



Business plan

Development of the business plan for
the CountSplitter mobile application

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1. Background and motivation.

Nowadays the expenses shared between different people that live or share hobbies together are increasing.

What experiences affected me and why there is a need of an app that helps sharing expenses?

After going through the university stage, sharing a flat and other expenses (Dinners, Birthdays, Travel Gifts, Tickets ...), both with roommates and friends, several problems appeared, among them, the most important of all, the sharing of expenses and keep track of who had paid or not. With these stage in mind, the opportunity of finding a way to improve everyday people's life in the same situation broad me to the conclusion of research how to create a successful app.

First, we will define what an App is.

(RAE, 2019)

The Royal Academy of Language indicates that an application is a program prepared for a specific use, such as the payment of payrolls, word processing, etc.

(Techterms, 2012)

App is short for "application," which is the same thing as a software program. While an app may refer to a program for any hardware platform, it is most often used to describe programs for mobile devices, such as smartphones and tablets.

The term "app" was popularized by Apple when the company created the "App Store" in 2008, a year after the first iPhone was released. As the iPhone and App Store grew in popularity, the term "app" became the standard way to refer to mobile applications. Programs for Android and Windows Phone are now called "apps" as well.

In an easy way, an App is any software that can be used using a Tablet, mobile phone or smart electronic device, and among them we can find all kinds of applications, from popular games like Pokémon GO, instant messaging systems like WhatsApp, email readers like Gmail, social networks like Facebook and Instagram, etc.

Many of the applications we use are the adaptation of programs that were originally designed for use on personal computers, so that they can be used on mobile devices. Others are thought from the beginning for computers, but by their very nature or during their development it is perceived that they should be used with the mobility of mobile devices.

We will analyse the data of shared flats that are in Spain, based on the report of the last year (2019) provided by *pisos.com*.

(pisos.com, 2019)

Demand

Potential tenants for rental rooms follow the line of the offer, locating themselves in the provinces and capitals where it is located. In this way, 44.04% of the demand is concentrated in the provinces of Madrid and Barcelona, and more specifically, 35.50% of these tenants are looking for a shared apartment in their two capitals. The boy-girl distribution leans in favor of females, which account for 55.37% of the profiles. Taking as reference the ten provinces with the highest concentration of demand, the superiority of the girls is reaffirmed, highlighting Granada (59.55%) with the highest percentage and Las Palmas (50.37%) with the lowest.

Regarding age, this type of tenant in Spain is eminently young, since the group that goes from 18 to 25 years represents 51.31% of the total, followed by the interval between 26 and 35, which occupies 29.24%. As for tenants between 36 and 45 years, they represent 10.92%, and that of those between 46 and 60 years, 6.48%. Finally, those over 60 are the smallest group: 2.05%. If you take the ten provinces with the highest demand, the figures are not very different. The maximum and the minimum in the group of the youngest are located in Granada (65.83%) and in the Balearic Islands (34.96%). Regarding the second relevant interval this year, the Balearic Islands (40.50%) had the highest percentage and Granada (20.49%) the lowest. With the range of tenants between 36 and 45 years old, Vizcaya (18.90%) marks the highest point and Granada (6.28%) the lowest. In the interval that goes from 46 to 60, Vizcaya (9.51%) is the one that concentrates the most and Granada (5.10%) the least. The oldest tenants reach their largest representation in Vizcaya (3.44%), while in Barcelona (1.36%) it is where their presence is scarce.

51.31% of future tenants are between 18 and 25 years old

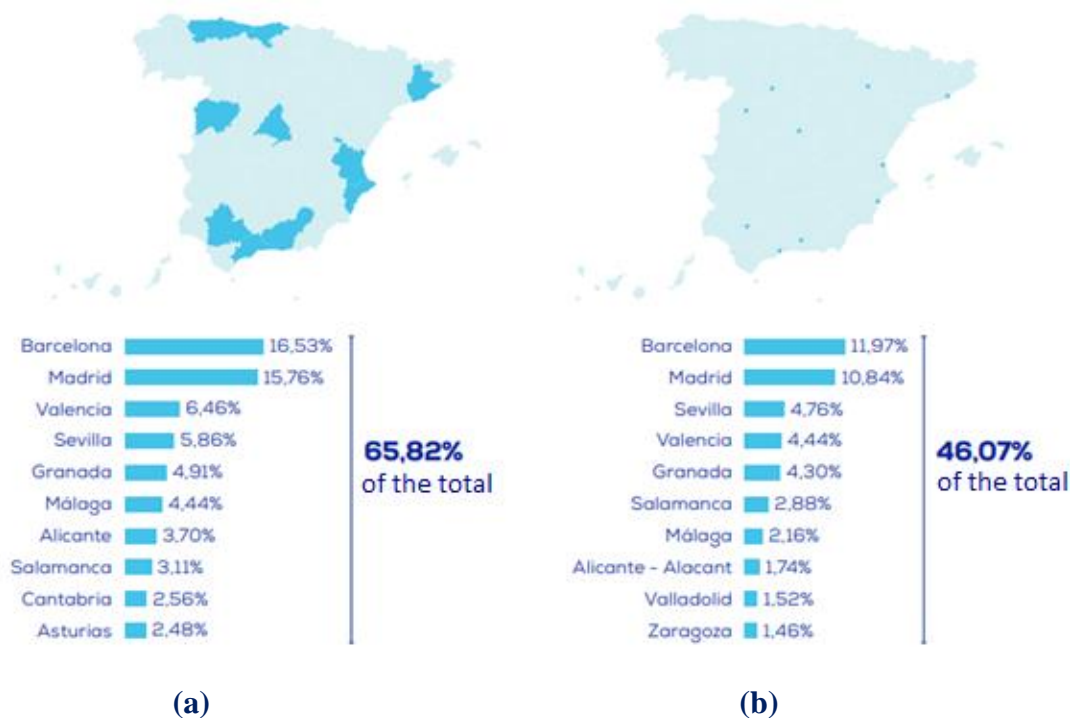
Offer

PROVINCES

According to the report on shared flats in Spain 2019 made by *pisos.com*, 38.76% of the shared flats are distributed between Barcelona (16.53%), Madrid (15.76%) and Valencia (6.46%). In 2018, Madrid, Barcelona and Valencia accumulated 38.87% of the offer. Between 2017 and 2011 the top three was made up of Madrid, Barcelona and Seville. Thus, in 2017 these three provinces accumulated 47.79% of the offer; in 2016, 50.58%; in 2015, 49.95%; in 2014, 52.77%; in 2013, 52.26%; in 2012, 53.08%; and in 2011, 51.8%. If in 2019 we expanded to ten provinces, the percentage of flats would reach 65.82%. Thus, the 'top ten' would be completed by Seville (5.86%), Granada (4.91%), Malaga (4.44%), Alicante (3.70%), Salamanca (3.11%), Cantabria (2.56%) and Asturias (2.48%).

CITIES

In the analysis by city, five of them bring together 36.31% of the supply of flats with rooms for rent: Barcelona (11.97%), Madrid (10.84%), Seville (4.76%), Valencia (4.44%) and Granada (4.30%). These five cities repeat for the ninth consecutive year as the locations with the largest offer: 36.24% in 2018; 46.49% in 2017; 47.92% in 2016; 45.79% in 2015; 53.47% in 2014; 52.75% in 2013; 53.38% in 2012 and 50.27% in 2011. If we expanded to five more municipalities in 2019, it would reach 46.07% of the total. The locations would be Salamanca (2.88%), Malaga (2.16%), Alicante (1.74%), Valladolid (1.52%) and Zaragoza (1.46%). The first non-capital province municipality on this list would be Alcalá de Henares (1.05%), in fifteenth position.



Graph 1: (a) 10 provinces with more shared flats; (b) 10 cities with more shared flats (pisos.com, 2019)

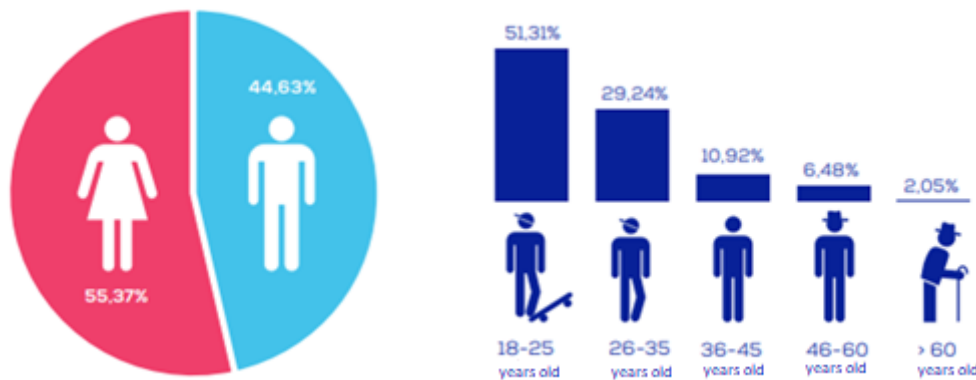
Demand Profile

The profile by sex and age of the demand for shared flats in 2019 in Spain is highly defined. In terms of gender, this year the girls register 55.37% and the boys 44.63%. In previous reports, the numerical superiority of women was already highlighted. In 2018, there were 55.63% girls and 44.37% boys. In 2017, girls accounted for 54.24% and boys, 45.76%. In 2016, girls reached 54.87% and boys 45.13%. In 2015, the distribution was 53.55% for girls and 46.45% for boys. In 2014, there were 55.97% of girls compared to 44.03% of boys. In 2013, women won again with a distribution of 56.20% compared to 43.80% of men. In 2012 the percentages were 58.31% for girls over 41.69% for boys. Finally, in 2011 there were 54.74% of girls compared to 45.26% of boys.

In terms of age, younger tenants make up the bulk of the demand. In this sense, the distribution of percentages closely resembles that of the previous year. The age group that

goes from 18 to 25 years represents 51.31% in 2019 compared to 51.01% registered in 2018, 49.38% in 2017, 49.44% in 2016, 49, 66% of 2015, 53.42% of 2014 and 55.46% of 2013. In 2012 they ranked second with 30.17%, but in 2011 they were leaders with 55.19%. The following range, from 26 to 35 years old, occupies the second position in the ranking this year with 29.24% a higher margin than those achieved in 2015 (29.14%) and in 2014 (28.82%), but lower than in 2018 (29.78%), 2017 (29.28%), 2016 (29.30%), 2013 (30.93%) and 2011 (32.13%). It has also fallen below the 2012 mark, when 44.44% dominated demand.

The rest of the intervals consolidate its position in the ranking. The third place is for tenants between 36 and 45 years old, whose 10.92% is below the weight obtained in 2017 (11.35%), 2016 (11.29%), 2015 (11.10%) and 2012 (15.52%), but above that achieved in 2018 (10.78%), 2014 (9.75%), 2013 (8.92%) and 2011 (8.53%). The fourth place is for those between 46 and 60 years old, who show a percentage of 6.48%, introducing differences with respect to other years: 6.36% in 2018, 7.20% in 2017, 7, 15% in 2016, 7.22% in 2015, 5.82% in 2014, 4.22% in 2013, 8.27% in 2012 and 3.81% in 2011. Those over 60 they close the list with 2.05%, a higher figure than in 2013 (0.47%), 2012 (1.60%) and 2011 (0.34%), but lower than in 2018 (2.07%), 2017 (2.79%), 2016 (2.82%), 2015 (2.88%) and 2014 (2.19%).

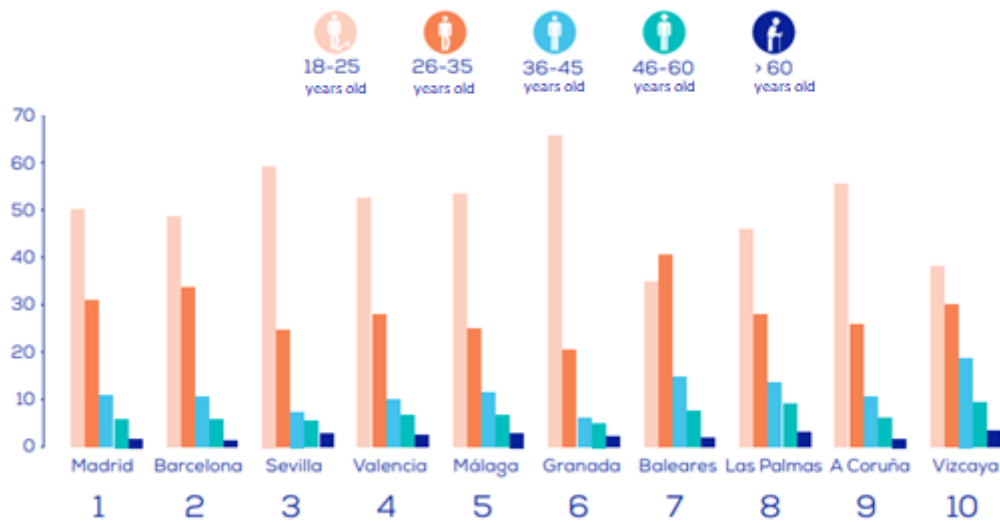


Graph 2: Demand for shared flats by sex and age in Spain (pisos.com, 2019)

Regarding the age of the tenants in the ten provinces with the most demand, the interval that leads in all of them is the one that goes from 18 to 25 years, except in the Balearic Islands, where the most numerous tenants are those with between 26 and 35 years, as in 2018. The province where the youngest accumulate a higher percentage is Granada, which with 65.83% repeats position compared to 2018 (66.11%). Within this age range, the lowest level comes from the Balearic Islands, with 34.96%. This same province was also the one with the least young applicants in 2018 (34.02%).

As for the section from 26 to 35 years old, the second in importance this year, is the Balearic Islands (40.50%), the province where these tenants have more weight and outperform the rest, as in 2018 (40.88%). The province with the highest demand in this group, but not exceeding the age range of the youngest, is Barcelona (33.69%). In 2018 it was also Barcelona with 33.98%. The minimum this year within this range is for Granada (20.49%), as in 2018, registering 20.47%.

Demand between 36 and 45 years old repeats compared to previous years as the third in the ranking. This year, Vizcaya (18.90%) is the leader in this age group, and Granada (6.28%), the province in queue. In 2018, tenants in this interval had more presence also in Vizcaya (19.28%), and less again in Granada (6.22%). The next section is that of the demand between 46 and 60 years, being Vizcaya (9.51%) and Granada (5.10%) the provinces that set the maximum and minimum. In 2018, Las Palmas stood out above (9.20%) and Granada below (4.82%). Finally, tenants with more than 60 years have their peak of representation in Vizcaya (3.44%), marking the counterpoint Barcelona (1.36%). Last year the scenario was similar, since it was Vizcaya (3.56%) who was above and Barcelona (1.36%) who was below.



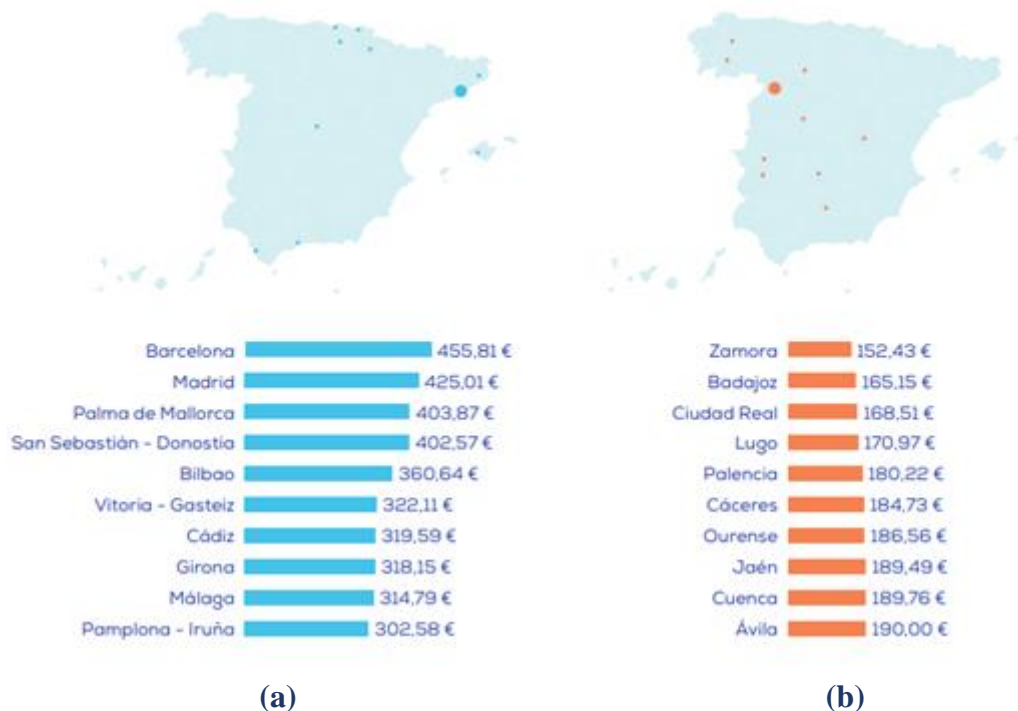
Graph 3: 10 provinces with the highest demand according to age (pisos.com, 2019)

The Offer

Prices

Regarding the price of rooms for rent, the average income in Spain has gone from 292.18 in 2018 to 287.45 in 2019. In 2017, the income stood at 299.06 euros per month; in 2016, at 280.15; in 2015, at 228.69; in 2014, at 272.30; in 2013, at 317.93; and in 2012, at 345.12. The provincial capital where it is more expensive to share a flat is Barcelona (€ 455.81 / month), followed by Madrid (€ 425.01 / month), Palma de Mallorca (€ 403.87 / month), Donostia-San Sebastián (€ 402.57 / month) and Bilbao (€ 360.64 / month). As for the cheapest, the list is headed by Zamora (€ 152.43 / month), with Badajoz (€ 165.15 / month) behind, Ciudad Real (€ 168.51 / month), Lugo (170, € 97 / month) and Palencia (€ 180.22 / month).

The average price of a rental room in Spain is 287.45 euros per month.



Graph 4: (a) 10 capital cities with the most expensive rooms; (b) 10 capital cities with the cheapest rooms (pisos.com, 2019)

After this report, we observe that the majority of people who share a flat are between 18 and 25 years old (51.31%), followed by those between 26 and 35 years old (29.24%), although there is still a percentage notable in people aged 36 to 45 years (10.92%).

This implies that of the 51.31% of people who share a flat, a large percentage are students with limited financial capacity. So, they are the most affected to face problems when it comes to sharing expenses.

So, in addition to the highest percentage, all these people have problems when it comes to sharing expenses, in different ways, so we have investigated applications that could solve them.

After that, we have found that there are already applications that fulfil this function, but with limited, sometimes complex, use.

Some of the problems that these applications present are:

- Do not allow to share expenses in a simple and effective way.
- Failure to meet 100% of the requirements by the user.
- Complex interface.
- Basic functions not free.

With which it was found that, although the problem was solved, the user was not sufficiently satisfied with any of them, nor did any application solve everything that was sought.

2. The business model

Next, we proceed to establish the business model of our application, clearly defining what we are going to offer to the market, how we are going to do it, who our product is aimed at, how we will create value for our clients, what resources we need and how we are going to generate the income.

The method to shape our business model that we will use is the Business Model Canvas created by Alexander Osterwalder and Yves Pigneur and which is included in the book Business Model Generation (Pigneur, 2010), in which, through analysis and defining a series of elements, we will graphically model what our business model is.

With this tool, the different points will be obtained and will allow the business logic to be represented in a clear and simplified way, validating our ideas and allowing us to anticipate possible setbacks, increasing the chances of success.

2.1 The canvas model

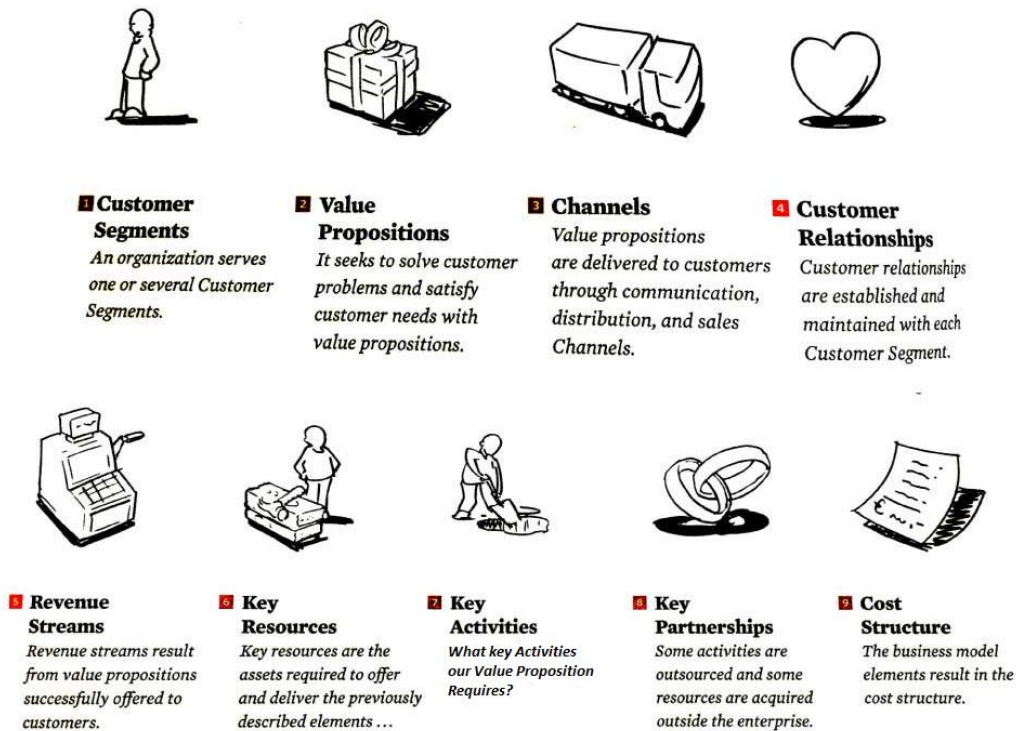
The canvas model is a tool that is used to analyse and create a business model. It helps us to improve the understanding, gain broad focus points, and conduct a strategic analysis of the business model.

It allows us to view all the elements of the canvas in a single page, in a simple way to get the most out of this tool.

The elements of which it is composed are: (Cabrera, 2015) (Alvarez, 2016)

1. Customer Segments
2. Value Proposition
3. Channels
4. Customer Relationships
5. Revenue Streams
6. Key Resources
7. Key Activities
8. Key Partners
9. Cost Structure

The 9 Building Blocks



Graph 5: The 9 building blocks of model canvas (clearlyaccounting, 2020)

2.1.1 Customer Segments

Who is our application for? Who are our clients going to be?

The clients to whom the app is directed are very specific.

The market segment is very defined if we look at the profile of the demand for shared flats.

As can be seen in the demand profile presented by the “pisos.com” report that appears on chapter 1. In 2019, in terms of gender, girls registered 55.37% and boys 44.63%.

Regarding age, more than half of the demand (51.31%) was between 18 and 25 years old, followed by 29.24% made up of tenants from 26 to 35 years old.

If we talk about today, at the beginning of the year we find very favourable news for the apartment rental.

Between them:

Home rental: ‘build to rent’ model (Alonso, 2020)

Young people and itinerant workers, but more and more families will continue to push up house rental prices in 2020. This demand will not go unnoticed among institutional investors, **making home rental the fashionable real estate product**. The main reason is the **great growth potential** that is still estimated until Spain's data approaches Europeans: currently, rental housing accounts for 17.5% of the population compared to the average of 31% in Europe.

However, the main novelty is the consolidation of the 'build to rent' model, which could have moved around **2,000 million euros** in Spain, according to data from Savills Aguirre Newman. This digit means more than doubling 2017 investment by funds and other forms of organized capital. Everything seems to indicate that the 2020 figures will continue to rise.

Home rental revolution: new landlords arrive (and promise lower prices) (Letón, 2020)

Right now, **5,700 homes are being built in Spain just for rent**. They will arrive on the market from 2021 and promise to have affordable income, from 550 euros per month. They are smaller in size than the houses destined for sale: they start from the surroundings of 42 square meters. They are in well-connected areas, designed with more durable materials and with common facilities adapted to each tenant. Spain surrenders, or rather entrusts itself, to the professional management of the rental.

The build to rent formula, already consolidated in the Netherlands, Germany, and the United States, enters through the front door in Spain. "It is an emerging market that is growing in response to the real needs of rental housing," says Arturo Díaz, executive director of the residential division and president of the Barcelona office of Savills Aguirre Newman. This consultancy calculates an investment volume close to 1,000 million euros for those 5,700 floors.

User profile, (Inmoley, 2020)

Although we can see that the user profile that puts a room for rent is 90% of the cases, individuals who live in the apartment. The vast majority are women (57%), workers (70%) and are **32 years old on average**. Their main reason for sharing a flat is to live positive and meaningful experiences while giving them the opportunity to save on costs and maintain a home in the city center.

From the first quarter the situation will not be able to present itself in such a positive way, since the evolution of the rental market in the following months will not be alien to the effects of the coronavirus on the economy of families.

Despite the fact that the average number of tenants has risen to 32 years, it is observed that our potential clients are people 18 years and older, since in addition to the common expenses that may arise when sharing a flat, other expenses such as dinners, birthdays, gifts, trips, tickets, etc, appear. As we can see in section 3.2 the application will help our clients to centralize the information of their invoices, as well as to control all kinds of unexpected expenses or non-payment.

2.1.2 Value Proposition

What problems does our application try to solve? How are we going to satisfy the customer?

CountSplitter is an application with a simple and intuitive interface that allows you to add contacts and create invoices that you can add to those contacts to share expenses and keep track of who and what remains to be paid.

After analyzing the applications that we found in the Play Store, we found that there are already applications that perform similar functions, so there is no point in doing the same as our competitors.

For this reason, as we can see later in point 4.6 Substitute products, similar applications present notable weaknesses that are the ones our application tries to cover.

Our value proposition is based in an application that combines the best of all current applications, adding contacts, creating invoices, summarizing user activity, sending notifications to other users, displaying graphics, etc. But the most important thing is that a simple and intuitive interface is added with the aim of allowing its use to everyone within our market segment.

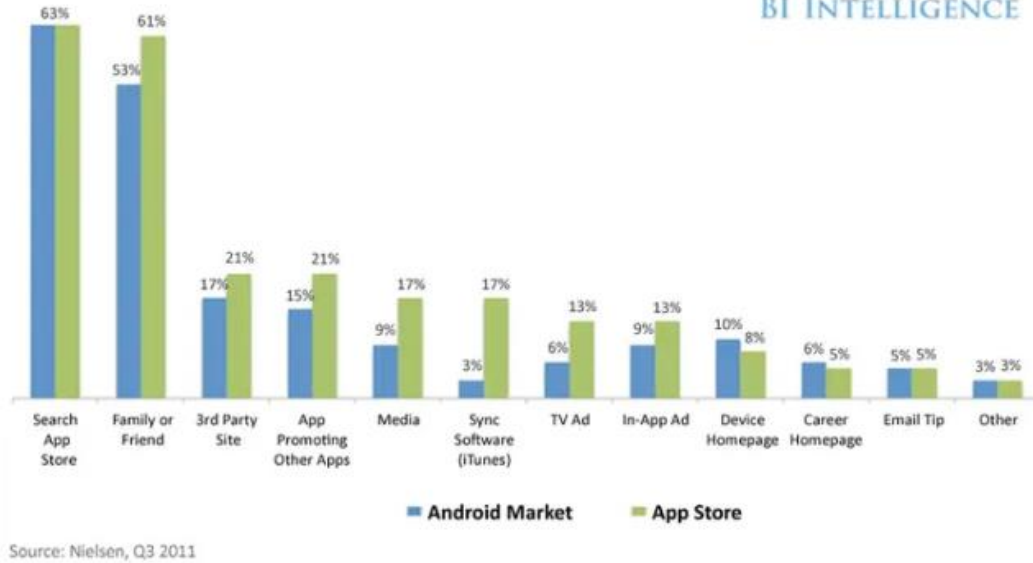
2.1.3 Channels

How do we get our value proposition to the customer? What communication channels should we use?

At this point we try to identify the means by which we are going to make our clients know and buy our product. The basic functions of the sales channels are: to publicize our value proposition, to make it available to customers and to market it by shortening distances with our customers. Getting the exact combination of channels right is essential to approaching customers the right way.

In our case, because it is a mobile application, the distribution channel used is direct sales over the internet, in addition to word of mouth.

If we look at the following graph (Graph 6) presented by the businessinsider, we can see how the discovery of a new application is notably higher through the app stores and the close circle of family or friends. (Cocotas, 2012)

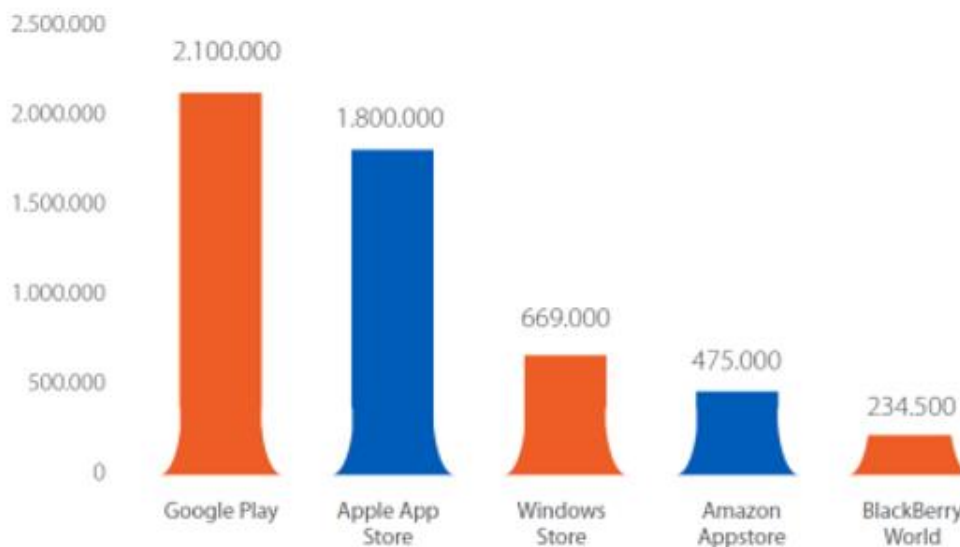


Graph 6: Discovery of new mobile applications (Cocotas, 2012)

From all these means, our business model focuses on the distribution of the mobile application through the Google Play Store and the Apple Store.

If we analyze the 2019 annual report offered by "ditrendia" on the use of Apps (ditrendia), it is more widespread and it is increasingly common for all types of businesses and companies to develop some type of application for their clients (either for sale, manage your account or offer an extra service that helps improve "engagement" with your customers).

In 2018, 194 billion Apps were downloaded worldwide (9% more than the previous year). Of course, users continue to prefer free applications (95.6%) over paid ones (4.4%). Google Play leads the ranking of App Stores in number of available applications, followed by Apple Store.

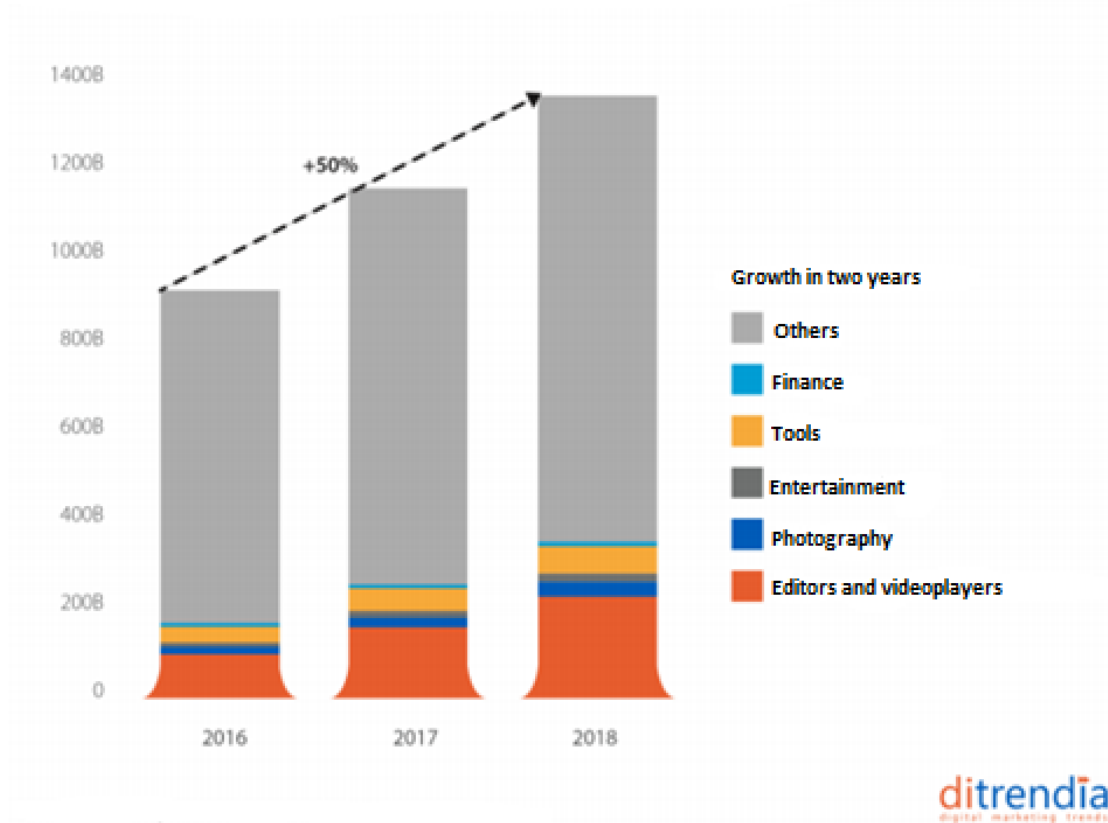


Graph 7: Number of applications available in the App Stores (ditrendia)

Year after year, the time users spend on mobile applications increases. In 2018, each user spent an average of 3 hours a day on Apps.

The number of hours spent on finance applications has grown very moderately in these years.

Categories of applications that have grown the most in hours of use



Graph 8: Categories of applications that have grown the most in hours of use (ditrendia)

The favourite applications of users are still games, followed by photography, social networks, and entertainment.

Finance apps rank eighth in the Apple Store download ranking in 2018, however on Google Play they do not rank in the top 10.

On the other hand, taxi or shared vehicle / driver travel booking applications stand out for their market penetration, with the percentage of users worldwide using them already being 30%. Spain still stands at 8% of users.

Ranking of most downloaded mobile applications in 2018 in the world



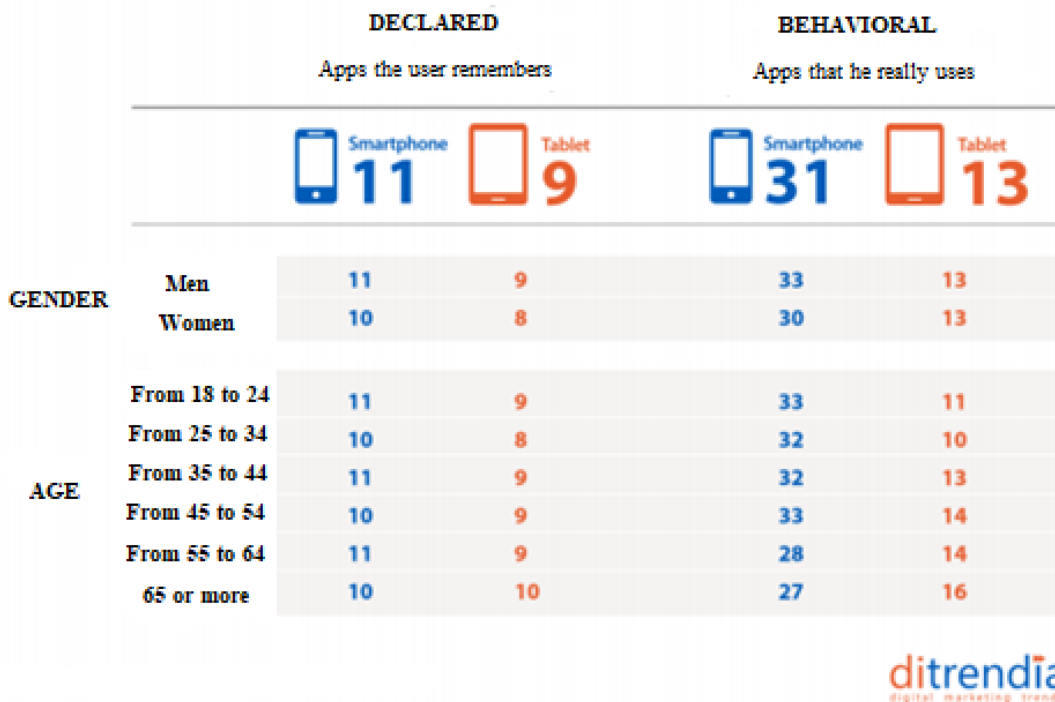
Graph 9: Ranking of most downloaded mobile applications in 2018 (ditrendia)

In Spain

We Spaniards dedicate 60% of the time we spend on mobile using Apps and we have a perception of use that is very different from reality: we use Apps much more than we think: the number of Apps we think we use on our Smartphone is 11 applications compared to the 31 we actually use.

In 2018, a total of 1.2 billion Apps were downloaded in Spain and Spaniards spent a total of \$ 457.8 million on Apps.

How many apps we have installed? How many we use?



Graph 10: Installed and used applications (ditrendia)

Due to the high number of competitors that we find within the App Stores, it is a great challenge to achieve a good position. But once we look at the data in the report, we see how the use of smartphones and mobile applications is increasing every year.

It should be noted that financial applications, although showing a moderate increase in their use, it continues to grow. Above all, with iOS users where they rank as number 8 in the Top 10.

In addition, in Spain the ciphers are positive as more and more Spaniards use and spend money on applications.

These data provide greater confidence to the company since the application will be present in both online markets and these are increasingly used.

2.1.4 Customer Relationships

What kind of relationship do we want to establish with our clients? How much does it cost us?

Having established the customer segments, the value proposition, and the sales channels, we must determine how we are going to relate to customers.

If we differentiate the types of relationships with customers we find: (Canvas, s.f.)

- Personal: Establishing direct communication, face to face or by telephone.
- Remote: Establishing indirect communication, either by e-mail or messaging.
- Automated: Simulating direct customer service through automated processes, that is, computer tools such as chat-bots.
- Individualized: Offering a private service to clients.
- Collective: Offering attention to a group of clients, whether organized in forums, talks, etc.
- Through third parties: This relationship occurs when our value proposition reaches customers through entities or services outside the company. For example, subcontracted companies, sales assistants, etc.
- By self-service: The value proposition is presented in a way that customers can serve themselves.
- Co-creation: The customer segment is used as an active part of the value proposition.

Having this explained, we will interact with customers remotely, we will have a contact e-mail to consult any problem.

In addition, the “feedback” section presented by both the Google Play Store and the Apple Store will be used, where customers will be able to provide their opinion and assessment, these will be continuously reviewed to improve deficiencies, solve problems, as well as to write down suggestions offered.

2.1.5 Revenue Streams

How much is the customer willing to pay for our value proposition? How do we get our benefits?

If we analyze the revenue model presented by applications similar to ours, we see that they follow the “Freemium” model, which offers basic functionality for free that meets the needs of most customers and, on the other hand, enhanced or new features are offered for a small amount of money, single payment.

For a better understanding we are going to define what “Premium” is: (definicion.mx, s.f.)

From a strict point of view, a **premium** product is one that stands out from the rest of the same species. These types of goods or services are offered by companies to reach a particular segment of the market.

Among the most used "freemium" models we find:

- Limited by functionality: One of the most common, the free product or service has a limited number of functionalities, if you want access to the advanced ones you must pay the premium price, such as Skype or Spotify.
- Limited by time: For a time, it is free, but once the trial period has ended you have to pay (widely used in the software industry).
- Limited by capacity: You can only use a limited number of times, or the capacity offered is limited (for example, Google Drive now offers 5 Gb for free, but if more space is needed, payment is required).
- Limited by use: A limited number (typically 1) of licenses is offered free of charge, if more are needed, they must be paid. The key is that the restriction is consistent, for example 1 license per network.
- Limited by customer type: Free only for one type of customers, for example, from the education sector.
- Limited by ads: The free service is based on an advertising-based business model, if you do not want to see ads you have to pay.

The application will also be based on this model, specifically the one limited by functionality, it will offer limited services in the free version, but functional for expenses sharing and control. While the "Premium" version will offer new advanced services.

The most important thing for this business model is to catch a large volume of clients.

This will be done through advertisements on different social networks (Facebook, Instagram, Twitter ...), the appearance in advertisements for similar third-party applications and on websites such as Amazon and YouTube.

2.1.6 Key Resources

What resources are fundamental to our operating business model?

The key resources are the most relevant assets and capabilities in our business model to guarantee its success. These resources are what allow us to create and offer a value proposition that reaches the market in which it operates, allows us to maintain relationships with customers and generate income.

These resources can be of four types, physical, intellectual, human or financial.

The study and analysis of this element is one of the factors that largely depends on whether the business becomes viable or not. In order to identify the amount of necessary resources, as well as the financial efforts that we must undertake.

First, **human resources** must be analysed through the analysis of the professional profile of the person who will supervise the development of our business, it is one of the fundamental pillars:

- Programming knowledge is required on the main mobile platforms: Android and IOS.
- A design profile with knowledge of user experience and creation of user interfaces with attractive and intuitive designs.
- An experienced profile in the client support field.

Regarding **physical resources**, it is necessary to have:

- A private server to host the database or a good hosting service.
- Mobile devices where you can test the application.

In addition, there must be software either developed by us or by a third party that offers the calculation of invoices, statistics, and graphics.

2.1.7 Key Activities

What activities do I have to do to make the business model work?

Of all the activities and processes that must be carried out in the business model, these are those that really determine its performance, so, they are the activities considered critical to develop our value proposition, communicate with customers and establish sales channels.

As previously defined, our application is based on the “Freemium” model, so our main key activity is customer acquisition, the use of ads and their monitoring to see if they are working both on social networks, applications Third party and web pages will be essential.

To do this, tools will be used to analyse and classify users to obtain information grouped by download traffic according to audience, acquisition, behavior and conversions carried out by users who go from "freemium" to "premium".

Finally, maintaining the quality of customer support, with a quick and effective response that solves problems and allows customers to see that the human resources behind the support care about them, will be another key activity.

2.1.8 Key Partners

Who are our key partners? What do they bring us? What needs do we have or share with them?

Key partners are those with whom the company needs to partner with to function properly. Whether they are suppliers, organizations, unions ...

We must differentiate between the key partners that will contribute to the success of the business, those that can be easily replaced, what key resources we obtain from each one, what key activities they carry out, how they affect the optimization and economy of the business model, how they help to reduce risks and uncertainties, etc.

In conclusion, we should not think that a company is self-sufficient by itself, but rather that it is an organism in the middle of a network of contacts that complement its capabilities allowing the optimization of the value proposition and obtaining an economy of scale that guarantee success in the market.

Our main key partners are directly related to distribution, as they are the only source, we have to reach our customers. These are Google and Apple with their respective stores.

On the other hand, it will be needed to have a hosting service where our database will be kept.

2.1.9 Cost Structure

What resources are more expensive for us? What does it cost us to do the key activities? What are the most important costs in our business model?

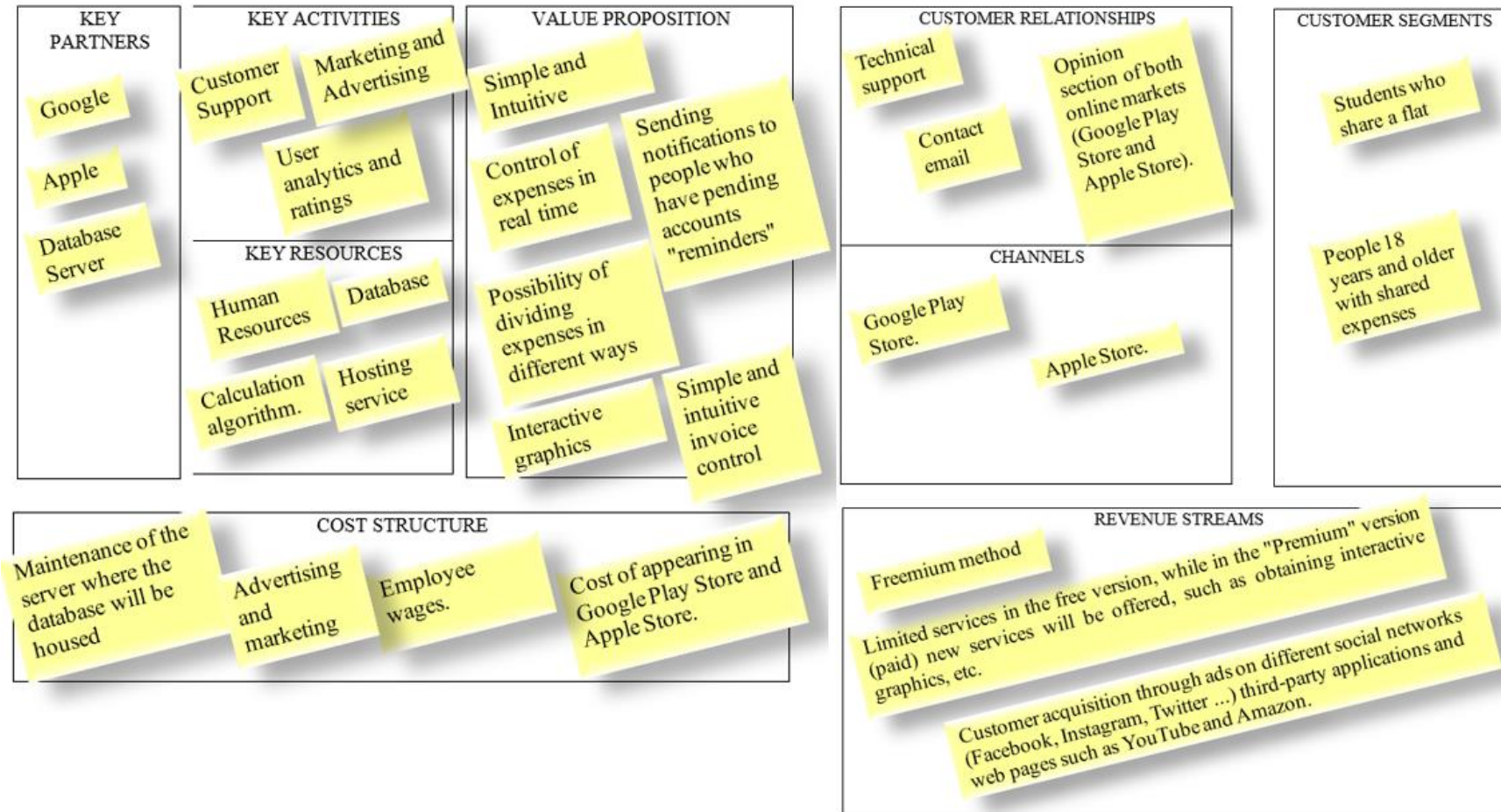
This section describes the set of costs involved in setting up our business model. This includes creating, adding value, and maintaining customer relationships, as well as generating revenue.

The main costs presented by our business model are:

- If we refer to the key activities, most of the expenses come from the development, maintenance and innovation of the technological platform, in addition to its marketing and promotion.
- If we go to the key resources, the most important expenses consist of the salary of the human resources that are needed to carry out our business model, that is, the developer and the person in charge of the support. As well as, the hosting service where the database will be hosted. In addition, the cost for appearing in the distribution channels must be counted, in this case, the Google Play Store and the Apple Store.

2.2 The business model canvas

After analysing the nine points that make up the canvas created by Alexander Osterwalder, we present them graphically on the canvas:



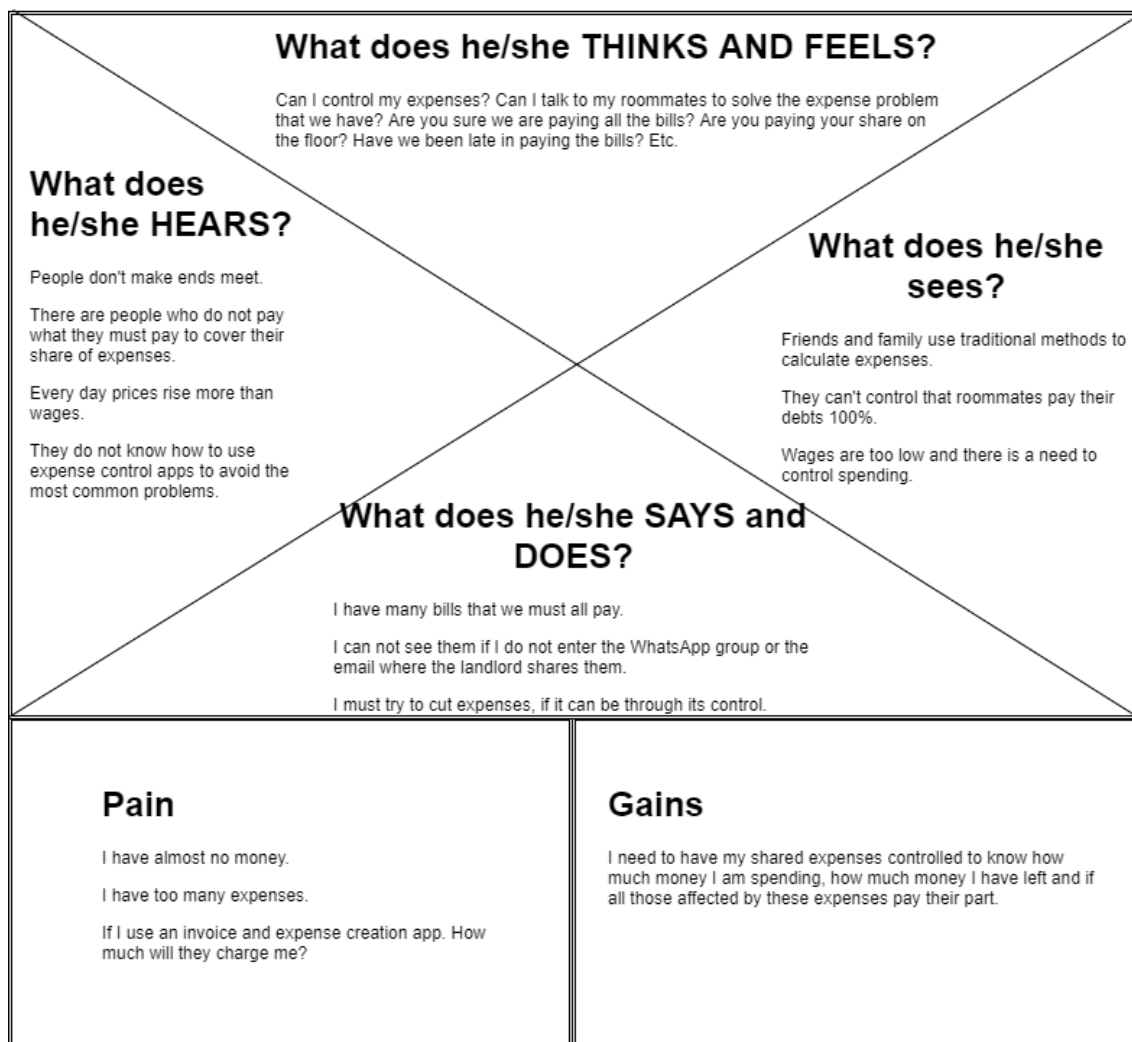
3. Empathy Map

Once the elements of the business model have been described, it is convenient to analyze the empathy map. This should be understood as a complementary tool to the business model, which helps to understand the consumer segment (s) we target. This tool was developed by the company dedicated to visual thinking XPLANE, and although its use predates canvas, it began to gain importance and visibility when Alex Osterwalder and Yves Pigneur integrated it into their book “Business Model Generation”.

The empathy map seeks to describe the ideal customer for a company, through the analysis of 6 aspects related to human feelings. It is made from questions that help to know and understand the client and how we should relate to him.

Next, one of our potential clients is captured on a map empathy canvas trying to answer a series of questions, in order to know their personality and understand how their needs can best be met through our value proposition.

EMPATHY MAP



3.1 Satisfaction survey

To better understand the potential clients of the application to be developed, we used a survey developed with "Google Forms" and which was launched to all students on the Alcoy Campus of the Polytechnic University of Valencia (UPV). With their analysis, we try to "know how they feel, what problems they have encountered when sharing expenses, what improvements they find most useful when they use an application for this purpose and how much they would be willing to pay for them.(Sanchez, 2020)

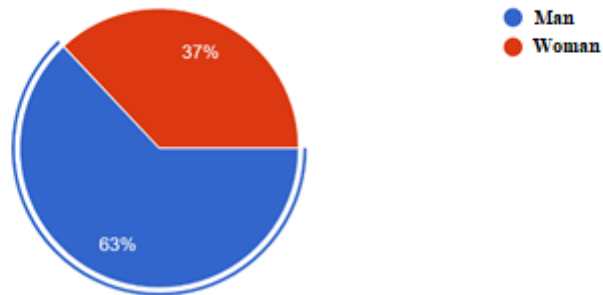
<h2>Common expenses</h2> <p>How do you share your expenses? *Required</p>
Sex * Man Woman
What do you study?*
Age * 18-20 20-22 22-24 25 or more
Do you share a flat? * Yes No
Does the rent seem expensive relative to your income? (own or family) * Yes No
Have you had trouble sharing common expenses? * Yes No
If yes, which of these have happened to you? Only one person manages the expenses. Lack of payment of any of the people. Increase in unforeseen expenses. Invoices with falsified data. Lack of profitability to be able to pay. Unevenly divided costs.

One of the companions was very wasteful using light, water, gas ...					
Is it easy for you to see the invoices?					
Yes					
No					
Where can you see them?					
Whatsapp					
Telegram					
Online (Web Page)					
Email					
Other:					
<input type="text"/>					
If ever a colleague has not paid, have you claimed what you owed?					
Yes					
No					
If you did not claim it, what is the reason?					
Shame					
1	2	3	4	5	
Shyness					
1	2	3	4	5	
Laziness					
1	2	3	4	5	
Fear					
1	2	3	4	5	
Lack of time					
1	2	3	4	5	
Low Communication					
1	2	3	4	5	

Other <input type="text"/>
What volume of spending do you share? * 0-50€ 50-100€ 100-200€ 200€ or more
Do you use any app to control shared expenses? Which one? * Yes No No, I use traditional methods No, but I will Settle Up Splitwise Other: <input type="text"/>
What payment method would you like to use in the app? * None Paypal Banc Transpher Credit Card Bizum Other: <input type="text"/>
If you had to use a new app, what would you prefer in addition to the basic functions? * Dynamic Tables and Graphs Currency conversion Save divisions by default Item breakdown
How much would you be willing to pay for all the advanced options? * Nothing Up to 1€ From 1€ to 5€ Up to 10€

Once the results of 262 people were obtained, we proceed to show them using visual graphics:

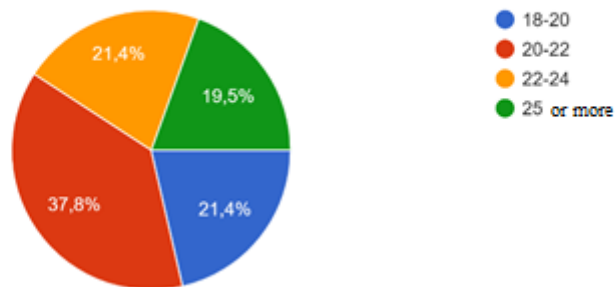
Sex
262 respuestas



Graph 11: Sex of the participants (Sanchez, 2020)

El gráfico 11 nos muestra que en esta encuesta la participación mayoritaria ha sido del sexo masculino.

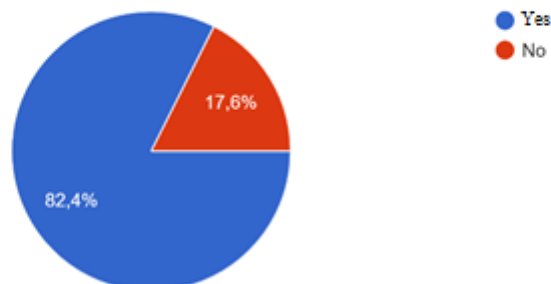
Age
262 participants



Graph 12: Age of the participants (Sanchez, 2020)

We can see in graph 12 that, among the target audience of the application, those who share the most floor, are in the range of 20-22 years.

Do you share a flat?
262 participants

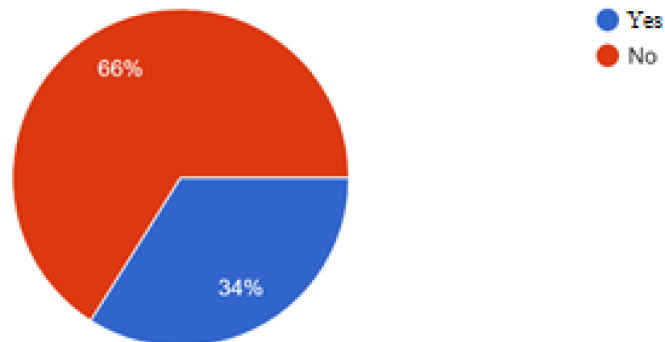


Graphic 13: Flat shared by the participants (Sanchez, 2020)

This graph 13 confirms that the majority of university students share a flat.

Does the rent seem expensive relative to your income? (own or family)

262 participants



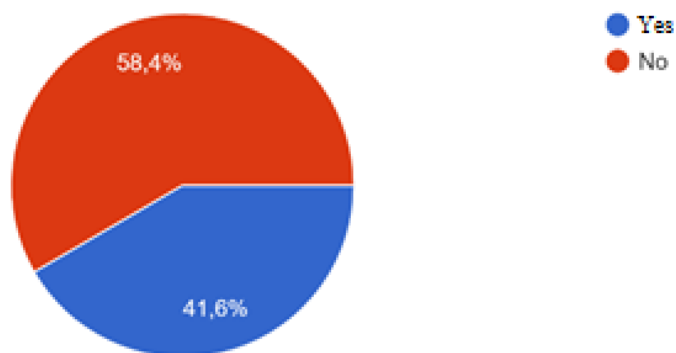
Graph 14: Economic situation of the participants (Sanchez, 2020)

Regarding the cost of rent, the majority of the students indicate that it is not expensive in relation to their income (theirs or family).

Graph 14 shows the average economic situation of the survey participants. In this sense, 66% of the subjects in the sample have a stable economic situation, indicating that they could afford to pay a higher price for a mobile application.

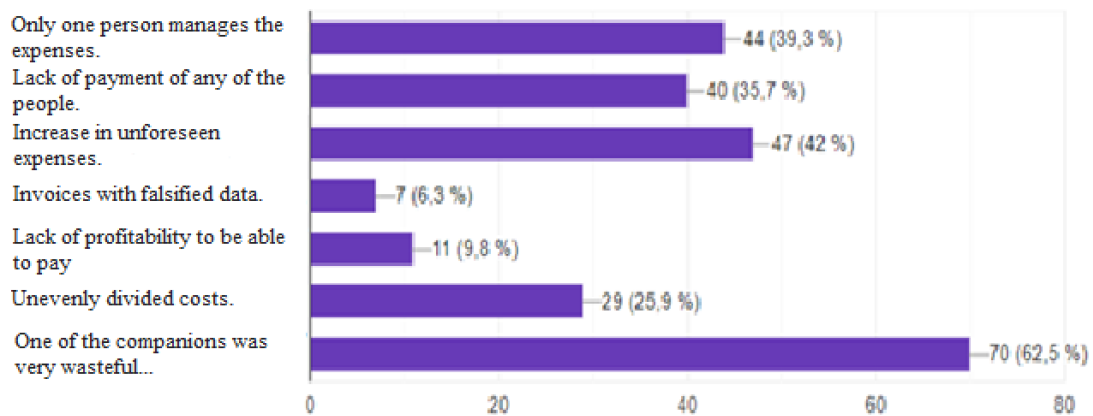
Have you had trouble sharing common expenses?

262 participants



Graph 15: Participant problems (Sanchez, 2020)

To check the usefulness of our application, we see that in figure 15 that although the answer is not the majority, yes, 41.6% of those who answered the survey had some problem sharing expenses.



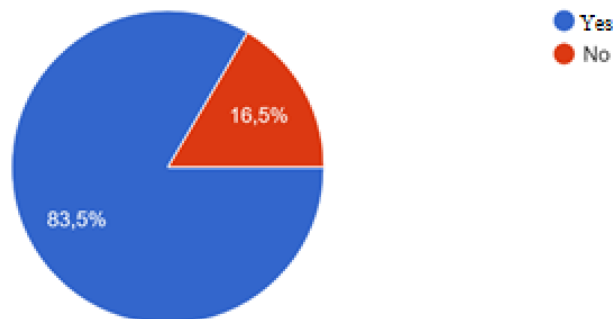
Graph 16: Types of problems of the participants (Sanchez, 2020)

Among the most common problems in figure 16 we see the following:

One of the colleagues was very wasteful (62.5%), increased unforeseen expenses (42%), only one person manages expenses (39.3%), non-payment of one of the people (35.7%) .

All of them can be controlled or supervised with the help of our application, with the monitoring of invoices and how much each one must pay.

Is it easy for you to see the invoices?
261 participants



Graph 17: Ease of viewing participants' invoices (Sanchez, 2020)

In graph 17, although the majority of the participants have answered that they do have ease in seeing the invoices, we must observe where and how they can consult them.

Where can you see them?

251 participants

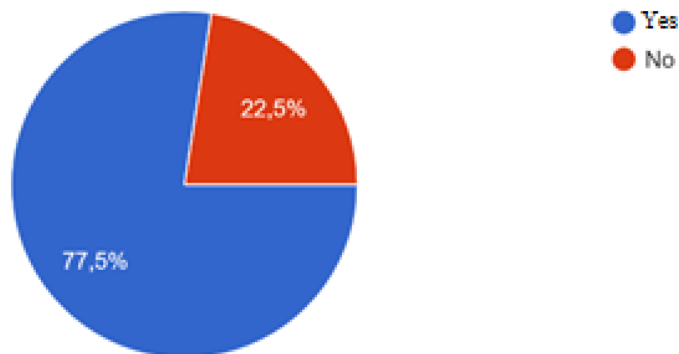


Graph 18: Where participants can see invoices (Sanchez, 2020)

As we can see in figure 18, most use WhatsApp, Email and Web Pages to control their bills. All this could be centralized in a single application like ours.

If ever a colleague has not paid, have you claimed what you owed?

231 participants



Graph 19: Claim of expenses of the participants (Sanchez, 2020)

We see in figure 19 what happens when a partner does not pay what he owes. Even though the majority do claim it, we see 22.5% who do not.

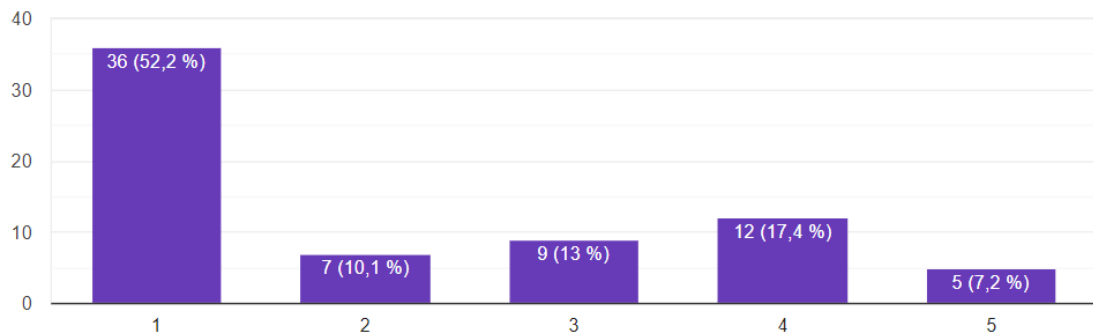
Why?

We will look at different reasons, with the scale from 1 (Maximum) to 5 (Minimum).

If you did not claim it, what is the reason?

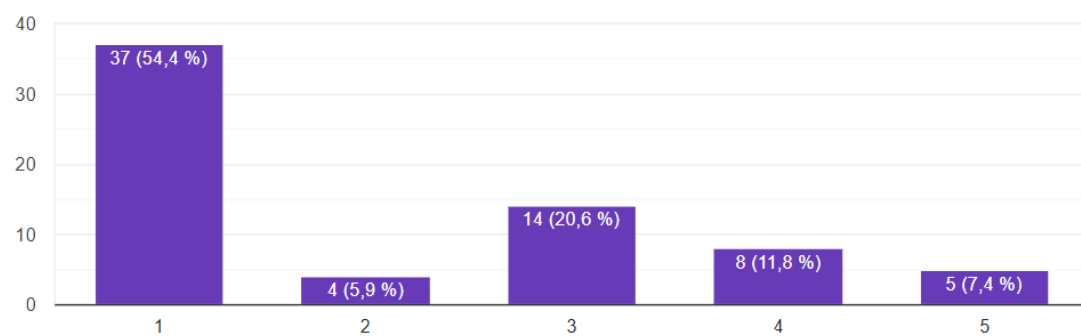
69 participants

SHAME



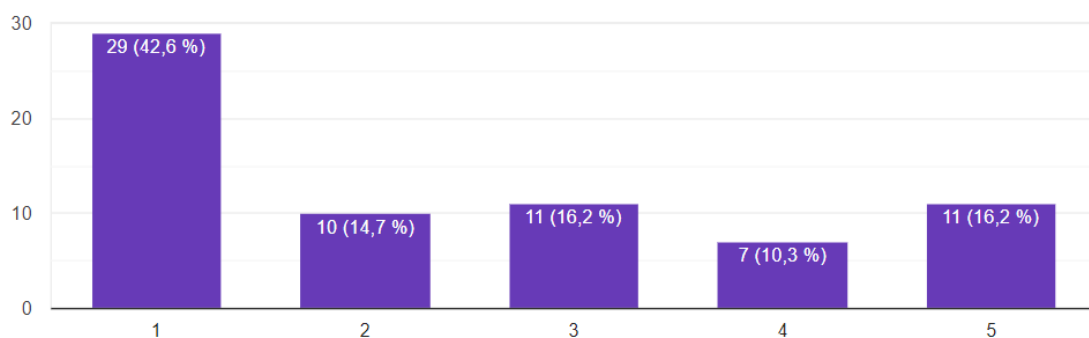
Graph 20: Reason 1 (Sanchez, 2020)

SHYNESS



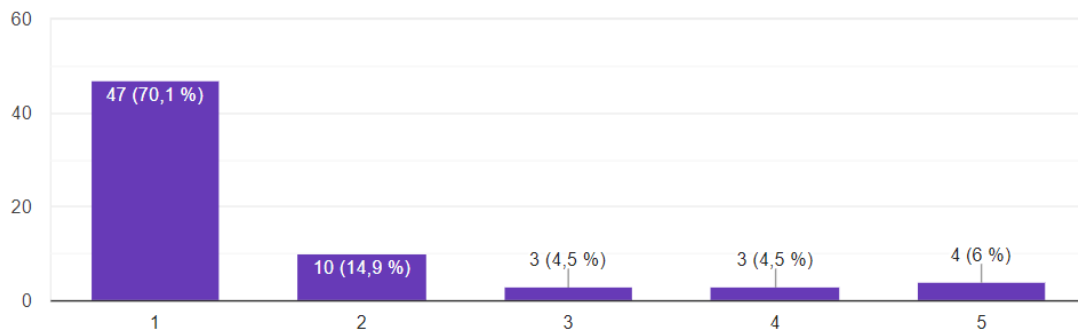
Graph 21: Reason 2 (Sanchez, 2020)

LAZYNESS



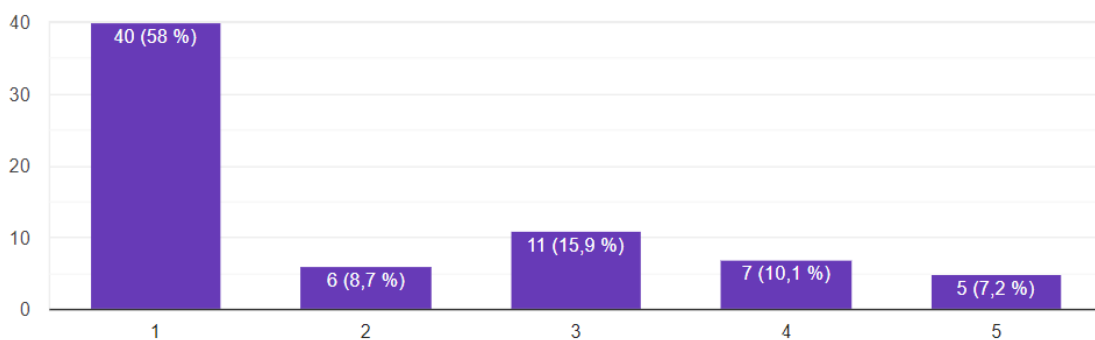
Graph 22: Reason 3 (Sanchez, 2020)

FEAR



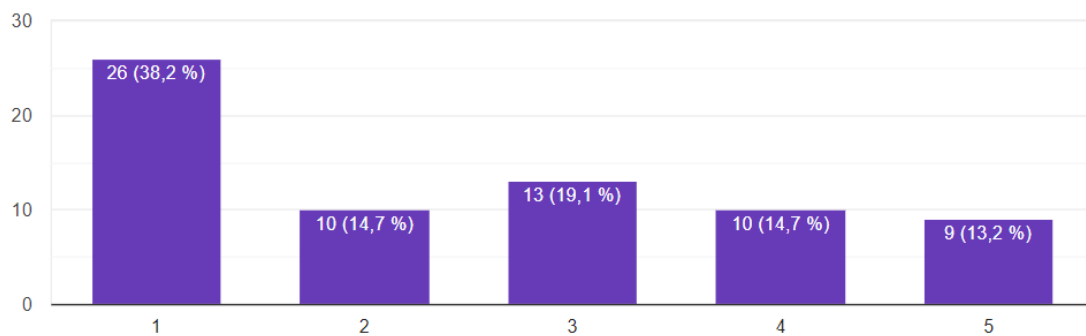
Graph 23: Reason 4 (Sanchez, 2020)

LACK OF TIME



Graph 24: Reason 5 (Sanchez, 2020)

LOW COMMUNICATION

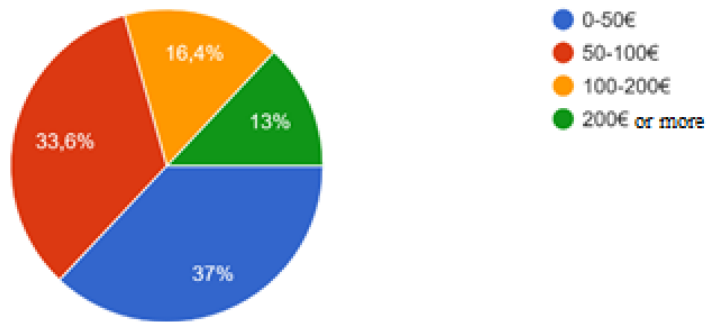


Graph 25: Reason 6 (Sanchez, 2020)

Among all the problems suggested in graphs 20 to 25, we observe that the order of causes for not claiming the money is:

Fear (47), Lack of time (40), Shyness (37), Shame (36), Dejadedz (29) and Little Communication (26).

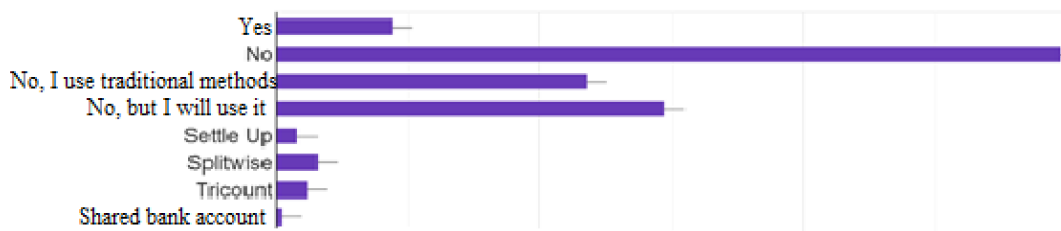
What volume of spending do you share?
262 participants



Graph 26: Participants' spending volume (Sanchez, 2020)

To the question about the volume of spending shared by students, in graph 26 we find that 70.6% (37% + 33.6%) spend 0 to € 100 while 29.4% (16.4 % + 13%) makes a higher expense in their day to day.

Do you use any app to control shared expenses? Which one?
262 participants



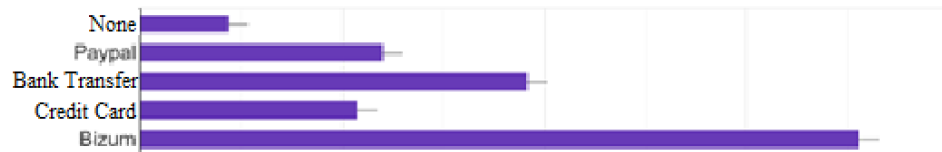
Graph 27: Apps used by survey participants (Sanchez, 2020)

The most important thing in this graph 27 is that only a small percentage of students use mobile applications to share expenses, in addition to the fact that very few use those of our main competitors.

But we see that despite having a large number of participants who do not use, or use traditional media, there is a high percentage of people who would.

What payment method would you like to use in the app?

262 participants



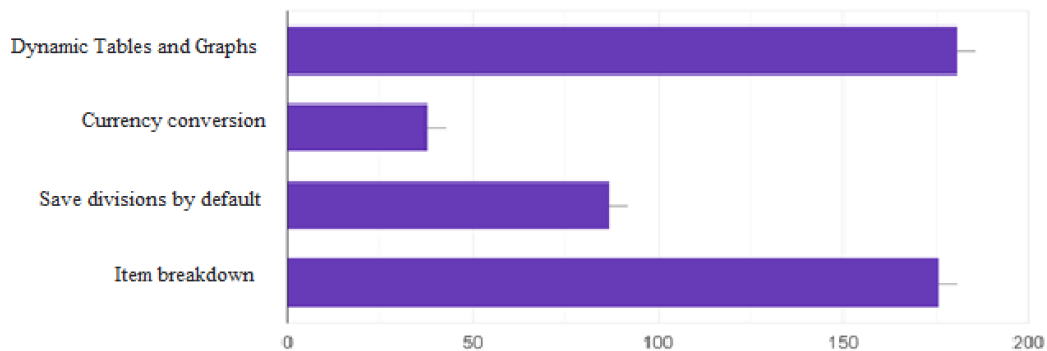
Graph 28: Popular payment methods among participants (Sanchez, 2020)

Among the most popular payment methods, it can be seen in graph 28 that the Bizum application is first, since it is very easy to use and very popular in Spain to transfer or receive money. In this way we see that the use of Paypal, which is similar, would be in third place.

So, most people would prefer to use applications like Bizum or Paypal, but they would also choose to use more "traditional" means such as Bank Transfer or Credit Card.

If you had to use a new app, what would you prefer in addition to the basic functions?

262 participants

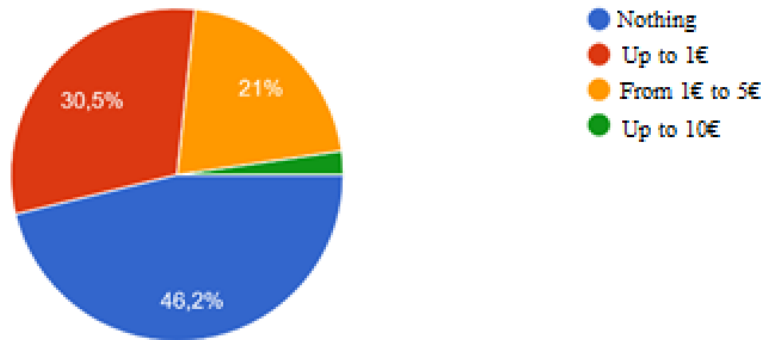


Graph 29: Advanced Features (Sanchez, 2020)

Of the suggested features that we could add to our application as advanced functions, in graph 29 we find that both the use of Dynamic Tables and Graphs and the Item Breakdown function are the most accepted by respondents, followed by the Save divisions function by default and finally the Currency conversion.

How much would you be willing to pay for all the advanced options?

262 participants



Graph 30: How much would they pay for advanced functions (Sanchez, 2020)

In graph 30 we observe that when it comes to spending money for the use of advanced options, we find that 30.5% would pay up to one euro, while 23.2% (21% + 2.3%) would be willing to pay more than euro, while those who would not be willing to pay anything are 46.2%. So, we have the 23.2% percentage to decide the price of our application later.

3.2 Conclusions about the potential customer

After making the empathy map and launching the survey to our potential clients, we have been able to analyse better what he/she thinks, what he/she feels, what he/she sees, what he/she says, what he/she hears and what our client does.

We have been able to observe that more than half of our clients are male, that they share a flat and that they are between 18 and 25 years old.

Most of the students have a stable family economy, so they do not have problems to deal with the volume of majority shared expenses, from 0 to 100 €, and when they have problems with them, our application is a help tool for both control them as to solve them.

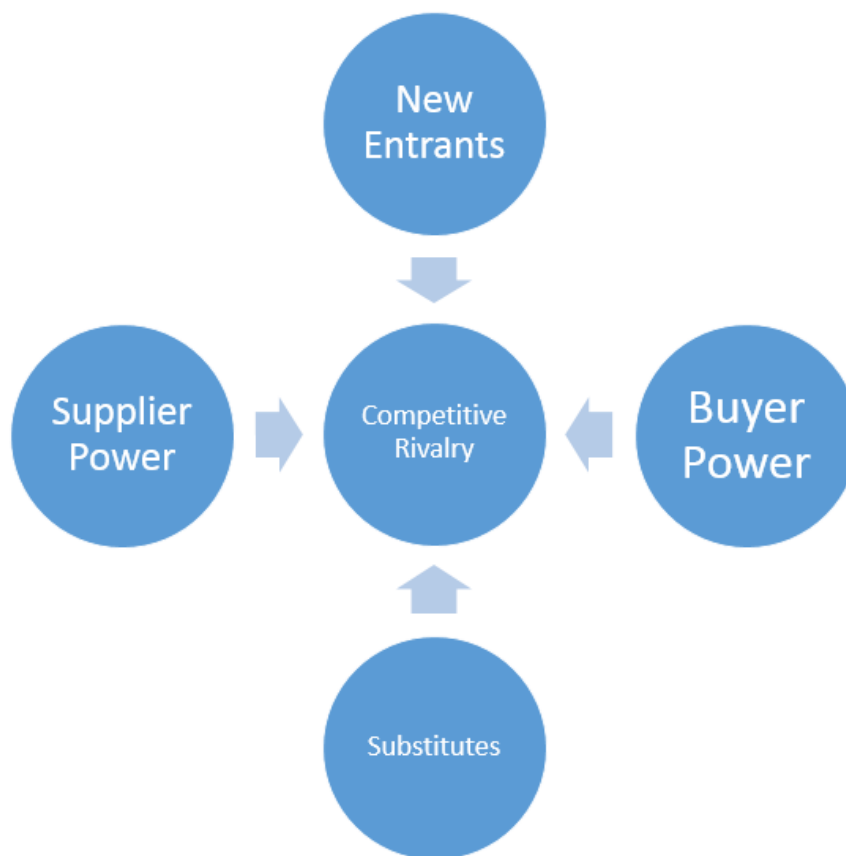
The functionalities of the application would help our clients to centralize the information of their invoices, as well as to introduce new clients who have never used it due to our simple and intuitive interface. Adding dynamic functionalities such as Tables and Graphs or Item Breakdown.

Finally, we have observed that 1 out of 4 of them would be willing to pay more than € 1 for our advanced features, in addition to using our free version.

4.0 Internal Analysis of the Sector in which the Business Model is integrated

To carry out a real analysis of the competition we are facing, we have used data from companies in the Computer Programming Activities sector in Spain. This information has been obtained from SABI (Iberian Balance Analysis System), which has the general information and annual accounts of more than 2.5 million Spanish companies and more than 800,000 Portuguese companies.

For the internal analysis of the sector where our business operates, we have used Porter's five basic competitive forces model.



Graph 31: Porter's Basic Forces (cimastudent, 2016)

One of these forces consists of competitive intensity, to analyze it we will use the Herfindahl-Hirschmann index that will allow us to measure the concentration of the market. For this, the following formula is used:

$$H = \sum_{i=1}^n \alpha_i^2$$

We will analyze the threat of new competitors by studying the sector's profitability and growth, taking into account the existing entry barriers.

In the same way, the new products that want to be introduced in the market will be analyzed, given that the greater the possibility of substituting products, the greater competition exists in a sector.

On the other hand, we will analyze the power of clients, focusing on whether the market has few or many clients and whether they are organized.

The power of suppliers is marked by their ability to influence the decisions of the companies to which they supply raw materials, goods or services.

4.1 Current competitive intensity and structural characteristics of the sector.

In order to analyze the competitiveness and structure of the sector, we have divided the companies into different sizes as indicated in Table 1, depending on the number of employees they have, thus obtaining the number of companies of that size, the percentage they represent and the sales both in thousands of Euros and as a percentage in 2017 as we can see in Table 2.

Size	Number of Employees
1	1 to 9
2	10 to 19
3	20 to 49
4	50 to 99
5	100 to 249
6	250 to 499
7	More than 500

Table 1: Division by size of the companies

Size	Number of Companies	Company %	2017 Sales (Thousands €)	Sales 2017 %
1	226	54.85%	74,952.43 €	7.63%
2	74	17.96%	86,199.48 €	8.77%
3	68	16.50%	214,938.55 €	21.88%
4	26	6.31%	137,210.26 €	13.97%
5	11	2.67%	125,217.67 €	12.74%
6	5	1.21%	175,746.98 €	17.89%
7	2	0.49%	168,257.00 €	17.13%
Grand Total	412	100.00%	982,522.38 €	100.00%

Table 2: Number of companies by size

Once the data on the number of companies and sales have been obtained, we can see in Table 2 that most of the companies are small, with 1 to 9 employees and that they have a share in sales of the sector of 7.63%. Mientras que el mayor porcentaje de ventas se concentra en las empresas de 20 a 49 empleados, con un 21,88%.

If we focus on the specific sector of our company, which is the smallest companies (1), we have a great competitive threat since there are 226 companies and we are a new and unknown company.

Due to the sales for which the companies "fight", there will be a strong rivalry for a small part of them. Therefore, a large number of competitive movements must be made to respond to the actions of the rivals and, therefore, a clear differentiation from the competition must be chosen.

This becomes more evident when we obtain the Herfindahl index that will allow us to measure the degree of market concentration.

Herfindahl Index	0.03232739
------------------	------------

Tabla 3: Índice de Herfindahl

Being a number so close to 0, we can see that it is a very concentrated and very competitive market.

In order to better observe what we should do in order to overcome the initial competition, we made a table with the average of own funds in thousands of euros in 2017 and 2015, the number of employees, the size, sales and result of the 2017 and 2015. We compare all this data between direct competition, sectoral competition and the growth that we would obtain if we went from size 1 to size 2.

	Own Funds thous € 2017	Own Funds thous € 2015	Number of Employees 2017	Size	Net Amount of Sales thous € 2017	Net Amount of Sales thous € 2015	Res. of the Exercise thous € 2017	Res. of the Exercise thous € 2015
Direct Competition	197	260	3	1	158	165	-39	-46
Sectoral Competition	1,392	1,16	26	2	2,385	2,01	174	136
Growth to obtain size 2	1,195	900	23	1	2,227	1,845	213	182

Table 4: Average of own funds in thousands of Euros

We can see in Table 4 as if we managed to overcome the initial competition and grow to 23 employees, it would mean a substantial improvement in sales, favouring a better result for the year as well.

4.2 Sector attraction.

To analyse the sectorial attractiveness, the economic and financial returns of the companies operating in the sector have been analysed, as well as the average growth of sales over a period of three years. ROI and ROA variables are defined as:

- **ROI (return on investment)** (R., 2019): it is a financial indicator that measures the profitability of an investment, that is, the relationship between the net profit or the profit obtained, and the investment. For the calculation of the ROI we will use the results of the year divided by the equity.
- **ROA (return on assets)** (LORENZANA, 2013): measures the ability of a company's assets to generate income for themselves. For the calculation of the ROA the data of the result of the exercise divided by the asset will be used.

In the following table 5, the growth of the average values of ROI and ROA can be observed, as well as sales from 2015 to 2017.

ROI and ROA are considered acceptable if they are above the capital income that is currently at 1%.

Size	ROA Growth 2015-2017	ROI Growth 2015-2017	Sales Growth 2015-2017
1	-38.77%	-39.41%	6.83%
2	17.34%	27.74%	16.10%
3	44.36%	36.05%	27.66%
4	-47.57%	-57.51%	28.41%
5	-35.81%	-36.81%	11.91%
6	18736.53%	14573.18%	15.82%
7	-37.32%	-38.95%	16.30%
Gran Total	14.25%	7.16%	18.67%

Table 5: Average values of growth of ROI and ROA and of sales 2015-2017

If we look at ROA and ROI in Table 5 we can see that, although in many cases this is negative, sales have increased over the course of two years, which indicates that it is an attractive sector that continues to grow, as well as does the competition.

If we focus on size 1, where our company will be located, we see that these are companies that grow by underselling their work, given that their profitability has fallen in the last three years.

In conclusion, we see that despite the fact that some sizes continue to have negative growth in terms of ROA and ROI, the overall growth of the sector is still very high, which means that this sector is good for investments. However, this growth in profitability will continue to increase competition in the future.

4.3 Entry / Exit Barriers

To carry out this analysis, we have made a table with the average of fixed assets and inventories, in thousands of euros, of each of the companies by size.

Size	Intangible assets Thous €	Tangible assets Thous €	Stocks Thous €	Total Thous €
1	62.76	56.39	49.51	168.66
2	169.05	156.92	73.32	399.30
3	296.86	361.13	168.99	826.97
4	1,034.22	516.88	252.45	1,803.55
5	1,333.98	876.39	274.79	2,485.16
6	13,752.24	1,293.62	484.63	15,530.49
7	48,124.50	1,612.50	10.50	49,747.50
Grand Total	615.18	198.26	97.42	10,137.38

Table 6: Average of fixed assets of companies

In table 6 we can see that the entry barriers in the smallest size are high, so it will be difficult for new entrants to enter the market, assuming that the threat of new competitors for established companies will be less.

This is a disadvantage for us since, in turn, it implies that the exit barriers are great too. So, the losses in case of failure or leaving the market would be remarkable.

Focusing on our company, the barriers to entry are minimal since we would only need a few minimum assets (computer, its peripherals and furniture) as well as the rental costs, electricity and internet and the self-employed fee, for starters.

4.4 Negotiation capacity of clients

The negotiation power of customers can be defined as the superior capacity of people who demand or buy products made by a company.

In our case, the clients are many (ages 18 and up) and scattered because the application is individual and linked to the mobile device.

For these reasons, they have no market power over the company.

4.5 Negotiation capacity with suppliers.

When we talk about the bargaining power of suppliers, we refer to whether it is capable of influencing the decisions of the company that purchases raw materials, goods or services. That is, the more power you have when selling these products to a company, the more power you will have to influence your decisions.

In this case, being a newly incorporated company and its scope of use reduced to mobile devices, in principle, it does not require any specific provider.

As for real estate assets, only a computer and its peripherals are required, as well as office furniture (tables, chairs, office supplies ...).

As for intangible assets, the operating system to be used is indistinct.

Now our key suppliers are:

- The one that provides the service to maintain the database, since it must be on a server.
- The programming system used is "Android Studio" which in the version that will be needed in principle as a prototype is free, but if it were necessary to acquire the developer license it would cost 25 € VAT incl. Single payment.
- In terms of distribution, Google with the Google Store and Apple with the Apple Store, they are the main and practically 100% of the distribution of applications on mobile devices.

4.6 Substitute products

Our market, the applications market, is very fast in terms of innovation and the appearance of new competitors. Therefore, for the analysis of substitute products we must focus on applications that have similar functions and are currently used by users. Entre ellas encontramos dos fuertes competidores.

Splitwise: Application to share expenses and keep group accounts.

Advantages: Allows you to add contacts, create invoices or events to add to the contacts that must pay them. It has an activity summary. It has a system of "remembers" to remember debts through a message.

It allows you to export the breakdown of expenses as a spreadsheet to Google Drive or One Drive.

It has a website.

Weaknesses: The best features are paid (Scanning receipts, Tables and graphs, No ads, Item breakdown, Currency conversion, Search expenses, Saving divisions, etc.). It does not allow payment directly from the app.

Settle up: Another application to share expenses and keep group accounts.

Advantages: It allows creating events or invoices to share expenses. Let you add contacts. It has an activity summary. Allows you to make payments with PayPal.

Weaknesses: It has a very complex use. Everyone can edit invoices. Only available on Android.

In addition, some widely used applications could serve to replace the paid functions included in the application, these are:

Verse, Bizum, Twyp ...: They are applications to receive and send money through your contacts, without the need to have the account number of the person who sends or receives money.

Advantages: Easy way to make money transfers.

Weaknesses: It does not allow creating invoices or events to share expenses. Nor create groups for those specific invoices.

5.0 SWOT Analysis and CAME Analysis

The SWOT analysis matrix is a strategic tool that allows us to carry out the analysis of the company's situation. Its main objective is to offer a clear vision when making timely strategic decisions for the future. Its name derives from its four terms by which it is formed: strengths, weaknesses, opportunities and threats. Being the weaknesses and strengths internal to the company and the threats and opportunities external to it.

The CAME matrix is a supplementary methodology to the SWOT analysis, which allows acting on the aspects found in the previous matrix. To establish strategies that indicate what are the objectives that should be pursued in our organization. In CAME each of the initials means: Correct, Face(A), Maintain and Exploit. These actions correspond to each of the SWOT terms:

- Correct weaknesses, Face threats, Maintain strengths and Exploit opportunities.

Next, we are going to capture all of them in a square matrix.

INTERNAL FACTORS

EXTERNAL FACTORS

<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none">• New app on the market, is needed hard work so it does not go unnoticed.• The idea can be easily imitated, nothing will prevent the competition from copying the service.• Lack of knowledge and lack of experience in Business Management• Financial needs. <p style="text-align: center;">CORRECT</p> <ul style="list-style-type: none">• Start of the activity as soon as possible to have a high performance.• Make investments in marketing.	<p style="text-align: center;">THREAD</p> <ul style="list-style-type: none">• Existence of several similar applications already established in the market.• High rate of innovation in the sector. <p style="text-align: center;">FACE</p> <ul style="list-style-type: none">• Expansion of the services offered to meet the needs of users.• Continue to strengthen the brand and its reputation.
<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none">• Intuitive and easy to use interface.• New and useful functionalities.• The distribution of the product is simple, through the Marketplace.• Technical knowledge in programming. <p style="text-align: center;">MANTEIN</p> <ul style="list-style-type: none">• Carry out exhaustive control and support so that both the interface and the functionalities work correctly 100% of the time.• Continue the distribution of the application through the Marketplace.	<p style="text-align: center;">OPORTUNITIES</p> <ul style="list-style-type: none">• Large potential number of clients.• Price is not a problem for users' purchasing decision.• Growing market. <p style="text-align: center;">EXPLOIT</p> <ul style="list-style-type: none">• Increase promotion as much as possible through ads on social networks and web pages to attract new customers.• Offer free trial of premium services for a limited time.• Use customer feedback so that they are satisfied and distributed by "word of mouth".

Table 7: SWOT and CAME matrix

5.1 Marketing plan

5.1.1. Introduction

Once our company has been analysed from the internal and external point of view the environment that surrounds us, we proceed to carry out the strategies that will allow us to carry out the desired marketing plan.

The marketing plan aims to create and develop the commercial strategies to be followed by the company, to achieve an objective market plan.

In our business plan we are going to determine and study all these strategies that allow us to achieve these objectives of promoting and selling the application for mobile devices "CountSplitter".

5.1.2 Price strategy

The price of a product or service in many situations is established by companies as a strategy to increase their market share. A low price of a product or service will allow customers to acquire it more easily, but on many occasions, it can produce a certain distrust in consumers, leading them to think that it is a poor quality product or service.

We must consider that the final consumer is the one who reflects on the economic amount that the service or product deserves, that is, the maximum amount that he would be willing to pay to obtain it.

In the sector in which we find ourselves, that of mobile applications, each product and service is offered at a very low economic cost and in some cases free. This which a priori seems an advantage, is a disadvantage for applications that intend to offer a product or service in exchange for a price.

To set the price of the advanced functions of our cost-sharing application, we will start from the cost price that the development of the same entails, the base price will cover the costs of employee salaries. To obtain the final price of the product, it is necessary to calculate the percentage of fixed costs presented by the facilities and supplies of the company that are attributed to each unit that we want to sell.

Once the total cost price of each unit has been calculated, we will decide what profit margin we want to obtain. In our case, as it is a fully developed application, the profit margin per unit will be 100%.

To obtain the final price we will base ourselves on the prices established by the competition, to try to be more competitive than them and offer our product at a lower price.

The prices of the "premium" functionalities of the current competition goes from € 0.99 to € 29.99, varying depending on whether it is monthly or annual and depending on the extra functionalities offered.

An expense sharing application with characteristics similar to the one we have designed with the option of paying to obtain extra features is found at the prices mentioned above, so as presented in point 6.3, our final price of € 4.99 is within the price range. Allowing us to enter the market.

5.1.3 Sales policy

The sales policy that a company establishes serves to define the conditions and actions that must be followed to achieve the total sale of a company's products through certain strategies and objectives.

In our project we will try to sell the "premium" functionalities to the maximum number of possible clients, whether they are first-time users of the free application or constant users.

5.1.4 Promotion and publicity

Promotion and advertising refer to how a company makes its products and services known.

Any company in its beginnings must promote and advertise so that it begins to be known within its sector in order to reach the consumers it is aimed at and be able to achieve a market share in front of its competition.

In our project, it will be a very important factor since we are not known within the sector.

The main channel that we will use to promote our application will be the internet. Apart from our position within the App Stores (Google Play Store and Apple Store), announcements will be made to make us known on the different social networks (Facebook, Instagram, Twitter ...), as well as on widely used web pages such as Amazon and YouTube or search engines like Google. También aparecerán dentro de distintas aplicaciones de terceros relacionadas con el sector, como Fintonic, Toshl Finanzas, Whallet, Money Wise, etc.

Why do we choose this strategy? (Tiongson, s.f.)

Between September 12 and 22, 2014, an online survey was conducted of 8,470 smartphone users ages 18 to 64 who had used smartphone apps during the seven days prior to the survey, as well as apps from various categories (entertainment, finance, gaming, local, retail, social, technology, or travel) during the previous thirty days.

Google partnered with Ipsos MediaCT on personalized research to uncover statistics about user behavior for mobile apps, including app discovery, acquisition, use, and abandonment.

Something very important was discovered in this survey:

Discovery of an app does not just happen in the app store

Marketers may assume that consumers enter an app store to search for new apps, and in fact, a large portion of them do. In fact, 40% of smartphone users search for apps in app stores. These stores are still a popular way to find new apps, from the latest gaming apps to apps for exercise tracking, streaming music, and more. However, app stores are not the only way to discover apps.

People now discover apps in all kinds of instances while using their smartphones: when they use an app, when they search for another specific app, when they watch a YouTube video or even when they browse a mobile website. According to our research, search is an important source for discovering applications: one in four application users discover an application through search. For example, suppose a business traveler must fly to Miami without warning and needs to find a place to stay. He goes to Google Search to search for "Miami hotels" and finds an app that lists available rooms at local hotels and short-term rentals. Since he is a frequent traveler, he decides to download the application to be able to book his stay.

Discovery through a search engine is especially important for local applications, as well as for the technology categories (for example, to search for opinions on new gadgets) and travel (for example, when you want to confirm the details of a trip). In these three categories, people have a higher probability (26% for local applications, 59% for technology applications and 30% for travel applications) than the average of using search to find the applications they want.

People not only use search to find new apps, they actually download apps due to ads from the search network. These are among the most effective ad formats for generating app downloads: Among people who downloaded an app based on an ad they saw on their smartphones, 50% of them said they did so motivated by an ad on the network search. This change in the way consumers find and learn about new applications paves the way for marketers to re-evaluate their brand approach to application discovery.

Also, there is a good reason to take advantage of search to increase the knowledge of applications. Search network ads not only increase the visibility of applications, but also generate application downloads, because they are present at the exact moment that a consumer searches for applications.

For marketers, this means making sure your app stands out wherever smartphone users seek to discover apps relevant to their interests.

5.1.5 After-sales service and customer service

The activities of a company dedicated to the development of an application are not limited to the creation of the product until its publication for use by the final consumer. To become a consolidated company with a good reputation against the competition, good customer service must be provided before and after the application is purchased.

Within the sector in which we find ourselves, it is very common for the user to need help to install the application, to solve any compatibility problem with their terminal, to report any problem they present, or simply to propose improvements for future changes to the application.

The service offered by the company is direct contact with the customer, through a contact email and the customer opinion platforms that both application markets present (Google Play Store and Apple Store). Through which, the company will be in charge of constantly reviewing all opinions and incidents, solving or implementing them so that the application is always functional and better.

6. Economic and Financial Analysis

6.1. Introduction

Below are different analyses that we have carried out in order to determine the profitability of the business model. We have carried out the investment plan, the sales plan and the treasury plan, which will allow us to determine the profitability threshold. From these plans, the IRR and NPV will be calculated, which will be the ones that really indicate the viability of the project.

6.2. Investment plan

This plan details all the investments necessary to carry out the start-up of our business, as we will see below. Capital investment is inevitable in various resources to carry out our business activity.

6.2.1 Tangible Fixed Assets and Financial Assets

The following table shows the material and financial fixed assets necessary to start up the activities carried out by our business, such as office furniture, computers and peripherals. On the other hand, we have the financial assets formed by the rental of the premises, that is, the deposit.

Tangible Asset	Financing				Amortization	
	Cash purchase	Financed purchase	Leasing	Total interest	Amortization Percentage	Amortization cost
Computer and peripherals	2000,00				20,00	400,00
Office Furniture	1500,00				15,00	225,00
Local rent	600,00					0,00
TOTAL INVERSION	4100,00	0,00	0,00	0,00		625,00

Table 8: Tangible assets and financial need

According to the data shown in Table 8, we see that the initial investment of the first year amounts to a total of 4,100€.

6.3. Sales plan

In the sales plan we are going to project the sales that we hope to obtain in the first year, which will indicate the income that our company will obtain.

Below, we see the estimated sales for the first year:

First Year Sales		
	units	€
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	50	249,5
July	100	499
August	200	998
September	400	1996
October	800	3992
November	1600	7984
December	3200	15968
Total	6350	31.686,5

Table 9: Estimated sales for the first year

As we can see in Table 9, as it is a mobile application, the first 5 months are totally dedicated to its development, for which reason we do not obtain any sales income, since it is not in the market.

A potential increase in sales is calculated, by which these will be doubled the more known our application becomes.

The price per unit of sale will be € 4.99 for each client who wishes to obtain the “premium” functionalities.

These data would be ideal if our company did not have other expenses. Since all these sales would be direct benefits.

6.4. Treasury Plan

In this section we are going to analyze all the expenses and income that our company will have in the first month, year and in ten years. We will confirm if we must cover expenses, how to cover them and the amount of money that we will need for the start-up of the business until obtaining benefits.

Our company presents the following costs:

PAYMENTS	1st Month
Salaries	1.250,00 €
Office supplies	300,00 €
Publicity and promotion	210,00 €
Rentals	300,00 €
Water Supply	10,00 €
Electricity Supply	80,00 €
Phone Line	35,00 €
Tax, labor advice, etc.	140,00 €
Insurance	180,00 €
Purchase of fixed assets	4.100,00 €
Amortization Loan	298,57 €
Interest on loans	73,45 €
TOTAL	6.605,00 €
AGGREGATE	6.605,00 €

Table 10: Company costs for the first month

Since the first month we only have the income from the capital stock:

COLLECTIONS	1th Month
Social capital	3.000,00 €
TOTAL	3.000,00 €
AGGREGATE	3.000,00 €

Table 11: Collections of the company for the first month

A negative figure of **-3,605€** comes out.

If we calculate the expected income and expenses for a year we observe the following difference:

COLLECTIONS	1	2	3	4	5	6
Social Capital	3.000,00 €					
Sales	- €	- €	- €	- €	- €	249,50 €
Costs	6.605,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €
TOTAL	- 3.605,00 €	- 2.025,00 €	- 2.025,00 €	- 2.025,00 €	- 2.025,00 €	- 1.775,50 €
AGGREGATE	- 3.605,00 €	- 5.630,00 €	- 7.655,00 €	- 9.680,00 €	- 11.705,00 €	- 13.480,50 €

Table 12: Expected income and expenses for one year

7	8	9	10	11	12	TOTAL
						3.000,00 €
499,00 €	998,00 €	1.996,00 €	3.992,00 €	7.984,00 €	15.968,00 €	31.686,50 €
2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	28.880,00 €
- 1.526,00 €	- 1.027,00 €	- 29,00 €	1.967,00 €	5.959,00 €	13.943,00 €	5.806,50 €
- 15.006,50 €	- 16.033,50 €	- 16.062,50 €	- 14.095,50 €	- 8.136,50 €	5.806,50 €	ACUMULADO

Table 13: Expected income and expenses for one year

When calculating, in tables 12 and 13 we can see that because we did not generate enough income to cover the debt until month 12, we did not obtain a positive cash flow, in addition, we have an increasing loss every month, from the first month with **-3,605 €**.

To start our activities, we proceed to request a loan worth € 20,000 from the ICO.

Now the data of collections and payments are shown and once the loan is obtained:

COLLECTIONS	1	2	3	4	5	6
Social Capital	3.000,00 €					
Sales	- €	- €	- €	- €	- €	249,50 €
Other Collections ICO Loans	20.000,00 €					
Costs	6.605,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €
TOTAL	16.395,00 €	- 2.025,00 €	- 2.025,00 €	- 2.025,00 €	- 2.025,00 €	- 1.775,50 €
AGGREGATED	16.395,00 €	14.370,00 €	12.345,00 €	10.320,00 €	8.295,00 €	6.519,50 €

Table 14: Collections and Payments of the first year when obtained the loan

7	8	9	10	11	12	TOTAL
						3.000,00 €
499,00 €	998,00 €	1.996,00 €	3.992,00 €	7.984,00 €	15.968,00 €	31.686,50 €
						20.000,00 €
2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	2.025,00 €	28.880,00 €
- 1.526,00 €	- 1.027,00 €	- 29,00 €	1.967,00 €	5.959,00 €	13.943,00 €	25.806,50 €
4.993,50 €	3.966,50 €	3.937,50 €	5.904,50 €	11.863,50 €	25.806,50 €	ACUMULADO

Table 15: Collections and Payments of the first year when obtained the loan

We can see in tables 14 and 15, that thanks to the loan we cover our negative cash from the first months in order to develop our application and launch it on the market.

In this way, the collections and payments for the year would be as follows:

COLLECTIONS	TOTAL
Salaries	15.000,00 €
Office supplies	300,00 €
Publicity and promotion	2.520,00 €
Rentals	3.600,00 €
Water Supply	120,00 €
Electricity Supply	960,00 €
Phone Line	420,00 €
Tax, labor advice, etc.	1.680,00 €
Insurance	180,00 €
Purchase of fixed assets	4.100,00 €
Amortization Loan	3.656,05 €
Interest on loans	808,13 €
TOTAL	28.880,00 €

Table 16: Payments of the first year of the company

COLLECTIONS	TOTAL
Social Capital	3.000,00 €
Sales	31.686,50 €
Other Collections ICO Loan	20.000,00 €
TOTAL	54.686,50 €

Table 17: Collections of the first year of the company

We observe in tables 16 and 17, that in a year we already obtain a positive cash flow.

Having confirmed that the first year is favourable for the company, we have calculated the evolution of income and expenses over 10 years.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
PAYMENTS	28.880,00 €	29.457,60 €	30.046,75 €	30.647,69 €	31.260,64 €
COLLECTIONS	54.686,50 €	55.780,23 €	56.895,83 €	58.033,75 €	59.194,43 €
COLLECTIONS- PAYMENTS	25.806,50 €	26.322,63 €	26.849,08 €	27.386,06 €	27.933,79 €

Table 18: Evolution of income year 1-5

YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
31.885,85 €	32.523,57 €	33.174,04 €	33.837,52 €	34.514,27 €
60.378,31 €	61.585,88 €	62.817,60 €	64.073,95 €	65.355,43 €
28.492,46 €	29.062,31 €	29.643,56 €	30.236,43 €	30.841,16 €

Table 19: Evolution of income year 6-10

To make the 10-year calculation, the payments and collections of the first year have been used for an estimate of the general CPI of Spain (2%. Logically, the interest expenses of the loan and its amortization have not been considered). As we can see at the end of the tenth year, the company will obtain a cash flow of 30,841.16 €.

6.4.1 Financing method

As we have observed in the previous section, we have needed to obtain a loan in order to cover the debts accumulated by the company. To do this, we have chosen to request an ICO line for companies and entrepreneurs that offers an interest rate APR of 4.41%.

Thanks to the help of Excel tools, we obtain the instalment, interest, and repayment of the loan of € 20,000 at 4.41% APR for five years, with a monthly payment period and no opening fee:

TOTAL PAYMENTS	
MAIN INSTALMENT	20.000 €
INTERESTS	2.320,91 €
COMMISSION	0,00 €
TOTAL	22.320,91 €

Table 20: Total loan payments

month	instalment	interests	amortization	amortized	pending
1	372,02	73,45	298,57	298,57	19.701,43
2	372,02	72,35	299,66	598,23	19.401,77
3	372,02	71,25	300,76	898,99	19.101,01
4	372,02	70,15	301,87	1.200,86	18.799,14
5	372,02	69,04	302,98	1.503,83	18.496,17
6	372,02	67,93	304,09	1.807,92	18.192,08
7	372,02	66,81	305,2	2.113,12	17.886,88
8	372,02	65,69	306,33	2.419,45	17.580,55
9	372,02	64,56	307,45	2.726,90	17.273,10
10	372,02	63,44	308,58	3.035,48	16.964,52
11	372,02	62,3	309,71	3.345,19	16.654,81
12	372,02	61,16	310,85	3.656,04	16.343,96

Table 21: Evolution of loan amortization in the first year

6.5. IRR AND NPV

IRR (Internal Rate of Return) and NPV (Net Present Value) are two calculations that we are going to carry out in order to determine the viability of our company. They are detailed below.

6.5.1 Internal Rate of Return

The calculation of the IRR is made to be able to decide whether to invest or not, since it determines the interest rate that an investment brings us. When the IRR is greater than the discount rate, we can consider that the investment is profitable.

When calculating the IRR, we obtain that it is 862.22%, which indicates a very favorable profitability.

It should be noted that a 5% discount rate and the company's earnings in 10 years, shown in previous sections, have been used for this calculation.

6.5.2 Net Present Value

The NPV is the difference between the present value of the collections minus the present value of the payments. When $NPV = 0$ is the time of return on investment, or also known as PAY-BACK.

The NPV obtained for our cash flows is € 213,467.65, this indicates that not only does our company return the investment, but it also generates profits for us.

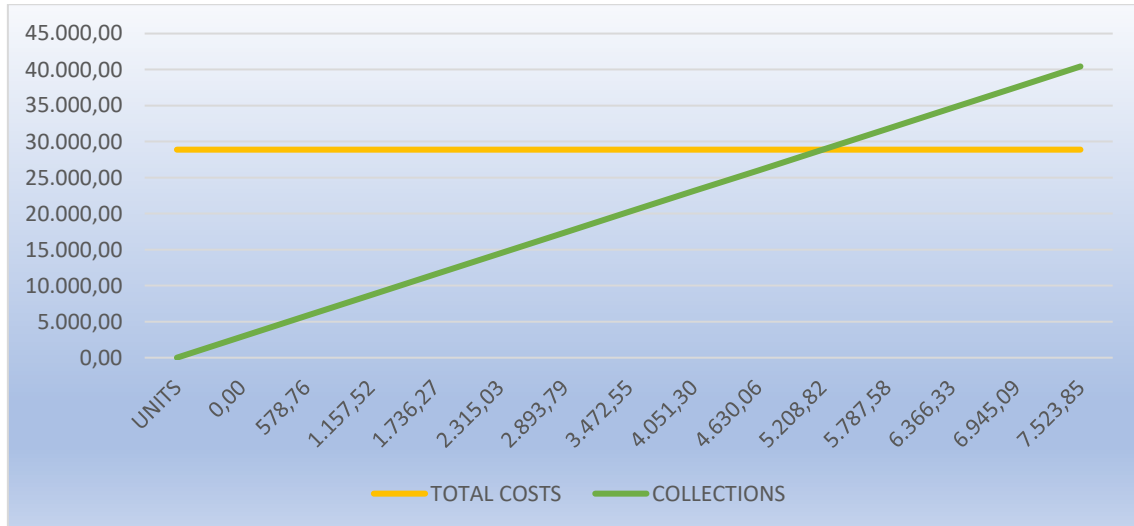
The PAY-BACK that we have obtained is 0.12 this means that we cover the investment in a very short time 0.12 years, approximately a month and a half.

6.6 Breakeven

The breakeven point or profitability threshold is the point obtained when the volume of products sold covers all the fixed costs. That is, we are going to determine the point by which if we are below it, the company has losses and if we are above it, profits.

To make this calculation we have helped ourselves with Excel, and we have used the fixed costs, the unit cost price and the sale price.

Our equilibrium point is in the sale of 5,788 units, these are the ones necessary to cover the fixed costs of the company, from that amount we will begin to make profits. Shown below with a graph.



Graph 32: Breakeven

Fixed costs = 28.880€

Variable costs = 0€

Sale Price per Unit = 4.99€

7. Conclusions

After carrying out all the analyses of our business plan, we see how the canvas model clearly presents each of the elements necessary to improve its understanding, obtain broad focus points and allow us to carry out new strategic analyses if necessary in the future.

The personality of potential clients is known through the empathy map and the survey carried out, which allows us to better satisfy their needs through the value proposition.

We have the situation analysis of the company through the SWOT tool, which allows us to know both the internal and external situation, being able to establish strategies that help us achieve the objectives of our organization using the CAME methodology.

Furthermore, thanks to the internal analysis of this business model, we can see that it is an attractive sector (with a growth of 14.25% ROA and 7.16% ROI from 2015-2017) and in constant growth (18.67 % of growth in sales from 2015-2017), which has a great competitive threat for small companies, which decreases markedly when growth is achieved.

The most important thing is that with the specified economic plan, it is possible to obtain in one year a positive cash flow with an extremely positive IRR (862.22%) and a NPV of € 213,467.65.

All this shows us that we have a favourable business model, which will allow us to launch our application to the market the first year, obtaining positive results, that is, benefits.

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