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# BUSSINES PLAN: HEALTH CARE SERVICE MOBILE APPLICATION

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**SUMMARY**

# 1 CONTEXT

This charpter presents the necessary background for the addressed topic, starting from an overview on the current dynamic of the healthcare system in Brazil. Later, a brief discussion on the idea of the application and its fundamental basis is provided.

## 1.1 Overview

The health care service in Brazil is composed by a public and a private sector, each with its distincts numbers and figures.

Starting from the number of doctors working on each sector. In 2016, a survey made by IBGE[1] showed that Brazil has more doctors acting on private sector than in the public sector (Financed by the Federal Government), even though only 25% of the population has some kind of medical Health plan and other 75% rely or on SUS[2] or on private practioners [1].

Further, Brazil has around 400.000 doctors, which means 1.95 doctors per capta, while the mean value for the number of doctors per capita in coutries signatires of the Organization for Cooperation and Economical Devlopment is 3.2 [2] [3].

As per the Medical Demographyc in Brazil studie of 2015 supported by the Federal Consil of Medicine (CFM), 21.6% of all doctors in the country works only for the public sector while 26.9% are dedicated only for the private sector. The ones that works for both sectors, private and public, account for 51.5% of all doctors in the country.Those figures, results in a disponibility o doctors per capta three times higher in private sector than in the public sector [3].

When it comes to investments in public and private sector, the numbers are still unbalanced. Even though the SUS is theoretically a perfect system, in a practice it has lot of defects, which is primarly due to the low public investment. For example, while the public investiments were below US$ 100 bi in 2015, to attend 150 mi of people, in the same year, investment in the private sector accounted for US$ 150 bi to attend around 25 mi of people [4] [5].

In general, 63% of the public services are unsatisfied and the average waiting time for a regular visit is higher than 2 months, in some cases this period can be higher than 6 months. On the other hand, in the private sector, the average waiting time is around 24 hours [6].

I publice sector, the visit booking is mainly done personally, with and attendant, while in private sector phone calls are the principal way by which visits are booked. Both methods are considered unefficient methods as, for exemple, a person may stay minutes or hours in a queu just for a booking, or can spend at least 3 phone calls to manage to get a visit scheduled.

[1] Acronymon for Brazilian institute of Geography and Statistics
[2] Brazilian public system service

### 1.1.1 Problems to be solved

Given the presented overview of the dynamic of the health care provided by both private and public services, the major problems to be solved can be listed from the clinics and patients point of view as follows:

#### *1.1.1.1 Patients:*

- Long time wainting for visit: Nowadays patients that need a visit face a long waiting time due to low availability of doctors.
- Time consuming appointment book system: System is mostly based on in-person appointment or phone call booking appointment.
- Few doctor and clinics options: Patients usually do not have too many doctor options and rely mostly on other people indications when choosing for a doctor.
- Loss of medical history: People in general are not too organized to the point of keep track of their medical history, thus sometimes, important and useful information are lost
- No control of daily healthcare: Few or no attention is given for the daily health care as people are culturally used to concern about their health only during treatment phase, not in the prevention

#### *1.1.1.2 Clinics:*

- Absence of dynamic booking system: Clinics have to rely on their staffs to update the bookings in case there is any cancellation. Moreover, it is a hassle for the staffs to keep track of the patients who are visiting.
- Absence of proper targeted advertising platform: Usually advertisements are either printed on newspapers or broadcasted on television. But all the audience coming across this advertisement may not be interested in it. They need an advertisement platform where almost all the people coming across the advertisement are potential customers for the cinics.
- Loss of medical history of patients- Most clinics do not have a system to keep track of their patient's health history. This is especially a problem for recurring patients. Access to their previous medical history would be helpful in providing effective treatment.

## 1.2 The Idea

The product idea comes into play by answering the following question:

"*What if we could provide the health care market with a product to target the problems faced by clinics and patients?"*

In response to this question, the team came up with the idea of our very own health care service mobile application, which will serve as a one-click solution to all our clients' problems.

### 1.2.1 Benefits of using the Application

In a general view, solving our clients' problems is the subjective benefit of using or application. However, we can go further and provide an objective view of how our application can benefit our clients adding value and fulfilling their needs. Again, both patients and clinics point of view are provided.

#### *1.2.1.1 Patients:*

- Less effort and waste of time for a booking
- Better overview about the doctors in the area
- Track of own medical record
- Easier prescription acces
- No loss of important data
- More control of daily health care

#### *1.2.1.2 Clinics:*

- More visibility
- Better patient management system
- Track of patient medical record
- Closer relation with patients
- Improvement in the provided service

### 1.2.2 Why Brazil as the target country?

For the success of the business, we need some problems and provide solution for them. Also, those solutions needs to be offered in such a way that the potential clients feel that value are been generated tfor them. Considering that this is being acomplishied by the product model, we also need a population to target the business, in other words, enough people to be helped by our service.

From the market point of view, there is some strategic reasons for choosing Brazil as the target country to start the business. Apart for the dynamic of the current Health care system, explained in section 1.1, some punctual facts are primordial.

Firstly, 60% of the total Brazilian population are internet user [7], 89% of those users connect to internet via mobile phones [8]. Also Brazil is the 4$^{th}$ country in the world with the most number off mobile phones [9] [10] [11] . Which give us a huge potential for population engagement with the application.

In the last 12 months, 71.2% of the Brazilian populitons, which is higher than 200mi of inhabitants, visited the doctor at least once [12].

The revenue of the private health care system sector increasead 47% from 2011 to 2015, and prospects for 2018 are of the order of 16% of growth [13].

In the public sector, on the other hand, the prospects are way less positives. Last year, Brazilian government approved a constitutional amend to limit the yearly invstments in public health. This amend states that the increasement in the government investments in pulic health form one year to another, in the next 20 years, will account only for inflation correction. In other words, the government investmenst in public health, in the next 20 year will have no increase (0%) [5]. This situation will put more pressure in the private sector, as more people will leave the public services due to its precarization.

Its important to mention that the government invest in public health sector is already small, and accounted for only 3.8% of the Brazil GDP (GDP) in 2014, meawhile in countries like France, UK and Canada the investments are higher than 7.4% of its GDP for the same year [14].

Due to the unsatisfation of the population with the public health service people are migrating for private services. However, Brazil is being through an import economical crisis, and population in general can not afford expensive health plans.

Given this two panorames, a new trend in Brazil, when it comes to private services, is *popular clinics*. They are clinics that provide private health services with a cheaper price (40 EUR in average), usually upt to 50% cheaper than regular private clinics [15], thus are designed for that part of the population that has no finatial conditions to pay for better clinics and also do not go to doctors too oftem to justify paying monthly for a helth care plan [16].

Some suveys states that around 50% of public health services users are migrating for this kind of service, *popular clinics*. They are people from classes C and D of the society which do no want to wait long time in lines for a free doctor visit. Also, in 2016 a increased of 30% in the number of patiets going to this kind of clinics were registered, this is mostly due to people that loose therir Jobs and consequently their health care plans [15] [17].

Those *popular clinics* are also taking advantage of the number of people cancelling their Healthe care plans, or due to unemployment either by unsatisfaction. As shown by some researchs that 2.5 mi of people lost their health care plans coverage in 2016 [18]. Also, Health Care plans in the two Brazilian main cities, São Paulo and Rio, registered the extinction 549.000 and 319.000 of health care plans clients respectively.

Apart from the fact that popular clinics in general are a growing sector of the private health system, they still have some problems. One of them are the booking system, which is mainly done by phone calls, which opon the opportunity to develop business in partnership with those companies [17].

### 1.2.3 Mission, Vision and Values

Besides providing a solution for pontual problems of clients and clinics when it comes to the dynamic of the health care system, we want to go further and also add value for the society in general. This is done building an environment where not only the health tratement itself is

focused, but also the awereness for the importance in the prevention of health problems. Those ideas are summarized by our values statement as follows:

*“Build a **Healthier society** by increasing daily life health care access and awareness”*

# 2 DESIGN, DEVELOPMENT AND OPERATION PLANS

This charpter presents the practical steps for the business development. Starting from the definion of the main business sites and team components. Later sections presentsf all steps for the app development and post-devlopment.

## 2.1 Targeted Cities, Geographical location and team

Our business model consists of two pivotal segments. The first is the location where we are operating, where our customers are present. The second is the location where our application is developed and server is maintained.

This way, the app wil be firstly released for citizens of the cities of Rio de Janeiro and São Paulo, both located in Brazil. On the other hand, the application devlopemnt and server services will be performed in India. The reason for those choices are briefly explained in the next sections.

### 2.1.1 Why Rio de Janeiro and São Paulo?

Alongwith all those reasons for choosing brasil as the targeted coutry for the app realeasement, seen in section 1.2.2, we norrowed down our criteria considering both market and infrastructure point of view to come to the decision of choosing both São Paulo and Rio de Janeiro as target cities.

Firstly, those cities have a high HDI (Human development Index), which means inhabitants with more acquisitive power (willing to expend more money in Health care), with more education level (more awereness about health), and higher life expectancy (more lifetime dealing with health care) [19]. Also, what comes with more acquisitive power, is as better infrastructure, and those cities are between the cities with have the best internet services in Brazil [20], which is fundamental for proper functioning of our application. Further, 75% of the population in those two cities are internet users, which increase the potential for our app. User engagement.

In terms of doctors availability, those two cites alone gather 44.76% of all doctors in Brazil, besides accounting for only 23.8% of the Brazilian populations. Thus, the average number of doctors per capita in those cities is around 4.85 meanwhile in countryside locations this value reduces to 1.23 [3].

### 2.1.2 Why India?

Now while the market of Brazil is profitable to run our business in, as has been discussed in the above sections, the same cannot be said for the app development and server maintenance. By conducting online research and contacting businesses in both the countries, we have established the following cost estimate for app development and server maintenance [21].

Table 1 – Cost stimate in India vs Brazil

| Country | App Development Cost (EUR) | Server Cost (Monthly) (EUR) |
|---|---|---|
| **Brazil** | 25,000 | 55 |
| **India** | 16,800 | 35 |

As can be seen from the above estimate, India is a strategically viable location to develop our application and maintain our servers. The app development and server maintenance will be outsourced to a third party organization and a small team of developers can be employed in Brazil to coordinate with the developers back in India and keep our application updated.

### 2.1.3 Managerial Team

The managerial team is presented in Table 2.

Table 2 - Managerial Team

| Position | Nº Employee | Task |
|---|---|---|
| **C.E.O. (Chief Executive Officer)** | 1 | |
| **C.T.O (Chief Technical Office)** | 1 | Coordinate tecnical activities making the link between Indian devlopers and brazilian devloper |
| **C.O.O. (Chief Operations Officer)** | 1 | Coordinate operations |
| **C.M.O. (Chief Marketing Officers)** | 1 | Coordinte marketing activities |
| **Devloper** | 1 | Work on minor app features development, bugs and throubleshooting |
| **Market Representative** | 2 | Represent company in-site, introduce company for potential clientes and work on first phase of negotiations |

## 2.2 App devlopement

This section provides a rough timeline involved in the app development process and setting up business.

### 2.2.1 App devlopment timeline

Before we proceed with app development we have to check the viability of our business. So we dedicate initial three weeks to gathering response from public by conducting surveys and releasing a mock website of our application to monitor the traffic we receive in our targeted

area. After we have obtained a decent estimate of the market we proceed with the actual app development.

The next five weeks will consist of hiring developers and initiating app development. We will also take this time and set up an office on site and hire personnel. Simultaneously we will release a preliminary version of our app to get feedback from the initial users. These feedbacks can be later implemented to polish our final application. During these five weeks we will also approach potential clients (clinics and private practitioners) with our idea and try to get their feedbacks.

The four weeks before the final release of our application will be focussed on polishing the application with the feedbacks received during the earlier weeks and setting up a decent client base. Once the application is ready, it will be distributed to our clients and set up with relevant payment options. After all of this has been achieved the final version of the application with all the features will be made available to the public ready for use

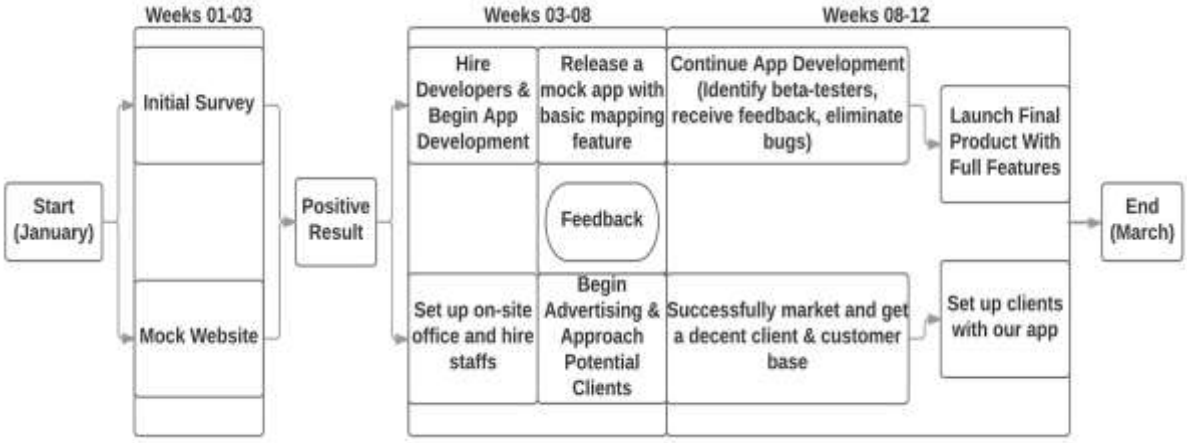


Figure 1 – Timeline for App. devlopment

### 2.3 Advertisement Campaigns

Flyers can be distributed around the two cities where we will operate giving a rough idea about our business. Since ours is an online application the best mode of advertisement is undoubtedly online. So primary focus will be given to maintain a strong online presence. Advertisement will be done by implementing online adwords, online advertisements on various social platforms and posters in clinics and pharmacies

## 3 APPLICATION FEATURES

The practical way our application will add value to clinics and patients daily life will be explained in this charpter. This is done by addressing the discussion to each and every feature will be contained in the applitcation.

### 3.1 Application features based on users

Our application targets two distinct groups- clinics and private practitioners who use our application to manage their bookings and the patients who use our application to make the bookings. The application is designed to cater to the different needs of these two groups and make the entire experience smoother. The following points list out the features of our application based on the two groups

#### 3.1.1 Patient Version

- Our application shows convenient results based on the search criteria. For example, if someone is looking for a dentist the application will show them a list of dentist to choose from based on the location of the user.
- Google map services will be employed to show the best route to the clinic from the location of the user.
- To make an appointment, the application will show the user which time slots are available and gives the user an option to choose the time most suitable to him/her.
- The application has a dynamic booking system which shows the waiting number of the user in real time so that the user does not have to wait for hours at the clinic.
- Every visit to a medical practitioner gets recorded in the application under the user profile. So our application stores the user's health history which will help the user and the doctors analyze the patient's health condition better.
- The prescription details are fed digitally into the application's built in prescription format which later sends reminders to the patients to take the medicine on time.
- If a user has recently searched for a certain speciality which is currently not available, our application remembers that and will send a notification if any vacancy has recently become available.

#### 3.1.2 Clinic Version

- Our application provides the clinics with an easy and automated appoint management system. The bookings made by users using our application gets directly fed into the system. However, there will still be patients who make the bookings either by visiting the clinics directly or by making a phone call. The application has a easy-to-fill format for the clinic staff to manually enter the details. The application then sorts the bookings automatically.
- Our application will provide better visibility of the clinics to the patients. Even if the clinic is in a remote location they will show up on the map of the user.
- The application will also feature an advertisement platform where clinics advertisements will be shown to the users.

- The health history of the patients will be available to the clinics for better analysis of the patient health.
- The application will also feature a calendar system where the daily activities of the clinics can be planned out.
- The application is designed to make the billing of the patients easier. Since the application knows which doctor the patient is visiting, with just a click the bill is generated providing less hassle to the staffs.

### 3.2 Application cycle

For the subsequent updates of the application a two month cycle will be followed. A new version of the application will be released at the end of each two month cycle followed by bug-fixing and troubleshooting. Feedback will be collected from the users during these two months which will be implemented on the next update along with relevant new features. This will ensure that we have new features to offer the users to keep the interest in our application up.

## 4 SERVICE PRICING

This charpter presents the strategies and main sources of income for the business. Distinctis approachs to monetize are explained individually.

### 4.1 Cost of appointment booking

In Brazil a patient gets charged approximately 45 Euros per visit to a clinic or a medical practitioner. We charge them a minimum 0.25% of the visitation fee for using our services which amounts to 0.12 Euros.

We also need to keep in mind that an average Brazilian only visits a health establishment 2.8 times annually [22]. Keeping this fact in mind, on an average a person is paying a small sum of just 0.35 Euros per year for enjoying our services.

### 4.2 Renting software to clinics

The initial software renting fee will be around 100EUR per month. Our research indicates that most of the appointment booking softwares with moderate traffic charge around the same. In contrast, our application provides a variety of other features as well such as:

- A dynamic appointment booking service.
- Access to patient health history.
- A calendar system to plan out their activities.
- Convenient advertising platform

### 4.3 Monthly charges for advertisement

The initial monthly charge for advertisement will amout for 228EUR. Considering the average visit by a Brazilian to a clinic and the average fees per visit, we calculated that the clinics at the populated cities of Rio de Janeiro and Sao Paulo make approximately 58000 Euros a month. In a modest scenario they are assumed to be investing 4% of their net income on advertising.

Based on these assumptions, as a beginner in the advertising market, we charge the clinics 4% of their net advertising cost which amounts to a small sum of just 228 Euros per month [23].

### 4.4 Privilege booking

Here we introduce a separate paid feature called the privilege booking. Often some users may not be able find a suitable time slot for their appointment booking for their desired physician. The application can try and accommodate their appointment in the respective time slot. With this feature we give them an option to find a convenient time slot by paying a small amount of 1.3 Euros.

## 5 RISKS AND DIFFICULTIES

Like most businesses there are risks associated with our business model as well. They are as follows:

- All the market studies are hypothetical. The actual market share is unpredictable and can only be determined after conducting a thorough survey.
- Since an average person in Brazil is likely to visit a physician only 2.8 times a year, we have to find innovative ways to keep them interested in our application.
- Recent studies show that the average age in Brazil is increasing. Since the application is online based, the people from a higher age group may find it difficult to use our application.
- There are other pre-existing booking and healthcare management systems in operation in Brazil. We need to devise a way to compete with them and replace their application with ours.
- Some regions within the cities may be lacking in proper infrastructure required to run our application. Since our application heavily relies on internet and a functional device (computer/ tablet), we need to figure out how to keep our application functional in such areas with poor infrastructure.

A considerable number of people in Brazil have subscriptions to various health-care plan providers in Brazil who manage all the appointment bookings and health-care for the patients.

We need to find a way to either compete with the health-care plan providers or form partnership with them.

# 6 FINANCIAL PLAN

This charpter presents the business financial plan. It starts showing the expected initial investiment which will cover all business actions during the first 3 months. Finally two different scenarios are presented considering different market share evolution of our business in a one-year interval. Finally, expected income and breakeven analisys for both scenarios are shown.

## 6.1 Initial Investment

The following expenses, in Table 3, are considered to come up with an estimate of the initial investment required to set up the business.

Table 3 - Initial Investment to set up the business.

| Expense Type | Expense (EUR) | Frequency |
|---|---|---|
| **App Development** | 17,000.00 | One time |
| **Office set-up & Staff Salaries** | 12,400.00 | Per month |
| **Liability Insurance** | 1,000.00 | Per annum |
| **Server Cost** | 425.00 | Per annum |
| **Taxes** | No tax at initial stage | Per month |
| **Advertisement** | 4,000.00 | Per month |
| **Surveys** | 420.00 | One time |
| **Total** | **35,245.00** | **3 Initial months** |

## 6.2 Considerations

Before presenting some estimated scenarios for our business financial status, some points needs to be taken into consideration

- Initial share of the market is not predictable.
- Simulation of our financial plan has been made with an estimated 5% market share during the start of our business. By this we mean we will have 5% of the total number of clinics in these two cities using our application and 5% of total number of patients visiting these clinics will use our application to book their appointments.
- A more appropriate estimate of market share can be obtained from the result of surveys done on site.
- We will consider 2 distinct growth rate of market share scenarios to predict the financial status of our business.
- A tax of 22% will be levied on our earnings from business [24].
- Considering the economy of Brazil the following salaries were estimated for our team for the first year.

Table 4 - Salary Break-up.

| Position | Salary (EUR) |
|---|---|
| **Founders salary (C.E.O.)** | 7,500.00 (3x2500) |
| **C.T.O** | 1,430.00 |
| **C.M.O** | 780.00 |
| **Developer** | 910.00 |
| **Trade Representatives** | 1,040.00 (2x520) |
| **Total** | 11,660.00 |

- Cost of office is estimated as

Table 5 – Office expenses

| Position | Salary (EUR) |
|---|---|
| **Utilities**[3] | 56.00 |
| **Rent**[4] | 660.00 |
| **Internet (20MBps)** | 30.00 |
| **Total** | 746.00 |

### 6.3 Market Size

By doing research on the internet, considering total number of clinics in Brazil and total population of Brazil we estimate a total number of **2577** clinics and private practices in these two cities (São Paulo and Rio de Janeiro).

Considering 75% of the population in these two major cities in Brazil use internet (Almost 60% of total population in Brazil use internet) and the average visit to doctor per capita (2.8 per year), we estimate a total number of **1271** internet using patients visit each clinic per month.

### 6.4 Case I

We considered the following growth rate, in market share of clinics, patients, advertised clinics and number of privileged bookings for 9 months after application release.

Table 6 - Estimated market share for 9 months after app. release.

| Market Share | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 | Month 9 |
|---|---|---|---|---|---|---|---|---|---|
| **Clinics** | 5% | 6% | 7% | 11% | 15% | 20% | 22% | 23% | 27% |
| **Patient** | 8% | 9% | 12% | 17% | 21% | 25% | 27% | 29% | 30% |
| **Privil. Book** | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| **Advertised Clinics** | 20% | 25% | 33% | 38% | 44% | 50% | 53% | 57% | 62% |

Figure 2 shows the net cash position evolution over a one year period for Case I (optimistic case).

[3] Electricity, Water, gas and Heating
[4] Average price for a 900 $ft^2$ room

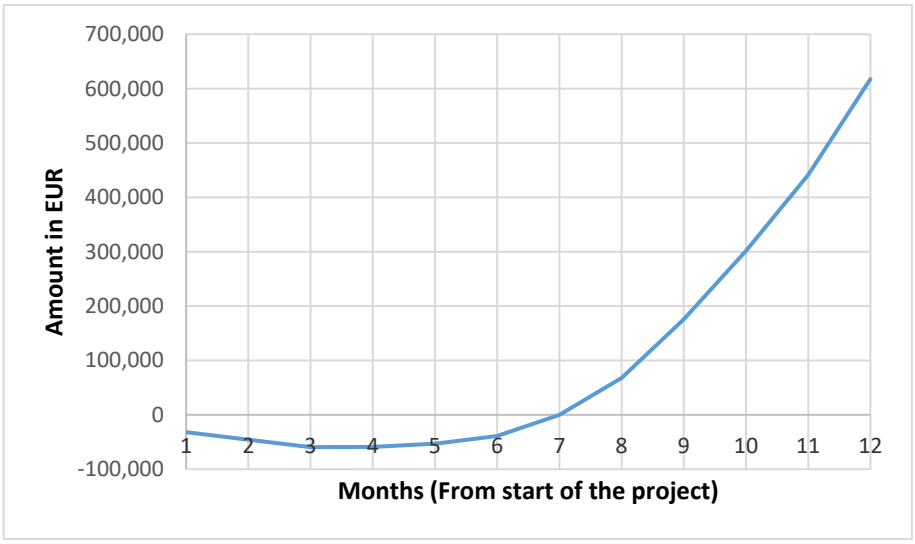


Figure 2 - Net cash positon - Case I.

From these estimates, we find that at the end of 9 months we make a profit of **617,463 EUR**. Break even point is found to be near the 4th month after starting the business, as seen in Figure 3.


Figure 3 - Breakeven analysis - Case I.

### 6.5 Case II

We considered the following growth rate, in market share of clinics, patients, advertised clinics and number of privileged bookings for 9 months after application release.

Table 7 - Estimated market share for 9 months after app. release.

| Market Share | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 | Month 9 |
|---|---|---|---|---|---|---|---|---|---|
| **Clinics** | 5% | 6% | 7% | 8% | 8% | 8% | 9% | 9% | 9% |
| **Patient** | 5% | 6% | 7% | 8% | 8% | 8% | 9% | 9% | 9% |
| **Privil. Book** | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| **Advertised Clinics** | 20% | 25% | 33% | 38% | 44% | 50% | 53% | 57% | 62% |

Figure 4 shows the net cash position evolution over a one year period for Case I (non optimistic case).

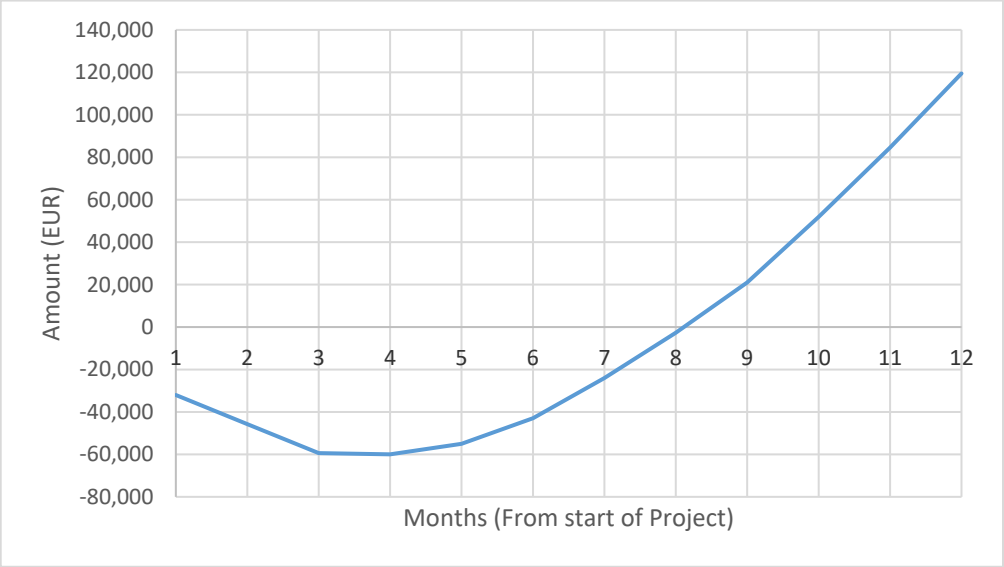


Figure 4 - Net cash positon - Case II.

From these estimates, we find that at the end of 9 months we make a profit of **119,478 EUR**

Break even point is found to be near the 4$^{th}$ month after starting the business, as seen in Figure 5.

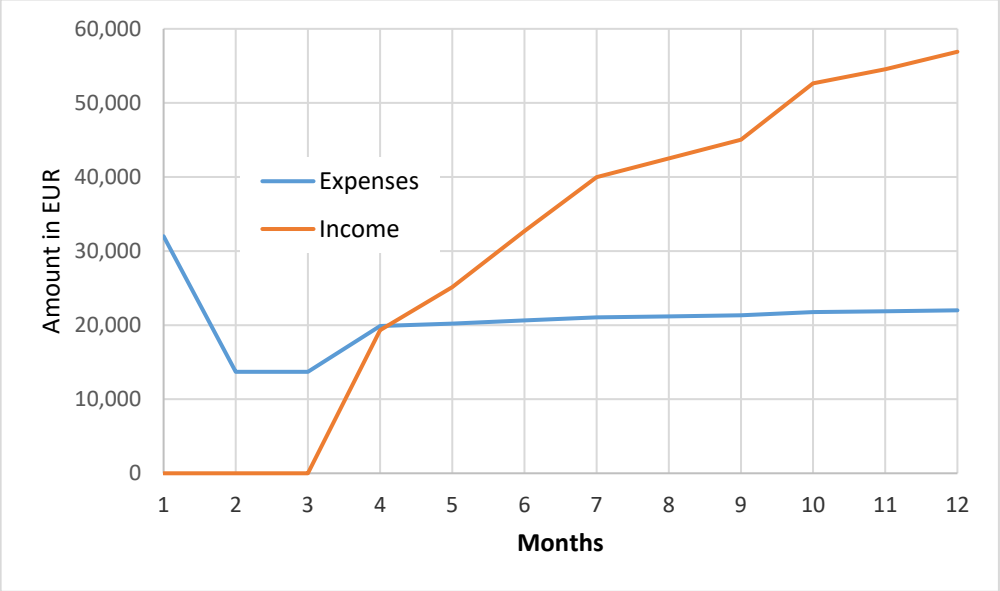


Figure 5 - Breakeven analysis - Case II.

## 7 COLLABORATIONS AND FUTURE GROWTH

In future we envision our application to have huge impact on the way health-care is integrated in people's lives.

- Big data and individual searches conducted by the users in our application can be analyzed to provide daily tips to the users relating to a healthier life.
- We plan to expand our services to other health related sectors such as spas and gyms
- Partnerships with pharmaceutical companies for delivery of medicines will increase the effectiveness of medicine availability. The user no longer has to run from store to store looking for a specific medicine.
- Partnerships can be formed with local transport services to provide pick-up and drop-off services to the people who find it convenient based on their time of appointment booking.

There are some popular clinics in Brazil, which are recently operational, experience a staggering patient numbering up to more than 2000. A partnership with them will be beneficial for all parties involved.

## 8 REFERENCES


1. **Follha Uol**, 2017. Disponivel em: <http://www1.folha.uol.com.br/seminariosfolha/2017/03/1870822-acesso-a-dados-da-saude-cresce-e-a-rede-publica-segue-ineficiente.shtml>. Acesso em: 13 dez. 2017.

2. **Economia Estadão**, 2016. Disponivel em: <http://economia.estadao.com.br/noticias/releases-ae,panorama-entre-a-saude-publica-e-os-planos-de-saude-no-brasil,70001640859>. Acesso em: 14 dez. 2017.

3. **G1 Globo**, 2015. Disponivel em: <http://g1.globo.com/bemestar/noticia/2015/11/setor-privado-tem-mais-medicos-que-sus-mas-atende-25-da-populacao.html)>. Acesso em: 10 dez. 2017.

4. **Economia Estadão**, 2015. Disponivel em: <http://economia.estadao.com.br/noticias/geral,saude-publica-e-saude-privada,1618631>. Acesso em: 28 nov. 2017.

5. **Plano de Saude**, 2016. Disponivel em: <https://www.planodesaude.net/saude-publica-versus-saude-privada/>. Acesso em: 10 dez. 2017.

6. **Noticias R7**, 2014. Disponivel em: <https://noticias.r7.com/saude/metade-da-populacao-espera-ate-seis-meses-para-marcar-uma-consulta-no-sus-revela-pesquisa-12082014>. Acesso em: 12 dez. 2017.

7. **Agencia Brasil**, 2017. Disponivel em: <http://agenciabrasil.ebc.com.br/geral/noticia/2017-10/relatorio-aponta-brasil-como-quarto-pais-em-numero-de-usuarios-de-internet>. Acesso em: 10 dez. 2017.

8. **Estadao**, 2016. Disponivel em: <http://link.estadao.com.br/noticias/cultura-digital,celular-vira-o-principal-meio-de-acesso-a-internet-no-brasil,10000075832>. Acesso em: 20 jan. 2018.

9. **Wikiwand**, 2016. Disponivel em: <https://www.wikiwand.com/en/List_of_countries_by_number_of_mobile_phones_in_use>. Acesso em: 11 dez. 2017.

10. **Wikiwand**, 2015. Disponivel em: <https://www.wikiwand.com/en/List_of_countries_by_number_of_Internet_users>. Acesso em: 12 dez. 2017.

11. **Statista**, 2017. Disponivel em: <https://www.statista.com/topics/779/mobile-internet/>. Acesso em: 12 dez. 2017.

12. **Uol Notícias**, 2015. Disponivel em: <https://noticias.uol.com.br/saude/ultimas-noticias/redacao/2015/06/02/ibge-revela-como-anda-a-saude-do-brasil.htm>. Acesso em: 13 dez. 2017.

13. **DGABC**, 2016. Disponivel em: <http://www.dgabc.com.br/Noticia/1967204/setor-privado-de-saude-cresce-no-pais-apesar-da-crise>. Acesso em: 13 dez. 2017.

14. **Blog Trijam**, 2015. Disponivel em: <http://blog.trijam.com.br/saude-publica-vs-privada-no-brasil-entenda-a-verdadeira-diferenca/>. Acesso em: 15 dez. 2017.

15. **Saude Via Net**, 2016. Disponivel em: <https://saudevianet.com.br/clinicas-populares-sucesso-na-area-de-saude/>. Acesso em: 10 dez. 2017.

16. **Exame Abril**, 2016. Disponivel em: <https://exame.abril.com.br/revista-exame/clinicas-populares-avancam-cobrando-r-100-por-consulta/>. Acesso em: 11 dez. 2017.

17 **Extra Globo**, 2016. Disponivel em: <https://extra.globo.com/noticias/economia/clinicas-populares-crescem-impulsionadas-pela-crise-19632270.html>. Acesso em: 10 dez. 2017.

18 **Correio Braziliense**, 2017. Disponivel em: <http://www.correiobraziliense.com.br/app/noticia/cidades/2017/03/13/interna_cidadesdf,580155/onde-encontrar-clinicas-populares-no-df.shtml>. Acesso em: 28 nov. 2017.

19 **Atlas Brasil**, 2017. Disponivel em: <http://www.atlasbrasil.org.br/2013/pt/ranking>. Acesso em: 14 nov. 2017.

20 **Infomoney**, 2016. Disponivel em: <http://www.infomoney.com.br/minhas-financas/consumo/noticia/5945330/internet-essas-sao-operadoras-cidades-brasileiras-que-possuem-melhor-conexao>. Acesso em: 12 jan. 2018.

21 **Bussiness Insider**, 2017. Disponivel em: <http://www.businessinsider.com/india-is-10x-cheaper-than-us-for-app-development-2017-1>. Acesso em: 12 nov. 2017.

22 **Statista**, 2016. Disponivel em: <https://www.statista.com/statistics/236589/number-of-doctor-visits-per-capita-by-country/>. Acesso em: 22 nov. 2017.

23 **Kuno Creative**, 2016. Disponivel em: <https://www.kunocreative.com/blog/2016-healthcare-marketing-budget>. Acesso em: 03 dez. 2017.

24 **Contabilizei**, 2017. Disponivel em: <https://www.contabilizei.com.br/contabilidade-online/tabela-simples-nacional-completa/>. Acesso em: 22 dez. 2017.