.* (Lehmann & Winer, 2008), *Marketing Planning, 1st ed.* (Blythe & Megicks, 2010) and *The Marketing Plan Handbook, 2nd ed.* (Wood, 2005), as well as a number of articles. We would single out the Harvard Business Review's article on *How to Write a Great Business Plan* by Sahlman (1997) from their series *HBR on Entrepreneurship* since it focused on startup companies such as our own.

Analyzing and discussing such a young and specific market as mHealth provides for a set of unique challenges. Big companies, such as pharmaceuticals, that are the most likely to be able to invest in, or sponsor, the development of software of this kind are still not certain if their investment will pay off, which makes it harder for us to pitch our products and services to them. With our work on this topic, we will gain a deep understanding of the industry, our competitors and customers, our strengths and weaknesses, and make the best use of available our resources in order to overcome such hurdles.

21 COMPANY SUMMARY

Modra Jagoda is a software design and development firm serving the mobile health (mHealth) field. It is incorporated as a limited liability company in the country of Slovenia. The company shareholders are founders Brent LaRue, Marko Nikolovski, Caleb Oller, Nejc Tomšič, Blaž Triglav, and Jure Triglav.

Spremenjene kode polj
Oblikovano: Preveri črkovanje in slovnico
Oblikovano: Preveri črkovanje in slovnico
Spremenjene kode polj
Oblikovano: Preveri črkovanje in slovnico
Oblikovano: Preveri črkovanje in slovnico

Pripomba [MD13]: I think that you should stick to description of methodology used in the thesis. I guess that the definition of marketing strategy comes as the intro to the chapter about marketing strategy OR, you may consider another chapter following this one where you do a short review of theory on entrepreneurial opportunities, methods used etc.
The challenge of theses that are mostly oriented towards preparation of marketing plan / business plan is theory; so this gives you opportunity to bring in theory into the thesis

Pripomba [MJ14]: Ako sakash da nema "in in", ova mozhesh da go zamenish so "where we want to be (positioned)

Pripomba [MJ15]: contingency plan?

Spremenjene kode polj
Oblikovano: Preveri črkovanje in slovnico
Spremenjene kode polj
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Spremenjene kode polj
Oblikovano: Preveri črkovanje in slovnico

Pripomba [MD16]: I appreciate the breatdh of rsources and approaches that you will be using; I would appreciate having them summarized in a structured way; what are your qualitative methods and what are your quantitative methods; have a helicopter view of the methods used

Pripomba [MD17]: I guess that I am missing somewhere in the introduction a couple of sentences saying that you are performing this analysis for an existing company.

1.1 Company Start-up Summary

The start-up cost for Modra Jagoda totals €47,950. The founding members will initially cover the company's opening of the company, software, and domain/server expenses. These are the bare minimum expenses thatbare-minimum expenses must be paid to actually begin work. Beyond these minimal expensesexpenses, the full sum needs to be raised for sustaining the business. The assets description comprises a 6-month runway including payroll, rent, and additional expenses. The following tables and chart outline the start-up requirements and needed funding.

Table 0: Start up requirements

Start-up Expenses	2.1	Amount (€)
Legal	2.1.1.1	€0
Stationery etc.	2.1.1.2	€250
Rent	2.1.1.3	€750
Software	2.1.1.4	€5,000
Hardware	2.1.1.5	€2,250
Development Licenses	2.1.1.6	€100
Domains/Servers	2.1.1.7	€1,000
Total Start-up Expenses	2.1.1.8	€9,350
Start-up Assets		
Cash Required	2.1.1.9	€33,600
Other Current Assets	2.1.1.10	€5,000
Long-term Assets	2.1.1.11	€0
Total Assets	2.1.1.12	€38,600
Total Requirements	**2.1.1.13**	**€47,950**

Source: Own calculations

Figure 1: Start-up Requirements Chart

Table 1. Start-up Requirements

Start-up Expenses	Amount (€)
Legal	0
Stationery etc.	250
Rent	750
Software	5,000
Hardware	2,250
Development Licenses	100
Domains/Servers	1,000
Total Start-up Expenses	9,350
Start-up Assets	
Cash Required	33,600
Other Current Assets	5,000
Long-term Assets	0
Total Assets	38,600
Total Requirements	**47,950**

Source: Own calculations

2.21.2 Company Ownership

Modra Jagoda is a limited liability corporation owned equally by its six founders. The Company was established on December 12, 2011. Each founder within the company invested a total of €1,500 to register and open the company with AJPES, Agency of the Republic of Slovenia for Public Legal Records and Related Services (*Agencija Republike Slovenije za javnopravne evidence in storitve*, hereinafter: AJPES). The total amount

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required to register and open a company of this kind is €7,500. This makes each cofounder a 20% owner of Modra Jagoda.

31.3 Company Products and Services

3.11.3.1 Products

3.1.11.3.1.1 Register Zdravil

As the number of available drugs rises steadily and their therapeutic indications or dosages change rapidly, it is increasingly difficult for a physician to keep track of this information in his or her busy schedule. He or she might look up the information on the Internet or in a manual but it would be quicker and handier if the information would be readily available on his or her smartphones. Studies show that 80% of US and 69% of EU (Jackson & Coker Research Associates, 2011) doctors already use smartphones at work and this number will continue to rise in the future. This growing platform therefore provides an excellent opportunity to provide a solution for physicians.

Register Zdravil (*Drug Registry*) allows the physician to quickly find a drug by searching the database by proprietary name, active ingredient or anatomic therapeutic chemical (hereinafter: ATC) ATC classification, or scrolling through the list of all available drugs. When a drug is selected, the user is presented with detailed drug information including basic information, ATC anatomic therapeutic chemical (ATC) classification, and information from the summary of product characteristic (hereinafter: SmPC) files. The application gives the physician all the required information needed in daily practice.

It is important to note that the user doesn'tdoes not need an active Internet connection for the general use of the application. Internet access is only needed required in two cases: for updating the application, and if the user wants to look for looking up additional information about a specific drug.

Besides the obvious discussed benefits to physicians, the application also has a lot to offeris also valuable to advertisers. The core benefit of our the application for advertisers is the more increased cost-effectiveness of advertising activities,, i.e. reaching more physicians in a shorter period than conventional advertising. Due to tighter state regulationregulation, it is increasingly more more difficult for a pharmaceutical representatives to gain direct access to doctors. AlsoIn addition, the making of promotional materials every time a new drug is introduced on the market incurs significant costs. when a new drug arrives on the market a lot of promotional material is made, which adds up to considerable costs. With dedicated advertisement space in our applicationthe application, it would be possible to tackle advertisers are presented with a single solution for both challenges with a single solution. The message displayed in the advertisement space would

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be seen by a large number of doctors, including those that may be harder to reach by pharmaceutical representatives. It is also possible for the user to get in touch with the pharmaceutical company, e.g. to request information about the drugs. ~~This is done either~~This can be done through a form in the application, or through a click on the ~~advertisement~~advertisement ~~that~~ tak~~ing~~es the user to a web page with the form.

The application allows anonymous collection of usage data. Besides basic information such as the number of users per country and the application usage time, it is also possible to view the most frequently viewed drugs or other parameters ~~critical for your business~~important to advertisers. With this, it would be possible to conduct market research and assess the success of a particular marketing campaign, e.g. compare the number of views for a drug before and after the campaign.

Register Zdravil has achieved success with the healthcare public, and ~~has been a resounding success with the public~~currently ~~, with~~has more than 10,000 downloads on Android and iOS, and 3,500 registered medical professionals. The reviews on the respective app stores have been very ~~overwhelmingly~~ positive, with more than a hundred 4- and 5-star reviews. ~~It is also heavily used in the professionals' daily practice~~Healthcare professionals~~,~~ use the mobile applications more ~~we have more~~ than a ~~a~~ 1,000 ~~daily launches of the application~~times per day. To date~~,~~ there have been more ~~with more~~ than 260,000 launches since ~~its~~ the release in the end of August 2012.

Success with advertisers has ~~come at a slower pace~~been more conservative. ~~From the onset, we~~ The number of advertisements that will be shown to users is ~~have capped~~ limited ~~the number of ads that will be shown to the user at~~ to five, so that every advertisement ~~would be~~ is shown for a sufficient amount of time. ~~We have sold the first ad~~The first ad was sold to Roche in December 2012, the second and third ads to Eli Lilly in March 2013, and the fourth ad to Bayer in June 2013. ~~We are in the process of selling the remaining ad, and have~~ The Company has had multiple meetings with different pharmaceutical companies in order to sell the last advertisement spot.

Communicating with healthcare professionals through mobile advertising is much faster and with better reach than conventional marketing as the message updates for all users at the same time and enables a more cost-effective way of delivering promotional material. The application also gives advertisers an edge over the competition by providing a new and exclusive channel for e-marketing. ~~And~~Moreover, it offers the physicians the information they want, in the language they need~~language they want~~, making ~~our~~ Register Zdravil ~~application~~ the most useful tool for this purpose available today.

3.1.21.3.1.2 RheumaHelper

During the past decade, advances in understanding of ~~rheumatological~~rheumatologic diseases have led to the insight that early diagnosis and early, aggressive treatment insured better short- and long-term outcomes for the patients. The European League Against Rheumatism (hereinafter: EULAR) and the American College of Rheumatology (hereinafter: ACR), the most influential associations of rheumatologists, provide rheumatologists with recommendations for classification, assessing activity, and treatment of rheumatologic diseases.

An up-to-date rheumatologist is expected to apply an ever-growing multitude of the recommended classification criteria, patient reported questionnaires, and composite disease activity scores several times during his or her working day. The classification criteria usually contain a long list of items that are easily forgotten, while the disease activity scores are often calculated using complex formulas that make them difficult to apply without specialized calculators. The solutions available thus far often come at the expense of mobility (access to a personal computer is required) or take up valuable pocket space (in case of dedicated calculators, pocket reference booklets, etc.)

A smartphone app is the logical solution to this problem. Although several medical calculators are already available for iOS and Android based devices, the availability of rheumatology-specific tools is extremely limited and fragmented. The objective of this application is to provide the informed rheumatologist with a smartphone app containing a complete set of tools to help him or her make educated decisions in the daily clinical practice. The initial version of the app includes the interactive classification criteria and disease activity score calculators that are ~~most~~ frequently used by rheumatologists.

Upon the application launch, the user is presented with two lists containing the classifications and disease activities available in the application. When the user taps on the desired function, he is presented with the specific information he needs to enter about his patient. After entering all pertinent information, the application calculates the outcome using referenced equations from leading rheumatologic research. All references and explanations of the formulas are available to the doctor inside the app.

RheumaHelper was made in collaboration with rheumatologists Matija Tomšič, M.D. and Žiga Rotar, M.D., who provided professional direction and support for the application, as well as extensive testing in real-world situations. Dr. Tomšič has also leveraged his professional connections at Abbott Laboratories, a pharmaceutical company, to make the initial contacts that had ~~lead~~led to the eventual sponsorship of the app. Abbott Laboratories agreed to pay for a one-time fee for the development of the application, as well as per-country annual license and support fees. ~~At the moment~~To date, RheumaHelper has more

than 1,000 downloads on iOS and Android, with more than 7,000 ~~launches of the application~~application launches[1] across the world.

~~3.1.3~~1.3.1.3   WellWithMe and Jog of War

In late 2012, ~~we learned of and decided to~~the Company attend~~ed~~ a code-a-thon in Berlin, organized by Health 2.0, and sponsored by Aetna International, a major U.S.-based health insurance company. Divided into two teams, ~~we~~ the different projects took the 1st and 2nd place at the competition. Jog of War and WellWithMe are the applications that came out from that competition.

With healthcare costs spiraling out of control and healthcare systems facing growing uncertainty, there ~~couldn't~~could not be a better time for innovation in the healthcare system. WellWithMe is a new and fun way for anyone to live a healthy more balanced life with the encouragement and participation of friends. The iOS and Android application seeks to educate and promote preventative health through three daily activities.

WellWithMe is unique in that it is designed as a delivery system; instead of being a standalone solution, the WellWithMe app enables users to connect with the real world in a clear, easy-to-use way. You can join your friends, accept your friends' invitations, and get a group together to work collaboratively every day to improve your health. As you and your friends complete challenges you can see status-updates, share photos, and check your progress. Friends will help each other make real behavioral changes.

Each day the user may select one activity from three different categories: move, eat, or grow. The activities aim to improve wellness with physical activity, nutritional, social and mental well-being challenges. After selecting the activity, the user is presented with a screen designed to track her progress: if the activity is to walk 3 kilometers, the view will show how much is left until the activity is done, etc. At the end of the activity, the user is encouraged to take a photo of herself and share it with her *Facebook* friends using the application. A stream of all the friends' activities is available, along with all shared images; the user can "like" any of the images by double tapping it.

WellWithMe ~~is unique in that it is designed as a delivery system; instead of being a standalone solution, the WellWithMe app enables users to connect with the real world in a clear, easy-to-use way. You can join your friends, accept your friends' invitations, and get~~

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[1] A **download** signifies a one-time event of a single user downloading (or purchasing) an application. If the user deletes the app and installs it again, or installs it on another device, it does not count as another download. An **application launch** or a **session** signifies that the user tapped on the application icon on his smartphone and started using the app. Upon exiting the application, the session ends. The next time the user starts the app, it counts as a new session: a single user usually uses the app multiple times, therefore the number of sessions is always higher than the number of downloads.

~~a group together to work collaboratively every day to improve your health. As you and your friends complete challenges you can see status updates, share photos, and check your progress. Friends will help each other make real behavioral changes.~~

~~We~~Modra Jagoda ~~partnered~~collaborated with the code-a-thon sponsor, Aetna International, to finish WellWithMe and publish it for iOS and Android. Aetna was willing to sponsor the app for the first few months. ~~We released~~ WellWithMe v1.0 was released on ~~January~~January 29, 2013 ~~29th~~. The app had lukewarm reception, and ~~we~~ the Company ha~~ve~~s since worked on a v1.1 release that fixes many of the incorrect assumptions and quirks of the original version.

Jog of War won the first place at the competition. It is a competitive location-based game where you compete on a global scale by jogging and conquering the virtual world territory. It is based on combining jogging and the concept of fog of war in strategy games, where you start out with a dark (foggy) map and ~~you have no idea what's~~what is ~~waiting for you in the darkness, but if you move your unit into it,~~as you move around the terrain (i.e. the map) ~~will~~ slowly reveals ~~itself~~itself ~~as the unknown becomes known~~.

In Jog of War, the player wins points (or squares) by jogging. The whole world is divided into 20m x 20m squares, and "stepping" on one gives you a point. However, if another player steps on your territory, he steals it, getting 2 points. You can also have defended squares by conquering the four adjacent squares to any square. Defended squares cannot be stolen before at least one of the adjacent squares is conquered first. This multiplayer experience motivates the player to run more often, in order to defend and expand his territory.

On the start of the application, the user can see a map of his surroundings, his position on the map, as well as his current number of squares. When he starts a new jog, the map updates in real-time as the user runs with new conquered squares. He can also see the amount of time he is running and the distance ran. After the user finishes his run, the application calculates the new number of points and the change in the global leaderboard, if any.

Development on Jog of War has started, and is currently in a playable, albeit unfinished state. It certainly shows promise — the first place in the competition and subsequent interest in the early beta for the application is encouraging. ~~We~~ The Company ~~are~~ is also ~~in~~ nego~~tiation~~tiating~~s~~ with Aetna International for a sponsorship during the first months of its release, similar to the WellWithMe deal.

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Pripomba [MJ26]: on the 29th of January ili on January 29, ama ne January 29th

Pripomba [MD27]: I appreciate the thoroughness of your description, however, it is important to be consistent too: you did not describe contents and structure of other applications

3.1.41.3.2 Web maintenanceServices

Except Apart from our products, which we explained in detail, we Modra Jagoda also offers service workservices in the form of web maintenance, mostly for companies with existing websites who do no't have the in-house know how competencies to add new or edit existing content, or want to do small changes to the way their web page worrkspresence. We bill The web maintenance work is billed by an hourly rate.

42 MARKET ANALYSIS

4.12.1 Industry Analysis

4.1.12.1.1 App eEconomy

The term "app" was popularized in the sense we understand it today after the introduction of the iPhone in 2007. Today, there are upwards of one1 million available apps for operating systems such as Apple's iOS, Google's Android, Microsoft's Windows Phone, BlackBerry, and others. Smartphones, tablets and the accompanying apps that run on them have been, and still are, the center of attention of the tech media.

Except Besides the total number of available apps, a second important metric is revenue. According to one estimateAppnation and Rubinson Partners, Inc. (2011), the app economy in the US alone was worth almost US$ 20 billion in 2011, with a forecasted growth to nearlyand forecasted to grow to US$ 80 billion in 2015 (Appnation and Rubinson Partners, Inc., 2011). This number is calculated using information about app purchases, in-app purchases, sales of physical goods and services, sales of virtual goods and in-app advertising.

According to a much-publicized 2012 study by Mendel (2012, pp. 1-2), the development of apps is now responsible for creating roughly 466,000 jobs in the US (Mendel, 2012). This number incorporates non-tech functions such as marketing, sales and human resources along with computer engineers and developers.

However, for every success story the media reports, there are many more stories of failure that go on unreported. A recent poll of iOS developers points out that the revenues from the App Store are concentrated in the top 20% of developers, who which are responsible for 97% of all revenues (Goss, 2011). TStill, this report includes only is connected with revenues that developers get directly from selling on the app stores. and It does no't take into account other revenues, like service, advertising fees, or investments.

The popularity of mobile applications has brought on more and more developers to these platforms. Developing mobile applications was a niche until 2008What until 2008 was a

niche (developing-wise), but now is ~~has suddenly bloomed into~~ one of the most-popular developing disciplines. The *TIOBE Index,* which measures the popularity of programming languages, ~~has~~ranks Objective-C (the language used for iPhone/iPad apps) ~~on~~in the third place, ~~up~~ an increase of 39 places since May 2008 (TIOBE Software, 2013).

With more than one million apps available to consumers, the App Store and the Google Play Market are very competitive. Searching for a popular app category like "weather"[2] returns more than 2,200 search results, most of them free. Because of the large number of apps within a single category, the average price decreases. This is also shown in a recent four-year study of 350,000 applications by Flurry Analytics, which shows that the number of free applications increased from 80% in 2011 to 90% in 2013, while the average price of an application is between US$ 0.06 for an Android app and US$ 0.50 for an iPad app (Gordon, 2013). Another compelling data point is the break-down of App Store's top grossing chart[3]: from the first 50 applications on the chart, only three are paid apps, the rest are "freemium" – i.e. they are free to download, but have in-app purchases to unlock advanced features or to acquire virtual currency.

4.1.22.1.2   mHealth ~~m~~Market ~~o~~Overview

There are strong indicators that the mHealth market is getting a lot ~~To get a sense of why the mHealth market is getting a lot~~ of attention from consumers, doctors, companies, and government institutions~~, we would like to point out some factors we believe are strong influencers~~. ~~f~~First, mobile devices ~~are proving to be able to go to places~~are widespread even in geographical areas where wired telecommunications, transportation systems, or even water supply are ~~no~~'t developed. A ~~2010~~ report by the International Telecommunications Union (2010, pp. 1-2)~~(ITU)~~, states that more than 70% of the world's 5.3 billion mobile subscribers are in the developing world, which is the fastest growing part of the mobile market ~~(International Telecommunications Union, 2010)~~. Though mobile devices cannot provide additional doctors or drugs, they can provide much-needed information to the ~~people who are in the field~~scarce number of healthcare professionals who work in these areas (Qiang, Yamamichi, Hausman, & Altman, 2011, pp. 11-12).

Second, healthcare professionals have taken a lot of interest into smartphones and tablet devices, and are already using them in their workplaces. It is estimated that more than 81% of doctors in the US and 69% of doctors in the EU now own a smartphone or tablet device (Jackson & Coker Research Associates, 2011). Most of them use the devices to access non-protected health information, like clinical guidelines, and view patient information, like lab results or digital images. More than half of doctors also use apps for educational or training

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[2] Search performed in the App Store mobile application on 1 October 2013 for the keyword "weather"

[3] Top grossing chart for the U.S. App Store, as of 1 October 2013, 8.30 PM.

purposes and receiving clinical notifications (Healthcare Information and Management Systems Society, 2011, pp. 3-4).

Spremenjene kode polj

Third, consumers are equally enthusiastic about using new mHealth services. The three most cited reasons of using mHealth apps and services by patients ~~are:~~are: more convenient access to their doctor or health care provider (46%), reduction of their healthcare-related costs (43%), and taking greater control over their health (32%). Furthermore, consumers expect that in the next three years mHealth will improve the convenience, cost and quality of healthcare services. Fifty-nine percent~~59%~~ of patients in the developing markets report using at least one mHealth app, compared to 35% in the developed world (PricewaterhouseCoopers, 2012).

Spremenjene kode polj

Fourth, governments have shown genuine interest in modernizing their healthcare systems. A ~~2011~~ survey by ~~the World Health Organization (~~WHO (2011, p. 9)~~)~~ found that 83% of its 112 member states have reported at least one mHealth initiative, and ~~of those,~~ most of those 83%~~them~~ reported implementing four or more types of initiatives ~~(World Health Organization, 2011)~~. Additionally, the US federal government has introduced the Meaningful Use program that encourages medical providers to make the transition to electronic medical records (EMRs) offering a one-time subvention of up to US$ 63,750 (Practice Fusion, 2012).

Spremenjene kode polj

~~4.1.3~~2.1.3 Areas of the mHealth ~~M~~Market

The mHealth market is split into eight general areas, each one of them facing its own set of challenges and opportunities (mobileStorm Inc., 2011, pp. 6-14).

Spremenjene kode polj

- **General monitoring.** Traditionally, patient monitoring revolves around glucose monitoring for diabetes patients, blood pressure monitoring, etc. However, these monitoring systems are usually closed — they are meant to inform the patient, but not his doctor. The first wave of mHealth general monitoring tools are able to communicate via wireless technologies to a central monitoring location which stores the data and makes it available to the patient's doctor.
- **Personal Emergency Response Systems (PERS).** With the increasing capability of phones, PERS systems can monitor the patient's location, track his or her~~s~~ movements to alert for possible falls and even send basic biometric data.
- **Telemedicine.** Broadly defined as "transferring medical information through interactive audiovisual media~~",~~," telemedicine usually refers to sending medical data to a consulting physician or specialist, and real-time communication between doctors and patients, often when such expertise ~~isn't~~is not available locally. As mobile technology and connectivity get better, ~~so do~~ the options for remote consultations improve.
- **Mobile medical equipment.** Though mobile medical devices today are mostly used in rural or underdeveloped areas where access to advanced diagnostic equipment is

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limited, with mobile devices becoming more powerful, it is conceivable that they will become a ubiquitous primary diagnostic tool.

- **RFID tracking.** Used for asset management and organization across industries, RFID implementation in hospitals is not widespread, but is slowly growing as costs decrease and understanding of the technology improves.

- **Secure mobile messaging.** Medical communication with patients through a technology they already understand and use daily is seen as a perfect starting off point for the introduction of diverse mHealth services. However, doing this in a secure manner is easier said than done. While now SMS communication typically ends with reminders about appointments and finished lab results, the patient still has to go physically go to the hospital to get them in person. Secure messaging would enable doctors to send results and prescriptions to their patients remotely, greatly increasing the patient convenience and decreasing costs for hospitals.

- **Electronic Medical Records (EMRs).** As we already mentioned, currently, EMR usage is at the moment encouraged with subventions by the US federal government, but adoption is still low. A survey by the New England Journal of Medicine in 2009 found that only 1,.5% of US hospitals have a comprehensive EMR system (all clinical units of a hospital), and 7,.6% have a basic EMR system (at least one clinical unit) (Jha, et al., 2009)[quote this?]. Among the barriers of widespread adoption are strict security regulations and low interoperability of different EMR systems.

- **Health and fitness software.** Building on widely available smartphones and tablets, health and fitness related apps can be an excellent way of to bringing mHealth in front ofto millions of consumers and spurring them to demand similar services from their healthcare providers. Apps range from those that encourage the user to be more active, through apps that connect with outside devices such as glucose monitors through Bluetooth, to apps that provide a gateway to a patient's personal health records.

4.1.42.1.4   Size and gGrowth of the mHealth mMarket

In assessing how the profitability of any market, the category size and category growth are the two basic, but nonetheless important, pieces of information. The category size (how many people want to use a certain type of product) and the category growth (how much the demand is increasing over time) are oftentimes illustrated together with the product life cycle curve.

The product life cycle curve (illustrated in Figure 2) is usually assumed to be in an S-shape, with four4 distinct phases (Lehmann & Winer, 2008, pp. 64-66):

- Introduction (small size / low growth),
- Growth (moderate size / high growth),
- Maturity (large size / low growth), and
- Decline (moderate size / negative growth).

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Spremenjene kode polj

Spremenjene kode polj

There is not a "right" time to enter an industry, at least not at the moment when you are deciding on the issue. Entering a growing product category means there is a market for the product, which inevitably leads to the market entry of additional competitors. Product categories may also have large barriers to entry, so even if they are new and growing, they are extremely difficult to enter. That is the case of the mobile telecommunications industry, where a new entrant would need massive investments to purchase, among other things, wireless spectrum from the regulatory body, data centers for handling the call data, base stations for phones to connect to the network, and so on. This cycle is illustrated in the following image:

Figure 2. Product Life-cycle Curve
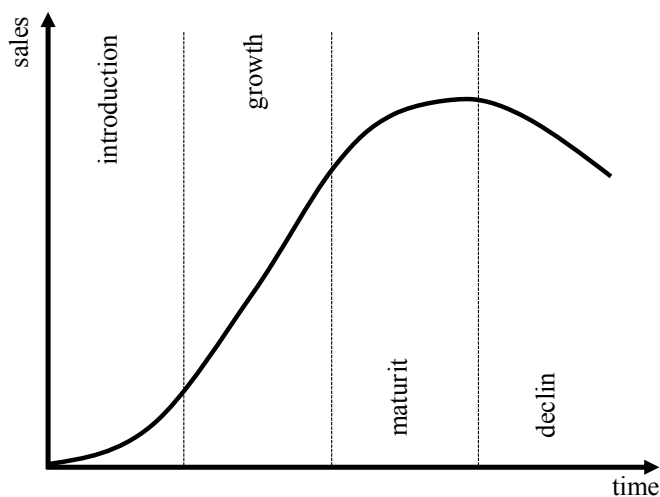
Source: Adapted from Lehmann and Winer (2008, p.65)

Figure 33: Product life-cycle curve
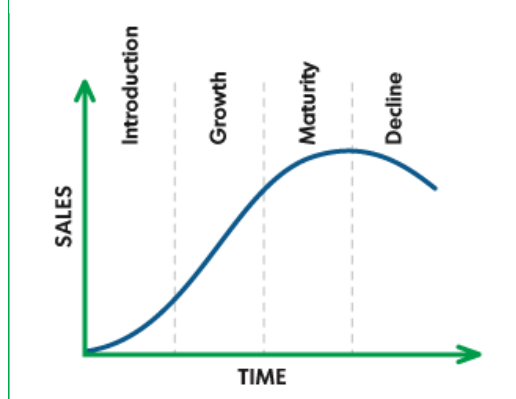
Source: Lehmann & Winer (2008)

Entering a product category in its introduction phase bears the risk of uncertainty if the market will ever grow enough to ~~recuperate~~ recoup your investments, but it also means that you will have a customer base and an existing product if it does. ~~The sole fact that you were first, or among the first, to enter~~First mover advantage in the market ~~doesn't~~does not guarantee that ~~aone's~~your company ~~and/~~or a ~~your~~ product will be successful later on, ~~when~~ once the competition catches up. Th~~is is especially true~~ere are examples of this in the software world, where in ~~the course of a few~~several years the ~~dominant product~~ market incumbent ~~all but ceases to exist at the expense of a newcomer~~loses its leading position to new entrants. Microsoft Office today still ~~reigns supreme~~ has a leading market-share in the computer productivity category~~., to the point that Microsoft successfully primed people to equate working on a computer with having Office installed on it.~~ S~~S~~imilar~~ly, is the story with~~ Internet Explorer~~, which~~ took over the browser market from the incumbents in the course of 6 years, from 1995-2001~~, completely destroyed other browsers~~.

Entering a market at any given time does ~~n~~o~~'~~t necessarily make or break a company or its products by itself, and must be taken only as an indicator for the overall attractiveness of the market. The market metrics, such as size and growth, along with~~ a~~ structural and environmental market analys~~ei~~s ~~of the market~~ gives a ~~fuller picture~~better cognizance of the market situation upon which a company may base its decisions.

In our analysis of the mHealth market, we were looking at two metrics that we think best describe~~s~~ its current state: the number of apps in the "Medical" and "Health and Fitness" categories in the App Store and the amount of investments in mHealth. Both metrics are presented in the figure below.

Both the number of available medical and health applications and the investments in the mHealth field are growing at a steady pace. The fact is that healthcare professionals, consumers, businesses in the healthcare industry, and governments are just now starting to discover the potential of mHealth. This supports the idea that this category will continue to grow, at least in the mid-term (next 3-5 years).

In calculating the size of the market there are two important variables~~ are important~~: TAM, which in the case of smartphone mHealth applications is all the people who have a smartphone; and SAM, which is the number of people with smartphones who are interested or want to use mHealth applications (Blank & Dorf, 2012, pp. 34-35).

Figure 3. Number of Medical and Healthcare/Fitness Apps (left axis) and Amount of Funding Received (right axis, in millions of US$)
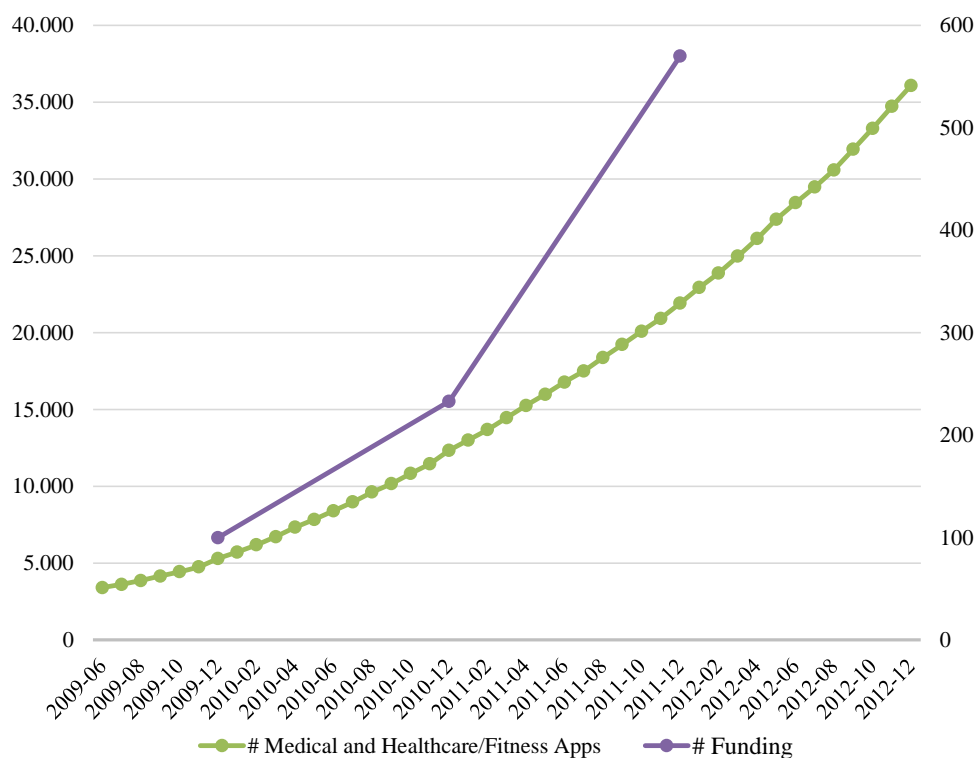
Source: Strategy Analytics (2012), Ovum (2012)

Industry data indicates that there were 708M 708 million smartphone users at the end of 2011, and that number came to a little increased to more than 1 billionB at the end of 2012 (BusinessWire, 2012), on shipments of 610 millionM smartphones in 2012 (Ovum, 2012). We calculated the retention rate to be at 80% (meaning 20% of smartphones are discarded every year). Furthermore, current forecasts indicate a compound annual growth rate for smartphone shipments at 25% for the next 5 years (Ovum, 2012). These numbers give us the number of smartphone users, or TAM.

On the other hand, we already mentioned a study by PricewaterhouseCoopers, in which 59% of smartphone users in the developing countries report using at least one mHealth app, compared to 35% of users in developed countries (PricewaterhouseCoopers, 2012). We have to take into account that, now, a much larger percentage of smartphone shipments go in developed countries then in developing ones, and adjust our numbers accordingly. Using data from NPD Group, we estimate that around 80% of smartphone shipments currently go to developed countries (PRWeb, 2012). The current and forecasted TAM and SAM are illustrated in Figure 4:

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Figure 44. TAM and SAM

	2011	2012	2013	2014	2015	2016
■ TAM	708	1028	1395	1830	2354	2993
■ SAM	282	409	555	728	937	1191
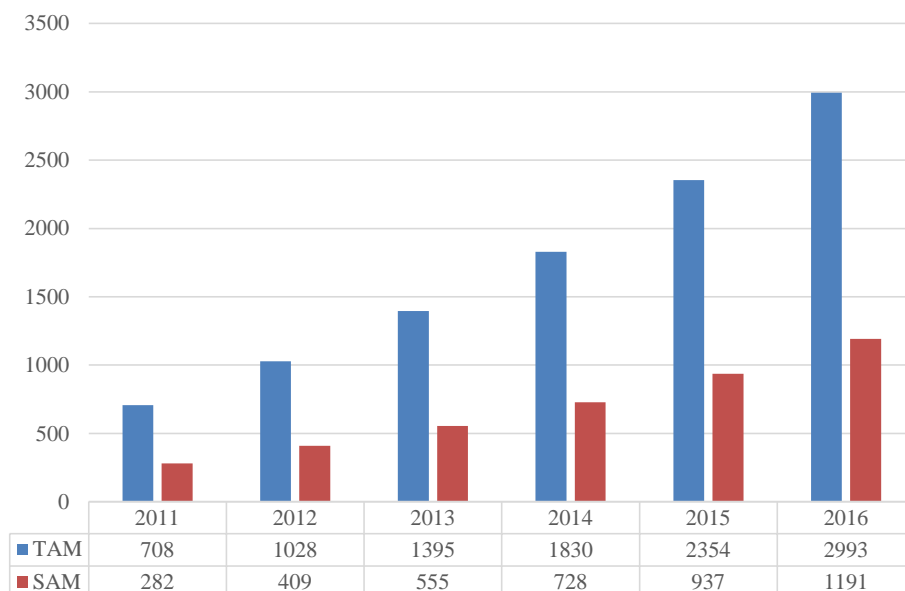
Sources: Strategy Analytics (2012), Ovum (2012), PricewaterhouseCoopers (2012), comScore (2012), PRWeb (2012), and own calculations

Currently, we estimate the SAM for mHealth applications at around 410 million~~M~~ users, a number that will grow by 150 million~~M~~ users ~~only~~ in 2013 and to 1 billion~~B~~ total users by the end of 2016. ~~We need to note, however, that we keep the~~We assume that the percentage~~s~~ of ~~users who would use~~ smartphone users who are interested in using mHealth software will remain constant~~, it is reasonable to suppose the number of potential users will increase as well~~.

~~4.1.5~~2.1.5 Category factors

Information about the structure of the industry is oftentimes analyzed through the ~~"~~"five competitive forces~~"~~" model, which Porter developed in 1979, and updated in 2008. In this model, Porter describes five factors that determine the competitiveness of a certain industry, and by that measures its attractiveness (Porter, 2008, pp. 25-39).

Threat of new entrants. New entries into the market increase the competition in it and are beneficial to consumers, but detrimental to companies already in the market. Additional competitors tend to diminish the profit margins for everyone, and incumbents seldom look forward to them. Entrants come into the industry if the aggregate factors we described in the previous section are attractive, and repelled if there are significant barriers to entry. Barriers to entry are the existence of economies of scale, when the products on the market are well differentiated, when significant capital requirements exist, when there are large

switching costs for the consumer, or when a competitor has a better distribution channel, among others.

Since ~~we're~~the discussion in this thesis is about software, some of these barriers ~~don't~~do not have the same meaning as when discussing physical products. For example, if we consider economies of scale in the software world, what exactly should we measure? There are no raw materials needed for production, and it is a mostly labor-intensive activity. If you need more code written, usually that means you need to have more engineers to write it, or it will take longer. What does matter is how experienced the engineers are: experienced engineers usually write better code, have more knowledge about problem solving from their ~~precious~~previous projects, and know where problems can crop up and do fixes proactively. Talent acquisition and retention is one of the biggest barriers of entry.

In a young category such as this, there are no²t many established brands, though this also depends on the market. For example, Epocrates dominates the US drug registry application market, with more than 50% market share (Epocrates, 2012). A new entrant would have problems gaining a significant amount of users, unless it delivers a superior experience.

This brings us to switching costs — while the category is in its growth phase, most of the solutions focus on the "low-hanging fruit," that is to say, the easier problems, in order to acquire initial data about the market without spending significant resources. However, these apps start out as simple information portals, helper apps, etc., which do not do much to tie the user to that particular app. If another solution appears in the future, the switching costs for users would be minimal. It is very important for the incumbent companies to add as much switching costs as possible in order to tie-in the users. Switching costs ~~aren't~~are not high, except in cases where there is no easy way to export large amounts of data (such as patient records) or in cases where there is a network effect (when the usability of a certain piece of software depends on the amount of people using it).

Capital requirements are relatively low, since there is no need to establish neither manufacturing facilities nor store locations. If the team is able to work remotely, then even establishing an office ~~isn't~~is not necessary. Capital is needed for employing engineers and healthcare professionals, at least in a consulting role.

Distribution is dependent on the app stores, primarily the iOS App Store and Google's Play Market, and is universal for all competitors in this space. It is possible to achieve an advantage by being available for all platforms (such as Windows Phone and Blackberry 10), but since iOS and Android occupy more than 80% of the smartphone market, a small number of companies take that route.

The barriers of entry to the industry ~~aren't~~are not significant in the moment. Indeed, the best source of competitive advantage is having better talent and more expertise. For

example, even though one of our products, Register Zdravil (*Drug Registry*), uses publicly available data, this data is compiled from several sources and provides a complete package that is not easily replicable by our potential competitors. We will discuss more about this point later on.

Bargaining power of buyers. ~~There are~~ The company can be targeting several distinct sets of buyers ~~we can be targeting~~, depending on the sales strategy. If ~~we offer our products~~the products are offered for sale on the respective app markets, the ~~our~~ buyers are the medical professionals who purchase our applications. ~~If we make our~~ If the products are ~~products~~ available free of charge ~~for free~~ on the app markets and ~~choose to monetize them~~ are monetized through in-app advertisements or selling usage statistics, ~~our~~the buyers are ~~our~~ the advertisers, mainly pharmaceutical companies. ~~We~~There is also the possibility of doing ~~can also do~~ direct contractual work for medical companies, making a branded app for a fixed fee. Each of these has its own specifics.

Offering a product directly to medical professionals yields the least bargaining power to them. Because of the nature of the distribution, the price is equal for everyone, there are a great number of buyers, and they are not organized in any way. However, medical information is sometimes very specific to a country, so selling a product directly makes more financial sense in big markets such as the US or Germany as opposed to small markets like Slovenia.

The next option is to release a product free of charge, and monetize it from advertising~~The next option is releasing a product for free, and monetize from advertising~~ or ~~certain~~ selling usage statistics that are interesting for other companies. While the bargaining power of the buyers is higher since the number of potential buyers is small~~,~~; pharmaceutical companies are limited in the ways they can market drugs to medical professionals.

Finally, a company can work directly for a client who is interested in making an application. From the point of buyer bargaining ~~power~~power, this route has the most difficulties~~,~~, since~~there are a lot of~~many competitors ~~who can~~ offer similar service~~s~~, and customers can readily obtain information on competitors' prices. Make note that while programming services by themselves are plentiful and seemingly undifferentiated, there are differences in the quality of the ~~end product~~product.

Bargaining power of suppliers. Since building mHealth software ~~doesn't~~does not require any inputs other than freely available (albeit sometimes hard to find and difficult to compile) information, there are no suppliers to be concerned with.

Category rivalry. We already mentioned some of the things that lead to intense competition, namely growth of the industry and fixed costs. The high growth and the fact that it is still a young market, lead to lower category rivalry, as companies ~~don't~~do not have

Pripomba [MJ41]: Ili "We can be targeting several distinct sets of buyers,…"

Pripomba [MJ42]: Da ne mislish: The next option is to release a product free of charge, and monetize it from advertising…

to grow on the expense of the competition. Additionally, though most of the costs in companies in this area are fixed, they are not ~~really substantial~~substantial.

Pressure from substitutes. Not all parts of the mHealth industry have the same level of pressure from substitutes. Some types of apps, like fitness apps, have a lot of competition. Nike has entered this segment with its own apps, and even its own hardware, the Nike Fuel band, which makes it easier to track how active you were through the day. The band connects to your iPhone to show you live data, and enables you to compete with your friends by scoring Fuel points. Other apps use similar game mechanics or try to achieve a network effect by having your friends in the app as well.

There are two ways to minimize the pressure from substitutes: localized apps, and specialty apps. Localization is a very powerful tool since some medical information is inherently local to a country. For example, ~~our product,~~ Register Zdravil has the complete list of drugs available for sale in Slovenia. Each country has its own list of drugs, ~~since~~ because ~~drugs~~ they have different ~~names,~~names, ~~they~~ are ~~differently~~ categorized differently, etc. Another of ~~our~~ the Company's products, RheumaHelper is a helper app for rheumatologists. Since there are only a small number of rheumatologists worldwide (Slovenia has around 20), we were able to be the first who offer such an application.

Table 2. Summary of the Five Competitive Forces Analysis

Competitive forces	Positive / Negative influence
Threat of new entrants	−
Bargaining power of buyers	+
Bargaining power of suppliers	+ +
Category rivalry	+
Pressure from substitutes	−

The analysis of the mHealth industry shows that potential problems might arise from new entrants in this field, since the barriers to entry are relatively low, and that there clearly is pressure from substitutes – especially if the product is basic and does not offer additional features that would "lock-in" the user. However, the buyers' and suppliers' bargaining power is low or non-existent, and industry rivalry is still low, since the market is not saturated at this point in time.

~~4.1.6~~2.1.6 Environmental analysis

Environmental factors pertain to the changes in the external environment of ~~the~~ a company, something that ~~the~~ a company itself cannot influence, but is influenced by. These macro-factors are commonly analyzed with the PEST framework, which looks into Political, ~~Economical~~Economic, Social and Technological factors that can affect the industry.

Political factors. Political factors are connected with the political stability, legal and regulatory frameworks, intellectual property protection, anti-trust regulations, pricing laws, taxation and wage laws, etc. Healthcare is one of the most heavily regulated industries, and ~~we'll~~we will primarily discuss how regulations affect developing health and~~&~~ medical apps.

In the European Union, the primary source of regulation for healthcare applications is the Medical Device Directive 93/42/EEC (European Council, 1993). Even though "medical device" sounds as though it involves actual hardware products, the exact wording of the document is "any instrument, apparatus, appliance, software, material, or other article" (European Council, 1993, p. 5). Applications classified as medical devices must pass conformity assessment procedures that, depending on the Class of the device, span from a self-declaration of conformity to onerous conformity procedures and ISO-standards audits (Medicines and Healthcare products Regulatory Agency, 2008).

The UK Medical and Healthcare ~~p~~Products Regulatory Agency has better defined the types of applications that shall be viewed as medical devices. Applications that provide access to already existing information in order to help a healthcare professional make a clinical decision, or record archival and retrieval systems (such as electronic health records) **do not** constitute medical devices. However, if a device interprets, interpolates, or performs calculations on data that the healthcare professional does not or cannot review, it is most certainly a medical device (Devices 4 Limited, 2012, pp. 13-15).

At the moment, our healthcare products (Register Zdravil and RheumaHelper) are outside the definition ~~for~~of a medical device. However, it is very important to continually monitor the relevant regulatory frameworks when developing new products or adding functionality to existing ones. Since mHealth is such a young industry, we are expecting that regulation in this field will become clearer and easier to follow.

Economic factors. The economic factors which have the greatest influence for us is the comparative advantages of the host country (country of operation), the skill level of the workforce and the labor costs. We have already mentioned in the previous section that talent acquisition and retention is among the biggest barriers to entry. Acquisition and retention of talent generally comes from two sources. One source is the founding team itself, and the other source is the jobs market. ~~We'll~~We will cover the founding team in another chapter of this thesis.

It is difficult for young and small companies to attract talent, because talent ~~isn't~~is not plentiful and ~~there's~~there is always demand for it. Small companies usually contend with big companies by giving their first employees stock options, as well as some other benefits like free food and drinks, company trips, or a coffee shop allowance.

Social factors. Changes in the social fabric of the society have a major role in the creation of new products, or the market success of existing ones. The advent of the Internet, and e-commerce sites with it, has allowed customers from all over the world to look for products, compare prices, be better informed about competing products, and order the items to be delivered to their doorstep. Sites like Etsy[4] have allowed small artisans to sell their items to anyone in the world and make a living that ~~wouldn't~~would not be possible otherwise. Sites like Kickstarter[5] have enabled people to test their ideas by asking future customers to pre-purchase their product, be it a computer game or solo album.

Consumers are always striving to decrease costs, increase convenience, and improve the quality of a certain product or service they are using. The same applies for healthcare services, and even more so when they are intrinsically linked to one's welfare. We are able to get specialized information on thousands upon thousands of topics in mere minutes, and anywhere in the world, so why ~~shouldn't~~should not we expect the same to be applicable to our healthcare records, and other health data?

As we already mentioned, many people have posed that question to themselves. Participants in a poll conducted for PricewaterhouseCoopers Global Healthcare (2012) expect mHealth to improve access, quality, convenience, and decrease costs in the next two to three years. The top three reasons for using mHealth are cited to be "convenient access to their doctor or healthcare provider (46 percent), to reduce out-of-pocket healthcare costs (43 percent) and to take greater control over their health (32 percent)".

Modern medicine enables people to live longer and better. As the baby-boomer generation (those born 1945-1964) slowly goes in retirement, the strain on healthcare systems will undoubtedly grow, and so will the pressure to make them more efficient. In our opinion, the social factors are very positively predisposed towards the future health of mHealth.

Technological factors. Technological factors pertain to the amount of technological change, or innovation, in a particular industry. Industries that are strong in innovation of new products and/or services are more attractive, since companies must continually invest in innovation. On the other hand, to succeed in industries in which the technological pace is slower, you need to have quality marketing activities with appropriate budgets (Blythe & Megicks, 2010, p. 88).

Mobile health, in the scope that ~~we're~~we are discussing in this thesis, is a child of recent technological progress~~;~~ that does not show signs of stopping in the near future. To argue that point, we need to look at the smartphone market, because mHealth is inextricably

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[4] http://www.etsy.com
[5] http://www.kickstarter.com

linked to smartphones, and because smartphones hold the promise of ubiquitous access to powerful processing devices for all people.

The concept of a smartphone ~~isn't~~is not new. It has roots in the idea of a Personal Digital Assistant that goes back to the 1980's, when PCs were just starting to revolutionize the way people thought of computers. However, the idea ~~didn't~~did not enter the mainstream market until 2007. The iPhone was the first mass-market smartphone, and many more followed. Smartphones accounted for 31% (472 million~~M~~) of shipped mobile communication devices worldwide in 2011, up from 19% (297 million~~M~~) in 2010 (Brownlow, 2012). Moreover, according to Forbes, the only two companies that make profits in the mobile handset industry are Apple and Samsung (Savitz, 2013). Smartphones are replacing regular phones at an increasing pace; smartphone companies introduce multiple new "flagship" products per year while competing on performance and features. Such increased competitive activity points that the innovation will continue in the near future.

Interesting to note are high-profile marketing pushes in this space. In its recent unveiling of the next-generation Galaxy S4 smartphone, Samsung marketed its expanded health features, dubbed "S Health." The Galaxy S4 has a built-in pedometer, temperature, and humidity sensors, enabling it to track your exercise levels, as well as your surroundings. The iPhone 5S is correspondingly equipped. This is similar to what third-party vendors, notably Nike and Jawbone, have been doing with their fitness-tracking wristbands. These initiatives serve to increase the public's awareness for using their smartphones for managing and improving their health.

~~4.1.7~~2.1.7 SWOT Analysis

SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is a convenient way to synthesize external and internal evaluations. Companies try to pair their strengths with the current opportunities on the market; additionally, they attempt to convert weaknesses into strengths and threats into opportunities (Blythe & Megicks, 2010, pp. 130-131).

We have gone through a considerable amount of data in our industry analysis, and the SWOT analysis provides a good summary, or a general overlook of the market. From this condensed information view, companies can ~~start thinking of more~~base their more ~~concise~~ concrete strategies – or~~. Or~~ as one of our marketing professors would say in class~~:~~, "~~it's~~It is a good point from where to start thinking, but a very bad point to stop thinking."

Strengths. As mentioned in the competitive forces analysis, one of the biggest barriers to entry in this industry is finding a talented team with the right skill-set. The company's team is well rounded and the six founders have between them three founders with business school education, two medical doctors, two computer engineering graduates, and one

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design & health and life sciences graduate. Furthermore, several of the company's products (Register Zdravil, RheumaHelper) are first movers on the market with no other direct competitors.

Weaknesses. Although the founding team has good basis for development of management, sales, marketing, engineering, and other important competencies in the future, at the moment none of them has extensive knowledge of the mHealth field. This inexperience leads to problems in two areas: the Company's business processes are either not efficient or not modelled at all; and since there is no single individual who is experienced in the industry, meetings tend to run longer than needed as issues are discussed at length. Additionally, several co-founders have part-time jobs, which lessens their psychological investment in the Company.

~~Strengths.~~
- ~~A talented founding team with well-rounded skills;~~
- ~~Three founders have business school education;~~
- ~~Two founders are M.D.'s;~~
- ~~Several products that are first on the market with no real competition.~~

~~Weaknesses.~~
- ~~Founders' networks aren't very developed in this field;~~
- ~~Several founders have other part-time jobs;~~
- ~~Having six equal co-founders is (sometimes) inductive to longer meetings than necessary and management overhead;~~
- ~~Company's processes are still not completely efficient;~~
- ~~Company lacks an experienced CEO and sales manager.~~

Opportunities. The mHealth market has shown high growth in the past few years. The TAM and SAM, which represent the size of the mHealth applications market, are increasing along with the growth of smartphone shipments. There are strong indicators that doctors, patients, governments, and the private sector are all very interested in improving and expanding the mHealth offerings. Healthcare professionals are able to access information on the move; governments see mHealth applications as a way to keep costs down and increase efficiency of the healthcare system. Investments in companies working in this industry has been doubling every year. Finally, the smartphone technology opens new possibilities for developers with every new generation – the newer models of smartphones currently on the market already offer all-day background monitoring of the user's activity (pedometer, speedometer, etc.).

~~Opportunities.~~
- ~~Smartphone shipments increasing by 25% yearly, increasing the market size (TAM & SAM);~~
- ~~Developing world is embracing mobile technologies;~~

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- Strong adoption of smartphones and tablets by doctors;
- Variety of ways doctors use mHealth info is still limited, can branch out to other things;
- Consumers enthusiastic about using mHealth services, more consumer centric services needed;
- With aging population, governments are turning to mHealth to help them keep healthcare costs lower;
- Investments in the mHealth field are doubling every year;
- Small number of established brands is better for newcomers;
- Selling access to a specific subset of users, like doctors is very valuable for certain types of companies;
- Smartphones come with a full suite of sensors that make collecting data about the user easier.

Threats. Regulation of the mHealth application market represents a problem ~~which~~that will have to be solved by the regulatory bodies in order for (large) companies to invest time and money in more advanced applications. On the other hand, the number of more trivial health and fitness applications (running apps, personal trainers, etc.) is rapidly increasing, making it harder to stand out. Another problem for software development companies represents the increasing number of different devices and operating system versions, which means more time is spent in development in order to ensure that the application properly works across multiple form factors, hardware platforms, etc. Finally, the medical information for certain apps is country-specific or language-specific, and must be obtained from different sources, or professionally translated for each new market.

An overview of the main points of the SWOT analysis can be found in the table below.

Threats.
- Low revenue markets stick to feature phones;
- Fragmented device market;
- Revenues concentrated among small number of developers;
- Regulation is still unclear and incomplete;
- Number of medical and healthcare/fitness apps is rapidly increasing;
- Talent acquisition and retention is difficult for software development companies;
- Incumbents can tie-in users, making it difficult for new companies;
- Low capital requirements for entrants;
- Some medical information is very specific to a country/market;
- Smartphone companies are building mHealth solutions into their devices, making it harder for third-party developers;

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Table 3. SWOT Analysis Summary

Strengths	Weaknesses
- A talented founding team with well-rounded skills; - Three founders have business school education; - Two founders are M.D.'s; - Several products that are first on the market with no real competition.	- Company lacks an experienced CEO and sales manager. - Having six equal co-founders is (sometimes) inductive to longer meetings than necessary and management overhead; - Several founders have other part-time jobs; - ~~Founders' networks aren't very developed in this field;~~ - ~~Several founders have other part-time jobs;~~ - ~~Having six equal co-founders is (sometimes) inductive to longer meetings than necessary and management overhead;~~ - Company's processes are still not completely efficient; - ~~Company lacks an experienced CEO and sales manager.~~ -
Opportunities	**Threats**
- Smartphone shipments increasing by 25% yearly, increasing the market size (TAM & SAM); - Strong adoption of smartphones and tablets by doctors; - Consumers are enthusiastic about using mHealth services, more consumer-centric services needed; - With aging population, governments are turning to mHealth to help them keep healthcare costs at a lower level; - Investments in the mHealth field are doubling every year; - Smartphones come with a full suite of sensors that facilitate collecting data about the user;	- Regulation is still unclear and incomplete; - Fragmented device market; - ~~Low revenue markets stick to feature phones;~~ - ~~Fragmented device market;~~ - ~~Revenues concentrated among small number of developers;~~ - ~~Regulation is still unclear and incomplete;~~ - Number of medical and healthcare/fitness apps is rapidly increasing; - Talent acquisition and retention is difficult for software development companies; - ~~Incumbents can tie in users, making it~~

	difficult for new companies;
	- Low capital requirements for entrants;
	Some medical information is very specific to a country/market;
	Smartphone companies are building mHealth solutions into their devices, making it harder for third-party developers;
	-

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4.22.2 Competitor Analysis

In the previous part, we have looked at the mHealth market and have seen that it is, in fact, a very burgeoning market. The influx of investments into the field, and its yearly growth for the past few years is sending a strong signal to a lot of existing and still non-existing companies that mHealth is a lucrative space to enter. In this chapter, we will look at why it is it important to monitor one's competitors, propose a theoretical framework of assessing them and where to find information about them, and will look at some of the competitors to our products.

4.2.12.2.1 Why and HowCompetitor analysis framework

Today, it is not only important to meet the customers' needs, but also to do it better than the competitors, and often at a lower cost (Lehmann & Winer, 2008, p. 90). To do that, it is necessary to analyze the competition to discern their strengths and weaknesses, as well as to try to identify their strategy in the future. An objective analysis provides valuable information that can be used in the future development of products, negotiating with customers, marketing planning, defending one's market position, or attacking a competitor.

There are several reasons why companies get complacent or ignore their competition. First, confidence in the own product's position can lead to a belief that competitors won'twill not emerge, or won't will not be able to come close to the incumbent. When Apple introduced the iPhone, the market incumbents like Blackberry, Nokia, and Microsoft wrote it off as a temporary fadmade public statements about the shortcomings of the product. Microsoft has also overlooked Google's suite of online office applications, Google Docs, dismissing it as an inferior competitor to its long-standing cash cowrevenue leader, Office, until it started taking away money and clients. Now, they'vethey have introduced an online version of its Office suite to combat the threat.

Second, a lot ofmany companies, especially smaller ones, are either uncertain about how to acquire information concerning their competitors or how to analyze the data they obtain.

Pripomba [MD47]: Consider re-organizing the section. Write-up the text in full paragraphs and then draw the matrix for SWOT including key bullet points

Oblikovano: Tabulatorska mesta: Ne pri 8 cm + 16 cm

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Pripomba [MD48]: Of what?

Pripomba [MN49]: Changed title so the content is clearer.

Oblikovano: angleščina (ZDA)

Oblikovano: angleščina (ZDA)

Spremenjene kode polj

There is also the issue of allocating resources. Luckily, the ubiquitousness of the Internet means that today it is easy to get to an enormous amount of information. With websites covering the industry, blogs, and Twitter, the bigger task is sifting and filtering through the data than finding it. The question remains, how to ~~efficiently and effectively~~ analyze everything we can get our hands on efficiently and effectively?

In their book, Advanced Marketing Planning, authors Lehmann and Winer (2008, pp. 94-96) put forth a framework for competitor analysis ~~which~~ that we will be using for our purposes, albeit slightly modified at some points. A high-level overview of this framework is presented in the next figure.

The input to the frameworks is data, which can be primary or secondary. We will take a look at the different types of data shortly. This information should help us respond, as best as we can, to several questions:
- Who are our major competitors?
- How do their products and/or services compare to each other and to our products/services (what are the features of their products or selling points of their services)?
- What are the objectives of our competitors?
- How do they plan ~~on achieving~~to achieve these objectives? What is their strategy?
- Who has the competitive edge?
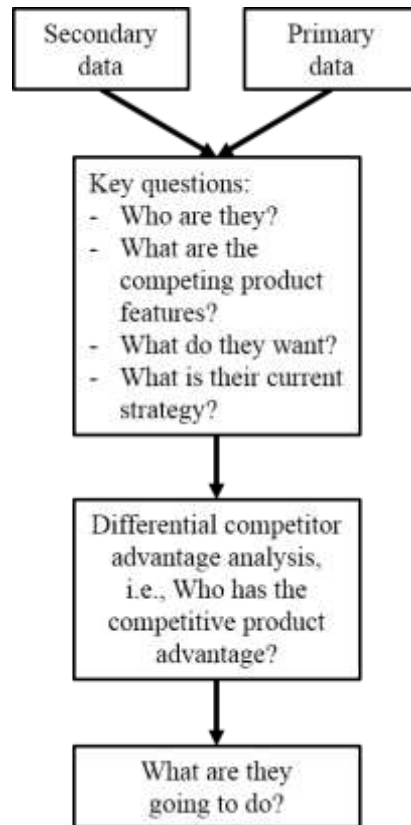
Figure 5. Framework for Competitors' Analysis

There are two important outputs at the end of this process. The first is a document examining the key strengths and weaknesses of our competitors across a set of important parameters. The second is a forecast of the likely strategies of our competitors in the near future. Using these documents, a company can better shape its strategy. From this, we should be able to arrive to the final output which forecastings what are our competitors more or less likely to do in the near future, and use these forecasts to better shape our strategy for the near future.

2.2.2 Sources of information

There is a plethora of sources available, for both primary and secondary data. We will mention those that are the most useful in our case and which we will be using in our analysis. Lehmann and Winer (2008, pp. 96-108) define primary data as "information derived from studies specially designed to answer a particular set of questions" and

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secondary as "data that have already been collected by someone else for some other purpose."

4.2.2.12.2.2.1 Primary sources of information.

Sales force and customers. Since competitors are likely to talk to the same customers, sales calls and meetings should also be also used to gather information about competitors' prices as well as their sales pitches. If a client is unwilling to give this information for some reason, we can always focus attention on the fact that we want to improve our service or product and that this will be beneficial for them.

Employees. Except Apart from the sales force, every employee of the company can gather information about the competitors. At a minimum, employees should have relevant products (i.e. applications) installed on their phones and updated regularly so they can monitor any changes or additions to functionality or price.

4.2.2.22.2.2.2 Secondary sources of information.

Secondary sources are usually cheaper and more readily obtainable than primary sources, and answer many of the questions. As such, one generally starts the competitors' analysis with these.

Annual reports. Even though annual reports don'tdo not contain critical business information, they are still valuable. For publicly traded companies, info can be gathered about which product categories are mentioned and which aren'tare not, the focus of the company from the CEO's letter, and so on. For LLC's the amount of information is smaller, but one can still get informed about the general financial health from sites like Gvin[6] or Bizi.si[7] (for the Slovenian market).

Business magazines. Information about a company's near- or medium-term strategies can often be found in interviews and other press coverage. Sources of information include magazines covering start-ups from a technological perspective like Wired, Fast Company, Inc. or Entrepreneur, as well as publications such as The Wall Street Journal, BusinessWeek, etc.

Press releases. These usually contain information about new products or updates to existing ones, awards, changes in the management, and other similar stories. The media, depending on the importance of the company, can also pick up these stories. It is still better to subscribe directly to the competitions' press releases rather than wait for the press to report on it.

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[6] http://www.gvin.com
[7] http://www.bizi.si/

Promotional literature. Sales brochures and similar promotional material are a very useful source of information. They contain the competitors' sales pitch, pricing, the product positioning strategy, and their marketed differentiation points.

Trade press. Magazines narrowly focused on a particular industry are rich in info about new or updated products and services, including ancillary products and services that might be of interest. They also might contain sales volumes or market shares of certain products. Trade magazines local to Slovenia that target healthcare professionals include ISIS[8] and pHARMONIA[9].

Blogs. There is a ~~big~~ large number of websites ~~that~~ cover~~ing~~ specific fields. Such is MobiHealthNews[10], which covers mHealth in detail: there is in-depth info about companies and start-ups in the field, including product and service updates, funding rounds as well as reviews of apps for the medical field. There are also analyses about the mHealth market, market share of competing smartphones and tablets, etc.

Twitter. In the recent period, Twitter has become an indispensable medium to follow breaking news. Companies ~~almost always~~usually have a corporate account, and often~~times also~~ have separate accounts for their products. They use Twitter to give out product updates, information on upcoming sales, or to respond to questions from the customers. Potentially more important, ~~a lot of~~many employees use it, and should be followed in case they divulge information about some product they are working on.

~~4.2.3~~2.2.3   Identifying competitors

There is a detailed sales forecast and explanation of revenue sources for the~~our~~ Company in Chapter 5, but here ~~we'll~~we will give a high-level overview. Namely, when Modra Jagoda was started its founders had a very clear idea about what kind of projects they would work on, but that idea has since proven untenable. ~~At the moment~~Currently, the Company has several products in different, but related, areas such as medical software, health and fitness software, as well as intermittent service and maintenance projects. It has different monetization strategies, which span between ad sales, sponsorship, license sales, or billing at an hourly rate.

This complicated situation, though not unique, makes it more difficult to research companies in the same position. Instead of looking for exact matches, we will concentrate on different competitors in the different areas the Company does business in. To avoid

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[8] http://www.zdravniskazbornica.si/isis/1157/isis

[9] http://www.sonara.si/services.php?s=5

[10] http://mobihealthnews.com

being unnecessarily long, we will focus on one competitor in the most important domains for theour Company, though multiple companies will be considered.

4.2.42.2.4 Drug registries

At the moment of writing, Modra Jagoda's revenue leader at the moment of writing is Register Zdravil *(Drug Registry)*, which holds information on every available drug (more than 6,000) in Slovenia, including data reserved for healthcare professionals, like indications, contraindications, interactions, etc. Medical professionals can also access the complete SmPC document inside the application. Non-professional users (i.e. the public) can access only a part of the information, according to the applicable country laws.

The current monetization strategy for Register Zdravil is selling ads inside the application to pharmaceutical companies. Because of existing laws for advertising prescription drugs, pharmaceuticals can only advertise to healthcare professionals, and in the case of websites and mobile apps, that means there needs to be a login where the user needs to register as a healthcare professional, as in Register Zdravil.

Even though the premise of the application is simple, there are significant technical hurdles in compiling the drug data needed to support this kind of an app — that is why competitors in this field still aren't plentiful. Competitors are predominantly U.S. based: services like *Rxlist*[11], *Drugs.com*[12] and *Epocrates*[13]. The largestThe largest European competitor and the one that we will look into deeper. is the Austrian company Diagnosia[14].

Five co-founders, two of them M.D.'s, founded Diagnosia in Vienna, Austria in 2011, after receiving grant money from the Austrian Business Service and Austrian Research Promotion Agency. That same year, they took part in the Doctors 2.0 conference in Paris, and won the Startup award. This has helped them get media attention and angel funding to the amount of $US 350.,000 (CrunchBase, 2012).

Their product is divided into two parts: Diagnosia Brain and Diagnosia Index. Information about drugs in the EU is usually available in PDF format files, which don'tdo not adhere to a specific scheme, making it very difficult to automate the process of converting the PDF files into a better-suited format for mobile devices. Diagnosia Brain is a proprietary processing technology that can scan, parse, and meaningfully integrate that data with data from product leaflets across different countries and languages. At the momentCurrently, it encompasses information from 14 European countries (O'Hear, 2011).

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[11] http://www.rxlist.com

[12] http://www.drugs.com

[13] http://www.epocrates.com

[14] http://www.diagnosia.com

The output from that data mining operation is a drug database that ~~isn't~~is not immediately usable by doctors. Diagnosia Index is the user-facing application on top of it, which provides a way for the end-user to search through and view information about available drugs. The Index enables doctors to search by brand names, active ingredients, or classification codes. Users can access all of these data on the Internet or via their iPhone, iPad, and Android apps (Solon, 2011).

It is useful to compare two similar products on a set of features that are important to the end users. ~~On~~In the next table, ~~there is~~we present such a comparison between Register Zdravil and Diagnosia~~,~~. ~~along with relative importance of the different product characteristics~~We list the features with which we compare the products in the column, followed by product info for Diagnosia and Register Zdravil, and in the last column, we list the relative importance of the feature, as weighed by the medical doctors in the company who use this professionally on a regular basis and feedback from Register Zdravil's users. This should help us understand the strengths and weaknesses of our own product in relation to our competitor.

Table 4. Product Comparison between Diagnosia and Register Zdravil

Feature	Diagnosia	Register Zdravil	**Importance Weight**
No. of drugs	36,000+ (German-speaking countries) 6,900+ (Portugal) 4,700+ (Spain) 3,700+ (France) 1,400+ (UK) 1,400+ (Finland) 1,300+ (Netherlands) 1,300+ (Italy) 1,300+ (Czech Rep.) 1,300+ (Sweden) 1,300+ (Denmark) 1,300+ (Slovenia) 1,200+ (Slovakia) 1,000+ (Hungary)	6,000+ (Slovenia)	high

(table continues)

Feature	Diagnosia	Register Zdravil	Importance Weight
Languages	14 (English, German, Spanish, French, Portuguese, Dutch, Italian, Hungarian, Czech, Slovakian, Swedish, Finnish, Danish, Slovenian)	1 (Slovenian)	high
Search by	- Brand name - Active ingredient - Classification code	- Brand name - Active ingredient - Classification code	medium
Types of data available	- Product leaflet - Summary for the patient - Information for healthcare professionals	- Information for healthcare professionals	medium
Categories of data available (for professionals)	- Drug name - Composition - Pharmaceutical form - Indications - Method of administration - Contraindications - Special warnings - Interactions - Pregnancy usage - Effects on ability to drive - Undesirable effects - Overdose - Pharmakodynamics - Pharmakokinetics - Preclinical safety data - Excepients - Incompatibilities - Shelf life - Packaging	- Drug name - Composition - Prescription/OTC drug - Classification by health insurance - Prescription limitations - Influence on psycho-physical ability - Posology - Indications - Contraindications - Pregnancy usage - Interactions - Packaging - Link to full SmPC	high

Oblikovana tabela

Oblikovano: Navaden

Oblikovano: Navaden

Oblikovano: Navaden

(continued)

Feature	Diagnosia	Register Zdravil	~~Importance~~ **Weight**
Platforms	- ~~Internet~~Web - iPhone- (N/A in all markets) - iPad (N/A in all markets) - Android (N/A in all markets)	- iPhone - Android - ~~Internet~~ Web (in development)	medium
Additional services	- Health center (German-only, medical news articles) - Browse drugs for disease	/	low
Price	Free / Subscription	Free	high
Monetization	11**8**.99€ / month Subscription with access to more data available (only in Austria)	Advertisements Only shown on some screens in the mobile apps	high

Diagnosia is a very strong, focused, technically sound, and well-funded competitor. There are several points ~~which~~that are worth~~while~~ mentioning ~~cracks in their shining armor, though~~. Except for Germany, Spain, Portugal and France, other countries only have data for drugs approved from the European Medicines Agency (hereinafter: EMA), and not from their countries' respective agencies, which explains the virtually identical number for the other markets~~Except for German, Spanish, Portuguese, and French, other countries only have data for drugs with a license from the European Medicines Agency (EMA), and not from their countries' respective agencies, which explain the almost same number for the other markets~~. The data from EMA is similar to ~~ours~~ the one in Register Zdravil — ~~they have~~ Diagnosia ~~scaled~~ has it scaled to more languages, which is an admirable achievement. They also parse the whole PDF, including the "information for patients" (types of data available feature in the table above), which is not a part of Register Zdravil, since ~~we're~~the product is focused towards healthcare professionals. The data in different categories (categories of data available feature in the table above) is verbatim from the PDFs. The Company's product consciously limits the amount of data parsed because the product is mobile-first, and is used in scenarios where doctors need quick reference, not in-depth info.

Parts of Diagnosia's website ~~aren't~~are not translated to the selected language. If one selects Slovenia as the country, the login form for medical professionals is neither translated

(having placeholders which that do no't even indicate the information needed), nor was is the registration working. It is clear from their product, as well as from the interviews, that they' are currently concentrating on German-speaking countries at the moment. However, their strategic goals for the near-term revolve around growing. In an interview with Inventures, they stated they want to "roll out in six countries and will use the next investment round for technical roll-out and for marketing and distribution" (Bernstein, 2013).

Unfortunately, we do not have access to many quantitative data about Diagnosia. Usage statistics are not reported anywhere; download numbers are available for Google Play apps, but only as a range. At the time of writing, Diagnosia Index for Android had 1,000-5,000 downloads[15], while Register Zdravil's downloads are in the 5,000-10,000 range[16]. However, we must take into account that Diagnosia is a paid product and therefore lower download numbers are to be expected.

Diagnosia is definitely a company to watch. They have a similar product, the way they get the drug data is comparable, and they are looking to branch from Austria to other markets. Even though, in our opinion, they will expand to Western Europe before turning to the east, it is reasonable to expect that they will be more than a distant competitor at one point in the future. we Modra Jagoda should monitor their product features, drug data available in the app, as well as any attempts they do make at monetization.

Even though the premise of this type of application is simple, there are significant technical hurdles in compiling the drug data needed to support this kind of an app — that is why competitors in this field are still not plentiful. Competitors are predominantly U.S.-based: products and services like Rxlist[17], Drugs.com[18] and Epocrates[19].

2.2.5 Health and fitness software

A popular trend in health and fitness apps at the moment is **gamification**, i.e. adding game elements into traditionally non-game products (Zichermann & Cunningham, 2011). These game elements are used to engage users and drive up the "stickiness" factor of the product, by the logic that it is more interesting to run and get medals or have missions to complete than just to run. In Jog of War, Modra Jagoda does this by adding the concepts of conquered territory, of defending squares (units of territory), and of other (real-life) runners constantly and unpredictably taking over your squares.

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[15] As reported on the Google Play market (http://d.pr/yG1j). Accessed on the 6th of October, 2013.
[16] As reported on the Google Play market (http://d.pr/n0pZ). Accessed on the 6th of October 2013.
[17] http://www.rxlist.com
[18] http://www.drugs.com
[19] http://www.epocrates.com

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Zombies, Run! is another unique take on a running app. The user is put into the shoes of Runner 5, in the middle of a zombie apocalypse. When you go out for a run you "start a mission" which is in the form of spoken dialogue in between your regular workout music. As you finish missions, you get various tools and items with which you can improve your base and you unlock further missions along the storyline. ~~Also~~In addition, if you choose so, several times during a run you will get chased by a zombie pack, which means you need to start sprinting.

The app is produced by London-based studio Six to Start, while the story is written by Naomi Alderman, a professor in Creative Writing at the Bath Spa University. Both Six to Start and Naomi Alderman have been recipients of multiple awards in their own fields. Over 400,000 copies of the app have been sold to date, most of them in North America. Zombies, Run! is currently in its second season, with 33 missions in the first season and more than 60 missions in the second (Six to Start, 2013).

The app was originally funded through a Kickstarter campaign in late 2011. Its original funding goal was US$ 12,500, though the final pledges amounted to six-times that goal, or almost US$ 73,000 in 32 days (Kickstarter, 2011). The app got released in February 2012 and has since gotten extensive press coverage by BBC News, Wired, Runner's World, Lifehacker, and numerous other publications and blogs.

Currently, the app's price on the App Store and Google's Play Market is US$ 7.99, for which you get the complete first season. The second season is available as in-app purchases: a season pass, which includes the 40 season two missions for US$ 3.99; a sidequests pack ~~which~~that includes the 20 side missions for US$ 5.99; and a season pass plus which includes everything for US$ 7.99. Except through selling the app, the app is monetized through an online store in which one can buy different types of running shirts for prices between US$ 25 and US$ 40. With 400,000 sold copies at US$ 7.99, the app has grossed more than US$ 3 million, before taking into account season 2 and merchandise sales.

The monetization strategies the Six to Start team are using are interesting from several aspects. The successful Kickstarter campaign enabled the team to work without the financial and psychological burden of a project that may fail, and showed that the product had found a market fit. The good press generated from this has also enabled them to maintain a relatively high price in the app stores. The "season" model brings in a steady stream of revenues even from legacy customers. Finally, the online shop is a way to further increase revenues from loyal customers. A full product comparison can be seen in the table below.

Table 5. Product Comparison between Zombies, Run! and Jog of War

Feature	Zombies, Run!	Jog of War
Gamification	The player is in a post-apocalyptic world, doing diverse missions in order to survive. Immersive storyline, voiced-over by professional actors.	The player is conquering the territory where he runs; other players can win it back. The more territory you have, the better place on the leaderboard.
Data tracked	Time Distance Pace	Time Distance
Leaderboards	N/A	Global leaderboard of all players
Achievements	N/A	Achievements for specific goals (run 10K in a single run, etc.)
Multiplayer	N/A	Game needs hundreds of users in order to be fun
Run data synchronization	Saves all run info to the Internet.	N/A
Platforms	iOS Android Windows Phone	iOS
Price	US$ 7.99 (Season 1 only)	Free
Monetization	In-app purchases for access to Season 2 (US$ 3.99/5.99/7.99) Web store with shirts[20] (items between US$ 25-40)	

The success of Zombies, Run! validates the premise that runners enjoy to deepen their running experience from the barebones statistics of time, distance, and speed. There are things that can be used as monetization strategies for Jog of War, but there are also things that are not applicable. For instance, Jog of War is from the onset a massively multiplayer game; its value comes from the community in the game — Zombies, Run! is essentially a single-player experience, and as such can afford to be priced as such. For Jog of War to have chances of a massive community, it needs to be free, at least in the beginning, until there is a critical mass of users. However, in-app purchases are a very good way to get revenues — whether to unlock content, or to get virtual goods for your avatar.

There are other applications which are based on the similar premise that gamification leads to better results and returning customers. In Healthy Heroes[21], the user

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[20] http://zombiesrun.entripy.com/
[21] http://www.healthyheroes.se

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has his own avatar (in-game character) that levels-up as he does various fitness-related activities. As the avatar gains levels, you unlock new virtual goods ~~with which~~ to outfit yourself. Another app, Thryve[22], is a playful way to track your food-eating habits by adding the ingredients and their relative amount in the meal. The app the~~an~~en goes on to calculate the calories of the meal automatically. In the subcategory of running/jogging apps with a gaming backdrop, Zombies, Run! is the one app that stands out from the rest of the competition. Still, this market is much more crowded than that for drug registries.

~~4.2.5~~2.2.6 Service work

Except ~~Register Zdravil~~on proprietary products, Modra Jagoda has been working intermittently on service and maintenance projects. Apps are steadily entering the mainstream, not only for consumers, but also for businesses that try to have one more ~~touchpoint~~touch point with their customers. ~~Like~~As Register Zdravil has shown, there is a demand for mobile applications which improve (or at least, ~~make easier~~facilitate) peoples' lives. ~~Marketing departments have found their new fad, and it is cross-platform, social, and has photo filters and hashtags.~~

With a mobile developer for every price point and at every skill level, mobile development has almost become a commodity. Moreover, since a mobile developer can work from any point in the world, we cannot segment the competition geographically. What we ~~found~~ considered as more helpful ~~to do~~ is to find a company ~~who~~that was in a position we would~~'d~~ like to be in (~~in~~as regards ~~to~~clients, customers and revenue) and understand their processes. ~~So~~Therefore, we found one company ~~like that~~of that caliber, Two Toasters, and we asked them if they would~~'d~~ be willing to do an interview with us and they agreed[23]. We will discuss three points, namely, lead generation, type of client work, and internal organization. The rest of the interview can be found in the Appendix.

Two Toasters, a Durham, North Carolina company, ~~has started~~was established in 2008, right when Apple announced the availability of the App Store. They started out as three~~3~~ co-founders, but merged with another company to become ~~5~~five equal equity co-founders, and today they have more than 20 employees.

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[22] http://www.thryveco.com
[23] Skype interview conducted on February 1st, 2013 with Daniel Hammond, co-founder of *Two Toasters*.

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Pripomba [MJ58]: facilitate

Spremenjene kode polj

Pripomba [MJ59]: ako nekjesh da ti se povtoruva so "find" vo zavisnaa rech., tuka mozhesh da stavish "deemed, considered"… I sl.

Pripomba [MJ60]: mozhe i "of that caliber"

~~When the market was new~~In the first year of the App Store, ~~and everybody was trying to make a quick profit,~~ they released a fake taser app, which generated a lot of traffic and made some ad revenue. They focused on expanding their mobile portfolio, which was very forward thinking at a time when nobody knew if mobile would take off. This approach has certainly put them in a better position when the App Store market stabilized (around 2010). Lead generation is an ongoing process, ~~comes from several sources~~and they[2] are active in several other ways: one is networking with the start-up scene, relevant technical/start-up blog posts and getting referrals from companies they did work for in the past. Open-sourcing libraries (parts of a computer program which do a single task, like communicating with a server), especially if they become a sort of a standard ~~way~~method ~~to~~for do~~ing~~ something, ~~is~~are a very potent way to make yourself known in the tech community.

The clients they work with are predominantly start-ups that are trying to expand their user-base by being present on multiple platforms. These companies usually have existing technical teams, which greatly facilitates the conversation about budgets and timelines, since the clients themselves have an idea how much time, and money it takes to bring a new product to the market.

~~Lead generation comes from several sources: one is networking with the start-up scene, relevant technical/start-up blog posts and getting referrals from companies they did work for in the past. Open-sourcing libraries (parts of a computer program which do a single task, like communicating with a server), especially if they become a sort of a standard way to do something is a very potent way to make yourself known in the tech community.~~

The client relationship is very inclusive — it is closer to a partnership than a client-contractor relationship. The first meeting is about sharing the vision for the project, and showing them a portfolio of similar projects so the client can get a "feel" for the timeline and the budget of the project. This is a very good way to demonstrate and justify costs to a client, especially a non-technical one. During a project, they have daily short (15-20 minutes) meetings with the clients where they discuss what is being made now, along with any questions.

This is excellent if the client is as vested in a project as you are. From our experience, there is oftentimes a disconnect between a company's effort on a project and the client's interest in it. If the client has another source of revenue and this project is a hobby project, something designed to explore another stream of revenue, or not high on their priority list, communication ~~isn't~~is not effective anymore, and the project has a much higher likelihood to fail.

In regard to internal ~~Work on projects is based on the lean methodology, an approach advocated by Eric Reis in his book, *The Lean Startup,* albeit adjusted to account for idiosyncrasies of their company. For every project, a comprehensive list of all things needed to be done is created (called a "product backlog") from which they specify short~~

~~term development milestones (called "sprints") targeting a specific functionality that is built and tested to a shipping (end) state. Every two weeks they push out a build (an unfinished application which is missing functionality and/or has known bugs) to the client. This goes on until the project is finished. The organization of the workflow in this manner is better than the usual approach of having just one huge list of to-do's, or even worse, just a design document and a functionality document. We have been making the effort to organize our projects similarly, with increases in productivity and better focus from the stakeholders of the project.~~

~~In~~ With regards to ~~internal~~ organization, *Two Toasters* have a weekly partner meeting, which lasts for approximately one hour~~, in duration~~ ~~in which~~where ~~every~~ all partners discuss~~es~~:

- What they did in the course of ~~they do~~~~during this~~~~the~~at week;
- What is the plan for the following~~to do next~~ week;
- Metrics to move (~~which can be something like~~for instance, the number of proposals sent out to companies);
- What ~~do~~ they need from others in the company in order to do their job.

~~Between the partners, they~~ The partners have clearly defined technology, design and business leaders, which is a thing we have long neglected to do. The feeling that we should all be equally represented in every decision, ~~since~~ as we all have equal equity in the company, ~~we should all be equally represented in all decisions~~ is one of the biggest mistakes ~~we've~~we have made. ~~That's not to say~~This does not mean that big decisions ~~shouldn't~~should not be discussed between all of us~~,~~; but that ~~a lot of~~many decisions need not be~~do n'ot need to be~~ — ~~it's~~it is counterproductive and bureaucratic.

~~4.2.6 Health and fitness software~~

~~The biggest projected future revenue will be coming from our running app, and the winner of the Berlin *Health 2.0* hack-a-thon (a coding competition, which was specifically geared towards medical, health and fitness solutions), *Jog of War*. It is on the crossroads of a traditional fitness app that tracks your speed, distance, etc., and a game that brings in competitive elements and multiplayer support.~~

~~The trend of adding game elements into traditionally non-game products is called *gamification* (Zichermann & Cunningham, 2011). These game elements are used to engage users and drive up the "stickiness" factor of the product, by the logic that it is more interesting to run and get medals or have missions to complete than just to run. In *Jog of War*, we do this by adding the concepts of conquered territory, of defending squares (units of territory), and of other (real-life) runners constantly and unpredictably taking over your squares.~~

~~While visiting the Health 2.0 conference in Berlin as the winners of the coding competition, we were treated to a number of presentations about these new age fitness~~

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programs. One of the participating apps was *Healthy Heroes*[24], where the user has his own avatar (in game character) that levels up as he does various fitness related activities. As the avatar gains levels, you unlock new virtual goods with which to outfit yourself. Another one was *Thryve*[25], a playful way to track your food eating habits by adding the ingredients and their relative amount in the meal. The app than goes on to calculate the calories of the meal automatically. However, in the subcategory of running/jogging apps with a gaming backdrop, *Zombies, Run!* is the one app that stands out from the rest of the competition.

Zombies, Run! is a unique take on a running app. The user is put into the shoes of Runner 5, in the middle of a zombie apocalypse. When you go out for a run you "start a mission" which is in the form of spoken dialogue in between your regular workout music. As you finish missions, you get various tools and items with which you can improve your base and you unlock further missions along the storyline. Also, if you choose so, several times during a run you will get chased by a zombie pack, which means you need to start sprinting.

The app is produced by London-based studio *Six to Start*, while the story is written by Naomi Alderman, a professor in Creative Writing at the Bath Spa University. Both *Six to Start* and Naomi Alderman have been recipients of multiple awards in their own fields. Over 400,000 copies of the app have been sold to date, most of them in North America. *Zombies, Run!* is currently in its second "season", with 36 missions in the first season and more than 60 missions in the second (Six to Start, 2013).

The app was originally funded through a *Kickstarter* campaign in late 2011. Its original funding goal was US$12.500, though enthusiastic post-apocalyptic runners pledged almost six-times that goal, or almost US$73.000 in 32 days (Kickstarter, 2011). The app got released in February 2012 and has since gotten extensive press coverage by *BBC News, Wired, Runner's World, Lifehacker,* and numerous other publications and blogs.

Currently, the app's price on the App Store and Google's Play Market is US$ 7.99, for which you get the complete first season. The second season is available as in app purchases: a season pass, which includes the 40 season two missions for US$ 3.99; a sidequests pack which includes the 20 side missions for US$ 5.99; and a season pass plus which includes everything for US$ 7.99. Except through selling the app, the app is monetized through an online store in which one can buy different types of running shirts for prices between US$ 25 and US$40. With 400,000 sold copies at US$ 7.99, the app has grossed more than US$ 3 million. Not taking into account season 2 and merchandise sales.

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[24] http://www.healthyheroes.se

[25] http://www.thryveco.com

The monetization strategies the *Six to Start* team is using are certainly interesting and informative. The successful *Kickstarter* campaign enabled the team to work without the financial and psychological burden of a project that may fail, and justified that they're on the right track. The good press generated from this has also enabled them to maintain a relatively high price in the app world. The "season" model brings in a steady stream of revenues even from the legacy customers. Finally, the online shop is a way to further increase revenues from loyal customers (one of the authors being a very loyal user of the app for the second year already).

The success of *Zombies, Run!* validates the premise that runners enjoy to deepen their running experience from the barebones statistics of time, distance, and speed. There are things we can and should use in the monetization strategies for *Jog of War*, but there are also things that aren't applicable. For instance, *Jog of War* is from the onset a massively multiplayer game; its value comes from the community in the game — *Zombies, Run!* is essentially a single-player experience, and as such can afford to be priced as such. For *Jog of War* to have chances of a massive community, it needs to be free, at least in the beginning, until there's a critical mass of users. However, in-app purchases are a very good way to get revenues — whether to unlock content, or to get virtual goods for your avatar.

4.3 2.3 Customer Analysis

Customers are the lifeline of a business; without customers, there are no revenues, and no business. Companies, big and small of all sizes, oftentimes grandiosely declare that the customer is the center of their universe have the customer in their mission statements, with his or hers satisfaction as the company's priority. Microsoft[26] states: "[…] our mission and values are to help people and businesses […] realize their full potential." Yahoo![27] writes "[…] we keep people connected to what matters most to them […]" Regardless of the formal mission statement For some of them, it is, and they try to surprise and delight their customers; for some of them, the customer is but a nuisance on the way to profit; but all other things being equal, the company who listens and cherishes its customers will be better off than the one that doesn't does not.

In their book *Analysis for Marketing Planning*, Lehmann and Winer (2008) give us several basic questions about current and future customers, as well as a number of helpful methods of analysis. Unless otherwise stated, the methods we will look at here are from that book. We won't cover everything, but the ones that are of interest in our specific situation.

The path to knowing one's customer leads through a small group of questions that need to be looked at. From the slightly easier questions of Who, What, Where and When do

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[26] Microsoft's mission: http://www.microsoft.com/about/en/us/default.aspx.
[27] Yahoo!'s mission: http://pressroom.yahoo.net/pr/ycorp/overview.aspx

customers buy, to How and Why they choose a product over another, How they respond to marketing programs, Will they buy a product again and How much is a single customer worth to us. The answers to some of these questions are easy and come to the mind immediately; some of them are more difficult to answer, if only because we never thought that we can quantify a certain dimension of our customers.

2.3.1 B2B and B2C customers

In business-to-business (B2B) selling, and sometimes in business-to-consumer (B2C) as well, the person who you're selling to is not the one who is going to use your product on a daily basis. The persons responsible for the buying choice are also (at least partially) interested in different characteristics of the product than the end-user. For example, every computer you're going to get as an employee is probably not going to be tailored to your personal needs (Windows vs. Mac, HP vs. Dell, preference for a big monitor or a "natural" keyboard), but to the needs of a purchasing manager or an IT manager.

While business markets have similarities with consumer markets, they differ in four key points (Kotler, Wong, Saunders, & Armstrong, 2005, pp. 303-306):

- **Market structure and demand.** Business markets have fewer, but larger buyers. Often, they are also geographically concentrated.
- **Nature of the buying unit.** Business purchases involve several people from the purchasing company, usually trained purchasing experts.
- **Types of decision.** Business purchases often have a list of complex technical and other features that need to be considered.
- **Decision process.** There is a formal purchasing process, which involves multiple people with different roles in the purchase.

The different roles in the decision-making process can be divided into several categories. The initiator first signals the need for a product. The influencer has a stake in the purchased product, and adds his or her preferences to the feature list. The decider ultimately chooses which product is going to be purchased because he or she can authorize the budget expenditure. The purchaser makes the order/purchase. Finally, there is the user of the product. Every person in this chain has his or her own preferences regarding the product being purchased, and a trained sales person needs to find out which features are important for each participant in the decision process and on whom the most effort should be spent (Lehmann & Winer, 2008, pp. 138-139).

~~Because of t~~The nature of <u>the Company's</u> ~~our~~ products and ~~our~~ monetization strategies~~, we are often~~<u>puts it</u> in a position where ~~we have to juggle~~ the interests of multiple stakeholders <u>must be examined</u>. Selling advertisements in Register Zdravil (and potentially in RheumaHelper) means that <u>the</u>~~our~~ users are medical professionals~~,~~<u>;</u> and ~~our~~ <u>the</u> revenue comes from ~~advertisers that are usually~~ pharmaceutical companies~~; and pharmaceuticals have a tangled web~~ <u>who have formal hierarchies consisting of multiple levels</u> of brand managers, marketing managers, country directors, etc.

~~Since for~~<u>The advertisements in</u> Register Zdravil ~~we're~~ <u>are sold to</u> ~~targeting~~ a very specific group of companies~~.~~<u>,</u> ~~we have the luxury of~~ <u>This allows the Company to have</u> ~~having~~ a complete list of potential customers. <u>The</u>~~This can be a good as much as a bad thing: if nobody on the list wants to purchase the products or services we're offering, you'll need to invest much more time and money in modifying them in order to be able to try selling them again. The complete list of~~ pharmaceutical companies in Slovenia who we are targeting ~~is in the next table~~<u>can be seen in the table</u> below.

Table 6. List of Pharmaceutical Companies in Slovenia

Company	Products
Abbott	Pharmaceutical products Medical devices Diagnostic assays Nutritional products Animal health products
Alcon	Ophthalmic pharmaceuticals Surgical equipment Contact care products
Amgen	Biopharmaceutical products
AstraZeneca	Pharmaceutical products (esp. for coronary disorders)
Astellas	Pharmaceutical products
Bayer	Pharmaceutical products Animal health products Diagnostic imaging products
Biogen Idec	Pharmaceutical products (esp. for neurological and autoimmune disorders)
Boehringer Ingelheim	Pharmaceutical products Animal health products
Celgene	Pharmaceutical products (esp. for cancer and inflammatory disorders)

(table continues)

(continued)

Company	Products
Eli Lilly	Pharmaceutical products (esp. diabetic and psychiatric drugs)
Grunenthal/Stada	Pharmaceutical products (esp. pain medications)
GlaxoSmithKline	Pharmaceutical products Vaccines Oral healthcare products Nutritional products
Janssen	Pharmaceutical products (esp. mental illness, neurological disorders, anesthesia, and cancer)
Krka	Pharmaceutical products (esp. for cardiovascular, alimentary tract, metabolic, and central nervous system diseases)
Lek	Pharmaceutical products (generics)
Lundbeck Pharma	Pharmaceutical products (esp. central nervous system disorders)
Merck, Sharp & Dohme	Pharmaceutical products Animal health products
Novartis	Pharmaceutical products Vaccines Diagnostic products Animal health products
Novo Nordisk	Pharmaceutical products (esp. for diabetes)
Pfizer	Pharmaceutical products (esp. oncology, cardiovascular and metabolic diseases, and pain medications) Vaccines
Roche	Pharmaceutical products Diagnostic equipment
Sanofi-Aventis	Pharmaceutical products (esp. for cardiovascular and central nervous system diseases, diabetes, internal medicine and oncology) Vaccines
Servier	Pharmaceutical products (esp. for cardiological and rheumatological conditions)

Consumers behave differently than businesses when deciding about a purchase. Two "parts" influence the buying behavior of each consumer: his or her characteristics and psychological processes his or the (Kotler & Keller, 2006, pp. 174-184).

The consumer's characteristics are divided into cultural, social, and personal:

- **Cultural factors.** Cultural factors (including culture, subculture and social stratum) have the most effect on an individual's behavior. Culture includes values and preferences which the individual inherits from his parents and society; subculture is a

group with specific tastes in some areas (clothing, food, etc.); and social stratum influences choices of brands, activities, etc.

- **Social factors.** Social factors are formed through the individual's membership in different groups: family, friends, coworkers, and so on. Groups to which he does not belong ~~to~~, but wants to join or avoid also exert influence.
- **Personal factors.** Personal characteristics include an individual's values, personality, lifestyle, occupation, and age.

The psychological factors are separated as follows:
- **Motivation.** Every product satisfies a certain need. Individuals have a set of different needs at all times, but a motive to buy has to be also present in order for them to make a purchase. The motive itself satisfies a certain psychological tension in the individual (recognition, esteem, etc.).
- **Perception.** Consumers perceive the stimuli ~~which~~ they receive from their surroundings in different manners~~,~~ and~~,~~ consequentially their reactions to them vary. Since perceptions have a ~~larger~~greater influence on the consumer than ~~the~~ reality, marketing focuses on them.
- **Learning.** Through product usage, the individual changes his or her behavior based on the experience gained. If the experience has been a positive one, the individual will likely generalize it to other product categories of the same brand.
- **Memory.** Each interaction with a brand (either with the product itself or with sellers, customer service representatives, etc.) is stored in the individual's memory. The quality of the experiences (positive or negative) dictates how fast the individual~~she~~ can retrieve information about that brand.

The interaction of the consumer's characteristics with the four fundamental psychological processes is what largely drives ~~a~~the customer's buying decisions. ~~Source: Own research~~

WellWithMe and Jog of War have been made bearing in mind the needs of different customers~~are made with different customers in mind~~, but they also overlap in some regards. They require the individual to possess a smartphone, which implies a certain level of economic ability. ~~Secondly~~In addition, the individual needs to know how~~,~~ and be motivated to~~,~~ browse the applications available for his smartphone, which requires ~~ing~~ some technical aptitude. ~~Next~~Furthermore, he or she needs to have a predilection for doing his or her fitness activities with other people and use social networks. The individuals~~He or she is~~ are presumably young, in ~~his~~their twenties or thirties. ~~—~~

WellWithMe is geared toward a person who ~~isn't~~is not doing much exercise, but ~~understands the necessity of~~ is motivated to lead~~ing~~ a healthy life; ~~s~~he is social and likes to do things with ~~her~~ his friends, not against them: ~~s~~he is inclusive, not competitive. ~~sh~~He

takes pictures, shares them and encourages others to join h~~er~~im. ~~Sh~~He is a smartphone user, but not necessarily a techie.

Jog of War is for the competitive jogger: he likes to run, and he always has his smartphone with him. He measures his runs and tries to run faster and longer than the last time. He is proud of his improvement when he looks at performance charts. ~~H~~He enjoys competition; that drives him. Adding a layer of strategy and rivalry will make him even more motivated.

The comment bubble: Pripomba [MD80]

~~4.3.2~~2.3.2   Consumer involvement~~what are they buying and how are they using it?~~

Whenever a person is faced with the decision to use a product, he weighs its benefits and drawbacks — this is true for paid as well as for free products or services. ~~Some products are actively sought after and analyzed, like when somebody decides to purchase a car or a new mobile phone; some of them you just stumble upon and decide in a few moments if this is something you would use.~~ To be able to win customers, one must understand what they ~~'~~are after, or rather what benefits are they seeking from one's product. Knowing that allows the marketing of the product to focus on them, making it more effective.

~~For a company all customers should be equal, but some are more equal than others.~~~~All~~Not all the customers of a company ~~do not~~ have the same value. Grouping potential and current customers into stages of their relationship with our product helps identify the more important ~~clients~~ones. These stages are (Lehmann & Winer, 2008, pp. 146-147):
- Unaware (they ~~haven't~~have not heard about the product);
- Aware (they~~'~~ have heard about the product);
- Accepting (they are willing to try out the product);
- Attracted (have a positive stance towards the product);
- Active (are using the product or plan to use it in the near future);
- Advocates (they ~~'~~are actively pushing their friends to use the product).

It is intuitively visible that customers in different stages of cognizance of the product have different worth. For WellWithMe and Jog of War, we have empirical evidence of the quickly diminishing rates between one group and the next. In order to inform people about the product (move them from unaware to the aware group) we have been doing social media campaigns (on Facebook and Twitter), including writing of blog posts of technical or marketing nature that would explain a facet of our product and posting them to relevant portals. In one of our best viewed posts, we got around 5,000 visits on our blog (we made them aware of the product); from those we got around 100 persons to leave their e-mail address for future news about the (unreleased) product, or around 5% moved to the "accepting" group. In Register Zdravil, where we have analytics that track the usage stats, we can see that at any point in time (in this context it means a week), from the more than 3,000 users that downloaded the app, around 500 are active, or 15%.

Comments in margin: "Pripomba [MD80]: I think that you need to differentiate between your B2C and B2B costumers more specifically and structure their descriptions.." and "Spremenjene kode polj"

4.3.32.3.3 ~~Where do they buy?~~Product placement

Buying patterns for physical products are different from buying patterns for applications, mostly because the applications' market is tightly controlled (more so in the case of Apple than Google), and it is virtually impossible to get apps from any other vendor or marketplace.

For iOS, the only place to download applications is Apple's App Store. The App Store review team reviews all applications available for download, a process that usually takes three to seven days. This is done with the purpose of ensuring that the application is in accord with Apple's guidelines and that it offers at least some value to the customer. It is important to note that mistakes are more costly on the App Store, since there is no way to immediately push out an update to an application in case of a mistake or a critical bug.

For the Android operating system, the situation is slightly different. Google allows third-party vendors to modify the operating system, and as a result~~consequence of that~~ there are two bigger marketplaces: Google's Play Store and Amazon's app store. Furthermore, Google ~~doesn't~~does not review the applications that get offered on the market, so there is no review period before your app is generally available.

However, as for physical products, there is a virtual equivalent of better positioning. There are several placements in the app stores ~~which~~that guarantee better visibility. These are:

- **App of the Week.** The publisher agrees to put his app ~~for~~ free of charge for one week, and in return, it gets promoted on the first "page" of the app store with several prominent banners.
- **Editor's Choice.** The app chosen has a banner on the front page of the app store and appears in the Previous Editor's Choices list.
- **Featured App.** The app has a banner somewhere on the front page (might not be immediately visible), or is included in the Best New Apps/Best New Games lists.
- **Top Chart App.** If the app is among the top free, top paid or top grossing apps it is much more discoverable/visible to customers browsing these lists.
- **Top Chart App in a certain category.** Similarly, the app can be among the top free/paid/grossing apps in a certain app category (productivity, games, etc.).
- **Popular Near Me.** If the app's downloads are especially high in a certain geographical area, the app will appear in this section of the app store. For example, Register Zdravil appears in this section in the vicinity of Ljubljana's Clinical Center.

4.3.42.3.4 ~~When do they buy~~Purchasing times

~~Different products and services are purchased very differently~~The purchase of different products and services varies considerably: while the fast food industry segments their selling by the time of the day, products like skis or inflatable pools are very seasonal and

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sell well only in winter or summer. Companies that sell seasonal products usually try to even out their revenues throughout the year as much as they can by offering early-bird discounts or end-of-season sales (Lehmann & Winer, 2008, pp. 148-149).

Empirical evidence from ~~The software industry~~the download numbers of our products indicate that sales usually have a long-tail distribution: many sales, or downloads in general~~, downloads~~, are made when a new version is made public and a short period after that. Once the software is made available, sales level off after a period of one month~~Sales level off after roughly a month after the software is made available~~. Subsequently,~~After that~~ the sales slowly decline for a long period, until a new version is released. "Peaks" in the download numbers can be visible during the holiday season, for example, or during a marketing initiative.

This trend can be easily spotted in our product for which we have the largest data set — *Register Zdravil*. We can see this effect clearly from the chart of the distribution of downloads since its release on the 20th of August 2012.

Figure 6~~6~~. Register Zdravil Lifetime Downloads
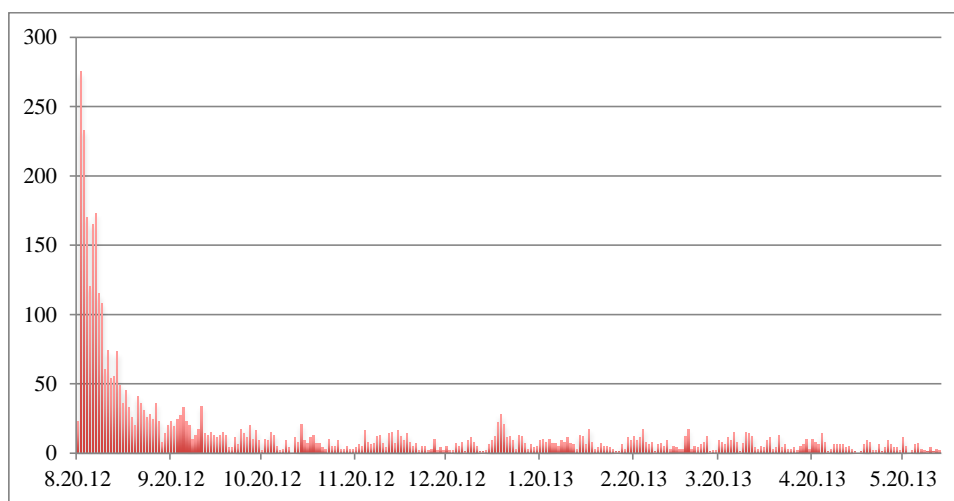
Source: iTunes Connect Developer Portal

~~AAnd the chart for the last eight months (October May) shows the slow decline of downloads. However, notice the~~ ~~n large uptick~~ increase in downloads in January~~,~~, right after the holiday season, can also be noticed.~~:~~

~~Figure 7: Register Zdravil monthly downloads, October May~~
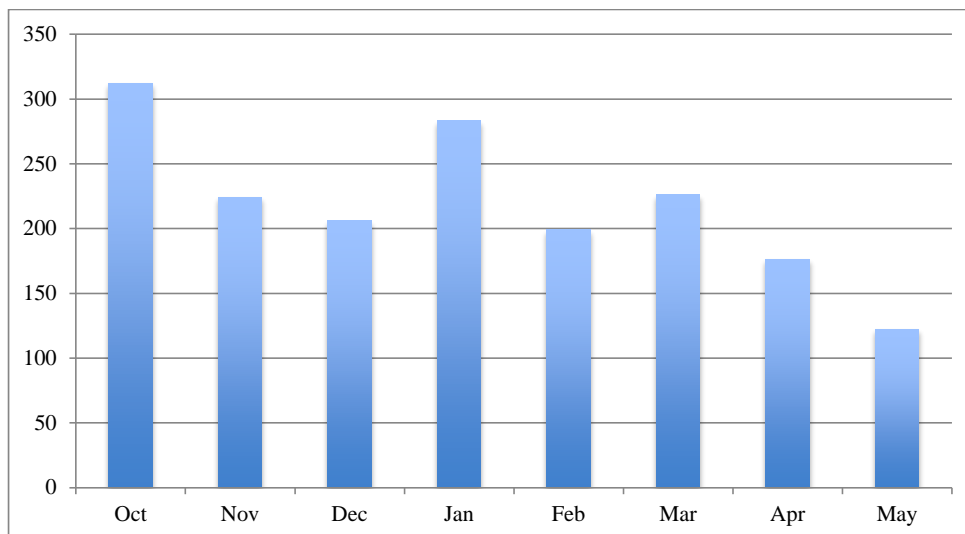
 On a weekly level, the application performs the best on Tuesdays and on weekendsdownloads are stronger on Tuesdays and on the weekend, making them the ideal days in which to offer a new application to the market:

Figure 7~~8~~. Register Zdravil Downloads Per Day of Week
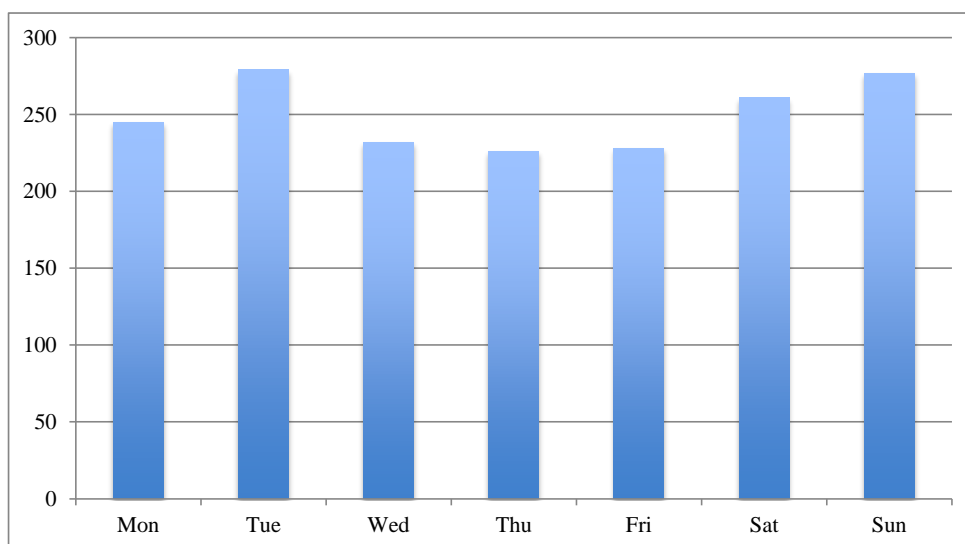
Source: iTunes Connect Developer Portal~~and own calculations~~

There are several points that need to be considered from the analysis of purchases. First, it is important to note that the best motivator for more downloads is the release of new versions. Second, the performance of the product can be improved with better timing. New

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releases during holiday periods and weekends yield the best results. Plans for marketing activities can also benefit from this knowledge. Finally, better download and usage results lead to better performance of the advertisers' ad placements.

Advertisement sales to pharmaceutical companies have shown a high degree of sales cyclicity. Empirical results of the Company's sales efforts indicate two periods when advertisement sales calls are most likely to succeed: in the period of October to December of the calendar year, when the budget for next year is being discussed, and in the period of May to June, when there is a budget rebalance for the current year. Outside of these periods, selling an ad is very unlikely, because the needed funds are already allocated somewhere else.

4.3.52.3.5 How they choose?Evaluation of alternatives

The information about a company's customers (and its competitors' customers) process on how they choose is very valuable for the decision of current and future marketing communications, product and/or service development and positioning. The choosing process varies between different types of products: purchases can be automatic (for staple products like sugar or milk), spontaneous (the candy bar next to the cash register), or rational and thought out (when buying a car). The higher the price of the product relative to the purchaser's income, the more likely he or she is to spend more time in choosing which one to purchase. The way the consumer's buying behavior varies greatly according to the type of purchase he or she needs to completemake. The purchase of a new toothpaste has a different level of involvement than the purchase of a new car. As the level of involvement increases, more people get involved in the purchase (Kotler, Wong, Saunders, & Armstrong, 2005, p. 305).

The customer's motivation, perception and attitudes are strong influencers of his choice (Wood, 2005, pp. 46-47). The customer is motivated to satisfy his needs and wants. His attitudes towards a product are fueled by thebased on the perception he has about that product. By knowing what he the customer wants, we can tailor our a company's products and our marketing can be modified of them to his likingpreferences, making it more likely to cut throughreach the customer the clutter of other marketing messages in order toand improve his attitude towards the product.

A more involved model is the multiattribute model (Lehmann & Winer, 2008, pp. 149-154). In thise model, the process of deciding on a product is split into four parts: attributes, perceptions, importance and combining of information. Attributes are basically essentially the individual's needs and wants: the product features that the customer is most interested in, or values the most. For each of those attributes the customer has a subjective opinion, or perception on how much your product (or a competitor's) possesses this attribute that is usually translated into a numerical score. The attitude of the customer, or the overall score

of the product, is then calculated from multiplying the scores of the attributes with their weight, which is the numerical value of the customer's importance of that feature of your product.

The usual way to gather this data is to talk directly to your customers, through focus groups and surveys. ~~The usual way to gather this data is to directly talk directly to your customers, through focus groups, surveys, or talking to your customers directly~~. ~~Except~~ Apart from those methods, software products and the digital distribution channels allow ~~us~~ companies to have a much better insight about ~~of into how our~~ their customers ~~obtain information on about our product and how do they use it~~our product. By integrating analytics packages on the product web page and in the ~~the~~ mobile apps, ~~we~~ a company can track what ~~did~~ the consumers searched for prior to coming to the product page;~~, we can track~~ how they use ~~our~~ the ~~mobile~~ application, including ~~the~~ its most-used features;~~,~~ and ~~we can even~~ get detailed reports on the lifestyle preferences of ~~our~~ its users by leveraging the data about what other apps they use. We will demonstrate how ~~we~~ Modra Jagoda uses data from different sources and integrates it into ~~our~~ the product marketing and planning ~~for a product~~ by looking at ~~our~~ the process for Register Zdravil.

The web page [http://www.registerzdravil.si] is a landing/marketing page with short information about the product. It was~~is~~ made with two purposes in mind: to be used as a simple gateway to the iOS and Android apps, and as a way to monitor how people learn about the product~~a simple gateway to our iOS and Android apps, and as a way to monitor how do people learnfind about our product~~. The analytics on the web page can tell us what people searched for before coming to the web page, or from where ~~did~~ they ca~~o~~me. We can see which method of communication (Facebook, Twitter, e-mail) was the most effective, and wh~~at~~ich search terms are important for optimizing our web page (this technique is called Search Engine Optimization, or SEO). Additionally, we can add the most-searched for terms as keywords in our app description on the app stores, since it is likely that consumers use similar search terms on every platform.

Figure 8~~9~~. The Top Search Terms of Visitors to Register Zdravil's Web Page

	Keyword	Visits	% Visits	
1.	register zdravil	29		63.04%
2.	(not provided)	6		13.04%
3.	modra jagoda	4		8.70%
4.	register zdravil modra jagoda	4		8.70%
5.	modri register zdravil	1		2.17%

Source: Google Analytics for registerzdravil.si

Pripomba [MJ85]: Mislam deka ova bi trebalo da bide: The usual way to gather this data is to talk directly to your customers, through focus groups and surveys.

Pripomba [MJ86]: Ako mislish osven/pokraj gorenavedenite nachini na pribiranje podatoci, valjda pojasno bi bilo ako kazhesh: "Apart from those methods,…"

Pripomba [MJ87]: Vaka nekako da go prefromulirash za da bide pojasno: to be used as a simple gateway for our iOS and Android apps, and as a way to monitor how people learn about our product.

Both the iOS and Android version of Register Zdravil have an integrated analytics package which tracks number of installs, active users, and a lot more usage statistics. It is also possible to add custom events, i.e. to track every time a user searches for a drug, or uses a certain functionality in the application. Since this analytics package is being used by thousands of apps, it can also give data on user personas (which is its term for segments). The analytics package analyzes the usage behavior of the user within defined app collections. When a user exhibits recent usage patterns within a specific collection of apps that match the definition of a given segment, theat user becomes a member of that segment. If the behavior that resulted in a user being part of a segment changes such in a way that they no longer fit the definition, they are removed from the segment.

For example, in May 2013, the users looked up information on the packaging and pricing of the drug they were looking at 1,310 times, or in 12% of the sessions. By having a large number of such events to track, we can see what is important to the users, what functionality we should improve, and how much a new functionality we added is really used.

Figure 9~~10~~. Usage Statistics for a Certain Event

Pakiranje in cena
add a description for this event...

1,310 times
Total Daily Count

0.12 times
Avg Per Session
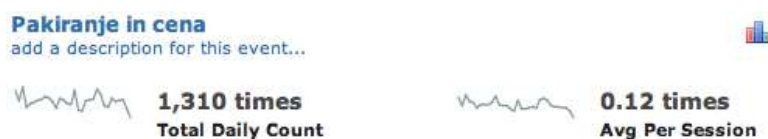
Source: Flurry analytics for Register Zdravil

~~Except~~ Besides user tracking~~such "invisible" methods~~, we also try to motivate our users to give active feedback for the application across different channels: our Facebook page, our Twitter account and our feedback e-mail, and we have links to those in the apps. We have ~~gathered~~ received the most feedback through e-mail, where users have requested additional features they woul'd like to see, or asked us about any issues they might have. Feedback is very useful to see the bottlenecks of your app as well as the future direction you might take.

Another useful direct communications method is beta testing. Beta testing, in technical terms, signifies a time period after the development work of adding a new feature has finished, but before the release of the new version of the app. In this period, the developers, and a small number of outside users test the app to see if everything works as expected. The outside users who help you test the app are called beta testers. Having good beta testers, who are willing to invest their time (usually without a financial gain) are invaluable. Developers cannot test every possible aspect of the app, and bugs (errors in the software) are sure to happen. Beta testers help you in making the app as stable as possible

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before the release to the public. In addition~~Except that~~, they might have good suggestions about some aspects of the app that do not work as well as they could.

Finally, pharmaceutical companies to which the Company sells its ads are interested in other parameters as well. Even in a regulated market without many options for advertising, it 's~~'~~is not very likely to get a direct call from them, which necessitates "push" marketing from us. Meetings with pharmaceutical companies are very valuable to learn the idiosyncrasies of their inner workings, as well as gather valuable information on what kind of data these companies like. For example, in these meetings the Company has repeatedly been asked to provide specialization data for the registered users, in order to be able to target doctors even better. Such a functionality is now currently in development.

4.3.6 2.3.6 ~~Why they prefer one thing product over another~~Purchasing **f**actors

The most important discussion point when talking about preferring one product ~~over~~ to another is the notion of **value to the customer**. This is result of the rational process in which the customer weighs the benefits and the costs of using the product. The terms **benefits** and **costs** both signify multiple variables of consideration. Benefits are broadly categorized as the economic, functional, and psychological value the customer can get out of a product. Costs include financial cost of buying and owning the product, as well as the potential risks that the product will not function as expected, or will have physical, psychological, or social consequences.

Economic value to the customer pertains to the value for money the customer is getting from the product (a US$ 0,~~99~~.99 app might be solving you a problem "worth" a lot more). ~~Also~~In addition, if the new product is replacing an old one, we can calculate the (positive) financial impact it will have on our bottom line. **Functional value** is tied to the performance of the product,~~ and the services along with~~ it~~, the product~~. A digital drug registry has much better performance than a book in the sense that it provides much faster searching for drugs, and the convenience of portability, or having it always with you on your smartphone. A running app can be interesting enough to change your running habits, making you healthier. ~~Or~~ Similarly, a car service shop can be so good, that you will buy the same car make just because of the excellent treatment you get when you take your car for regular maintenance. **Psychological value** applies to the image and "feel" of a product and if the customer sees himself in that image. It is also closely connected with the image of the brand, since the brand is a construct that ~~doesn't~~does not have a connection with the economic or functional values of a product (Lehmann & Winer, 2008, pp. 156-157).

Costs encompass the financial cost of ownership that includes the price of the product and the costs of maintaining it (gas and maintenance costs for cars, or the cost of toners and cartridges for printers), as well as all the perceived risks of that product. **Financial risk** is antipodal to economic value, or the amount of money ~~amount~~ the customer has to give up

> **Pripomba [MD88]:** I think you need to list references here; you are providing definitions..
> Same comments for the para below

in order to acquire the product, along with failure costs. **~~Performance~~ Functional risk** is related to the risk of the product not operating as marketed / expected. **Physical risk** is the chance that the product might injure the customer physically. **Psychological risk** is connected to buyer's remorse, the sense of regret that the purchase ~~wasn't~~was not worth the money. Finally, **social risk** is the chance that your social circle will not approve of, or view negatively, the purchase of the product for some reason (Kotler & Keller, 2006, pp. 197-198).

~~4.3.7~~2.3.7 ~~How they respond to marketing?~~Response to marketing programs

Judging the effectiveness of marketing campaigns, and especially what part of the marketing mix used was effective is a difficult task. However, with the downturn in the economy, now it is more important to have a clear understanding of where the money is most wisely spent. The performance of different marketing activities is usually measured as if all of them are separated and unique from each other, also called swim-lane measurement. Swim-lane measurement ~~doesn't~~does not take into account the effects between various types of advertising, which can lead to over- and under-allocation of marketing funds, diminishing the maximum potential payoff from the marketing campaign (Nichols, 2013, p. 63).

Instead of analyzing a limited set of data variables and points, companies are today able to ~~crunch~~ go through ~~enormous amounts of data~~big data sets using hundreds of variables, improving marketing programs' effectiveness by 10% to 30%. This new cycle of marketing optimization is based on three activities: **attribution**, which is the quantification of the effect a variable has on a certain advertising activity; **optimization**, which then runs simulations of different business scenarios, trying to forecast the effect of proposed changes; and **allocation** which redistributes resources across different activities in real-time. The inputs to this cycle are a multitude of variables, including overall market conditions (price of gas, unemployment rates, etc.), marketing actions (print and TV ads, e-mail campaigns, etc.) and competitive activities (new products, changes in pricing, etc.). After attributing, optimizing and allocating, we need to monitor the outcomes in the form of consumer responses (online searches and store visits, among others) and business outcomes (sales, revenues, market share and others) and feed the results back in the first step of the process (Nichols, 2013, pp. 63-67).

Figure 10~~11~~. Google AdWords Analysis ~~for~~ of a Campaign for WellWithMe

		Keyword	Status	Max. CPC	Clicks	Impr.	CTR	Avg. CPC	Cost	Avg. Pos.
☐	•	app for health	☐ Eligible	€5.00	3	353	0.85%	€0.39	€1.18	3.5
☐	•	health app	☐ Below first page bid First page bid estimate: €0.84	€5.00	1	159	0.63%	€0.42	€0.42	3.7
☐	•	health apps	☐ Below first page bid First page bid estimate: €1.01	€0.50	1	70	1.43%	€0.43	€0.43	4.3
☐	•	free health app	☐ Eligible	€5.00	1	33	3.03%	€0.50	€0.50	3.3

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Source: Google AdWords dashboard

Even for smaller companies using off-the-shelf analytics packages, it' is still possible to get an incredible amount of exact data and modify your marketing activities accordingly. For example, in the pre-launch activities for WellWithMe, we have marketed the app through different channels: social (Facebook, Twitter), paid search (Google AdWords[28]), as well as through blog posts, of a mainly technical and design nature, of our experiences while building the app, which we then posted on sites like HackerNews[29], DesignerNews[30] and Reddit[31]. After posting a certain marketing message (a link, a page post, or a blog post) we can see its effectiveness both on both the built-in analytics of the different platforms, as well as the analytics on our web page to which every message was linking.

Google AdWords gives us concise data on which of our search ads performed the best, so we have immediate feedback on how effective is our search advertising and keywords are, and how to optimize itthem (Figure 10).

Facebook shows the reach of each of our page posts (Figure 11), and how much people they reached. We can then see what type of posts resonated more with our audience and adjust our messages accordingly.

Finally, on our web page we can see from which source our traffic came, including the engagement metrics from each of the sources (i.e. did the people coming from Facebook stay more on the page than those coming from HackerNews) and the number of users which that signed up to our newsletter from each source (Figure 12). From these data, we can decide on which channel we will spend more of our efforts and finances.

Spremenjene kode polj

Spremenjene kode polj

Spremenjene kode polj

Pripomba [MD89]: So, what will be your decision?

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[28] http://adwords.google.com

[29] http://news.ycombinator.com

[30] http://news.layervault.com

[31] http://www,reddit.com

Figure 11~~12~~. Facebook Reach for the Posts on the Modra Jagoda Page

Source: Facebook Page statistics for Modra Jagoda

Figure 12~~13~~. Google Analytics for WellWithMe
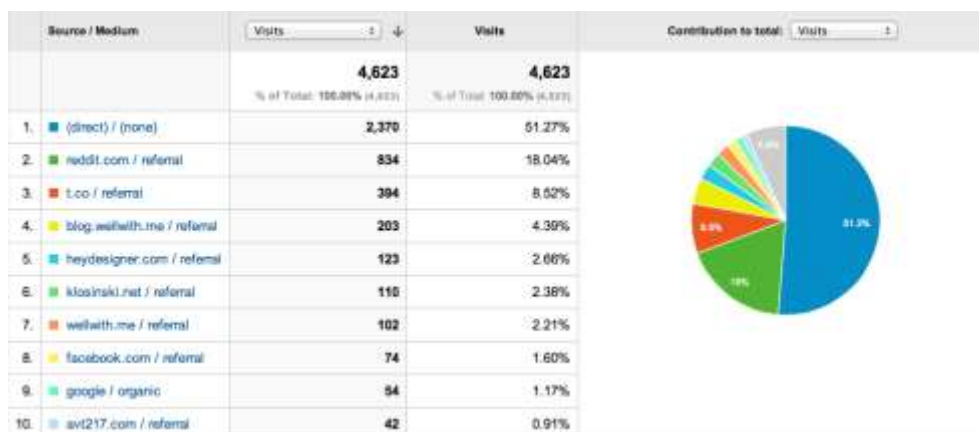
Source: Google Analytics dashboard for wellwith.me

Blog posts with interesting content for the target audience (engineers, designers, health and fitness enthusiast, etc.) has proven to be the best source of visits to the product's web page, and has increased the number of sign-ups for the newsletter the most. While this method of marketing is indeed low-cost, it is time-consuming, as writing a quality article means a minimum of several hours of work for one of the Company's employees.

A balanced approach has to be implemented. In order to limit the time spent on publishing articles, every week one article with a different theme will be written. Along with the

Oblikovano: Navaden

Pripomba [MJ90]: target audience?

Oblikovano: Navaden

Oblikovano: Navaden, Obojestransko

articles, posting on social networks two to three times per week will keep the interest of our consumers. Paid search links do not have the return on investment we would like to see at this moment, and will be discontinued.

4.3.82.3.8   ~~Will they buy it, and continue buying it~~Continued usage

The discussion on purchases and repeat purchases revolves around customer expectations of a product, and their satisfaction of using it. The goal of a business is not simply to persuade the customer of buying its product, but also to have a relationship extending past the first purchase, in the hopes that the customer will continue using the same product in the future. After the purchase, consumers exhibit **post-purchase dissonance**, or feeling of worry and doubt if they made the right choice. ~~Measuring satisfaction has three components to it: *expectations* of how the product performs; *perception* of the actual performance; and the *difference* between them.~~Keeping the customer satisfied involves after-sales service, additional advertising, and/or having the gap between the customer's expectations and the product's performance positive or neutral. In the absence of direct data, there are ways to infer customer satisfaction, mainly through monitoring of repeat purchases or customer retention (Smith & Zook, 2011, pp. 97-99).

For our products, we strive to be as much in contact with our customers as we can, and on multiple channels. A typical setup for a product includes having a Facebook page, a Twitter account (which can be accessed through the app), a dedicated e-mail address (also accessible through the app in question), monitoring ~~iTunes~~ App Store and Google Play user reviews, as well as keeping watch on the user retention over time for a certain app. This enables us to converse with the client on the channel that suits him or her the best.

User retention is very important for our applications. Selling advertising space in Register Zdravil and RheumaHelper is dependent on the number of active users and the number of sessions. Similarly, selling sponsorships in WellWithMe and Jog of War depends on a large number of users. Their worth to the user increases with the total number of players.

4.3.92.3.9   ~~What are they worth?~~Customer value

The value of the customer is discerned from the transactions the customer makes with the company. To be able to compute the financial value of retaining a customer, we need to take into account several components of each transaction. ~~There are several components of each transaction we need to take into account to be able to compute the financial value of retaining a customer.~~ Those ~~are:~~are the **net margin** of the transaction (which is the **gross margin** minus the **maintenance/retention costs** for servicing the customer), discounted over time with a specific **discount rate** to get the current rate. If there is a cost to acquiring the customer, that cost should also ~~also~~ be deducted from the final value. Generally, the retention and discount rates, as well as the margin, can be variable from period to period.

For our purposes, we will use a simpler way to calculate the financial worth of the Company's customers. We will take the example of Register Zdravil. In the application, we sell advertising slots to pharmaceutical companies. The pricing varies according to different business variables. Currently, there are three pricing tiers: 500€/month, for month-to-month advertising; 450€/month, for a 6-month subscription; and 400€/month, for a 12-month subscription. In order to calculate the future revenues from a client, we will use the following assumptions:

- Our advertisement pricing is constant;
- Every client buys only one advertisement;
- Every client buys a yearly subscription;
- Retention rate is constant over time;
- Discount rate is constant over time;
- Net margin (gross margin minus retention costs) is constant over time;
- Each transaction occurs at the end of the year.

We will omit the mathematical procedure[32] by which one comes to the end formula for the customer lifetime value (CLV), and produce just the ~~final result~~result:

$$CLV = m\left(\frac{r}{1 + i - r}\right) \quad\quad (1)$$

The expression inside the brackets is called the **margin multiple**. It gives us the multiple to the annual margin of a customer, which equals his future value. For our computations, we will assume a yearly discount rate of 10% and retention rate of 90%. That comes to:

$$\left(\frac{r}{1 + i - r}\right) = \left(\frac{0.9}{1 + 0.1 - 0.9}\right) = 4.5 \quad\quad (2)$$

Which means that every customer is worth 4.5 times his annual net margin. For the calculation of the net margin, we have the following numbers, contingent on our previous assumptions:

- The gross margin for a 12-month subscription is 4,800€ (12 × 400€).
- The cost of retention is calculated by the amount of time used for negotiating. The numbers are averages derived empirically from meetings until now. The hourly rate is calculated at 40€/hour, which comes to a total of 800€ (20 hours × 40€). The breakdown is as following:
- Two meetings, each lasting two hours on which two employees attend (8 hours);
- Four phone calls, each lasting approximately 15 minutes (1 hour);
- Development time to integrate the advertisement into the system (8 hours);

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[32] The complete formula can be found in Lehmann & Winer, 2008, pp. 167-168.

- Sending quarterly reports on advertisement statistics to the clients (3 hours).

Which means that the net margin comes at 4,000€. That would put ~~our~~ the CLV at:

$$CLV = m\left(\frac{r}{1+i-r}\right) = 4,000\left(\frac{0.9}{1+0.1-0.9}\right) = 18,000 \tag{3}$$

~~Of course, this is just an illustrative value, which can and will be changed when we change our prices, if a client buys more than one advertisement, or for a different amount of time, etc.~~

~~5~~3 MARKETING STRATEGY

"The essence of strategy is choosing to perform activities differently than rivals do" (Porter, What Is Strategy?, 1996, p. 9). The previous part of our thesis dealt with our environment, the competitive landscape, and the needs and wants of our customers. This background is essential in order to formulate a marketing strategy that will guide the~~our~~ products, and ~~our~~ company. A marketing strategy is roughly divided in three segments, going from "the big picture" to operational details:

- **Business objectives.** Where does the company want to be? Do we concentrate on growth, or on profits?
- **Targeting and positioning.** How do we achieve our business objectives? Do we acquire new customers, or concentrate on existing ones? How do we deal with competitors?
- **Specific tactics.** What are the programs we will implement to execute our core strategy?

Having a well thought-out strategy gives one's~~your~~ company three advantages (Porter, 1996, p. 3). First, the strategy should lead a company in having a unique and advantageous position in the market. This means that we must know our competitors, and their strengths and weaknesses. A superior strategic position can be achieved in three distinct ways:

- **Serving few needs of many customers.** This is providing a specialist service in a big market. For example, NVidia is manufacturing solely graphics cards for personal computers.
- **Serving broad needs of few customers.** This is providing a product just for a specific subset of customers. Vertu, a former Nokia subsidiary, offers mobile phones only to well-off customers, with phone prices upwards of 6~~.~~,000€.

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- **Serving broad needs of many customers in a narrow market.** This is catering to the needs of customers in specific markets. For example, In'n'Out Burger, a chain of fast-food restaurants, operates only in California.

Second, the strategy should give focus; what you are saying "no" to is as important as what you are saying "yes" to it is as important to what you're you are saying "no" as it is to what you're you are saying "yes". Some activities are mutually incompatible, so doing them will come at the expense of others. AlsoIn addition, resources inside the company are limited, and most usually shared between different products and services, which means that clear instructions are needed as to how those resources are allocated.

Third, strategy should reinforce the different activities in the company; it should improve the "fit" between them. Fit is the way the company's activities interact among themselves. When the activities are mutually reinforcing, they provide both competitive advantage and sustainability to the company, since a competitor cannot emulate everything (Porter, 1996, pp. 12-13).

3.1 Mission, Goals, and Objectives

Building the company's strategy starts with setting objectives and a set of strategic alternatives available for attaining them. There are a multitude of different objectives for big companies, going from the objectives for the corporation as a whole, down to objectives for specific programs. For small companies, especially those who have a single product, or a few related products, this objective hierarchy is flatter and usually revolves around the product or service itself. The end result of common objectives is to grow the product or service, to increase the profitability, or both; although sometimes it is impossible to pursue one of these objectives without sacrificing the other, at least in the short term. This is due to the fact that increasing market share often necessitates a higher rate of marketing spending, which in turn lowers the profit margin of a product. The analysis of the competitive environment – provides basis for establishing a company's mission, goals, and objectives. These can be high-level, i.e. organization-level, and they can be specific to a business or functional unit (marketing, production, finance, etc.) inside a company. All of the lower-level goals and objectives need to be in agreement with the organization's mission, goals, and objectives, and they have to be coordinated in order to achieve the higher-level goals (Ferrell & Hartline, 2011, p. 141).

An organization's mission statement serves to set the company apart from other companies and to voice its primary goal and core values (Drummond, Ensor, & Ashford, 2008, p. 133). A good mission statement should also provide the employees of a company with a shared purpose, point the direction in which the company is going, and the kind of opportunities it is pursuing (Kotler & Keller, 2006, p. 44). A mission statement has to have

four important characteristics: it has to be **realistic**, **specific**, based on **distinctive competences** of the organization, and **motivating** (Kotler, Wong, Saunders, & Armstrong, 2005, pp. 51-53).

Modra Jagoda's mission statement is the following: "We commit to providing modern solutions to people and companies who share our passion for a better health-care system. We believe in work guided by creativity, imagination, honesty, and integrity." [33]

The mission statement gives a sense of direction and helps in the creation of goals and objectives for the organization. **Goals** are broader than objectives, and are difficult to put into concrete numbers and time schedule, **objectives** ~~Objectives should have certain features in order to be effective; broad, unmeasurable goals just serve to confuse the stakeholders and destroy morale. Clear objectives are *quantified, challenging,* and have a clear *time frame*. Quantification serves to make the goal easy to understand: while "increasing market share" leaves everyone guessing as to what management means, "increase market share by 5%" is simple, and aligns everybody's efforts to attaining the goal. The difficulty of the objective correlates to the motivation of the employees. Easy-to-attain goals may lead to complacency, unrealistic goals may be completely ignored; the best is to set them between these two extremes, or to follow up a few easier goals with a more difficult one. Finally, goals have to have a time limit to be meaningful. If the time limit is longer, it might be useful to have reviews at regular time intervals in order to assess the progress.~~ are therefore more concrete and give exact targets to be attained and the time frame in which they need to be attained. Objectives should have the following attributes, defined with the acronym SMART (Drummond, Ensor, & Ashford, 2008, pp. 140-141):

- **Specific.** The intention of the objective should be clear.
- **Measurable.** Objectives should be stated with tangible and measurable targets.
- **Aspirational.** Both too easy and too hard targets demotivate employees. Objectives should be achievable, but challenging.
- **Realistic.** The objective should be attainable from the company's current strategic position.
- **Time scaled.** The objective needs to have a period in which it should be attained.
-

We will discuss the Company's goals and objectives for each individual product in the next section.

3.2 Market Strategies

Following the choice of objectives, the company needs to review its strategic alternatives, or the ways to attain its goals; they provide a high-level overview of the tactic that will be

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[33] The Company's mission can be found at: http://d.pr/zfK1.

used. A way to analyze the growth strategies available to a company is the product/market matrix developed by Ansoff (Drummond, Ensor, & Ashford, 2008, pp. 166-168).

Figure 13. Ansoff's Product/Market Matrix
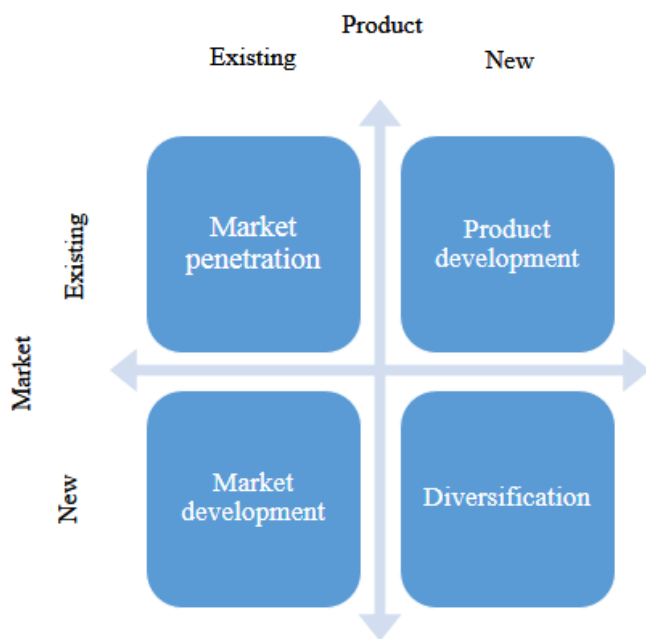
Source: Adapted from Drummond, Ensor, and Ashford (2008, p.167)

Market penetration. The first strategy is to target existing customers of the product — both our competitors' and ours. Strategies include trying to increase the usage rates of our products by producing bigger packaging or cross-selling services; or use aggressive strategies such as more competitive pricing, increase sales promotions and increase marketing activities. Market penetration strategies are low risk and usually limited in their usefulness. Companies have to use them combined with other strategies (Drummond, Ensor, & Ashford, 2008, p. 167).

Market development. The ~~first~~second strategy if pursuing market growth, is to target potential customers, who currently do n'ot use our products or services, in segments we already serve, or to develop new markets and segments that would be interested in our product, but previously were paid no attention to (Lehmann & Winer, 2008, pp. 260-261). *Market penetration. The second strategy if pursuing market growth, is to target existing customers of the product — both our competitors' and ours. Strategies include trying to increase the usage rates of our products by producing bigger packaging or cross-selling*

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services; or trying to attract our competitors' clients with aggressive sales promotions and comparative advertising extolling your product's virtues over a competitor's.

Market development. The first strategy if pursuing market growth, is to target potential customers, who currently don't use our products or services, in segments we already serve, or to develop new markets and segments that would be interested in our product, but previously were paid no attention to.

Market penetration. The second strategy if pursuing market growth, is to target existing customers of the product — both our competitors' and ours. Strategies include trying to increase the usage rates of our products by producing bigger packaging or cross-selling services; or trying to attract our competitors' clients with aggressive sales promotions and comparative advertising extolling your product's virtues over a competitor's.

Decreasing inputsProduct development. In order to remain competitive on the marketplace, companies have to regularly update their product portfolio. Updates to the product portfolio can be either better versions of existing products or new products in the same market category with different feature sets. Ideally, revenues from existing products should When the company is trying to increase the profitability of a product, one way to do that is to decrease the costs associated with that product, either on the marketing side, or on the manufacturing side. Decreasing marketing costs means less spending on advertising, sales promotions, reducing the sales staff, etc. On the other side, it is also possible to improve profits by reducing the workforce, improving the processes of how a product or service is "manufactured", or changing the some parts on the bill of materials with cheaper substitutes. Another way is to better utilize the current assets of the company, be it inventory, machinery, or people.

> **Pripomba [I103]:** May wish to consider Ansoff's product/market matrix – see any basic marketing text, including Kotler

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finance the development of new products (Drummond, Ensor, & Ashford, 2008, p. 167).

~~Increasing outputs~~**Diversification.** Finally, the strategy that bears the most risk is diversification in new markets with new products (Drummond, Ensor, & Ashford, 2008, p. 167). The markets can be related (for example, Apple, a personal computer and electronics company, entering the smartphone market)~~Profitability can also be positively affected from current unit sales, but some of the methods are unpopular with the customers. One way is to increase the prices, or discontinue current sales or promotional offerings. A second option is to improve the sales mix (focus on selling more profitable items) or more profitable customers (and consciously disregard less profitable ones).~~, or completely unrelated (for example, Google building self-driving systems for cars).

Product

Existing   New

Existing

Market

New

Market penetration

Product development

Market development
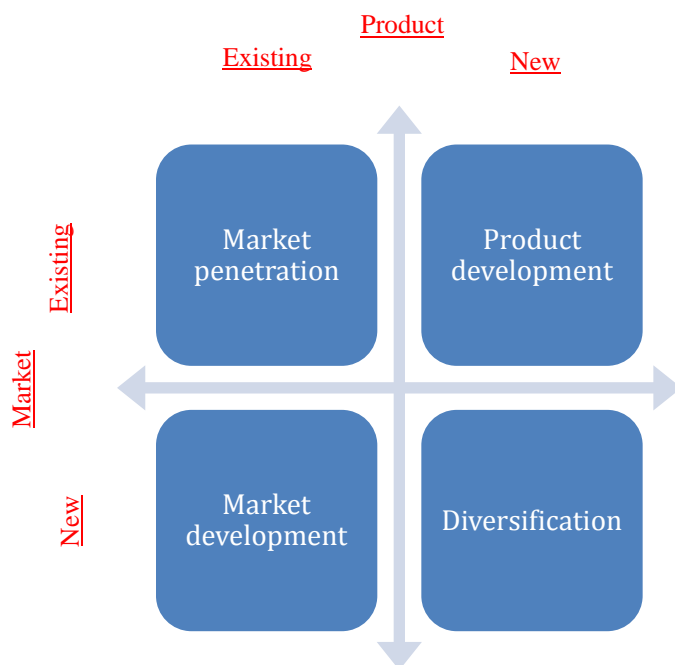
Diversification

Related to the diversification strategy is the ~~b~~**Blue ocean strategy**, as presented by Kim and Mauborgne (2004, p. 70). Competing in crowded industries — red oceans — for a bigger share of the market eventually diminishes both profits and growth; instead, a company can focus on creating a completely new market space — blue oceans — where the existing competition is irrelevant. Blue oceans ~~aren't~~are not defined by technology innovation, but rather about making a link between existing technologies and customer value in a novel way.

~~Transient advantage.~~ Finally, ~~w~~While long-lasting competitive advantages exist, there are markets where they are just not possible. Every competitive advantage goes through five phases: **launch**, **ramp-up**, **exploit**, **reconfigure**, and **disengage**; but ~~the for~~ for the most

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companies this ~~doesn't~~does not last very long anymore. Therefore, companies should accept transient advantages (temporary strategic initiatives), which can be launched quickly and abandoned as fast, thus creating a portfolio of competitive advantages ~~SoTherefore, companies should accept *transient advantages* — strategic initiatives that are temporary, that can be launched quickly, and abandoned as fast, creating a portfolio of competitive advantages~~ (McGrath, 2013, p. 65).

In Chapter 1.3 we have looked at ~~our~~ the Company's current product and service portfolio. Modra Jagoda has both product and service offerings, which can be summarized in Figure 14.

~~Our products and services are focused on the mHealth field, and as such complement each other. Our general public products serve to better people's health. Our products geared towards medical professionals help medical professionals to do their jobs in a more convenient and productive manner. Our services represent partnerships with companies who share our vision for better healthcare, and healthier people. We serve *specific needs to many customers*: for both the general public and the healthcare professionals we provide specialist mobile applications to help them in one aspect of their private or professional lives.~~

Figure 14~~14~~. Modra Jagoda's Product Portfolio
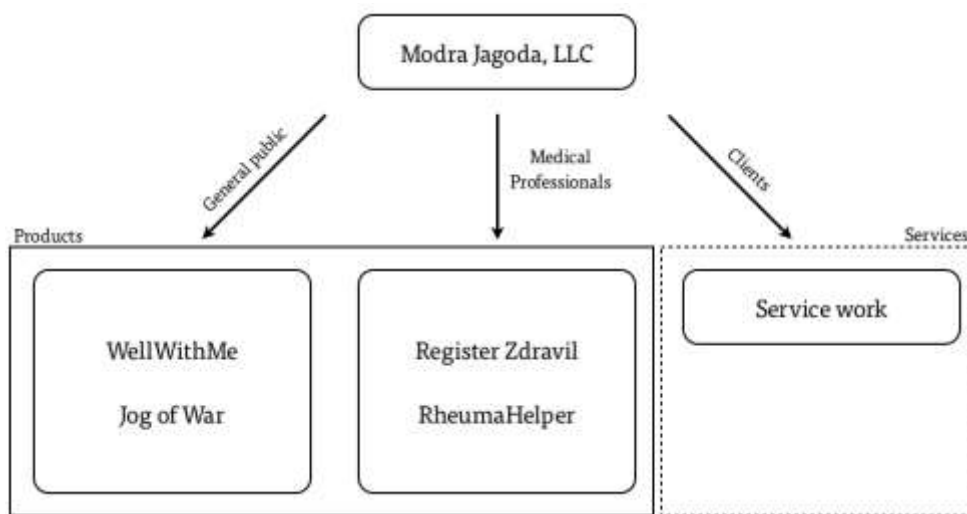
~~Our~~Modra Jagoda's products and services are focused on the mHealth field, and as such complement each other. ~~Our~~The general public products serve to ~~better~~improve people's health. ~~Our~~The products geared towards medical professionals help medical professionals to do their jobs in a more convenient and productive manner. ~~Our services~~ Service projects represent partnerships with companies ~~who~~that share our vision for better healthcare, and healthier people. ~~We~~The Company serves **specific needs to many customers**: for both the

---

Pripomba [MJ104]: Nemalo potreba od brishenje, tochno si bilo. Jas ova bi go pishala vaka: Therefore, companies should accept *transient advantages* (temporary strategic initiatives), which can be launched quickly and abandoned as fast, thus creating a portfolio of competitive advantages (McGrath, 2013).

Spremenjene kode polj

Spremenjene kode polj

Spremenjene kode polj

Pripomba [MD105]: Ok. I have learned a lot of different marketing strategies. BUT, What is then marketing strategy of your company?

Oblikovano: Preveri črkovanje in slovnico

general public and the healthcare professionals, ~~we~~it provides specialist mobile applications to help them in ~~one~~some aspect of their private or professional lives.

For ~~our~~ the different products, ~~we~~ there ~~have~~ are different objectives ~~we'd like attain~~to be attained; for many of them they relate around the number of users, since sponsors and advertisers for a certain product are contingent on the user base of that product. ~~The objectives for our products are as following:~~ The strategies ~~we're~~ being implement~~ing~~ed depend on the product. Some of the products are already, or will enter, on markets that are plentiful in substitutes; others ~~enjoy little competition of any kind~~have little or no competition.

WellWithMe and Jog of War are in a fierce market. There is ample choice for general health and fitness apps, and although we offer unique benefits it is an uphill battle of persuading customers, some of whom are using other products to try out our offering. For these two products, we will use a **market development** strategy in order to grow our market share.

The objectives for these applications are as following:
- WellWithMe: Get 5,000 Daily Active Users (hereinafter: DAU) until the end of 2013;
- Jog of War: Release version 1.0 on the App Store until the end of September 2013;
- Jog of War: Get 3,000 DAU until the end of 2013;

- This will enable the Company to establish a presence in the health and fitness application marketplace. These early users will enable Modra Jagoda to obtain user feedback about the applications, and continue to develop them to the users' preferences.

~~RheumaHelper: Localize the application for 3 big markets until the end of 2013;~~
~~Register Zdravil: Have 40% (~2,800) of Slovenian doctors registered as users until the end of 2013;~~
~~Register Zdravil: Enter one additional market with a localized version until end of October 2013;~~
~~Register Zdravil: Introduce an iPad version in the App Store until end of November 2013.~~

~~The strategies we're implementing depend on the product. Some of the products are, or will enter, markets that are plentiful in substitutes; others enjoy little competition of any kind. WellWithMe and Jog of War are in a fierce market. There is ample choice for general health and fitness apps, and although we offer unique benefits it is an uphill battle of persuading customers, some of whom are using other products to try out our offering. For these two products we will use a market development strategy in order to grow our market share.~~

Register Zdravil and RheumaHelper enjoy virtually no competition. Their development ~~was~~ is based on a **blue ocean** strategy — Modra Jagoda~~we~~ worked with existing data and technologies ~~and made~~ to make products that allowed users to access it and interact with it in new ways. For Register Zdravil, the necessary data was already available for everyone, though there was no~~'t~~ an easy way to have a comprehensive access. ~~We~~ The application transformed the fragmented government data into an ~~easy to search~~easily searchable mobile app. Instead of requiring a computer or a printed book, doctors, pharmacists, and students can ~~now~~ conveniently look up the same data in seconds. For RheumaHelper, ~~we~~ the Company took the plethora of rheumatology calculators and disease activity indicators and put them into a single app. Rheumatologists are no longer required to do manual calculations when they a~~'~~re consulting about a patient, saving time and improving quality in the process.

As the market matures, it is expected that the original strategy on these products will change and move into two directions: modify the existing drug registry product for other markets (a **market development** strategy), and create additional applications for the healthcare professional market (a **product development** strategy).

Therefore, the objectives are as follows:
- RheumaHelper: Localize the application for 3 big markets until the end of 2013;
- Register Zdravil: Have 40% (~2,800) of Slovenian doctors registered as users until the end of 2013;
- Register Zdravil: Enter one additional market with a localized version until end of October 2013;
- Register Zdravil: Introduce an iPad version in the App Store until end of November 2013.

- The successful implementation of this strategy has two desired outcomes: firstly, to repeat the success of Register Zdravil in other markets, primarily in those that do not already have a solution of this kind; and secondly, to create an ecosystem of medical applications in each of the markets and "lock in" the healthcare professionals to using the Company's applications.

~~5.13.3~~ Positioning Strategy

~~Positioning a product means making choices on customer targets, competitor targets, and the core strategy (Lehmann & Winer, 2008). Choosing customer targets closely follows the~~

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choices of strategic alternatives and the customer analysis. When specifying customer targets, prime factors are the size and growth of a particular segment, the opportunities for obtaining competitive advantages in that segment, and the resources available vis à vis the competitors' resources. Companies use different positioning strategies in order for their products to occupy a certain place in the minds of consumers. The goal is to find the best such place in order to maximize the profitability of a product. A good positioning strategy should make clear the essence of the brand, the benefits offered to the customer, and explain the differences vis-à-vis competing products (Kotler & Keller, 2006, p. 310).

For any one positioning strategy to be successful, it has to have these four factors (Drummond, Ensor, & Ashford, 2008, p. 190):

- **Credence.** The marketing messages that are used have to be viewed as believable by the customers of the product.
- **Competitiveness.** The product or service offered has to have unique benefits distinguishing it from its competitors.
- **Consistency.** Frequent changes of the product's position creates confusion inamong the consumers of the product. It is important that the marketing messages remain consistent for a longer period of time.
- **Clarity.** The product or service has to have a clear positioning statement for it to occupy a distinct position in the consumers' minds.

The hope of every company is to find itself in a position where competition is non-existent or irrelevant. But, even if a *blue ocean* strategy is successfully executed, or in cases when the competition is weak and doesn't respond to competitive actions, the product still can, and should, have competitor targets. The competitors can be companies that are in related fields, or have similar services on other platforms.

Finally, core strategy identifies the primary method of product positioning. The different strategies implemented belong to two categories:

Cost/price advantage: positioning on lower price than the competition means that the company can sustain this in the long run, by keeping costs at a minimum, and lower than its competition;

Differentiation by product offerings or service features: a product can be marketed to have features that the competition doesn't have, a better service coverage, or any other functional or psychological facet of the product that the customer sees as an advantage.

Creating a unique position for a brand means positioning it as the top brand in some category in the consumers' minds, which is believable for the consumer. When looking for the position of the product, there are three different options that can be used (Kotler, Wong, Saunders, & Armstrong, 2005, p. 434):

- **Strengthening the product's current position.** If the brand already occupies a good position, efforts should be made to strengthen it.

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- **Looking for an unoccupied position.** Another option is to look for a customer need that is not satisfied by the current market offerings.
- **Deposition or reposition of the competition.** The third option is to try and change the consumers' opinion about the competition and take over their position.

When the desired product position is discerned, we need to define the appropriate **points-of-difference** and **points-of-parity**. Points-of-difference (hereinafter: PODs) are features of our product that competing products do not possess to the same degree or completely lack. Creating unique PODs is challenging, but essential to a good positioning strategy. Points-of-parity (hereinafter: POPs) are shared between many products. They are divided into category POPs (necessary features but not sufficient to take a product into consideration); and competitive POPs (designed to negate the competitors' PODs). A product has a strong position if it can successfully negate most of the competitors' PODs and establish strong PODs of its own (Kotler & Keller, 2006, pp. 312-314).

Points-of-difference and points-of-parity can be based on different product features Our products are either free (for the end-user), or they compete on a specific set of features where the price is not the single most-important decision factor (advertisements, sponsorships). This is arguably a better strategy then competing with lower prices: competitive positions built on greater differentiation are more likely to yield better results than positions built on chasing the bottom line (Raynor & Ahmed, 2013). Differentiating a product in this way can be done in different ways (Blythe & Megicks, 2010, pp. 190-191):

- **Quality/Reliability:** quality is many things in a product — it can be a product that performs the best, it can be an item that has a superior design or build, or it can be a service that delights the customer. A quality product is also a more reliable product, a feature that consumers appreciate.
- **Status/Image/Attractiveness:** this is connected with quality and design of a product as well as the perception of consumers that the product is prestigious or attractive.
- **Brand:** the brand adds a layer of psychological differentiation to a product. They are used to convey the values of a brand or company to the product and help consumers to identify with the company.
- **Convenience/Service:** products or services can be differentiated based on the customer's convenience, for example, a bank with a huge number of ATMs, or having premium service options that exceed the customers' expectations.
- **Distribution:** an efficient distribution system means less waiting for the customer. Amazon has transformed its "next-day delivery" into a powerful differentiation point from its competitors.
- **Country of origin:** there has been a push towards using local suppliers in a lot of industries, and governments and chambers of commerce invest funds promoting

purchasing of goods manufactured in the country. Conscientious consumers can view this as a plus when deciding between alternatives.

Our products are either free (for the end user), or they compete on a specific set of features where the price is not the single most important decision factor (advertisements, sponsorships). This is arguably a better strategy then competing with lower prices: competitive positions built on greater differentiation are more likely to yield better results than positions built on chasing the bottom line (Raynor & Ahmed, 2013).

Of course, not all of these strategies are applicable for all of our products, and some of them aren't possible (for example, our brand equity is still pretty limited). Furthermore, we don't approach differentiation in the same way for all of our products. For *WellWithMe* and *Jog of War,* both applications designed for health oriented consumers, the accent is on the quality and attractiveness of the app. A great deal of thought has gone into every element of the visual and user experience (UX) design of these apps. The color palettes, animations, fonts, and other "visual candy" is meant to complement the content of the applications and to make the application interesting, delightful, and easy to use.

On the other side, *Register Zdravil* and *RheumaHelper* are primarily functional applications focused on convenience and reliability. The visuals are more subdued, and the apps are engineered for speed and clarity; the main use case is medical professionals quickly referencing the application for a particular piece of information. Therefore, the app should allow them to quickly go in, search for the data and be able to quickly take in everything they need from a quick glance.

For all applications we try to offer the best service possible. As we discussed, we have multiple channels through which the users of our applications can contact us: either through social media like Facebook Pages or Twitter accounts, or through app specific e-mails. They can, of course, do all of this through the application itself, removing the need to leave the app for giving feedback.As we have seen in Figure 14, the Company's products are diverse, and therefore require separate positioning strategies are required for them.

WellWithMe and Jog of War are in a similar predicament. They are entering a crowded market with a number of similar products, and the positioning strategy in this case should try to find an unoccupied position in the marketplace for them.

In the case of WellWithMe, the current positioning statement is: "WellWithMe focuses on all areas of well-being so you and your friends can live healthier lives." [34] The statement puts forward the application's main point-of-difference with the competition: focus on all

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[34] This can be found on WellWithMe's webpage http://wellwith.me/.

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areas of well-being (emotional as well as physical). The application itself is structured so the different activities are presented in an equal manner. Furthermore, the user profile screen has a comparison of the amount of challenges done in each category. The user is encouraged to balance between them. There is also an activity feed inside the application, which shows the activity of the user's Facebook friends who also use the app. The message of "balanced lifestyle for you and your friends" is present in the marketing and in the product.

As a running application, Jog of War's points-of-parity include the tracking of distance, time, location, viewing previous runs, total distance ran, etc. The unique difference is the addition of strategic elements and the multiplayer nature of the application. The web page[35] shows the global leaderboard of all the players using the application, and most recent "troop movements" (runs). Upon start, the application shows the map with the conquered territory. Currently, there is no positioning statement shown on the web page, and we recommend the following to be used in the future: "Discover the world and vanquish foes. Jog of War, a strategic running game."

Register Zdravil and RheumaHelper are already used by thousands of healthcare professionals. Therefore, the best strategy is to strengthen their current position.

On Register Zdravil's web page[36], we can find the positioning statement: "The complete drug reference for Slovenia on your mobile phone"; and the three main points-of-difference: complete (all of the available medications), fast (you can look up a drug in seconds), and simple (the user interface is immediately clear to the user). All this points that the application is convenient, and that the information is reliable, complete and of high quality.

RheumaHelper is marketed as "…a mobile rheumatology assistant." [37] on the App Store. Its main point-of-difference with other medical calculator applications is the specialization for rheumatology. It is more convenient for rheumatologists to use the app in their daily practice instead of doing the calculation by hand or on specialized devices.

5.23.4 Brand Strategy

A brand is "a name, term, sign, symbol, or design, or a combination thereofof them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of the competitors" (Kotler & Keller, 2006, p. 274).

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[35] Jog of War's web page can be found at http://jogofwar.com/.

[36] Register Zdravil's web page can be found at http://registerzdravil.si/

[37] RheumaHelper on the App Store: http://d.pr/9tLx

The brand is a non-tangible asset of a company, in the same way people, buildings and machinery are tangible assets. ~~And it can be a really powerful one if done right, because customers enjoying a product from a certain brand will not only continue to purchase the same product, but they can also start actively spreading the word about the brand to their friends.~~Branding decisions are very important to the marketing strategy because of their impact on the product. Advantages of branding include easier product identification and comparison by customers, induces shopping efficiency on account of shortening the buying process, reduces risk for the buyer, and facilitates acceptance of other products under the same brand (Ferrell & Hartline, 2011, pp. 201-202).

When developing a brand, an organization has four distinct choices (Kotler, Wong, Saunders, & Armstrong, 2005, pp. 564-567):

- **Line extension.** Most new products fall into this category, i.e. expanding an existing product category with an additional product under the same brand name. For example, Apple used its iPod brand when introducing the smaller iPod nano and even smaller iPod Shuffle.
- **Brand extension.** Reusing an existing brand to enter a new product category is a brand extension. For example, Microsoft used its Office brand to enter the online productivity market with Office 365. When extending a brand, the company must be careful not to destroy the original brand by overextending it or by introducing inferior products.
- **Multibrands.** Multibranding offers a way for companies to cater to different parts of the market. Each different brand has its own features and appeals to separate consumers. While this diversifies risk if one brand's image is compromised, it can also lead to owning several brands without any one having a good position on the market.
- **New brands.** Companies pursuing a multibrand strategy are likely to create new brands for each new product; however, new brands are also appropriate when creating a new product for a new category and the company's existing brands are not appropriate.

The creation of a brand is the beginning of a difficult process of acquiring brand equity and maintaining it. Brand equity is the added value of the brand on the company's product or service (Kotler & Keller, 2006, p. 276). The customer consciously or unconsciously revalues a brand every time he or she encounters it, be it from advertising, actual usage, customer support, interacting with other customers, etc. These interactions form the brand experience (Kotler, Wong, Saunders, & Armstrong, 2005, p. 571). Research into a number of diverse companies indicates that great brands are built on four characteristics (Barwise & Meehan, 2010, pp. 83-84):

- **Customer promise.** It represents a clear and relevant statement about the brand and the values it represents. This statement is not just a marketing tactic — it needs to be reinforced and practiced in the whole company, and at all touch points between the

company's employees and its customers. A part of making the customer promise come true is constantly listening to your customers.

- **Trust.** The company builds trust with its customers by constantly delivering on its promise, therefore it has more to do with good operational execution. Key to maintaining trust is also informing and talking to customers when things go wrong: if the customers feel you are honest with them you can even turn a misstep into a PR win.
- **Continual improvement.** The brand of a company is its promise to the customer, and as technology improves and circumstances change, the ways of keeping the promise should continually improve and evolve with it.
- **Innovation.** Even superior customer service or quality becomes expected and normal in the eyes of the customers after some time, so companies need to continue innovating beyond the familiar to keep clients delighted about a brand.

How to get customers to your brand? The traditional view of a customer decision path to buying a certain product uses the funnel metaphor (Ferrell & Hartline, 2011, pp. 154-156): potential clients start at the wide end, weighing the different pluses and minuses of a large number of brands. As they go through the decision process, they discard the brands that do not fit their needs and wants, and finally arrive at the end of the funnel — buying the product they chose. Afterwards, an organization can monitor the post-purchase behavior to discern if the product met the customer's expectations.

However, this traditional view is no longer true in many cases. Instead of starting with a set of brands under evaluation, consumers add and remove brands as they go along in a long evaluation phase. They find out, and discuss, about brands through channels that are outside the company's control, or in some cases, knowledge. Specialist online forums provide the consumer with in-depth discussions about a product from a set of passionate individuals. The uninitiated consumer can learn about new brands they have not heard of before, and thus expend their evaluation set. They can also gather first-hand data from power users who have experience not only with that particular brand, but also with products from competitors' brands, which allows them to acquire differential data making it easier to choose. Social media makes it easier to find what brands our friends are using and whether they are satisfied with them. After they make up their mind and purchase a product, the relationship with the brand does not stop: the consumer remains engaged with the product, and even get engaged in spreading the word about it. This new model is called the **consumer decision journey**, and it consists of four phases (Edelman, 2010, p. 65):

- **Consider.** The consumer starts out with a set of names that they can recall from previous purchases, exposure to advertisement, friends' suggestions, etc.

- **Evaluate.** As ~~she~~ they consult~~s~~ information from retailers, online product reviews, specialist sites, and other sources, the consumer~~s~~ first expand~~s~~ the set before starting to reject certain brands.
- **Buy.** An increasing number of consumers do n~~'~~ot decide on the purchase until they are in the store. Using the product placement, pricing, and packaging to your advantage can mean a huge boost in sales.
- **Enjoy, advocate, bond.** Consumers stay connected with the brand — for better or worse — after the purchase as well. If the client~~s~~ enjoy~~s~~ the product, however, next time ~~she~~ they will skip the "consider" and "evaluate" stages and buy the same brand from the start.

The spending in a certain marketing campaign is often divided between different media, like TV, radio, print, etc., when a better strategy would be to target specific points in the customer journey. Edelman (2010, p. 66) suggests that while c~~C~~urrent campaigns mainly focus on the "consider" and "buy" stages, ~~but~~ consumers are very susceptible to marketing in the other two phases. In other words, a recommendation to buy a product from a friend is more powerful than a product video. Secondly, companies should spend time and resources and participate in conversations across social media, enthusiasts' forums, mail lists, and so forth.

All of Modra Jagoda's products until now are made for different product categories and follow the **new brands** strategy. However, there are examples of line extensions in the smartphone application market. For example, Evernote, a company ~~which~~that produces note-taking software for multiple platforms, has also diversified its offerings with Evernote Hello and Evernote Food, separate apps to track contacts you have met and food you have eaten, respectively. For future applications in the drug registry market, the proposed strategy is similar: the Company can employ a **line extension** strategy to reuse the already-developed visual identity of Register Zdravil, but use localized names in new markets (an application for Croatia might be called Baza Lijekova, which would be the only visual difference between the two brands). No other extensions are currently planned for other product categories.

Building a brand is a long-term process, and one that needs to be continuously running in the company. For ~~our~~ its end-users, ~~our~~ the customer promise is that ~~we~~ Modra Jagoda produce~~s~~ high-quality applications focused on the core need the application is addressing (be it a jogging app or a drug registry), making the user's life better or his job easier. For its~~our~~ advertising partners, ~~our~~ the customer promise is to provide access to a comprehensive list of medical professionals, or other target groups, and to provide another channel for communicating to their customers.

Keeping the customer~~s'~~ trust, loyalty, and interest requires a mix of listening to customers for hints as to where the brand should be moving, but also innovating on your own. A lot

Pripomba [I115]: This referes to Your customers- how do you (we) know that?

Pripomba [MN116]: This part is still from Edelman, 2010. That is now clarified in the text.

of ~~our~~ the development milestones for the Company's products were ~~as~~ a result from customer feedback: a simple example, in Register Zdravil it was not possible~~we didn't put in a way~~ for the user to reset his password in the first version of the application; after ~~a lot of e-mails from customers~~feedback from customers, ~~we subsequently built in~~ this feature was subsequently added~~, and a handful of others~~. ~~We always~~ The Company take~~s~~ care ~~to answer to~~to respond to each customer interaction ~~we get~~in a timely manner, making ~~our~~ the customers feel that they are heard. Occasionally,~~Sometimes,~~ ~~we also invite~~ some of the people who reach~~ed~~ out are invited ~~to us~~ to become a part of the testing team, and help ~~us~~ build the next version of our app.

Pripomba [MJ117]: it was not possible

~~Regarding the *customer decision journey*~~For brand development, the Company largely relies~~we try to reach our end users in a more natural way — we rarely do any paid marketing, instead focusing~~ o~~n~~f good customer experience with its products and driving customer engagement as cost-effective ways of increasing brand equity (Smith & Zook, 2011, pp. 53-54).

~~word-of-mouth advocacy, or being a part of a conversation with the end users.~~

For example, for Jog of War ~~we have made~~ a lot of effort went into ~~connections~~ connecting with editors of blogs ~~about~~ covering strategy games ~~(*Jog of War* is a strategic running game, after all)~~; for WellWithMe ~~we have made~~ a series of blog posts were published about ~~our~~ the motivation behind the product, and the story how it came to be. These activities are meant to introduce early adopters to the product and its story and encourage them to share the product with their friends. ~~;~~

~~F~~for Register Zdravil we have a really strong presence on Medeno Srce, which is a forum for Slovenian medical students, and as a ~~consequence of that~~result, we have a great number of students — future doctors — as our users. When the user~~s~~ need~~s~~ to decide if ~~he~~ they will install an application, ~~our~~ the high ratings of our apps in the App Store and the Google Play Store present a final push towards installing the app~~.~~ ~~And~~In addition, we have also received~~gotten~~ very good feedback from customers who start using our apps ~~as well~~ — like ~~a~~ the~~a~~ story ~~about~~ when a whole hospital started using our product just~~within~~ a day after ~~of~~ the first employee had download~~ed~~ing it. In the end, recommendation from your friend or coworker is the best marketing.

Pripomba [I118]: I like examples of your operational aspects. , but not sure this section provides adequate (and clearly stated) overview of the company's branding strategy. Is it possible to lay it out?

Another way to encourage active users in sharing the product with their social circle is built-in notifications to rate or share the product. For example, the application can prompt the user to leave a review on the App Store/Google Play Store after a certain number of application launches and certain number of days. A user launching the application for the fifth time in a week is probably satisfied with it. Encouraging him to share will likely increase downloads. This functionality will be adopted in future versions of the Company's products.

Finally, it is important to get feedback about the customers' view of the brand. This can be either done indirectly, through reviewing usage data of the applications, or directly, by asking our users about their opinion of the product and would they recommend it. The Company recently conducted an online poll for Register Zdravil, asking its registered healthcare professionals what they thought about the product[38]. Ninety percent90% of the respondents stated that they were "satisfied" (43%) or "very satisfied" (47%) with the product. 99Ninety-nine percent% stated they would recommend the product to a colleague (18%: "probably would," 81%: "surely would"). Conducting Similar polls for other products will be conducteddone in the future.

5.33.5 Sales Forecast

Provided Given the vast diversity in our products and services, additional explanation is necessary. Sometimes each application sometimes is monetized in multiple ways. Units and unit prices must be analyzedlooked at in context because they are not always immediately evident. Each product that is developed by Modra Jagoda is intended to stand alone as its own brand and meet the needs of its specific customers. The brand of Modra Jagoda is less important to the consumers than its products, with the exception that the brand serves as a link The brand of Modra Jagoda is less important to the consumer's of its products, with the exceptions that it serves as a link to other useful and quality medical and health related applications.

> **Pripomba [MJ119]:** analyzed/ considered?
>
> **Pripomba [MD120]:** Can you say in a short and organized manner what are the specificities of your brand strategy?
>
> **Pripomba [MJ121]:** Povekje logika mi ima vaka: The brand of Modra Jagoda is less important to the consumers than its products, with the exception that the brand serves as a link…

Register Zdravil is monetized through in-app advertisement sales. RheumaHelper will be sponsored for a given period of time and then monetized through in-app advertising. WellWithMe will also be sponsored for a given certain period of time and then monetized through license sales for corporate wellness programs primarily in the United States. Jog of War will be sponsored for a specified period of time and then monthly competition sponsorships will be sold. Web maintenance is sold on an hourly basis. And the "other" category comprises future unknown projects.

Initial sales forecast indicate first year revenue of €89,016 increasing to €158,520 by the end of year two, then €256,040 by the end of year three.

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[38] Online poll conducted in October 2013 (*n = 606*).

Table 7. Sales Forecast (in yearly units sold)

Unit Sales	5.3.1.1 Year 1	5.3.1.2 Year 2	5.3.1.3 Year 3
Register Zdravil Ads	5.3.1.4 60	5.3.1.5 120	5.3.1.6 180
RheumaHelper Sponsorship	5.3.1.7 1	5.3.1.8 0	5.3.1.9 0
RheumaHelper Ads	5.3.1.10 0	5.3.1.11 36	5.3.1.12 72
WellWithMe Sponsorship	5.3.1.13 1	5.3.1.14 0	5.3.1.15 0
WellWithMe License	5.3.1.16 0	5.3.1.17 5	5.3.1.18 8
Jog of War App Sponsorship	5.3.1.19 1	5.3.1.20 0	5.3.1.21 0
Jog of War Competition Sponsorship	5.3.1.22 0	5.3.1.23 6	5.3.1.24 10
Web Maintenance	5.3.1.25 120	5.3.1.26 240	5.3.1.27 360
Other	5.3.1.28 1	5.3.1.29 1	5.3.1.30 1
Total Unit Sales	5.3.1.31 184	5.3.1.32 408	5.3.1.33 631
-	-	-	-
Unit Prices	5.3.1.34 Year 1 (€)	5.3.1.35 Year 2 (€)	5.3.1.36 Year 3 (€)
Register Zdravil Ads	5.3.1.37 320.00	5.3.1.38 320.00	320.00
RheumaHelper Sponsorship	5.3.1.39 16,000.00	5.3.1.40 0.00	5.3.1.41 0.00
RheumaHelper Ads	5.3.1.42 0.00	5.3.1.43 320.00	5.3.1.44 320.00
WellWithMe Sponsorship	5.3.1.45 12,000.00	5.3.1.46 0.00	5.3.1.47 0.00
WellWithMe License	5.3.1.48 0.00	5.3.1.49 5,000.00	5.3.1.50 5,000.00
Jog of War App Sponsorship	5.3.1.51 30,000.00	5.3.1.52 0.00	5.3.1.53 0.00
Jog of War Competition Sponsorship	5.3.1.54 0.00	5.3.1.55 10,000.00	5.3.1.56 10,000.00
Web Maintenance	5.3.1.57 40.00	5.3.1.58 40.00	5.3.1.59 40.00
Other	5.3.1.60 7,000.00	5.3.1.61 14,000.00	5.3.1.62 21,000.00
-	-	-	-

(table continues)

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Sales	5.3.1.63 Year 1 (€)	5.3.1.64 Year 2 (€)	5.3.1.65 Year 3 (€)
Register Zdravil Ads	5.3.1.66 19,200	5.3.1.67 38,400	5.3.1.68 57,600
RheumaHelper Sponsorship	5.3.1.69 16,000	5.3.1.70 0	5.3.1.71 0
RheumaHelper Ads	5.3.1.72 0	5.3.1.73 11,520	5.3.1.74 23,040
WellWithMe Sponsorship	5.3.1.75 12,000	5.3.1.76 0	5.3.1.77 0
WellWithMe License	5.3.1.78 0	5.3.1.79 25,000	5.3.1.80 40,000
Jog of War App Sponsorship	5.3.1.81 30,000	5.3.1.82 0	0
Jog of War Competition Sponsorship	5.3.1.83 0	5.3.1.84 60,000	5.3.1.85 100,000
Web Maintenance	5.3.1.86 4,816	5.3.1.87 9,600	5.3.1.88 14,400
Other	5.3.1.89 7,000	5.3.1.90 14,000	5.3.1.91 21,000
Total Sales	5.3.1.92 **89,016**	5.3.1.93 **158,520**	5.3.1.94 **256,040**

Direct Unit Costs	5.3.1.95 Year 1 (€)	5.3.1.96 Year 2 (€)	5.3.1.97 Year 3 (€)
Register Zdravil Ads	5.3.1.98 0.00	5.3.1.99 0.00	5.3.1.100 0.00
RheumaHelper Sponsorship	5.3.1.101 0.00	5.3.1.102 0.00	5.3.1.103 0.00
RheumaHelper Ads	5.3.1.104 0.00	5.3.1.105 0.00	5.3.1.106 0.00
WellWithMe Sponsorship	5.3.1.107 0.00	5.3.1.108 0.00	5.3.1.109 0.00
WellWithMe License	5.3.1.110 0.00	5.3.1.111 0.00	5.3.1.112 0.00
Jog of War App Sponsorship	5.3.1.113 0.00	5.3.1.114 0.00	0.00
Jog of War Competition Sponsorship	5.3.1.115 0.00	5.3.1.116 0.00	5.3.1.117 0.00
Web Maintenance	5.3.1.118 0.00	5.3.1.119 0.00	5.3.1.120 0.00

(continued)

	Year 1 (€)		Year 2 (€)		Year 3 (€)	
Other	5.3.1.121	0.00	5.3.1.122	0.00	5.3.1.123	0.00
-		-		-		-
Direct Cost of Sales	5.3.1.124	**Year 1 (€)**	5.3.1.125	**Year 2 (€)**	5.3.1.126	**Year 3 (€)**
Register Zdravil Ads	5.3.1.127	0	5.3.1.128	0	5.3.1.129	0
RheumaHelper Sponsorship		0	5.3.1.130	0	5.3.1.131	0
RheumaHelper Ads	5.3.1.132	0	5.3.1.133	0	5.3.1.134	0
WellWithMe Sponsorship	5.3.1.135	0	5.3.1.136	0	5.3.1.137	0
WellWithMe License	5.3.1.138	0	5.3.1.139	0	5.3.1.140	0
Jog of War App Sponsorship	5.3.1.141	0	5.3.1.142	0	5.3.1.143	0
Jog of War Competition Sponsorship	5.3.1.144	0	5.3.1.145	0	5.3.1.146	0
Web Maintenance	5.3.1.147	0	5.3.1.148	0	5.3.1.149	0
Other	5.3.1.150	0	5.3.1.151	0	5.3.1.152	0
Subtotal Direct Cost of Sales	**5.3.1.153**	**0**	**5.3.1.154**	**0**	**5.3.1.155**	**0**

Source: Own calculations

The following charts represent monthly and yearly sales figures. Looking at the monthly sales chart, we see that during the first year of operations, we are largely dependent on the success of a few large development projects. However in the following years, the projects will bring money more consistently each month rather than in larger lump sums. Years two and three depict the relative importance of each project based on their sales figures, with Jog of War competition sponsorship becoming an essential part of the sales mix.

Source: Own calculations

5.43.6 Revenue Generating Models

When it comes to generating revenues, software development startups have many options to choose from. The choice of revenue generating models is largely dependent on the business model, scale, and target market. Since 2008, there has been a lot of innovation in the area of revenue generating models for smartphone applications (VisionMobile, 2012, pp. 47-48). The following table lists the 8eight mainstream revenue models practiced in mobile apps, along with their respective revenue sources.

Table 8. Revenue Generating Models

Revenue Model	Revenue Source
Pay-Per Download (one-off payment for an app)	Consumer
In-app purchasing (for app features, game levels or virtual goods)	Consumer
Freemium (free download, pay to upgrade)	Consumer
Subscriptions (recurring monthly payments)	Consumer
In-app advertising	Ad networks or brands
Work for hire (developers for hire)	Businesses
License Sell (applications made for sale)	Businesses
Sponsorship (payment for association with app)	Partners

Source: VisionMobile (2012)

The Developer Economics survey from VisionMobile (2012) found pay-per-download to be the most frequently used revenue model. The survey showed 34% of developers use this model, a percentage that was lower than previous years. In-app advertising, which 33% of developers reported using, followed closely behind the pay-per-download model. In-app purchasing also saw ian increase in usage from the previous year. Moreover, the in-app purchasing model is one of the highest-grossing revenue models (VisionMobile, 2012, p. 48).

As described in the Developer Economic report by Vision Mobile (2012, pp. 36-39), Modra Jagoda can be most accurately described as The Hunters. Hunters primarily follow the money. They are sophisticated when it comes to revenue models. They utilize multiple models, mostly in-app purchasing (61%), pay-per download (56%), freemium (52%) and advertising (51%). They usually consist of partners, co-founders, or development teams and are the ones making the strategic decisions. The two largest factors for making platform decisions include a large installed base (74%) and revenue potential (83%). Examples of other organizations categorized as hunters include game studios, bootstrapped startups, and independent software vendors with mobile experience.

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64 MANAGEMENT SUMMARY

Modra Jagoda's management is comprised of recently graduated doctors and business students with backgrounds in computer engineering, design, medicine, health and exercise science, and economics. As is the case for most startups, the management is also the workforce. This is also true for Modra Jagoda. We anticipate our network in the medical community will prove to be an invaluable asset for the future development of the company.

6.14.1 Management Team

Brent LaRue, Co-Founder, Designer. Brent's experiences lie in design, health & exercise science, and technology management. A dual national of both the United States and Slovenia, he has worked as a graphic designer at Shapiro Walker Design, North Carolina, USA, freelance designer and had his work exhibited and published in magazine form. In addition to his creative abilities, he has a successful professional athletic career in athletics and is soon to obtain his master's degree in international business administration at the IMB program.

Marko Nikolovski, Co-Founder, Engineer. Marko's experiences lie in computer engineering, iOS development, and marketing. A native of Macedonia, he has a broad range of work experience from logistic management to software engineering. His work experience spans across Macedonia, Germany, Slovakia, and Slovenia. Competent in multiple spoken languages and programming languages, Marko is a valuable asset to the team. He is also soon to obtain his master's degree in international business administration at the IMB program.

Caleb Oller, Co-Founder, Engineer. Caleb's experiences lie in mobile software development. He is a full-stack developer with competencies in many languages. His strengths are iOS and web-based development. Originating from Oklahoma, he is the second American in the team. His previous work experiences include founding a number of startups, with Thryve being his most recent and most successful. Thryve has received international recognition, most recently involving a presentation of the product at the Health 2.0 Conference in Berlin, Germany.

Nejc Tomšič M.D., Co-Founder, Engineer. Nejc is both practicing doctor and Android developer. Competent in Slovenian, English, and German, Nejc brings a valuable skill set to the company. In 2010, he was a member of iGEM Team Slovenia that won the grand prize at a Massachusetts Institute of Technology competition with over 130 competing teams including Harvard, MIT, Yale, Stanford, Princeton, Imperial College of London, and ETH. Their winning work was patented and has been published in various academic journals.

Blaž Triglav, Co-Founder, Engineer. Blaž is an economist by trade who has developed exceptional Android programming proficiencies. A native of Slovenia, he is competent in Slovene, English, Serbian/Croatian, and German languages. Blaž is also soon to obtain his master's degree in international business administration.

Jure Triglav M.D. Co-Founder, Engineer. Jure's experiences lie in computer programming and medicine. He embodies the true entrepreneurial spirit with loads of ambition and a desire to make things better. He was the lead illustrator of Medical Virology, a comprehensive professional publication published in 2011, and has won an award ~~was~~ for best presentation at the conference for Young Researchers of Analytic Chemistry (YISAC) for his professional article in that field~~., and~~ He also has work experience from Silicon Valley, where he was recruited after a project of his own was noticed by the CEO of the company. Together, Jure and Nejc provide and invaluable network which will aid in the future growth of Modra Jagoda.

Collectively, the skills of all the team members ~~combine to~~ make a well-rounded and full-service software development team poised to serve the mHealth industry. Our individual backgrounds as well as professional networks allow us to create accurate, professional, and high quality applications. Our international mix ~~positions~~ enables us to more appropriately reach beyond the borders of Slovenia into other larger and more profitable markets.

6.2~~4.2~~Management Team Gaps

Recognizing management team gaps is an important part of developing a successful company. It is completely normal to have gaps in management, but it is important to fill those ~~eg~~gaps when possible. By doing this, a company has a stronger and more well rounded team. In the case of Modra Jagoda, the team lacks an experienced CEO and an experienced sales manager. Although the company is still lacking such experience, it nevertheless possesses sufficient theoretical knowledge to build upon. ~~While no such experience exists in the company as of yet, it is not to say the theoretical knowledge is not present to build upon.~~ Three cofounders have the theoretical business knowledge from international business and administration studies. Until either one cofounder emerges as the most capable CEO and/or sales manager, outside consulting and mentorship must be sought.

6.3~~4.3~~Personnel Plan

The following table includes the personnel plan and projected salaries for all key people.

Table 9. Personnel Plan

Personnel~~Personnel~~	6.3.1.1 Year 1 (€)~~Year 1~~	6.3.1.2 Year 2 (€)~~Year 2~~	6.3.1.3 Year 3 (€)~~Year 3~~

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Brent LaRue~~Brent LaRue~~	6.3.1.4 9,600€~~9,600~~	6.3.1.5 18,000€~~18,000~~	6.3.1.6 26,400€~~26,400~~
Marko Nikolovski~~Marko Nikolovksi~~	6.3.1.7 9,600€~~9,600~~	6.3.1.8 18,000€~~18,000~~	6.3.1.9 26,400€~~26,400~~
Caleb Oller~~Caleb Oller~~	6.3.1.10 9,600€~~9,600~~	6.3.1.11 18,000€~~18,000~~	6.3.1.12 26,400€~~26,400~~
Nejc Tomsic~~Nejc Tomsic~~	6.3.1.13 9,600€~~9,600~~	6.3.1.14 18,000€~~18,000~~	6.3.1.15 26,400€~~26,400~~
Blaz Triglav~~Blaz Triglav~~	6.3.1.16 9,600€~~9,600~~	6.3.1.17 18,000€~~18,000~~	6.3.1.18 26,400€~~26,400~~
Jure Triglav~~Jure Triglav~~	6.3.1.19 9,600€~~9,600~~	18,000€~~18,000~~	6.3.1.20 26,400€~~26,400~~
Accountant~~Accountant~~	6.3.1.21 600€~~600~~	6.3.1.22 1,200€~~1,200~~	6.3.1.23 1,200€~~1,200~~
Engineer~~Engineer~~	6.3.1.24 0€~~0~~	6.3.1.25 9,600€~~9,600~~	6.3.1.26 18,000€~~18,000~~
Designer~~Designer~~	6.3.1.27 0€~~0~~	6.3.1.28 0€~~0~~	6.3.1.29 18,000€~~18,000~~
Total Payroll~~Total People~~	6.3.1.30 **58,200**~~7~~	6.3.1.31 **118,800**~~8~~	6.3.1.32 **195,600**~~9~~
Total People	**7**	**8**	**9**

~~Source: Own calculations~~

~~6.4~~4.4 Role Distribution

To account for the large number of co-founders within the company an organizational structure has to be implemented which allows for equal distribution of responsibility. From previous experience, we evolved a system to a point that has minimized communication and decision-making overhead. Each new project is assigned a project lead. The project leader is determined based on the client and nature of the project~~Depending on the client and the nature of the project, the project leader is determined~~. In addition to equally distributing responsibility this also solves another major problem.

The roles of founding members in startups are often numerous. In the initial phases of a company, founders and initial employees must undertake many responsibilities beyond their usual roles to get work done appropriately. This often means the workers and the managers are the same people. By assigning specific leaders to each project, the question of who will manage what is clearly defined. Over time, this system will allow better and more successful project leaders to be recognized and assigned to higher profile projects in the future.

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6.5 4.5 Development Plan

The earliest approach to software development followed the waterfall approach. This approach includes a long chain of steps where any phase in the development process begins only if the previous phase is completed. This process, while both clear and organized, also has the tendency to make projects much longer than anticipated. In the fast-paced world of smartphone application development, such a process is cumbersome and time-consuming (SDLC, 2011).

Figure 17.17. Software Development Lifecycle — Waterfall Model
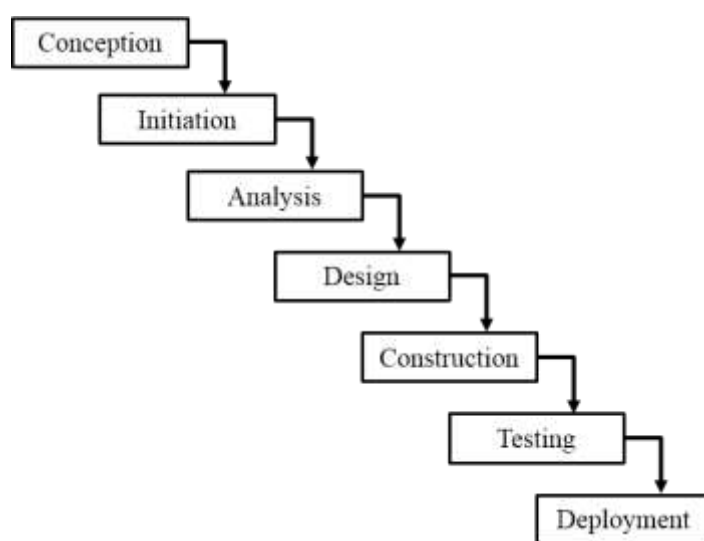
Source: Adapted from SDLC (2011)

Eric Reis provides a new model in his book The Lean Startup (2011). The process taught in his book is a continuous loop cycle of building, measuring, and learning. At the heart of every startup is the activity of turning ideas into products, measuring how customers respond, and learning whether to pivot or preserve the initial product. The resources of a successful startup should be aimed at accelerating this feedback loop.

The premise of this model is centered on allowing the users to drive the development of the product. If development were to occur without the feedback from users, the development team may be building a product nobody wants. When the user is included early on in the life of the product then smarter decisions can be made. This requires the initial product to be delivered quickly and efficiently. This initial product is described by Reis as the **minimum viable product** (hereinafter: MVP). More precisely Reis defines the MVP as the "version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort" (Ries, 2011, p. 54). The MVP is not the easiest or the fastest one to build, but the one that will allow the team to learn the most about its users with the most ease.

Figure 18~~18~~. Build-Measure-Learn Feedback
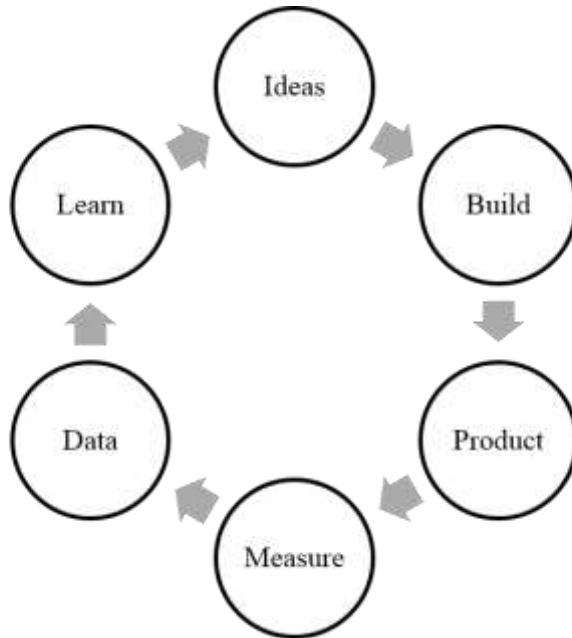
Source: Adapted from Ries (2011, p.45)

The important difference between these two methods is that one is concerned with doing the right thing and the other is concerned with doing the thing right. Doing the right thing means time and energy is being dedicated to ensur~~eing~~ the right product is developed for the right people. Doing the thing right means time and energy is spent ensuring the product is made according to specified standards and specifications. Eric Reis's method of doing the right thing is more fitting for companies facing great uncertainty such as startups.

Using Reis's development model of building, measuring, and learning, Modra Jagoda will aim to develop it's applications with greater efficiency and with a faster track to product-market fit. Lee and Xia determined in their analysis of software development agility that team autonomy has a significant positive effect on response efficiency. In their research, team autonomy refers to the extent to which the software team is empowered with the authority and control in making decisions to carry out the project. Response efficiency demonstrates significant effects on on-time completion, on-budget completion, and software functionality (Lee & Xia, 2010). By implementing Reis's plan and placing particular interest in team autonomy, Modra Jagoda can reduce the amount of time spent creating features or entire applications that users do not engage with or respond to, in addition to completing projects on-time and within budget. By introducing this flexibility and control into the development plan, Modra Jagoda should have ~~a have~~ more successful applications and that will~~,~~ contribut~~eing~~ positively to the bottom line.

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Spremenjene kode polj

~~7~~5 FINANCIAL PLAN

Modra Jagoda is projected to undergo rapid growth in the first three years. This accounts for the significantly low projected starting position, age of the company, and the high-risk, high-growth industry in which it operates. Provided the lack of real-world experience of the founding members, it is safe to say many lessons will need to be learned and many mistakes must be overcome.

~~7.1~~5.1 Start-up Funding

The start-up costs of Modra Jagoda will consist primarily of software, equipment, and the cash required for incorporating company in Slovenia. The start-up expenses to fund, €9,350, will be covered equally by the founding members.

Capital is needed to fund salaries, rent, and various expenses during the first months until the larger development projects can be monetized or sold.

Table 10. Start-up Funding

Start-up Funding	~~7.2~~ Amount (€)
Start-up Expenses to Fund	~~7.2.1.1~~ €9,350
Start-up Assets to Fund	€38,600
Total Funding Required	~~7.2.1.2~~ €47,950

Assets	Amount (€)
Non-cash Assets from Start-up	~~7.2.1.3~~ €5,000
Cash Requirements from Start-up	€33,600
Additional Cash Raised	~~7.2.1.4~~ €0
Cash Balance on Starting Date	~~7.2.1.5~~ €33,600
Total Assets	**~~7.2.1.6~~ €38,600**
Liabilities	**Amount (€)**
Current Borrowing	~~7.2.1.7~~ €0
Long-term Liabilities	~~7.2.1.8~~ €0
Accounts Payable (Outstanding Bills)	~~7.2.1.9~~ €0

(table continues)

(continued)

Other Current Liabilities (interest-free)	7.2.1.10	€ 0
Total Liabilities	**7.2.1.11**	**€ 0**
Planned Investment		**Amount (€)**
Owner	7.2.1.12	€ 0
Investor	7.2.1.13	€ 33,600
Additional Investment Requirement	7.2.1.14	€ 14,350
Total Planned Investment	**7.2.1.15**	**€ 47,950**
Loss at Start-up (Start-up Expenses)	7.3	(€9,350)
Total Capital	7.3.1.1	€38,600
Total Capital and Liabilities	**7.3.1.2**	**€38,600**
Total Funding	**7.3.1.3**	**€47,950**

Source: Own calculations

7.3.2 Funding ~~Options~~strategy

~~Business planning is the first step to acquiring the necessary funds for your venture. However, it is also important to understand other aspects of your business such as the available sources of funding, commonly utilized revenue generating models within your industry, associated production costs of similar companies in your industry, and the underlying reasons for your company's year to year growth. While these are not necessary to acquire funding, it is critical to understand as many aspects of your business as possible when communicating with potential investors. The ability to discuss your new venture in depth and from various angles will improve your chances for funding.~~

5.1.1

~~Available~~ The sources of funding are prioritized below into most desirable sources to least desirable. Each source description is associated with ~~listed below as well as their associated~~ pros and cons of the specific source and their typical terms. The current funding strategy for Modra Jagoda is to raise enough money to reach profitability at which point

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the funding strategy will change. ~~From this list, an appropriate source or sources must be determined and pursued.~~

Forbes ~~identified 10 top sources of funding for startups. These sources include: bootstrapping, friends and family, small business grants, loans or lines of credit, incubators, angels, VCs, bartering, partnership, and committing to a major customer. The following includes a brief description of each and it's likelihood of being a source of finance for Modra Jagoda.~~

1. **Small business grants** are often overlooked sources of finance. The US and Europe alike have initiatives in place to foster young and promising businesses. Actually obtaining these funds can be quite exhaustive. A compelling trait of small business grants is that the qualifier will not have to relinquish control or pay interest on your funds. This option is best suited for Modra Jagoda. Given the various business models that are pursued with each new project, the business is not consistent or focused enough for typical tech startup sources of funding like: venture capital, angel investment, or incubators. The terms involved in this source usually include~~volve~~ a fixed amount of money over a period of time. The government agency sets the standard and selects applicants based on rigorous criteria. Performance standards are often put in place as a requirement to continue to receive the grant money in the following period ~~of time~~ whether is months, quarters, or years.

2. **Loans or lines of credit** are also attractive options of financing Modra Jagoda, primarily because the business could benefit from a temporary or small infusion of cash. Some governments will guarantee small business loans that allows for lower interest rates. On the other side, commercial banks often reject start-ups unless some personal collateral is worked into the arrangement. Pursuing government-backed loans is also a good source of capital for Modra Jagoda. Since the company leverages technology to better healthcare systems, the company would be an attractive candidate for government grants or government-backed loans. Government backed loans typically come with small percentage fees on the guaranteed part of the loan, and maximum restricted base rates and allowable spreads. The rate is negotiated by the lender and applicant as well as the total sum of the loan. Loan amounts can range anywhere from thousands to millions though the average amount in 2012 was $337,370 provided by the US Small Business Administration (SBA, 2013).

3. **Bartering**, the exchange of goods or services as a substitute for cash, is a good technique to be used while attempting to bootstrap a company. For example, a company could trade free office space by offering to be the property manager for the owner. Other options for bartering include: legal, accounting, and engineering services. Modra Jagoda currently utilizes this source of funding for office space. In exchange for development service, office space is provided at a greatly reduced cost.

~~(4)~~4. **Bootstrapping** describes the self-sustaining process that proceeds without external help. If you have the funds, this type of funding is preferred. This requires no time

pitching to investors, and no relinquishment of control. However, provided that the founders of Modra Jagoda are all recently out of school, this option can only prevail due to the low costs of development. Bootstrapping will inevitably be a source of funding if *Modra Jagoda* cannot secure funding via other means. However, the opportunity cost is very high for six men to work in a company with low or nonexistence wages. Also, in a bootstrapped operation, marketing operations would suffer when funds were lacking, further slowing or halting the growth of the company and its products and services.

5. **Forming a partnership** with a more established company is another option. It is important here to find a partner that would have strategic interest in helping you develop your product and be willing to pay forward to make it happen. While your product may not end up being a consumer brand, the cost of development will be a lot less. This type of funding has already occurred with one of our software development projects. However, this is not such a lucrative project that we could abandon other projects and pursue this option with all of our resources.

6. **Committing to a major customer** can also be a viable option for financing. Some customers would be willing to cover the development costs so they could have preferred access to the product. However, this customer often will require control over the production process to ensure it meets specifications and a promise of dedicated support. This is not such an uncommon practice even among large companies, which sometimes look to their best customers to fund new projects (Zwilling, 2010). For a company as a whole, unless we pursued a single product, this source does not fit.

Lastly, *committing to a major customer* can also be a viable option for financing. Some customers would be willing to cover the development costs so they could have preferred access to the product. However, this customer often will require control over the production process to ensure it meets specifications and a promise of dedicated support. This is not such an uncommon practice even among large companies, who sometimes look to their best customers to fund new projects (Zwilling, 2010). For a company as a whole, unless we pursued a single product, this source does not fit.

7.45.2 Important Assumptions

The financial plan is constructed with important assumptions in mind. The assumptions have been divided into macro and micro to demonstrate the amount of control one has over each assumption. Macro assumptions are ones that cannot be controlled and are driven by outside forces. Micro assumptions are ones that can be controlled to some extent or

remedied with specific action. The following ~~are our~~is a table of the key underlying assumptions~~.~~

Table 11. Important Assumptions

| **Macro:** |
| - We assume a slow-growth economy, barring any major recession. |
| - We assume the capabilities of digital electronic devices will continue to grow at the same speed dictated by Moore's Law. |
| - We assume there are no unforeseen changes in technology to make products immediately obsolete. |
| **Micro:** |
| - We assume access to equity capital to sustain our proposed financial plan. |

~~- We assume a slow-growth economy, barring any major recession;~~

~~- We assume the capabilities of digital electronic devices will continue to grow at the same speed dictated by Moore's Law;~~

~~- We assume there are no unforeseen changes in technology to make products immediately obsolete;~~

~~- We assume access to equity capital to sustain our proposed financial plan.~~

~~7.5~~5.3 Break-even Analysis

Table 12 and Figure 19 illustrate the break-even analysis.

Table 12. Break-even Analysis

Break-even Analysis	Amount
Monthly Units Break-even (units)	15
Monthly Revenue Break-even (€)	€7,128.00
Assumptions:	
Average Per-Unit Revenue (€)	€483.78
Average Per-Unit Variable Cost (€)	€0.00
Estimated Monthly Fixed Cost (€)	€7,128.00

Source: Own calculations

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Figure 19~~19~~: Break-even Analysis Chart

The estimated fixed cost of Modra Jagoda is €7,128. Given the nature of operations, variable costs are minimal to non-existent. For the sake of simplicity ~~sake~~, we set this at zero, leaving gross margin at 100%. According to SeekingAlpha.com (2006), gross profit margins in the Software sector ranged from 95.0% (Check Point Software Technologies Ltd.) down to 31.1% (Fiserv Inc.), with the median for the group at 76.8% (SeekingAlpha.com, 2006). It is not at all uncommon for software companies to have such high gross-margins. When it comes to smartphone application development, the majority of costs are fixed, the largest of which is the payroll. The monthly break-even unit variable is not a very useful statistic, as our units vary from single hours sold to entire product licenses. Regardless of the unit, the monthly revenue needed to break even is equal to the fixed cost €7,128.

7.6~~5.4~~ Projected Profit & Loss

It is expect~~ed to have~~ positive net profits for each of the first three years. Net profits remain low due to incremental increases in salaries each year. Since the founders are the laborers and the most important value generating aspect of the company, it is~~we~~ deem~~ed~~ ~~it~~ important to first establish competitive salaries. Depending on the terms of funding capital, it~~we~~ may be required to reduce the salaries in the second or third years in order to provide returns for or repay an investor. Marketing expenses also increase ~~with the increase in~~ as the size of operations increases. More about the marketing expenses is described in the next table.

Table 13. Pro Forma Profit and Loss

Pro Forma Profit and Loss	Year 1	Year 2	Year 3
Sales (€)	89,016	158,520	256,040
Direct Cost of Sales (€)	0	0	0
Other Costs of Sales (€)	0	0	0
Total Cost of Sales (€)	0	0	0
Gross Margin (€)	89,016	158,520	256,040
Gross Margin (%)	100.00	100.00	100.00
Expenses	**Year 1**	**Year 2**	**Year 3**
Payroll (€)	58,200	118,800	195,600
Marketing/Promotion (€)	6,000	7,000	8,000
Depreciation (€)	0	0	0
Rent (€)	6,000	6,000	6,000
Utilities (€)	3,000	3,000	3,000
Insurance (€)	1,200	1,200	1,200
Payroll Taxes (€)	8,730	17,820	29,340
Other (€)	2,400	2,400	2,400
Total Operating Expenses (€)	**85,530**	**156,220**	**245,540**
Profit Before Interest and Taxes (€)	3,486	2,300	10,500
EBITDA (€)	3,486	2,300	10,500
Interest Expense (€)	0	0	0
Taxes Incurred (€)	1,046	690	3,150
Net Profit (€)	**2,440**	**1,610**	**7,350**
Net Profit/Sales (%)	**2.74**	**1.02**	**2.87**

In the pro forma profit loss table (Table 13), payroll represents the largest part of the cost breakdown. However, since the members on payroll are the producers accounting for the majority of production costs, Aa clear picture cannot be seen by looking at the payroll as a single large expense. A closer look at the actual roles of the laborers provides great insight for the management of the company. Developer Economics (2012) provides the industry average productions costs for mobile software developers like this:

Figure 20~~20~~. Production C~~c~~osts
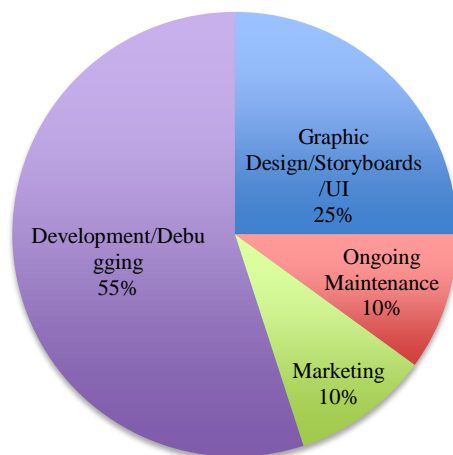
Development and d~~D~~ebugging account for 55% of production costs. Graphic d~~D~~esign, storyboards and user interface (UI) account for 25%. Ongoing maintenance accounts for 10%~~,~~. and m~~M~~arketing accounts for 10%. The larger the company, the larger the percentage of marketing costs. Developer Economics (2012) state marketing for larger companies ranges from 10-50% of production costs. Not only does this serve as an efficient breakdown of productions costs, but it also informs about the appropriate allocation of resources during the development of such applications.

Figure 21~~20~~. Profit Monthly
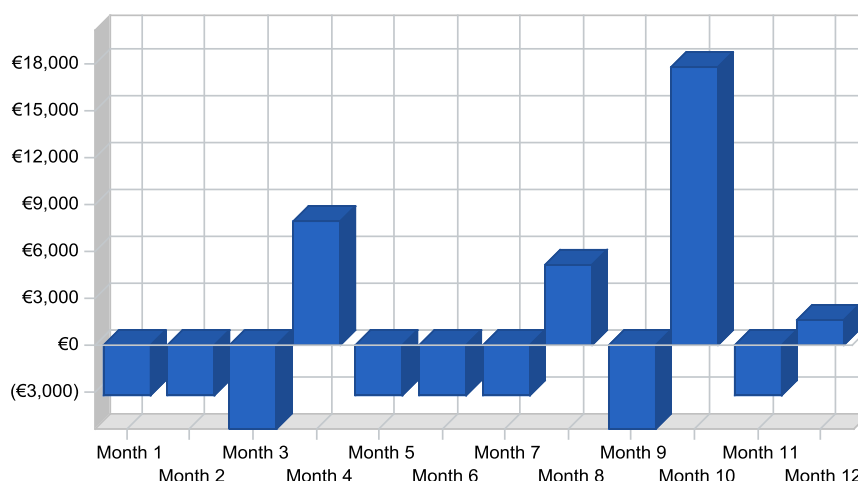
Figure 2221. Profit Yearly
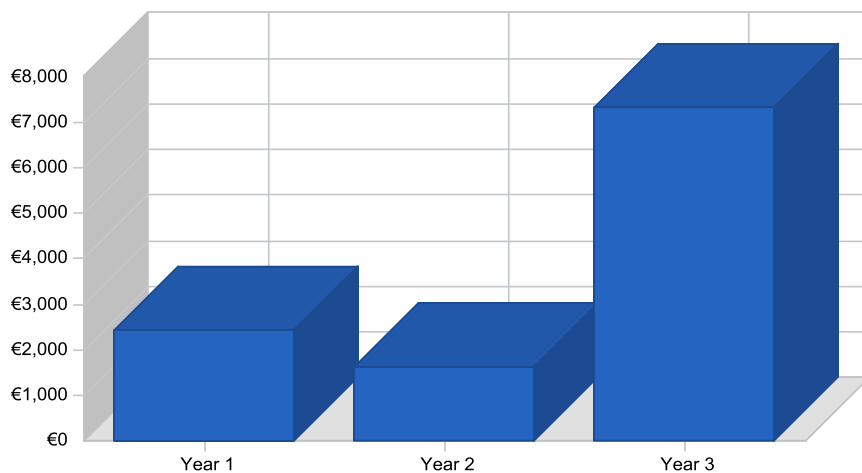
The monthly profit graph visually depicts the profit during each month. The large peaks and ~~drops between the peaks~~the drops in between can be explained by the size and length of development projects. It is risky to have so much time and resources invested in one project ~~in addition~~and to have such a high percentage of revenues derived from a single project. It is also important ~~to~~not to let projects run late so that the peaks do not get postponed causing profit to be realized later or cash flow problems. The yearly profit graph shows a small dip (€830) from year 1 to year 2 and a more substantial increase (€5,740) from year 2 to year 3.

Source: Own calculations

Figure 23~~22~~. Gross Margin Monthly
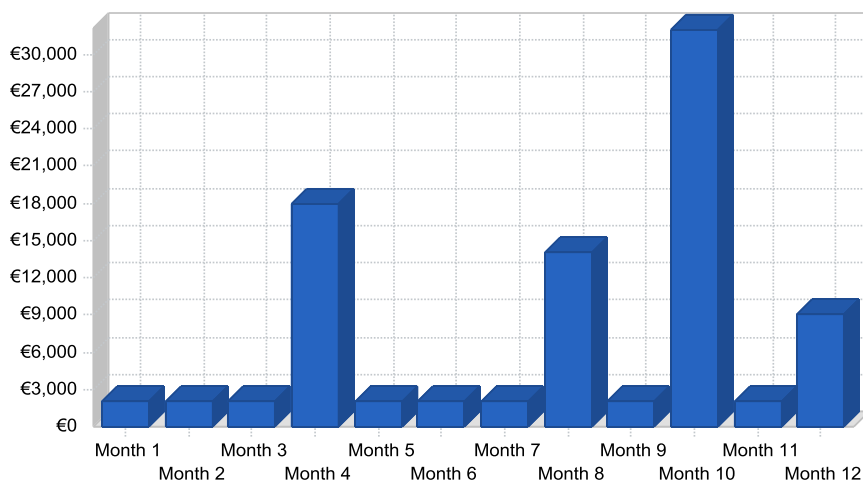
~~Source: Own calculations~~

Figure 24~~23~~. Gross Margin Yearly
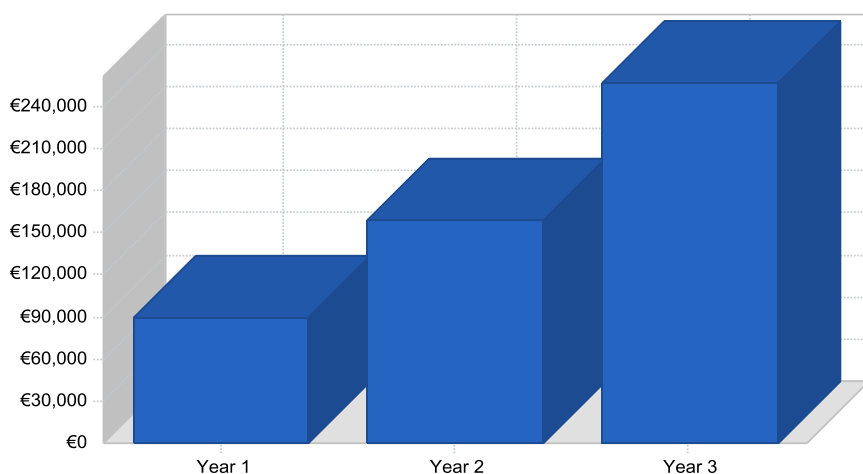
The gross margin graphs present slightly different, but important information. The gross margin monthly graph shows a consistent positive margin with peaks for the payment of larger development projects. It is important to see the profit and gross margin graphs side by side to demonstrate that while money is being made consistently each month, it is also being put to use. At the same time, a forecasted plan accounts for the large sums to come from bigger projects, allowing such utilization of cash. While profit dipped and increased in the yearly profit graph, gross margin can be seen steadily increasing year after year. This indicates that revenues were being reinvesting in the company to expand and further its operations. The increase in gross margins most closely reflects the increase in sales from year to year.

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7.75.5 Projected Cash Flow

Table 14 illustrates cash accumulation from the initial inception of €33,600 investment. Over the projected three years, the company remains cash positive, and at no point does the company run out of cash. The initial investment, depending on the terms, will be repaid beyond 3 years unless the salaries are reduced or capped in the second and third years. But provided how low the salaries start in the first year, this ~~isn't~~is not advisable until the third year at the earliest.

Figure 25 illustrates the critical cash flow in year one. The net cash flow tends to be negative only during the larger projects that require more man-hours and resources. However, at the end of each project, depending on the terms, the large cash inflow restores or improves the cash balance to or beyond previous levels.

If one of these larger projects takes longer than projected or does not produce the expected returns, our cash balance could decline. This highlights the risk and importance of finalizing negotiations with favorable terms prior the beginning of larger projects. Otherwise, the risk of such project falls entirely on Modra Jagoda and could have significant impact on the cash flow.

Table 14. Pro Forma Cash Flow

Cash Received~~Cash Received~~	7.7.1.1 Year 1 (€)~~Year 1~~	Year 2 (€)~~Year 2~~	7.7.1.2 Year 3 (€)~~Year 3~~
	7.7.1.3	7.7.1.4	
Cash from Operations~~Cash from Operations~~	7.7.1.5	7.7.1.6	7.7.1.7
Cash Sales~~Cash Sales~~	7.7.1.8 22,254 €22,254	7.7.1.9 39,630 €39,630	7.7.1.10 64,010 €64,010
Cash from Receivables~~Cash from Receivables~~	7.7.1.11 60,237 €60,237	7.7.1.12 11 3,795 €113,795	7.7.1.13 18 4,882 €184,882
Subtotal Cash from Operations~~Subtotal Cash from Operations~~	7.7.1.14 82,491 €82,491	7.7.1.15 15 3,425 €153,425	7.7.1.16 24 8,892 €248,892
	7.7.1.17	7.7.1.18	7.7.1.19

(table continues)

	Year 1 (€)	Year 2 (€)	Year 3 (€)
Additional Cash ReceivedAdditional Cash Received	7.7.1.20	7.7.1.21	7.7.1.22
Sales Tax, VAT, HST/GST ReceivedSales Tax, VAT, HST/GST Received	17,803 €17,803	7.7.1.23 31,704 €31,704	7.7.1.24 51,208 €51,208
New Current BorrowingNew Current Borrowing	7.7.1.25 0 €0	7.7.1.26 0 €0	7.7.1.27 0 €0
New Other Liabilities (interest-free)New Other Liabilities (interest-free)	7.7.1.28 0 €0	7.7.1.29 0 €0	7.7.1.30 0 €0
New Long-term LiabilitiesNew Long-term Liabilities	7.7.1.31 0 €0	7.7.1.32 0 €0	7.7.1.33 0 €0
Sales of Other Current AssetsSales of Other Current Assets	7.7.1.34 0 €0	7.7.1.35 0 €0	7.7.1.36 0 €0
Sales of Long-term AssetsSales of Long-term Assets	7.7.1.37 0 €0	7.7.1.38 0 €0	0 €0
New Investment ReceivedNew Investment Received	7.7.1.39 0 €0	7.7.1.40 0 €0	7.7.1.41 0 €0
Subtotal Cash ReceivedSubtotal Cash Received	7.7.1.42 100,294 €100,294	7.7.1.43 185,129 €185,129	7.7.1.44 300,100 €300,100
	7.7.1.45	7.7.1.46	7.7.1.47
ExpendituresExpenditures	7.7.1.48 Year 1 (€)Year 1	7.7.1.49 Year 2 (€)Year 2	7.7.1.50 Year 3 (€)Year 3
Expenditures from OperationsExpenditures from Operations	7.7.1.51	7.7.1.52	7.7.1.53
Cash SpendingCash Spending	7.7.1.54 58,200 €58,200	7.7.1.55 118,800 €118,800	7.7.1.56 195,600 €195,600
Bill PaymentsBill Payments	7.7.1.57 25,970 €25,970	37,384 €37,384	7.7.1.58 51,859 €51,859
Subtotal Spent on OperationsSubtotal Spent on Operations	7.7.1.59 84,170 €84,170	7.7.1.60 156,184 €156,184	7.7.1.61 247,459 €247,459

(continued)

-	7.7.1.62	-	7.7.1.63	-	7.7.1.64	-
Additional Cash Spent	7.7.1.65	-	7.7.1.66	-	7.7.1.67	-
Sales Tax, VAT, HST/GST Paid Out	7.7.1.68	17,803 €17,803	7.7.1.69	31,704 €31,704	7.7.1.70	51,208 €51,208
Additional Cash Spent		-		-		-
Principal Repayment of Current Borrowing	7.7.1.71	0 €0	7.7.1.72	0 €0	7.7.1.73	0 €0
Other Liabilities Principal Repayment	7.7.1.74	0 €0	7.7.1.75	0 €0	7.7.1.76	0 €0
Long-term Liabilities Principal Repayment	7.7.1.77	0 €0	7.7.1.78	0 €0	7.7.1.79	0 €0
Purchase Other Current Assets	7.7.1.80	0 €0	7.7.1.81	0 €0	7.7.1.82	0 €0
Purchase Long-term Assets	7.7.1.83	0 €0	7.7.1.84	0 €0	7.7.1.85	0 €0
Dividends	7.7.1.86	0 €0	7.7.1.87	0 €0	7.7.1.88	0 €0
Subtotal Cash Spent	7.7.1.89	101,973 €101,973	7.7.1.90	187,888 €187,888	7.7.1.91	298,667 €298,667
-	7.7.1.92	-	7.7.1.93	-	7.7.1.94	-
Net Cash Flow	7.7.1.95	(1,679)(€1,679)		(2,759)(€2,759)	7.7.1.96	1,433 €1,433
Cash Balance	7.7.1.97	31,921 €31,921	7.7.1.98	29,163 €29,163	7.7.1.99	30,596 €30,596

Source: Own calculations

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*Figure 25*25. *Net Cash Flow and Cash Balance*

Source: Own calculations

7.8 5.6 Projected Balance Sheet

Table 15 presents the balance sheet for Modra Jagoda. The table reflects a positive cash position and shows slow and steady growth in net worth moving from €41,040 to €50,000 between the first and third years.

Table 15. Pro Forma Balance Sheet

Assets	Year 1 (€)	Year 2 (€)	Year 3 (€)
Current Assets			
Cash	31,921	29,163	30,596
Accounts Receivable	7.8.1.1 6,525	7.8.1.2 11,620	7.8.1.3 €18,768
Other Current Assets	5,000	5,000	5,000
Total Current Assets	**43,446**	**45,783**	**54,364**
Long-term Assets			
Long-term Assets	0	0	0
Accumulated Depreciation	0	0	0
Total Long-term Assets	0	0	0
Total Assets	43,446	45,783	54,364
Liabilities and Capital	Year 1 (€)	Year 2 (€)	Year 3 (€)

Current Liabilities			
Accounts Payable	2,406	3,132	4,364
Current Borrowing	0	0	0
Other Current Liabilities	0	0	0
Subtotal Current Liabilities	**2,406**	**3,132**	**4,364**
Long-term Liabilities	0	0	0
Total Liabilities	**2,406**	**3,132**	**4,364**
Paid-in Capital	47,950	47,950	47,950
Retained Earnings	(€9,350)	(€6,910)	(€5,300)
Earnings	7.8.1.4 €2,440	7.8.1.5 1,610	7.8.1.6 7,350
Total Capital	**41,040**	**42,650**	**50,000**
Total Liabilities and Capital	**43,446**	**45,783**	**54,364**
Net Worth	**7.8.1.7 €41,040**	**7.8.1.8 €42,650**	**7.8.1.9 €50,000**

~~Source: Own calculations~~

~~7.9~~ 5.7 Business Ratios

The following table presents common business ratios. Industry profile ratios based on The North American Industry Classification System (hereinafter: NAICS), code 51120, Software Publishers, are shown for comparison.

The projected growth, while significantly higher than most companies within the Software Publishing Industry (4.51%), can be explained by the maturity of such companies. Similar young companies in Slovenia *Azumio*, *Hard Labs*, *Klika*, and *Tovarna Idej* had average 3-year growth rates of 165.72%, 34.15%, 37.01%, and 153.54% respectively. When comparing to these companies, it is not unrealistic to forecast numbers as we have.

Table 16. Business Ratios

Ratio Analysis	Year 1	Year 2	Year 3	Industry Profile
Sales Growth	**n.a.**	**78.08%**	**61.52%**	**4.51%**
Percent of Total Assets				

(table continues)

Accounts Receivable	15.02%	25.38%	34.52%	19.93%
Other Current Assets	11.51%	10.92%	9.20%	69.92%
Total Current Assets	100.00%	100.00%	100.00%	91.46%
Long-term Assets	0.00%	0.00%	0.00%	8.54%
Total Assets	100.00%	100.00%	100.00%	100.00%
Current Liabilities	5.54%	6.84%	8.03%	43.45%
Long-term Liabilities	0.00%	0.00%	0.00%	29.51%
Total Liabilities	5.54%	6.84%	8.03%	72.97%
Net Worth	94.46%	93.16%	91.97%	27.03%
Percent of Sales				
Sales	100.00%	100.00%	100.00%	100.00%
Gross Margin	100.00%	100.00%	100.00%	79.91%
Selling, General & Administrative Expenses	97.26%	98.98%	97.13%	56.99%
Advertising Expenses	6.74%	4.42%	3.12%	2.49%
Profit Before Interest and Taxes	3.92%	1.45%	4.10%	-23.10%
Main Ratios				
Current	18.06	14.62	12.46	1.71
Quick	18.06	14.62	12.46	1.68
Total Debt to Total Assets	5.54%	6.84%	8.03%	72.97%
Pre-tax Return on Net Worth	8.49%	5.39%	21.00%	-86.50%
Pre-tax Return on Assets	8.02%	5.02%	19.31%	-23.38%
Additional Ratios	**Year 1**	**Year 2**	**Year 3**	
Net Profit Margin	2.74%	1.02%	2.87%	n.a
Return on Equity	5.95%	3.77%	14.70%	n.a
Activity Ratios				
Accounts Receivable Turnover	10.23	10.23	10.23	n.a
Collection Days	29	28	29	n.a
Accounts Payable Turnover	11.79	12.17	12.17	n.a
Payment Days	27	27	26	n.a
Total Asset Turnover	2.05	3.46	4.71	n.a
Debt Ratios				
Debt to Net Worth	0.06	0.07	0.09	n.a

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(continued)

Current Liab. to Liab.	1.00	1.00	1.00	n.a
Liquidity Ratios				
Net Working Capital	€41,040	€42,650	€50,000	n.a
Interest Coverage	0.00	0.00	0.00	n.a
Additional Ratios				
Assets to Sales	0.49	0.29	0.21	n.a
Current Debt/Total Assets	6%	7%	8%	n.a
Acid Test	15.34	10.91	8.16	n.a
Sales/Net Worth	2.17	3.72	5.12	n.a
Dividend Payout	0.00	0.00	0.00	n.a

Source: Own calculations

The following list provides more exacting reasons for year-to-year growth.

Internal growth:

- Larger networks of buyers, partners, and consumers
- Better reputation
- Known apps
- Extended portfolio
- Positive testimonials
- Improved negotiating skill
- Higher returns
- Move deals faster
- Increased app quality
- Increase in design and development experience and skill
- Improved development speed
- Improved skill
- Larger code repository
- Improved team collaboration
- Improved design speed
- Improved skill
- Find best tools
- Re-use previously solved challenges
- Improved organization
- Clearer and better defined roles

External growth:

- Increased smartphone penetration (Research2Guidance, 2011)
- Demand of patients/users (Research2Guidance, 2011)
- Data accessibility and affordability (Research2Guidance, 2011)
- Innovations in application pricing models
- 3rd party services/tools for marketing, developing, and design

8 CONCLUSION

This chapter reflects on the purpose of the thesis in terms of proposing an appropriate marketing strategy and demonstrating an effective use of resources via the business plan. Throughout this thesis, the mobile health (mHealth) field was explored in detail for emerging opportunities and examined with a holistic marketing analysis in order to propose a strategy for a software development firm in Slovenia operating almost exclusively in this field. The business planning process enabled a greater depth of understanding of the firm and its resources. The end result of the plan provided the best-perceived use of resources for the particular company.

To get an overall idea on the discussed topic and its propositions for the Slovenian based company, Modra Jagoda, an overall examination of the market was conducted. This included a high-level industry analysis, comprising of market factors, such as market size and market growth, and the environmental analysis, in the form of PEST and SWOT analyses. In showing the market potential, we included TAM (Total Available Market), SAM (Served Available Market) and SOM (Share of Market) analyses. Knowledge of the market also encompassed competitor analysis. This included questions like who are the major competitors, what are the strong/weak points of their products the strong/weak points of their products are and what are they likely to do in the future. The main points of comparison included the company size, their current products/services and their pricing, their brand recognition, and other pertinent information.

To better understand the Company and its resources a business plan was conducted. A business plan is the result of standard management practices used by all startups trying to attain funding and also for internal management purposes. The plan includes an industry description, the company and its products and services, market research, market strategy, human resources and organization, business processes and production planning, demonstrated business opportunity over a three year period, including cash flow estimate, profit and loss account estimate, balance sheet estimate, and various financial indicators.

All of this information for conducting the marketing analysis and business planning was gathered from primary and secondary sources including books, journals, articles, databases, periodicals, websites, conferences, presentations, press releases, 3rd party analysis of trade and business press, annual reports, interviews, and aggregated data from

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Modra Jagoda's applications. The aggregated data from the company's brief history served as a strong foundation for both quantitative and qualitative analysis, eliminating much of the inherent uncertainty in forecasting and predicting the potential outcomes.

This analysis has enabled us to see what were the reasons for the positive outcomes in the past, as well as what could be done in order to improve the less favorable outcomes until now. We have constructed a point of reference from which Modra Jagoda can build their marketing strategy by settings goals for its products, and assessing the best positioning and branding strategies in the future. The first research question ~~asked~~focused on identifying ~~what~~ the best marketing strategy ~~is~~ for the Company at this point. The mid-term marketing strategy for ~~the~~our company revolves around a set of balanced goals for ~~our~~ different products. For WellWithMe and Jog of War, a market development strategy will be used in order to expand our user base. The expansion in the user base will be beneficial for selling sponsorships to our partners. For Register Zdravil and RheumaHelper, the blue ocean strategy is still functioning, and will continue to do so for the next period. The Company needs to continue monitoring these markets and adjust accordingly if the need ~~to do so~~ arises. Modra Jagoda's applications are positioned to be different. They focus on distinct features that the customers value the most ~~regarding~~ depending on the fields they are in. The products for the general public focus on attractiveness; the products for healthcare professionals focus on convenience and reliability; the focus on quality is maintained throughout all product offerings~~and the focus on quality is throughout our product offerings~~. Finally, Modra Jagoda enables its users to ~~be able to~~ communicate freely with them in order to earn and keep their trust so they can fulfill the Company's promise to them: help doctors work on the go, and patients be more informed and healthy.

~~Provided~~ Given the information gathered from the marketing analysis and business planning, a software development firm in the mHealth fiel~~drm~~d is poised to do well. The second research question was to find the best usage for the Company's resources. The greatest challenge Modra Jagoda will face is enduring the first year of meager financial returns. Securing funding with such a business plan will be a great challenge. Despite the difficulty, options for funding ~~for~~ such a company do exist in the form of bootstrapping, friends and family, small business grants, government backed loans, and bartering. In terms of the management team, it is in the company's best interest to appoint or establish authoritative roles. While the experience is lacking, specific members do possess the theoretical knowledge to undertake such roles. The anticipated growth of the company while high (78.08% in year one and 61.52% in year three~~3~~), is not unexplained or entirely uncommon. The reasons for such rapid growth are many, but the primary ones include: a larger network of buyers, partners, and consumers, a larger offering of products, greater expertise, and the growth of the mHealth market as a whole. Such growth has been seen in similar companies in Slovenia including Hard Lab, Klika, and Tovarna Idej. The cost breakdown structure is heavily oriented towards fixed costs in software development companies, and thus qualified and exceptional employees are the greatest asset to the

Pripomba [MJ145]: da se izbrishe?

Pripomba [MJ146]: depending on

Pripomba [MJ147]: chudno mi zvuchi ova. Ili: the focus on quality is maintained throughout all product offerings. Ili the focus on quality is ubiquitous.

Oblikovano: Obojestransko, Raven 1, Ne dodaj razmika med odstavke, ki imajo enak slog, Razmik vrstic: Poljubno 1,2 li

company. Due to the nature of ~~his~~its structure, it is in the management's best interest to focus the majority of ~~his~~its resources ~~to~~on ensuring that the development process from idea to delivery is as efficient and effective as possible.

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APPENDIX

TABLE OF APPENDICES

Appendix 1

1

: Notes from the interview with Daniel Hammond of Two Toasters

Brief History
- Started in 2008 when Apple released App Store
- Around the time of all the fart apps, they made a fake taser app
    - This generated lots of traffic
    - Also made decent ad-revenue
    - Merryl Lynch contacted about investing
    - Wanted to expand portfolio with mobile (very forward thinking for the time)
- Initially made apps for 5-6k
    - Charged for time and materials
- Started as 3 co-founders
- Merged with another company to become 5 equal equity co-founders
    - 3 engineers, 1 designer, 1 business developer

Targeted Clients
- Start-ups ("during a gold rush, be the shovel maker")
- Companies with existing technical teams
- Companies with app on one platform, looking to move to the other

Lead Generation
- Active referrals
    - Talking with other start-ups
    - Being involved in the start-up scene
- After some time began working on referral basis
- Had questions from 1st round capital
    - Spent too long answering those questions
    - Turned out to be great networking relationship
    - Spend a little more time polishing up responses and publish them (see game changing moments)
- Blog on home site and separate Toast Mo blog
    - Something will begin working on in the future
- Facebook and Twitter have not contributed much to business though they did try

Negotiations
- In contract
    - We have the right to publish content about the project and that we are working with you
        - If not, you can ask for other concessions in negotiations
- Large variance in timeframe of negotiations
    - Long ones can last up to 6 months or longer
    - Usually with an inbound lead, execution of the project can start with-in 3-4 weeks
    - It takes TT approximately 1-2 weeks to form proposal document and arrange estimate

Business Model

Pripomba [MJ149]: working out?

- Started only as time and materials
- Moved to **iterative based approach**
  - 2 phases
    - Initial Design/Strategy Phase
      - Time and material
      - Determine hourly rate
      - Set a budget
      - Billed with-in the budget
    - Development Phase
      - Fixed price per iteration (2 week periods)
        - Price given per developer
        - 5-8 iterations = 10-16 weeks
  - (links coming via email)
- Payments occur at the beginning of each iteration
  - Client has access to github and can see progress each day
  - If client does pay, lock out github access
  - Also, no payment, no results from iteration
- Initial offer is priced for V1.0 and V1.1
  - With iterative model, 1.1 vs. 2.0 ~~doesn't~~does not matter
  - Update occurs every 2 weeks
- Sells pitch for iterative model
    - "only way to structure software development"
    - The client has full control of development and budget
- Some deals were lost with this model but the important part is managing your own risk
- **Work For Hire Model**
  - Client gets all the code, assets, etc.

Client Relationship
- 1st Contact
  - Send NDA
  - Share vision
  - Portfolio work (case studies) with associated project budgets
    - Allows them to identify with certain projects, see bottom line, get idea of costs
- During project
  - Decide on an MVP with the client
    - Usually lobby to go even smaller
  - Daily stand-up **with clients** (15-20 minutes)
    - What about non-communicative client
      - The expectation of this type of relationship is laid out in the contract
      - Still send emails about progress, questions, etc.
      - Because it is in the contract, this helps with re-negotiation for budget increases

Business Process
- *Agile/Scrum*
  - Create backlog
  - Make sprints based on backlog
  - Push build every two weeks
- Create very detailed spec of project (not agile way of doing things)
  - Includes mock-ups, user stories, attributes for design (which are put into the source for later version control)
- Organizing 5 equal-equity partners
  - Weekly partner meeting (approx.. 1 hour in length)
    - Each person discusses:
      - What they did this week
      - What they will do next week
      - Metrics to move (ex. # of proposals to send out this month/quarter)
      - What they need from others
  - Must define clear design leader, clear tech leader, clear business leader

Employees
- 1st Hiring
  - Posted job opening on their site
  - Simultaneously moved into new offices
  - As a result of a press release about the move, person got in contact with them
  - Interviewed and hired that one person – **Project Manager**
    - Tough to manage all things
    - Had to make solid business case for this position because this is not a billing employee
    - Not directly generating revenue
- Pausing hiring at 20 some employees
  - Re-group, organize, establish direction, control growth
- Quarterly employee performance reviews
  - Bi-annual is better than yearly
  - Yearly is not enough

Game Changing Moments
- Wrote Open Source – Rest Kit
  - Received lots of tech level press
- Quora.com Posts
- Involvement in start-up scene
- Implementation of Iterative Pricing Strategy

Additional Interesting Remarks
- Mobile can be much more expensive to make changes than web
  - Changes often result in navigation falling apart, lots of new code, or fundamental changes
- Developing SDK for new iOS and Android accessory, lower level hardware, created some point of differentiation

4

- Have gotten screwed a few times

Appendix 2: Sales forecast table

Sales Forecast		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Unit Sales													
Register Zdravil Ads		5	5	5	5	5	5	5	5	5	5	5	5
RheumaHelper Sponsorship		0	0	0	1	0	0	0	0	0	0	0	0
RheumaHelper Ads		0	0	0	0	0	0	0	0	0	0	0	0
WellWithMe Sponsorship		0	0	0	0	0	0	0	1	0	0	0	0
WellWithMe License		0	0	0	0	0	0	0	0	0	0	0	0
Jog of War App Sponsorship		0	0	0	0	0	0	0	0	0	1	0	0
Jog of War Competition Sponsorship		0	0	0	0	0	0	0	0	0	0	0	0
Web Maintenance		10	10	10	10	10	10	10	10	10	10	10	10
Other		0	0	0	0	0	0	0	0	0	0	0	1
Total Unit Sales		15	15	15	16	15	15	15	16	15	16	15	16
Unit Prices		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Register Zdravil Ads		€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00
RheumaHelper Sponsorship		€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00	€16,000.00
RheumaHelper Ads		€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00	€320.00
WellWithMe Sponsorship		€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00	€12,000.00
WellWithMe License		€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00	€5,000.00
Jog of War App Sponsorship		€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00	€30,000.00
Jog of War Competition Sponsorship		€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00	€10,000.00
Web Maintenance		€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00	€40.00
Other		€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00	€7,000.00
Sales													
Register Zdravil Ads		€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600	€1,600
RheumaHelper Sponsorship		€0	€0	€0	€16,000	€0	€0	€0	€0	€0	€0	€0	€0
RheumaHelper Ads		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
WellWithMe Sponsorship		€0	€0	€0	€0	€0	€0	€0	€12,000	€0	€0	€0	€0

(table continues)

6

(continued)

Sales Forecast		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
WellWithMe License		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Jog of War App Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€30,000	€0	€0
Jog of War Competition Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Web Maintenance		€416	€400	€400	€400	€400	€400	€400	€400	€400	€400	€400	€400
Other		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€7,000
Total Sales		€2,016	€2,000	€2,000	€18,000	€2,000	€2,000	€2,000	€14,000	€2,000	€32,000	€2,000	€9,000
Direct Unit Costs		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Register Zdravil Ads	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
RheumaHelper Sponsorship	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
RheumaHelper Ads	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
WellWithMe Sponsorship	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
WellWithMe License	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
Jog of War App Sponsorship	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
Jog of War Competition Sponsorship	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
Web Maintenance	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
Other	0.00%	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00	€0.00
Direct Cost of Sales													
Register Zdravil Ads		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
RheumaHelper Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
RheumaHelper Ads		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
WellWithMe Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
WellWithMe License		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Jog of War App Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Jog of War Competition Sponsorship		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Web Maintenance		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Other		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Subtotal Direct Cost of Sales		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0

Appendix 3: Personnel plan table

Personnel Plan		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Brent LaRue		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Marko Nikolovksi		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Caleb Oller		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Nejc Tomsic		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Blaz Triglav		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Jure Triglav		€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800	€800
Accountant		€50	€50	€50	€50	€50	€50	€50	€50	€50	€50	€50	€50
Engineer		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Designer		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Total People		7	7	7	7	7	7	7	7	7	7	7	7
Total Payroll		€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850

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Appendix 4: Profit and loss table

Pro Forma Profit and Loss		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Sales		€2,016	€2,000	€2,000	€18,000	€2,000	€2,000	€2,000	€14,000	€2,000	€32,000	€2,000	€9,000
Direct Cost of Sales		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Other Costs of Sales		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Total Cost of Sales		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Gross Margin		€2,016	€2,000	€2,000	€18,000	€2,000	€2,000	€2,000	€14,000	€2,000	€32,000	€2,000	€9,000
Gross Margin %		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Expenses													
Payroll		€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850
Marketing/Promotion		€0	€0	€3,000	€0	€0	€0	€0	€0	€3,000	€0	€0	€0
Depreciation		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Rent		€500	€500	€500	€500	€500	€500	€500	€500	€500	€500	€500	€500
Utilities		€250	€250	€250	€250	€250	€250	€250	€250	€250	€250	€250	€250
Insurance		€100	€100	€100	€100	€100	€100	€100	€100	€100	€100	€100	€100
Payroll Taxes	15%	€728	€728	€728	€728	€728	€728	€728	€728	€728	€728	€728	€728
Other		€200	€200	€200	€200	€200	€200	€200	€200	€200	€200	€200	€200
Total Operating Expenses		€6,628	€6,628	€9,628	€6,628	€6,628	€6,628	€6,628	€6,628	€9,628	€6,628	€6,628	€6,628
Profit Before Interest and Taxes		(€4,612)	(€4,628)	(€7,628)	€11,373	(€4,628)	(€4,628)	(€4,628)	€7,373	(€7,628)	€25,373	(€4,628)	€2,373
EBITDA		(€4,612)	(€4,628)	(€7,628)	€11,373	(€4,628)	(€4,628)	(€4,628)	€7,373	(€7,628)	€25,373	(€4,628)	€2,373
Interest Expense		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Taxes Incurred		(€1,383)	(€1,388)	(€2,288)	€3,412	(€1,388)	(€1,388)	(€1,388)	€2,212	(€2,288)	€7,612	(€1,388)	€712
Net Profit		(€3,228)	(€3,239)	(€5,339)	€7,961	(€3,239)	(€3,239)	(€3,239)	€5,161	(€5,339)	€17,761	(€3,239)	€1,661
Net Profit/Sales		-160.12%	-161.96%	-266.96%	44.23%	-161.96%	-161.96%	-161.96%	36.86%	-266.96%	55.50%	-161.96%	18.45%

Appendix 5: Cash flow table

Pro Forma Cash Flow		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Cash Received													
Cash from Operations													
Cash Sales		€504	€500	€500	€4,500	€500	€500	€500	€3,500	€500	€8,000	€500	€2,250
Cash from Receivables		€50	€1,512	€1,500	€1,900	€13,100	€1,500	€1,500	€1,800	€10,200	€2,250	€23,250	€1,675
Subtotal Cash from Operations		€554	€2,012	€2,000	€6,400	€13,600	€2,000	€2,000	€5,300	€10,700	€10,250	€23,750	€3,925
Additional Cash Received													
Sales Tax, VAT, HST/GST Received	20.00%	€403	€400	€400	€3,600	€400	€400	€400	€2,800	€400	€6,400	€400	€1,800
New Current Borrowing		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
New Other Liabilities (interest-free)		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
New Long-term Liabilities		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Sales of Other Current Assets		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Sales of Long-term Assets		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
New Investment Received		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Subtotal Cash Received		€958	€2,412	€2,400	€10,000	€14,000	€2,400	€2,400	€8,100	€11,100	€16,650	€24,150	€5,725
Expenditures		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Expenditures from Operations													
Cash Spending		€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850	€4,850
Bill Payments		€13	€394	€459	€2,579	€5,029	€389	€389	€509	€3,939	€2,719	€9,089	€459
Subtotal Spent on Operations		€4,863	€5,244	€5,309	€7,429	€9,879	€5,239	€5,239	€5,359	€8,789	€7,569	€13,939	€5,309
Additional Cash Spent													
Sales Tax, VAT, HST/GST Paid Out		€403	€400	€400	€3,600	€400	€400	€400	€2,800	€400	€6,400	€400	€1,800
Principal Repayment of Current Borrowing		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Other Liabilities Principal Repayment		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Long-term Liabilities Principal Repayment		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Purchase Other Current Assets		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0

(table continues)

(continued)

Pro Forma Cash Flow		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Purchase Long-term Assets		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Dividends		€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Subtotal Cash Spent		€5,266	€5,644	€5,709	€11,029	€10,279	€5,639	€5,639	€8,159	€9,189	€13,969	€14,339	€7,109
Net Cash Flow		(€4,309)	(€3,232)	(€3,309)	(€1,029)	€3,721	(€3,239)	(€3,239)	(€59)	€1,911	€2,681	€9,811	(€1,384)
Cash Balance		€29,291	€26,059	€22,750	€21,720	€25,441	€22,202	€18,963	€18,903	€20,814	€23,495	€33,306	€31,921

Appendix 6: Balance sheet table

Pro Forma Balance Sheet		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Assets	Starting Balances												
Current Assets													
Cash	€33,600	€29,291	€26,059	€22,750	€21,720	€25,441	€22,202	€18,963	€18,903	€20,814	€23,495	€33,306	€31,921
Accounts Receivable	€0	€1,462	€1,450	€1,450	€13,050	€1,450	€1,450	€1,450	€10,150	€1,450	€23,200	€1,450	€6,525
Other Current Assets	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000	€5,000
Total Current Assets	€38,600	€35,753	€32,509	€29,200	€39,770	€31,891	€28,652	€25,413	€34,053	€27,264	€51,695	€39,756	€43,446
Long-term Assets													
Long-term Assets	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Accumulated Depreciation	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Total Long-term Assets	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Total Assets	€38,600	€35,753	€32,509	€29,200	€39,770	€31,891	€28,652	€25,413	€34,053	€27,264	€51,695	€39,756	€43,446
Liabilities and Capital		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Current Liabilities													
Accounts Payable	€0	€381	€376	€2,406	€5,016	€376	€376	€376	€3,856	€2,406	€9,076	€376	€2,406
Current Borrowing	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Other Current Liabilities	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Subtotal Current Liabilities	€0	€381	€376	€2,406	€5,016	€376	€376	€376	€3,856	€2,406	€9,076	€376	€2,406
Long-term Liabilities	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0	€0
Total Liabilities	€0	€381	€376	€2,406	€5,016	€376	€376	€376	€3,856	€2,406	€9,076	€376	€2,406
Paid-in Capital	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950	€47,950
Retained Earnings	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)	(€9,350)
Earnings	€0	(€3,228)	(€6,467)	(€11,807)	(€3,846)	(€7,085)	(€10,324)	(€13,564)	(€8,403)	(€13,742)	€4,019	€779	€2,440
Total Capital	€38,600	€35,372	€32,133	€26,793	€34,754	€31,515	€28,276	€25,036	€30,197	€24,858	€42,619	€39,379	€41,040
Total Liabilities and Capital	€38,600	€35,753	€32,509	€29,200	€39,770	€31,891	€28,652	€25,413	€34,053	€27,264	€51,695	€39,756	€43,446
Net Worth	€38,600	€35,372	€32,133	€26,793	€34,754	€31,515	€28,276	€25,036	€30,197	€24,858	€42,619	€39,379	€41,040

Appendix 7: Hard Lab financials table

HERMAN'S HARDLAB, družba za raèunalniške storitve, d.o.o.						
VILHARJEVA CESTA 27, 1000 LJUBLJANA						
Matièna številka: 1674811 						
ID za DDV: SI74916653 						
Velikost podjetja: mikro						
Dejavnost - SKD 2008: J 62.030 Upravljanje raèunalniških naprav in sistemov						
Kategorije	2006	2007	2008	2009	2010	Povpreèje rasti
Sredstva	71.829	306.579	308.543	412.791	555.241	34,15%
Dolgoroèna sredstva	9.239	22.982	33.031	26.717	68.138	43,63%
Opredmetena osnovna sredstva	7.824	17.737	27.007	21.662	12.013	(33,31)%
Kratkoroèna sredstva	62.181	283.208	275.211	385.424	314.193	6,85%
Zaloge	0	0	0	0	0	n.p.
Poslovne terjatve	38.954	190.367	215.796	258.576	206.506	(2,18)%
Kratkoroène poslovne terjatve	38.954	190.367	215.796	258.576	206.506	(2,18)%
Kratkoroène finanène naložbe	6.885	3.991	34.563	55.25	66.544	38,76%
Obveznosti do virov sredstev	71.829	306.579	308.543	412.791	555.241	34,15%
Kapital	-2.016	22.494	28.952	29.925	43.69	22,84%
0	0	0	0	0	0	n.p.
73.844	284.085	277.216	380.491	501.732	34,53%	
Dolgoroène obveznosti	0	0	0	0	0	n.p.
Dolgoroène finanène obveznosti	0	0	0	0	0	n.p.
Dolgoroène poslovne obveznosti	0	0	0	0	0	n.p.
Kratkoroène obveznosti	73.844	284.085	277.216	380.491	501.732	34,53%
0	0	0	110	334.012	n.p.	
73.844	284.085	277.216	270.491	167.72	(22,22)%	
Èisti prihodki od prodaje	357.853	855.145	1.081.165	1.253.340	723.778	(18,18)%
Poslovni odhodki	368.086	826.403	1.090.753	1.248.936	755.029	(16,8)%
-10.234	28.767	6.905	4.404	-26.468	n.p.	
Finanèni prihodki	367	240	1.225	1.383	2.552	44,34%
Finanèni odhodki	167	97	234	3.752	12.319	625,57%
-10.033	24.506	6.458	974	-36.235	n.p.	
n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
1,26	1,98	6,03	7,25	4,15	(17,04)%	
Dodana vrednost na zaposlenega	18.804	42.258	34.797	34.275	22.539	(19,52)%
Delež kapitala v financiranju	(2,81)	7,34	9,38	7,25	7,87	(8,43)%
Delež dolgov v financiranju	102,81	92,66	89,85	92,18	90,36	0,29%
(21,82)	97,88	87,65	112,01	64,12	(14,47)%	
0,84	1	0,99	1,01	0,63	(20,58)%	
0,84	1	0,99	1,01	0,63	(20,58)%	
Obraèanje zalog 1	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
9,03	7,46	5,41	5,28	3,13	(23,87)%	
Dnevi vezave zalog 1	0	0	0	0	0	n.p.
40,41	48,94	67,53	69,07	116,5	31,35%	
(2,8)	2,86	0,59	0,08	(4,96)	n.p.	
Èista donosnost sredstev	(14,58)	12,95	2,09	0,27	(7,49)	n.p.
Èista donosnost kapitala	(334,35)	239,33	25,1	3,31	(98,44)	n.p.
stopnja zadolženosti	0	0	0	0,01	0,02	440,87%
Revizor	0	0	0	0	0	
Revizorsko mnenje						
Vir podatkov	APP/AJPES	APP/AJPES	APP/AJPES	APP/AJPES	APP/AJPES	
Zaèetek poslovnega leta	1.1.2006	1.1.2007	1.1.2008	1.1.2009	1.1.2010	
Zakljuèek poslovnega leta	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	
Delni izkaz	Ne	Ne	Ne	Ne	Ne	
Datum vnosa	17.5.2007	14.5.2008	14.5.2009	12.5.2010	12.5.2011	

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Appendix 8: Klika financials table

KLIKA, informacijske tehnologije d.o.o.					
STEGNE 21C, 1000 LJUBLJANA					
Matièna številka: 1833570 					
ID za DDV: SI56900783 					
Velikost podjetja: mikro					
Dejavnost - SKD 2008: J 62.010 Raèunalniško programiranje					
Kategorije	2006	2007	2008	2009	2010	Povpreèje rasti
Sredstva	207.528	128.936	317.259	430.013	595.515	37,01%
Dolgoroèna sredstva	29.265	25.672	122.305	95.882	66.025	(26,53)%
Opredmetena osnovna sredstva	27.696	24.014	99.621	64.722	47.127	(31,22)%
Kratkoroèna sredstva	174.929	97.152	188.561	325.968	520.146	66,09%
Zaloge	0	0	0	0	5.156	n.p.
Poslovne terjatve	108.229	53.262	156.863	62.295	489.37	76,63%
Kratkoroène poslovne terjatve	106.806	52.341	151.484	57.335	484.41	78,82%
Kratkoroène finanène naložbe	20.936	33.896	0	788	6.106	n.p.
Obveznosti do virov sredstev	207.528	128.936	317.259	430.013	595.515	37,01%
Kapital	123.986	93.45	118.659	279.11	350.533	71,88%
0	0	0	0	0	n.p.	
83.542	35.486	197.239	150.903	236.662	9,54%	
Dolgoroène obveznosti	0	0	7.5	0	0	-100%
Dolgoroène finanène obveznosti	0	0	0	0	0	n.p.
Dolgoroène poslovne obveznosti	0	0	7.5	0	0	-100%
Kratkoroène obveznosti	83.542	35.486	189.739	150.903	236.662	11,68%
0	0	102.5	42.5	15	(61,75)%	
83.542	35.486	87.239	108.403	221.662	59,4%	
Èisti prihodki od prodaje	454.726	439.949	564.978	722.961	844.82	22,28%
Poslovni odhodki	326.835	356.248	462.548	574.267	772.759	29,25%
145.558	102.039	110.285	149.801	73.208	(18,53)%	
Finanèni prihodki	785	2.718	1.623	2.942	3.504	46,93%
Finanèni odhodki	1.569	940	3.077	11.405	3.401	5,13%
114.365	83.811	92.871	253.322	92.126	(0,4)%	
n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
7,62	8,66	9,38	10,4	10,99	8,24%	
Dodana vrednost na zaposlenega	51.964	43.448	42.404	49.031	37.523	(5,93)%
Delež kapitala v financiranju	59,74	72,48	37,4	64,91	58,86	25,45%
Delež dolgov v financiranju	40,26	27,52	62,17	35,09	39,74	(20,05)%
423,67	364,02	97,02	291,1	530,91	133,93%	
2,09	2,74	0,99	2,16	2,2	48,71%	
2,09	2,74	0,99	2,16	2,18	47,98%	
Obraèanje zalog 1	n.p.	n.p.	n.p.	n.p.	279,8	n.p.
6,64	5,76	5,62	6,93	3,12	(25,46)%	
Dnevi vezave zalog 1	0	0	0	0	1,3	n.p.
55	63,38	64,94	52,63	116,87	34,15%	
24,17	18,18	16,17	26,09	10,16	(20,71)%	
Èista donosnost sredstev	71,02	49,81	41,62	67,8	17,97	(34,3)%
Èista donosnost kapitala	118,02	77,08	87,56	127,37	29,26	(42,19)%
stopnja zadolženosti	0,01	0,01	0,01	0,03	0,01	(23,26)%
Revizor	0	0	0	0	0	
Revizorsko mnenje						
Vir podatkov	APP/AJPES	APP/AJPES	APP/AJPES	APP/AJPES	APP/AJPES	
Zaèetek poslovnega leta	1.1.2006	1.1.2007	1.1.2008	1.1.2009	1.1.2010	
Zakljuèek poslovnega leta	31.12.2006	31.12.2007	31.12.2008	31.12.2009	31.12.2010	
Delni izkaz	Ne	Ne	Ne	Ne	Ne	
Datum vnosa	17.5.2007	14.5.2008	14.5.2009	12.5.2010	12.5.2011	

Appendix 9: Tovarna Idej financials table

	2008	2009	2010	Povpreèje rasti
TOVARNA IDEJ, informacijske storitve, d.o.o.				
ŠENTILJSKA CESTA 49, 2000 MARIBOR				
Matièna številka: 3431266 				
ID za DDV: SI17142202 				
Velikost podjetja: mikro				
Dejavnost - SKD 2008: J 62.010 Raèunalniško programiranje				
Kategorije	2008	2009	2010	Povpreèje rasti
Sredstva	8.932	58.764	57.415	153,54%
Dolgoroèna sredstva	0	10.248	10.077	n.p.
Opredmetena osnovna sredstva	0	10.248	10.077	n.p.
Kratkoroèna sredstva	8.932	48.516	47.338	130,21%
Zaloge	0	23	946	n.p.
Poslovne terjatve	1.438	9.916	19.871	271,73%
Kratkoroène poslovne terjatve	1.438	9.916	19.871	271,73%
Kratkoroène finanène naložbe	0	0	55	n.p.
Obveznosti do virov sredstev	8.932	58.764	57.415	153,54%
Kapital	8.598	11.378	15.701	35,13%
0	0	0	0	n.p.
334	45.946	41.714	1.017,55%	
Dolgoroène obveznosti	0	0	0	n.p.
Dolgoroène finanène obveznosti	0	0	0	n.p.
Dolgoroène poslovne obveznosti	0	0	0	n.p.
Kratkoroène obveznosti	334	45.946	41.714	1.017,55%
0	0	0	0	n.p.
334	45.946	41.714	1.017,55%	
Èisti prihodki od prodaje	1.438	97.326	116.335	799,45%
Poslovni odhodki	37	94.015	111.225	5.382,77%
1.401	3.311	5.11	90,98%	
Finanèni prihodki	6	26	98	304,15%
Finanèni odhodki	0	36	13	n.p.
1.098	2.78	4.324	98,45%	
n.p.	n.p.	n.p.	n.p.	
0	0	0	0	n.p.
Dodana vrednost na zaposlenega	n.p.	n.p.	n.p.	n.p.
Delež kapitala v financiranju	96,26	19,36	27,35	(46,7)%
Delež dolgov v financiranju	3,74	78,19	72,65	340,79%
n.p.	111,03	155,81		
26,74	1,06	1,13	(79,4)%	
26,74	1,06	1,11	(79,61)%	
Obraèanje zalog l	n.p.	7.954,52	216,66	n.p.
n.p.	17,14	7,81	n.p.	
Dnevi vezave zalog l	0	0,05	1,68	n.p.
182,5	21,29	46,73	(49,4)%	
76,04	2,86	3,71	(77,9)%	
Èista donosnost sredstev	12,29	8,21	7,44	(22,18)%
Èista donosnost kapitala	12,77	27,83	31,94	58,14%
stopnja zadolženosti	0	0	0	n.p.
Revizor	0	0	0	
Revizorsko mnenje				
Vir podatkov	APP/AJPES	APP/AJPES	APP/AJPES	
Zaèetek poslovnega leta	1.1.2008	1.1.2009	1.1.2010	
Zakljuèek poslovnega leta	31.12.2008	31.12.2009	31.12.2010	
Delni izkaz	Ne	Ne	Ne	
Datum vnosa	14.5.2009	12.5.2010	12.5.2011	