



MASTER'S IN INDUSTRIAL ENGINEERING & MBA

Business Plan.
**From an App to support a Smart Garden
business to an App to hold a strong
value-based community.**
Legomo

Author: Carmen Torroja Quijano
Supervisor: Marta Herrera González

Master Final Project

Madrid
May 2023

INDEX

EXECUTIVE SUMMARY	5
DEFINITION OF THE BUSINESS IDEA	8
MARKET ANALYSIS	10
GENERAL ENVIRONMENT	10
CONTEXT	10
<i>Smart Vegetable Gardens</i>	10
<i>Online Communities And Social Networks</i>	13
<i>Business Opportunity</i>	15
PESTEL	15
<i>Socio-Cultural Factors</i>	16
<i>Technological Factors</i>	20
<i>Ecological Factors</i>	22
PORTER’S 5 FORCES.....	25
<i>Potential Of New Entrants Into The Industry</i>	25
<i>Threat Of Substitute Products Or Services</i>	25
<i>Competitive Rivalry</i>	27
<i>Bargaining Power Of Buyers</i>	29
<i>Bargaining Power Of Suppliers</i>	29
SPECIFIC ENVIRONMENT	30
Analysis of Relevant Competitors	30
<i>Home Appliance leader company: Bosch:</i>	30
<i>Apps using Artificial Intelligence: Garden Answers & Picture This:</i>	32
<i>Home Improvement and Gardening Retailer Shops:</i>	32
<i>Environmental, Ecology and Sustainability Apps:</i>	34
BUSINESS PLAN	37
SWOT	37
<i>Strengths</i>	37
<i>Weaknesses</i>	39
<i>Threats</i>	40

<i>Opportunities</i>	41
Value Hypothesis	44
<i>STP: Segmentation, Targeting & Positioning</i>	45
Market Segmentation	45
Targeting	47
Buyer Persona	50
Positioning	47
<i>Value Proposition</i>	47
Validation of Functionalities.....	53
Comparison Against Competitors	60
Market Sizing: TAM, SAM, SOM.....	60
<i>4P's of Marketing</i>	65
Business Objectives:	65
Product	66
Pricing Strategy.....	72
<i>Freemium Strategy</i> :	72
Place.....	74
Promotion Strategy	75
<i>Business Lean Canvas</i>	78
<i>FINANCIAL & ECONOMIC STUDY</i>	80
Resources	80
5 Year Forecast	82
<i>Expected Market Share and Downloads</i>	82
<i>Income Statement</i>	85
<i>Balance Sheet</i>	89
Cost of Acquisition	90
Funding	91
<i>Equity</i>	91
<i>Liabilities</i>	94
<i>CONCLUSIONS</i>	95

BIBLIOGRAPHY	97
IMAGES	102
TABLES	104
ANNEX A	105
<i>Pessimistic Scenario</i>	105
<i>Income Statement</i>	107
<i>Balance Sheet</i>	110
<i>Funding</i> :.....	111
ANNEX B	113
<i>MVP – App Design</i>	113
Start Page and Log-In Screen:	114
Plan Options:.....	115
Home Page	116
Smart Garden Control:	118
e-Commerce Platform:.....	119
Multimedia Content:	120
Blog & Forum:	124
Newsletter:	125
Events & Workshops:	127

EXECUTIVE SUMMARY

As a student of a Master's in Industrial Engineering and an MBA program, the aim of this project is to develop an entrepreneurship combining the skills acquired from both areas (technical and business).

The entrepreneurship project consists of the development of a complementary business to support the one developed in the Industrial Engineering Final Project. It must be clarified that these two projects are totally independent even though they complement each other.

The project for the **Master's in Industrial Engineering** consists of a smart urban garden linked to an App. The garden has accessories with different sensors and a Wi-Fi module. Users can consult different parameters through an App on their smartphone. This engineering project aims to offer the physical product (smart gardens) and the App with the sole functionality of checking real-time measurements and controlling the actuators.

The garden consists of a base pot and several additional extensions that can be purchased separately according to the specific needs of each user.

The base pot is available in three sizes (1L, 5L and 10L capacity) with humidity sensors, a water reservoir, and a Wi-Fi module. The extensions will consist of modules with other sensors and actuators. The first extension consists of a light sensor and a UV lamp to enhance plant growth when there is no light. Another extension is a temperature sensor with a resistor to control the temperature of the garden in colder climates.

In this way, several extensions can be developed to measure different parameters (humidity, luminosity, temperature, pH, etc.) These parameters can be consulted through an App on the user's cell phone. For this reason, it is necessary for the orchard to have a Wi-Fi module.

The following image shows a similar product developed by the multinational company Bosch.



Image 1: Similar product developed by Bosch (SmartGrow Life)

The final project for the **MBA** program develops a **complementary business** by extending the functionalities of the App and providing new revenue streams. The new business unit will support the smart garden with the creation of a new community that shares similar interests. This provides a sense of belonging and support to those who start using their smart gardens whilst serving as a strategy to attract new clients (that can buy the smart gardens through the App). As well as this, it provides parallel revenue streams from those who want to belong to the new community due to a Freemium subscription strategy.

The business idea is built around the hypothesis that cultivating one's own vegetables is linked to certain values and lifestyle. Those interested in the product are likely to share similar ways of life, values and concerns (e.g., natural and eco-friendly diets). These values and habits revolve around **sustainability** and pursue **eco-friendly consumption behaviours, sustainable ways of life, healthy diets**, etc. Therefore, the creation of a community via an App and the development of different functionalities seems as a reasonable and strong business idea. It must be highlighted that the business that is being developed in the project will be referred to as **LEGOMO**.



Image 2: Legomo's logo - logo of the start-up

To test the new business unit, a Minimum Viable Product will be developed along with a market study and business plan. The tools and frameworks learned throughout the MBA in the development of a start-up will be implemented to study the economic and financial viability of the project and the structure of the business. These tools are intended to give a more complete approach to the project.

DEFINITION OF THE BUSINESS IDEA

This project aims to develop a complementary business unit and business plan to the one developed for the Master's in Industrial Engineering. This business will be referred to as **Legomo**.

The final project for the Industrial Engineering Master's consists of a smart urban garden linked to an App. This allows users to consult different measurements through an App on their smartphone.

On the other hand, the project for the MBA program aims to develop a complementary business by extending the functionalities of the App and providing new revenue streams. This new business unit makes special sense to support the smart garden and to create a new community of people with similar interests, values, lifestyles, and concerns.

The main objective is to create an App that provides a sense of community and belonging. This will be a way of attracting new clients. Firstly, those that will buy the smart gardens through the App and secondly, those who want to belong to this new community.

It seems as a powerful idea as those worried about natural and eco-friendly diets, usually have ways of life, values and concerns that are similar and pursue eco-friendly consumption behaviours sustainable ways of life.

When developing this product, it was observed that there was a great market opportunity in this application. It could offer many more services apart from being a platform to control the smart garden.

Humans are social beings who seek to belong to a community. Thanks to the development of the Internet and Social Networks, there are numerous communities to belong to. One can find groups for all kinds of hobbies: book clubs, art, hiking, sports, etc. Why not create a community

of people who love gardening in their urban garden? Could we take advantage of the Wi-Fi module of the garden to offer more services? This is how the idea of the application was born. First, the idea is to create a community of smart garden users. As it has been studied throughout the years, Communities of Practice have been created since the beginning of Social Networks and are very powerful. These communities are channels through which people share knowledge and tips between users. (Assimakopoulos & Yan, 2005)

MARKET ANALYSIS

GENERAL ENVIRONMENT

CONTEXT

SMART VEGETABLE GARDENS

Vegetable Gardens are a **growing trend** in today's society. There are many studies proving the benefits of growing vegetables. Not only is this due to the healthier, more natural ingredients but also to the **lifestyle** revolving this activity.

The number of people interested in gardens has grown in the past years and there are many **solutions** being developed like smart pots and gardens to help people take care of their plants.

There is an increasing interest in this activity of **self-consumption and agriculture**. In fact, the “**Red de Huertos Urbanos Comunitarios de Madrid**” was founded in December 2010. Its aim of coordinating urban agriculture initiatives for communities, educational programmes on this topic and exchange of experiences (Martínez Madrid et al., 2013) responds to an actual need from the population. Moreover, it supports the idea that a **community** is a strong asset to consider. The fact that the urban vegetable garden network was promoted by a **citizen movement** suggests that it was not an imposed measure to promote sustainability but rather an actual **need or desire** in the population.

It can be concluded that there is a community of people with similar **values, interests and tastes** that are pursuing the development of **sustainable activities** and are interested in cultivating and vegetable gardens particularly.

Moreover, the “Red de Huertos Urbanos Comunitarios de Madrid” was later founded by the **government**, proving that the growing interest in agriculture, self-consumption and a community with the same values and interests was heard by the authorities. This suggests that

this market is an opportunity that seems to be supported by governments all over Spain as there have been many initiatives in different provinces.

Moreover, the fact that **governments** spend time, money and **resources** implementing such activities shows that the **community** behind the vegetable gardens is large and strong and this **trend** has come to stay in Spain.

It must be noted that the “Red de Huertos Urbanos Comunitarios de Madrid” is not only focused on agriculture but also on many other activities related to **ecology, sustainability, and self-consumption**. It offers activities, **meetings, workshops**, etc. through a web page with a blog. All this attracts many people who either share the same lifestyle or are willing to learn and introduce themselves in this community.

In fact, the movement of **community vegetable gardens** has been so powerful that only three years after its foundation, the network of urban gardens in Madrid went from having only half a dozen gardens to more than thirty.(Martínez Madrid et al., 2013). Such a huge growth in only three years proves the existing **interest** in these activities; not only in agriculture but also in education on a more sustainable life.

The vegetable gardens aforementioned are more traditional as they involve a large esplanade of land and the contribution of many members that want to cultivate their own vegetables. This implies that they must be controlled and each garden has different **rules** with regards to what can or can't be planted, the usage of tools, the time schedule to cultivate, etc.(Ayuntamiento de Las Palmas de Gran Canaria, 2014). These rules could be avoided giving each user freedom to take care of their own smart garden. Therefore, this **added value** could be of interest to many clients. Moreover, the community sense wouldn't be lost as the App would offer an **online community** in which to share at any time and users would be able to know other members in person during meetings or activities.

The exponential growth of this market can be seen nowadays. Agriculture was a niche activity and information were found in **specific forums** and publications for experts. However, since this trend emerged in society, new **media** has been publishing articles about vegetable gardens and their benefits.

The worldwide known magazine “Hola!” published an article: “El huerto en otoño: cultivos, cosechas y tareas para cuidarlo” informing its readers as to which vegetables to grow in different seasons, key tips for the garden’s maintenance, etc.(Moreras, 2022). This magazine is a “market-leading lifestyle and celebrity publication” (Hello, n.d.). The fact that articles on this topic are being published in this kind of magazines shows that there is a **broader interest** in agriculture than there was years ago. It also shows that there are **different profiles of potential users** that could subscribe to Legomo’s App interested in this kind of lifestyle and looking for a community to join.

The agricultural activity is linked to a **lifestyle** that pursues sustainable, ecological and healthy values. This is reflected in articles published by magazines such as “Hello!”. This magazine has published an article based on **scientific studies** showing how having a vegetable garden could increase life expectancy. The article shows the benefits behind the activity of growing one’s own vegetables (Soria, 2019). It has been proven how “**blue zones**” in the planet present longer longevity indexes and they all share that agriculture is very present in the population’s life. This article also presents the lifestyle behind cultivating vegetables and how it is even like meditating. This supports the theory that **content** related to this lifestyle could be very valuable within the App.

One of the main **problems** is that people usually don’t own **land** in which to plant or grow their vegetables. This, and the growth of the **Internet of Things** has allowed to build smart gardens at competitive prices due to the large concentration in cities. New **competitors** have risen, and this market is becoming more popular. Media has made echo of this news and published articles informing the population.

In addition, since the Covid-19 pandemic, there has been a **global digitalization** in the work environment allowing people to **work remotely** from anywhere in the world. This way of working has been consolidated allowing for more **flexibility** (WorkMeter, 2022). This allows people to do their chores and take better care of their homes and lives. This App would be a useful tool to help workers take care of their gardens and diet making it healthier.

In conclusion, the **trend** of agricultural activities has grown. This number is **expected to grow** even further as there are many kinds of media publishing articles on this topic due to the

growing interest which is also perceived in the demand of these products. This results in more people being informed and therefore more **potential clients** in this market. Moreover, the media that is starting to be interested in this topic had not published about this in previous years, so the market is growing and there are many profiles of users to attract.

ONLINE COMMUNITIES AND SOCIAL NETWORKS

Having studied the growing trend of vegetable gardens and the benefits behind them, a reasonable theory uprises. People who are interested in this activity are likely to share other **interests** and even **values, habits and lifestyles**.

More precisely, people interested in growing their own vegetable gardens are also interested in a **healthy lifestyle** (not only diet), **sustainability and ecology**. This is supported by the the activities proposed by the “Red de Huertos Urbanos de Madrid”. This community has **monthly assemblies** in which they not only discuss topics related to the garden but also organise activities such as cycling routes to do together. Other examples of activities that this community takes interest in are **educational workshops** offered for children and adults to discuss topics related to **ecology and sustainability** amongst others (Martínez Madrid et al., 2013).

People are willing to get to know each other in person, and proof of this can be found in the **organised “lunches”** for everyone in the community. The “Red de Huertos Urbanos” organises a meeting for people in the community to meet and **share their experiences** having a relaxed lunch together (Martínez Madrid et al., 2013). This idea suggests that an App could also be useful to get to meet people that have the same interests and lifestyles.

Humans are **social** creatures by nature and have always been part of communities to survive. Nowadays communities are formed around different topics. Apart from meeting in face-to-face, the **virtual communities** formed online are becoming quite relevant. The use of **Social Networks**, in fact, continues to increase. Some recently published data points to two thousand million users worldwide (Hervás Pérez, 2021). This suggests that sharing interests and even lifestyles with a community could be one of the most powerful assets of the App.

Social networks and the Internet give people access to a vast amount of information. The number of people who own a **smartphone** has skyrocketed since 2016 from 49.4% of the

world's population owning a smartphone to 86.41% in 2023, according to Statista (Turner, 2023). The possibility of having Internet connection in one's pocket makes today's society overexposed to **information** permanently. In fact, according to Turner and the World Advertising Research Center, by 2025, 72.6% of all Internet users will access web pages via their smartphone.

Even though it is true that an excessive use of smartphones could lead to a sedentary behaviour and alter sleeping habits it is true that access to information has promoted **healthier lifestyles** in several ways. Firstly, access to online resources and information gives people support for making healthier **choices** to improve their lifestyle.

Additionally, these apps and the Internet itself provides access to online communities and social networks that allow people to connect with each other and share experiences. This is a great tool for **motivation**, to share **goals and objectives**.

Some of the benefits of being part of an online community include:

1. Support within a community that includes you in activities, helps you achieve healthier and more sustainable habits, aims to solve doubts and is interested in the content you share.
2. Information sharing
3. Interdisciplinary collaboration
4. Motivation
5. Personalized advice

BUSINESS OPPORTUNITY

It can be concluded that there is a real interest in several topics that revolve around the same **values**. This interest is increasing in society as the benefits of conducting a healthy **lifestyle** are exposed. It has been seen that more **communities** are created in Apps every day and they are a powerful tool for several reasons. Apart from a good business opportunity to explore, this idea could be **monetized**.

Communities have many benefits and people join them because they are **aligned with certain values**. This is extremely powerful because members of a community are usually very **loyal** to their values and therefore will probably **stay subscribed** in the community if they are developing **skills** or getting **benefits** from it.

These benefits can be achieved in many ways, which offers the opportunity to have a **diverse portfolio** and **many revenue streams**. Not only can people perceive benefits from physical products (such as the smart pots), but also from **content and information, events**, etc. There are multiple products that can be **associated with the values** being pursued by potential clients. The creation of a community is a good way of monetizing the business as there are many ways of doing so and the potential products and services is not as limited as in the creation of a conventional shop or product.

PESTEL

To carry out a more detailed **industry analysis**, the **PESTEL** framework allows to identify different factors that could influence the business being developed. To do so, the following chart shows the different categories and the ideas considered. A score out of 5 rating the importance of each idea will be shown. Any ideas with a score below 3 will not be developed in the PESTEL analysis. Moreover, each category will receive an overall score out of 5 to identify the most important factors and present them in order of importance.



Image 3: PESTEL Analysis

Regarding the creation of an online community, neither the political factors nor the economic or legal factors are important. The most important factors to consider are the **socio-cultural and ecological factors** which analyse the behaviour and social side of consumers and the sustainable trends which will especially influence a business of this nature. This is closely followed by the **technological factors** as the business will be an App which requires technological input.

SOCIO-CULTURAL FACTORS

These are the most relevant socio-cultural factors detected in the environment related to the project proposal.

1. Lifestyle:

- Lifestyle communities are a growing **trend** in which users share their **experiences, tips and doubts**.
- The lifestyle industry is very **broad**, and it can be exploited in different ways, offering the possibility to have an extremely **wide portfolio**.

2. Communities:

- The **network effect** is usual in communities and could start a cycle promoting an **organic growth** of the App. The creation of a community could start a **flywheel** in which, as more users subscribe to the app, more value could be created due to more **expertise** and **variety** being shared.
- The **sense of belonging** in a community plays a really important role in society so having this asset in the App's value proposition could be extremely positive (Hervás Pérez, 2021).
- Users can take advantage of the positive aspects of belonging to a community: **support, encouragement, motivation, sharing information**, etc.

3. Online courses and educational apps:

- There are more than eighty thousand educational apps as of 2020 (Rodríguez, 2020). Regarding online courses this number rises exponentially.
- The **online learning platform** Coursera which offers courses and degrees online published on its 2021 Impact Report that “more than 20 million new learners registered for courses in the year - equivalent to total growth in the three years pre-pandemic.” (Wood, 2022). Moreover, this number can be expected to continue growing as there has been a

positive trend in the **past five years** that doesn't show any signs of decreasing. This trend can be seen both in registrations and enrolments.

The graphs presented below show the trends in both registrations and enrolments in online courses in Coursera, one of the leading platforms in the sector.

More learners are accessing online learning

The demand for online learning on Coursera continues to outpace pre-pandemic levels.

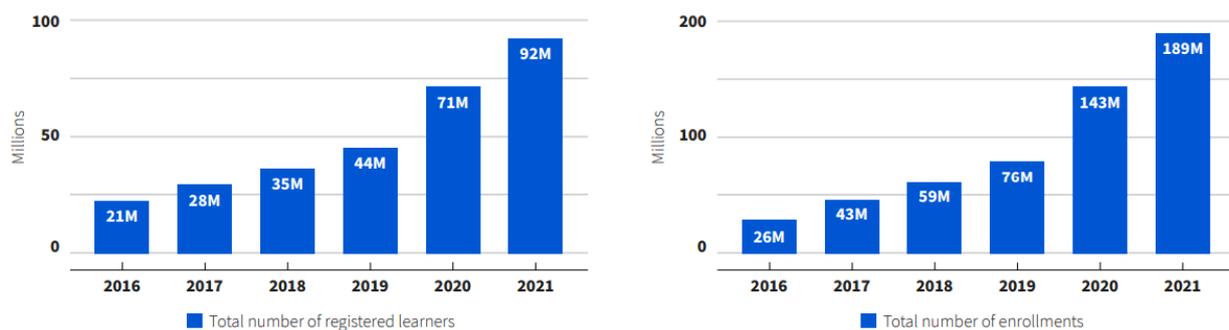


Image 4: Online learners: Registrations vs. enrollments

Source 1: Coursera Impact Report 2021

There seems to be a huge **interest in online learning** as the number of registrations in the platform has skyrocketed. This can be explained due to the pandemic as it has improved the online learning tools and people are more familiar with **online resources and learning methods**. Therefore, it could be a huge opportunity to take advantage of these tools nowadays that people are more familiar with them.

Moreover, online learning allows one to fit their courses into their **schedule** without having to disrupt their routine. It is a **flexible way** of learning that can be adapted to each user's needs.

- **Educational content** could be highly valued and it could be justified to explore this option or take advantage of this **trend**. In fact, there are **several possibilities** to do so such as workshops, talks, multimedia content, etc.

4. Habits of European consumers:

- A study on **food consumption trends** published the following conclusions when analysing the general trends of consumers: (Ida Del Greco, 2010)

“ - Spending less time shopping and preparing food.

- Preference for the purchase of foods that require little preparation.
- A trend towards the single dish, or at least less structured meals.
- Increased purchase of foods with natural ingredients and products, without sauces and seasonings.
- Increased use of diet products, fortified products, nutrient concentrates, etc. in the home, but not as a substitute for meals.
- Decisive increase in the quality of food choices.
- Widespread tendency to go on diets periodically for aesthetic and health reasons”.

The trends identified are **well aligned with the physical product** (smart garden). These **trends can also be exploited through the proposed App** in several ways: content, recipes, workshops, etc.

The conclusions of this study help to better identify the real needs of consumers, their behaviour, consumption habits, etc. This is useful in the definition of the **buyer persona** and the identification of the pains and gains of the potential user.

- The increase in consumption of natural products justifies the creation of the garden and the App to support it. Both products support young people who want to take care of their diet and follow a healthy lifestyle.

5. Penetration of the new App in the market:

- The market is quite saturated with Apps in general and this concept is the same in the lifestyle App market.
- There might be some **rejection** as to downloading a new application or having too many applications.
- People are **selective** when choosing an App to download. Due to the vast number of apps offered in the major App stores, people tend to look at **reviews**, score and other KPIs to select the best App.

TECHNOLOGICAL FACTORS

Regarding the technological factors, these are the most relevant.

1. Software development technology exists and is accessible:

- Numerous businesses are being developed and Apps are being launched with the use of **accessible technology**. In the first quarter of 2021 there were 3.48 million Apps just in Play Store, which is 3740 Apps launched per day (Sharma, 2022). It is only possible for so many Apps to be launched per day if the technology is accessible and **user-friendly**.

2. Electronic component price decrease trend:

- The **price** to obtain **electronic components** has decreased throughout the years making many technological resources available and affordable. This trend can be seen in a report published by Ibis World in 2022. The following graph supports this idea.

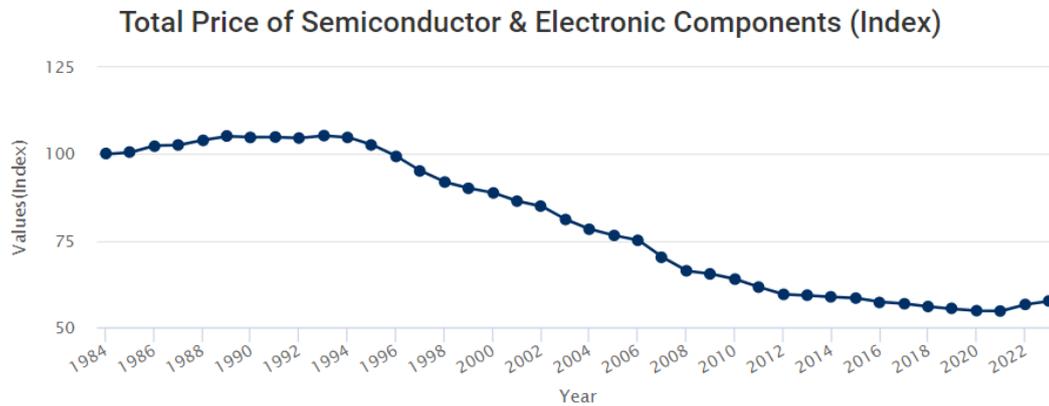


Image 5: Total Price of Semiconductor & Electronic Components (Index)

Source 2: IBIS World <https://www.ibisworld.com/us/bed/price-of-semiconductor-electronic-components/5185/>

This has **impacted the creation** of many businesses and the development of other **new technologies that are nowadays widely used**.

3. Home automation:

- The development of **home automation** has penetrated our society and it is expected to **rise** in the upcoming years. Nowadays **25% of the Spanish households already own a smart appliance** (Haier, 2022). Considering that there are approximately 25 million households in Spain (Aesval, 2021), this results in 6.25 million households with smart home appliances already installed.

This technology is becoming more accessible to the public and according to Europa Press, **60% of new construction households are implementing this technology** (Press, 2020). Therefore, the rise in home automation will be seen in the following years. This could positively impact the penetration of the physical smart-garden and consequently pf the App.

4. Smartphone penetration:

- To access both the App and the measurements taken by the Smart Garden, users need a smartphone. As it has been shown previously, **the number of smartphones is rising**. Most people have a smartphone if not two. In fact, 86.41% of the population worldwide owns a smartphone according to Statista (Turner, 2023).

ECOLOGICAL FACTORS

Alignment with SDGs: The App that supports the sale of vegetable gardens (and offers many additional independent functionalities) is aligned with many Sustainable Development Goals.

Sustainable Development Goals (SDGs) were adopted in 2015 by the United Nations. They emerge as a series of goals aimed at putting an end to current problems in the world related to poverty (economic, energy, etc.), sustainability, climate crisis, justice, and human rights, etc. These goals aim to achieve peace and prosperity for the whole world by 2030. The United Nations uses these goals to combat the imbalance in social, economic, and environmental sustainability and discrimination against women and girls (Nations, n.d.). The 17 Sustainable Development Goals are shown in an image below.



Image 6: Sustainable Development Goals

Source 3: United Nations

This project is aligned with several of the Sustainable Development Goals presented.

3 - Health and well-being:

Due to the vast amount of information on the Internet and media (news, reports, etc.) people have been made more aware about nutrition and healthy habits. In fact, it is easy to find many “health and well-being” communities to inform users, help them find support, people with their same needs, worries or interests and promote a healthier lifestyle.

On the other hand, to meet the high demand for fresh produce, the vegetables available in supermarkets usually contain preservatives and chemicals to prevent them from spoiling so quickly. However, it has been seen that there is a general interest from people to grow their own vegetables without the need to use chemical products that are so harmful to health and the environment as the “Red de Huertos Urbanos de la Comunidad de Madrid” suggests. In fact, this community is present in many other provinces in Spain (Martínez Madrid et al., 2013).

12 - Responsible production and consumption:

People who live alone, often find it more difficult to make a varied purchase. Many fresh products expire too quickly, and it is difficult to buy a wide variety of vegetables and fruits and consume them before they spoil. In addition, they are often sold in “family packs” which are too large to buy a variety of vegetables. Therefore, it is sometimes inevitable to buy larger packs than needed, which can be considered as irresponsible.

However, a general trend worldwide to reduce single-use plastics can be seen. Many supermarkets have changed their strategy and sell products in bulk. This allows people to be more responsible about what they buy and reduce the amount of single-use plastics used to create packs.

On the other hand, since the Covid-19 pandemic, people are aware of “small local business” and responsible consumption, thus, promoting local businesses and km0 products.

13 - Climate action:

As it has been previously mentioned, the trend to reduce single-use plastics in the packages of many of the fruits, vegetables or legumes sold is a way of promoting responsible consumption

and also an action in favour of the environment. As well as this, many supermarkets have launched “ECO” products, which usually involve less transportation and logistics, thus reducing the CO₂ emissions.

On the other hand, as mentioned in the previous point, the creation of agriculture communities shows an interest in growing one’s own food without the use of so many chemical products that damage health and the environment. Many of these products (pesticides, insecticides, chemical products to preserve vegetables...) cause greenhouse gas emissions. These communities usually have strict regulations to avoid using harmful products and this trend continues to rise (Ayuntamiento de Las Palmas de Gran Canaria, 2014).

In addition, in the transport from the cultivation areas to the points of sale, many emissions are produced (carbon dioxide CO₂, nitrogen oxides NO_x, carbon oxide CO, traces of hydrocarbons HC, etc.). If the transport of vegetables were reduced thanks to the use of these gardens, greenhouse gas emissions associated with transport would decrease. This has been promoted by the increase in the consumption of km0 products which don’t involve so many logistics and reduce CO₂ emissions involved in transportation, etc.

PORTER'S 5 FORCES

POTENTIAL OF NEW ENTRANTS INTO THE INDUSTRY

There are several entry barriers in the development of an App.

1. **Competition:** There is a lot of competition in the App market. The App being developed in this project could be classified in the “lifestyle” category in the market. As of 2021 there were over 350,000 health apps available in the market and an average of 250 lifestyle apps launched per day (Olsen, 2021).

Apart from the powerful **competitors** that have already penetrated in the market, the number of **new entrants** makes it even more difficult to stand out and attract new customers. Users have so many options, and resources to compare the functionalities between the different apps (comments, ratings, etc) that it is extremely difficult stand out.

2. **Time:** Programming projects are complex and **time-consuming** not only to understand them but also to propose a suitable solution. New entrants that develop the proposed solution quicker could obtain more market-share.
3. **ASO:** The App Store Optimization helps optimize the positioning of an App in different Search Engines so it is more easily found by users and stands out from competitors. This helps increase the number of organic downloads and in some cases helps attract more users due to network effects.

THREAT OF SUBSTITUTE PRODUCTS OR SERVICES

This project is the development of a supporting business for a smart garden with a remote-control App. Although this project only aims to develop the supporting App with different functionalities, there is a threat of **substitute products and services** for both the App and physical product.

1. **Technological gardening products:** The development of the **IoT technology** and the affordable **electronic components** make this market very competitive. Regarding the gardening and agricultural sector there are many “**smart**” **substitutes** such as sensors, smart irrigation systems, pH meters, CO₂ sensors, etc.

As it has been seen in the report published by Haier, the **Artificial Intelligence trend is growing** (Haier, 2022). This supports the interest in smart systems and shows that the industries of smart appliances in every sector could grow developing more substitute products at more affordable prices.

2. **Home automation:** As it has been mentioned, **home automation will grow** 300% until 2024 (Press, 2020). Considering that already one quarter of the Spanish households already have smart home appliances (Haier, 2022), this growth could result in most Spanish homes owning this technology.

To raise the interest in clients, this technology will probably become more **affordable** and encompass more functionalities. The history of home automation systems supports that technology is promoting the **connection of most objects in the household** and the development of Apps to control them. In fact, it is expected to have “smart beds” in the near future to control the temperature and rigidity and measure the user’s constants (heartbeat, sleep quality, etc.) (Prosegur Alarmas, n.d.). It seems as a logical step to include gardens and plant care in the automation system, as its main objective is to help the tenants take care of their homes.

If home automation systems extend their services to this area, the **threat of substitute products** will increase enormously.

3. **Physical shops:** There are gardening websites and shops offering seeds and tools. Examples that can be found in Spain include Fronza, Leroy Merlín, municipal nurseries, etc. They could easily start offering smart solutions for plant care too.

4. **Communities:** There are **agricultural communities** all over Spain, created and supported by City Halls such as the Red de Huertos Urbanos de Madrid. These communities already provide **interesting content** for their members, such as **workshops and events**.

However, the threat is not only due to agricultural communities but also due to the **content marketing** done by other brands in related sectors. The most famous plant nurseries in Spain such as Verdecora are adapting their business to offer quality content to their users apart from the most traditional products.

These gardening shops are offering blogs, Youtube channels, workshops for adults and kids and newsletter to capture new clients (Verdecora, n.d.).

To conclude, there are clear trends that could become substitute products. To become strong against these threats, the business will need a **unique value proposition** that includes a **conglomerate of different products and services reinforcing the engagement of the customers with the brand LEGOMO**.

COMPETITIVE RIVALRY

The **IoT** allows to develop many smart appliances. This industry is booming nowadays as over 25% of the Spanish households are expected to have smart home automation systems by 2024 (Haier, 2022).

The fact that the technology is developed, affordable and very mature has made multinational companies take advantage of it. There are big and powerful competitors in this industry as well as newer less-known competitors.

Some of the biggest competitors include smart home appliances companies such as the German company **Bosch** which has already developed the “**SmartGrow**” which is a collection of different smart pots connected to an **App**.

Since the growth of the smart home appliances trend, many **home appliances companies like Teka or Haier** have adapted and developed smart devices like washing machines, dishwashers,

etc. Although many of these companies have not yet expanded into the smart-garden industry, it could be a possibility for them to explore. This is an existing threat to the business as many companies with already existing reputation, brand image, know-how, expertise, and resources could enter into a growing market. As they already have the competitive advantage in the home appliance sector, this could make them very powerful competitors if they develop smart gardens too.

It can also be argued that these big companies have not yet entered this market as it might not be a strategic move for them. These companies are usually specialised in a very limited span of products. For example, Teka is specialised in kitchen appliances and washing machines. **Dyson** focuses on air purifiers and vacuum cleaners due to its expertise and research on this technology. Therefore, it might not make sense for these companies to enter such a different market and diversify their portfolio. However, the **threat** is still present.

Moreover, some **smaller companies** can be found too. **CitySens** is the case of an already existing **Spanish company** focused on the smart-garden sector. They are specialised in the **smart garden industry** but have few products in their portfolio. Whilst it is true that their smart gardens don't offer an App to remotely control them; they do have a smart irrigation system that can be controlled through an App (CitySens, n.d.). However, this is just to remotely control the watering of the plants and nothing else.

It must be said his company has a strong and very well-defined **brand image** based on **sustainability** and social compromise, and this could be a good competitive advantage that enables them to attract many customers.

Other competitors include **platforms** such as **Amazon or AliExpress** that offer a wide variety smart gardens connected to Apps. It can be ensured that many of the Apps offer a variety of functionalities that are a unique value proposition and competitive advantage.

It can be concluded that the **competition is intense**, but, as the **market is still growing** and has a lot of **potential**. This is due to the sustainability, technological and healthy lifestyle trends that make the product very attractive. Therefore, there is still room for more competition.

Considering the possible threat exerted by big home appliance companies, it is the perfect moment to develop this product as they have not yet entered this market but could do so soon.

BARGAINING POWER OF BUYERS

This refers to the ability of customers to negotiate the price and terms of materials and services they provide to a company. Due to the large amount of competition, the users have lots of **options in the market**. Therefore, the App is not essential for customers and they could switch to a substitute. This could be seen as a **high bargaining power of buyers** as the price, or service must be adapted to their needs to make them loyal to the App.

However, with the right value proposition there won't be many Apps that offer the same thing this one does. This would build a competitive advantage amongst the others and the bargaining power of customers would be reduced.

Moreover, the **cross-selling factor** in the App helps users buy the physical product (smart garden), and the smart garden forces the user to download the App to use the remote-control functionality, the **bargaining power is further reduced**.

BARGAINING POWER OF SUPPLIERS

The bargaining power of suppliers is **very low**. As the business being developed is an App and the resources needed for the physical products can be found in many different platforms, there is no bargaining power of suppliers.

SPECIFIC ENVIRONMENT

ANALYSIS OF RELEVANT COMPETITORS

There are various competitors in this business. From competition regarding the physical product (Smart Pots) to competition regarding the supporting App (Legomo) referred to in this Thesis. This chapter aims to analyse the competition regarding the supporting App solely although there might be references to the physical Smart Pots too.

HOME APPLIANCE LEADER COMPANY: BOSCH:

Amongst the bigger competitors, **Bosch**, the German company specialized in home appliances has been developing smart devices for over a decade. Although it had always focused on more traditional home appliances it has expanded its portfolio developing the **SmartGrow** amongst other innovative solutions. The SmartGrow is a collection of smart pots with different additional modules that can be remotely controlled via an App (Bosch, n.d.). Although these technical features are not part of this project, **this product is a major competitor** if not the largest.

Regarding the **App**, it does not only offer remote control, but it also includes tips and advice on how to take care of the garden, how and when to instal new modules, when to add water and nutrients to the pot, video-tutorials, seed and tool e-commerce (Bosch, n.d.).

These functionalities are a major asset to the SmartGrow and offer a variety of services that can attract many customers. This can be extremely difficult to overcome as they count with the **fidelity of customers** who have other Bosch appliances that can be controlled through their App and are already familiar with the software. Most importantly, this company has built a great **reputation and brand image** and has many **distribution points** that attract many customers.

Another very important characteristic about the Bosch portfolio is its **cross-selling strategy**. In 2015, the brand developed “**Home Connect**” making it possible for users to control all their Bosch devices from only one App. This is both a **competitive advantage** amongst the rest of

the competitors, but also a strategy to make **customers loyal**. It is convenient for anyone who has a Bosch home appliance to continue buying products from that brand since they will have the Home Connect system in place.

The cross-selling strategy followed by Bosch is a threat that must be overcome. Whilst the German brand offers connectivity with many home appliances through the same App, it doesn't offer a **lifestyle community** and all its benefits. This might be more interesting to the user buying a product such as a smart garden. As this product isn't necessary, it can be considered an accessory in many people's kitchens and therefore additional functionalities such as a strong community could be very interesting to potential clients.

Plant care Apps: (Ricart Elias, 2021)

According to the Spanish decoration magazine with over 50 years of history and more than 2,7 million readers (*El Mueble*, n.d.), amongst the best plant care Apps in 2021 the following must be highlighted.

1. **Waterbot:** Waterbot offers a notification system functionality focused on the watering of plants. The App allows users to take a photograph of their plants and the App notifies the user when it is time to water each of them. The user can then mark the plant as watered once the task has been completed.
2. **Vera:** As its slogan reads: "plant care made simple" is Vera's mission. It provides users with a personalized follow up of their plants: if they grow, sprout, etc. Users can also build a customized watering and fertilization schedule and find tips and advice on plant care.
3. **Gerente de Jardín:** It offers similar functionalities to Vera's. It also allows users to create a photo-diary to keep track of each plant's evolution over time. However, the most interesting feature is that it allows users to share the state of their plants amongst others. This way, a community is created where people can share their experience and interact with each other to share tips and ask different questions.

APPS USING ARTIFICIAL INTELLIGENCE: GARDEN ANSWERS & PICTURE THIS:

The Apps analysed under this category count with very powerful technology. Both Apps mentioned offer similar features and are great potential rivals for Legomo.

Firstly, **Picture This** is an App that allows users to scan different plants through their smartphone cameras. They identify up to 10.000 different species with a 98% precision. Picture This diagnoses what could be wrong with the plant and offers tips and advice to solve the particular problem. The App also tells the user if a plant could be toxic for a certain pet in the household (Fernández, 2021). Moreover, it offers a wide plant care guide to users as well as a team of experts who one can consult (PictureThis, n.d.).

Secondly, the App **Garden Answers** uses Artificial Intelligence to scan plants identifying them between over 20.000 species. It offers a Frequently Asked Questions (FAQ) section answering over 200.000 queries on plant care. It also counts with a search engine allowing a more user-friendly search within the App.

Garden Answers offers the “plant identification” functionality for free but users have to pay to access the tips and advice for plant care. Moreover, it offers a Favourites section for users to save their preferred advice (Fernández, 2021).

HOME IMPROVEMENT AND GARDENING RETAILER SHOPS:

Other relevant competitors in the Spanish gardening industry are different types of retailer shops.

- **Leroy Merlin:** This chain of stores specialized in **home improvement** and DIY products offers a variety of products related to home renovation, furniture, and **garden supplies**. It is worldwide known for its broad product selection, competitive prices, and customer service. Therefore, regarding its gardening branch, this chain could enter the smart garden industry offering competitors solutions or its own product.
- **IKEA:** The multinational **furniture retailer** offers a wide range of products. Within its portfolio it also sells kitchen **appliances** and other home accessories. Their products are

known for their minimalistic designs and functionality. With the growth of the “smart appliances” IKEA could also enter this market and sell similar products.

- **Verdecora:** This chain is specialized in **pet and garden supplies**. Regarding the garden branch it sells both plants and tools. This type of product could be a great strategic move regarding the increase in smart solutions and home automation and the threat is quite big as it fits completely into their portfolio.
- **Fronda:** This store specializes in **garden and outdoor living products**. It offers plants, garden tools, furniture, etc. Again, a product such as a smart garden linked to an App could perfectly fit its actual product offer and it could enter this market shortly.
- **Content Marketing in these 4 shops:** Another source of competition coming from these four shops is content marketing. All four shops mentioned have online presence and engage in content marketing.
 - **Leroy Merlin:** The multinational has **blog** section sharing **advice, DIY ideas, recommendations**, etc. They also share inspirational content through other **social networks** such as **Instagram or Facebook**.
Regarding **workshops**, Leroy Merlin offers **in-store** events to teach customers **DIY skills**. Their workshops are free to attend and use the products sold in the store.
 - **IKEA:** The retailer has a **blog** section offering tips on **home decoration, organization, and lifestyle**. Apart from this it offers content through **YouTube videos** trying out and showing how to assemble its products.
IKEA also offers **in-store workshops** to teach clients how to **assemble and install IKEA products**, as well as home decoration and **organization workshops**. Moreover, it offers **seasonal events** such as Christmas tree decorating workshops or Easter egg hunts.
 - **Verdecora:** The shop has a **blog** sharing tips on **pet care, gardening and home decoration**. They also share **YouTube videos** with tutorials and product reviews.

The **workshops** offered by Verdecora are related to **pet care and gardening**. For instance, it offers dog training sessions and **gardening workshops**. Their events are also held in-store and provide expert guidance on these topics.

- Fronda: This retailer also has a **blog** section in its web where it offers **gardening advice** and inspiration. It also offers a **newsletter** that clients can subscribe to **for gardening advice and promotions**. They are also active on social media accounts sharing inspirational content on gardening and outdoor living. Fronda also offers **gardening workshops** that teach customers **techniques such as planting, pruning and soil preparation**. These workshops are held in-store with a team of experts.

ENVIRONMENTAL, ECOLOGY AND SUSTAINABILITY APPS:

According to the award-winning eco-friendly community Ecobnb, the most useful eco-friendly apps are (Ecobnb, 2020):

1. **Oroeco**: This App aims to raise awareness about the impact a single person can have on the environment. To do so, it shows the user's carbon footprint, climate impact and offers an analysis on different aspects of the user's lifestyle from travel to eating. As well as this it also offers tips to improve and change into a more sustainable lifestyle.
2. **WeDontHaveTime Climate Change**: It informs users on different global climate change news. As well as this, if enough users agree on a climate change action, it sends these actions to different companies and organizations.
3. **Waterprint**: It focuses on water footprint and aims to educate users on different ways to save water taking into account the water they drink, wear and eat.
4. **GoodGuide**: This App seems as the most powerful competitor within the "ecology and sustainable Apps". It offers many functionalities that can be interesting for a community focused on sustainable and eco-friendly values.

It offers a guide as to which products are ethical and green. This guide has over 75.000 rated products in its database and shows products in the following categories:

- Personal care
- Household
- Babies and kids

After analysing the main competitors of Legomo's core business, it can be concluded that the most similar competitor would be the **SmartGrow** developed by Bosch. Not only does it have a similar **physical product** (the smart pots) but also offer powerful **functionalities** via their App. Regarding the home appliance giant Bosch, they count with endless **resources** compared to a starting business. They have trustworthy investors, producers, distributors, etc.

Apart from their experience in the industry, they have an enormous **market share** as it is one of the best-known home appliances brands worldwide. This expertise has led them to a great **reputation and brand image** making it almost impossible for new competitors to obtain even similar results.

All the **Apps** mentioned above in the different categories are running and count with a **good penetration** in the market and numerous users. This shows how people are indeed interested in these topics and willing to download the App.

The inconveniences in the App development industry are that **competitors** already have the **know-how, resources, software development** and comply with all the legal regulations to be in the market. Therefore, it will be hard to "steal" clients from the competition and obtain a higher market penetration. To do so, the differential value proposition will be reinforced with the creation of a strong community, engagement through content marketing and the offer of a variety of services and products that reinforce the values of the community.

As it has been seen in various competitors, the offer of **content marketing** is a powerful tool to attract new customers especially in such a **digital environment**. The previous analysis proves that this content should be **valuable and relevant** for the customer, aimed to attract a clearly defined audience. Therefore, it is crucial to understand the needs of the customer beforehand.

This technique can help build **brand presence and increase awareness of its products and services**. It also serves to **differentiate** Legomo from other competitors by offering **insights** to its value proposition. Regarding the **App market**, offering **consistent valuable content** can

attract customers to the **social media profiles and App** increasing the potential **leads and conversions**.

In addition to content marketing, it is important to consider other **levers such as workshops and events**. These tools have been proven to be extremely efficient in engaging with the target audience and build the brand. Providing a **hands-on** experience could be a demonstration of the quality and services that Legomo could offer.

Moreover, it is an effective way to collect **feedback** for the brand helping in the definition of the value proposition organically as the brand grows. These insights the could serve in the creation of **content marketing**.

Workshops and events are a powerful tool to complement content marketing and drive brand awareness and growth by building strong online and offline presence.

Moreover, as part of the differential value proposition, an **e-commerce platform** to sell products related to Legomo's values, such as sustainable products through the partnerships with other strong brands in the market could help leverage the brand and raise awareness about the community.

BUSINESS PLAN

The following section analyses the internal components of the business. More precisely, it aims to determine a road map for Legomo to follow and achieve its business objectives.

As the product is an App, it is essential to make it **customer-centric** and therefore **user-friendly**. Legomo benefits from **network effects** and to gain market share and enough users the focus should always be the final user of the App making it even more important to prioritize their needs and requirements..

SWOT

This analysis determines the strengths and weaknesses of the potential business as well as portraying the threats and opportunities in the market.

STRENGTHS

Amongst the strengths of the App, the following can be analysed. They are presented in order of importance:

1. Offering all functionalities through the same App: Having analysed the competition (both for the physical product and the App), there is no App offering all the services in the same platform. Legomo aims to offer a variety of services for a sustainable community under the same platform. It is likely that some customers are not interested in all functionalities of the App but if they find one of them valuable enough, they will probably download the App and subscribe.

Joining a community that offers so many services makes it more likely for a user to end up trying out some products that they hadn't even considered when joining the community.

2. Variety of products: As it has been mentioned, competition is focused on a single service. Some Apps offer notification systems to water the plants, others are only focused on sustainable content, or on the smart-garden remote control, etc. The creation of a community is very broad and offers the opportunity to diversify the service portfolio.
3. Cross-selling: The sale of the smart gardens and the extensions (pH sensor, temperature sensor, etc.) and the fact that they can be controlled through the same App is the core of the business. When a client discovers the Smart Garden through the web or a physical shop, they are forced to download the App for the remote-control functionality. This forces a stream of downloads that will increase the word-of-mouth and will enjoy the free services. Thus, potentially increasing the likeliness of them subscribing to the App. As well as this, the customers who download the App without having the Smart Garden, can enjoy various services before deciding to buy the physical product through the App. This will potentially increase customer loyalty.
4. Technical know-how: The technical skills acquired during the Engineering Degree and Masters allow the creation of a Viable Product with less cost (there is less need of a supporting team).
5. Adaptability: As a new start-up, the flexibility and adaptability are much higher. Competitors are already consolidated and exploring new strategies or business units could be risky for them. However, as the brand is not yet consolidated, there is no defined structure and there is more adaptability to study and explore the market.
6. Own physical product developer: Having built the physical product (Smart Garden) from scratch, gives a much deeper understanding of the product, its capabilities, possible problems, etc. This can be very useful when addressing the targeted audience.

WEAKNESSES

Legomo's App also faces the following weaknesses.

1. Stronger competitors with experience in the market: There are competitors with more experience in the sector. As it was analysed in previous sections, there are multinational home appliance companies such as Bosch, which have experience, reputation and resources to attract a large market share. Moreover, there are many Apps offering similar functionalities. However, there is not one App offering all the services that the project aims to develop.
2. NewCo: As it is a new start-up, it is in its development phase. The implications about this are that it is not known by the potential clients, it doesn't have any built reputation or brand image. This makes it difficult to attract customers against the competition with more reputation, brand image and experience.
3. No commercial relations: There are no commercial relations with other sustainable brands or gardening companies that could sell their products through the App.
4. Financial Weakness: Being a start-up, it doesn't count with the financial resources that other companies have. This means that the investments must be done carefully and there are not many resources. This implies that during the starting phase, there investment in skilled workforce, resources, marketing, etc., will not be as high as desired. This might slow down the growing process.
5. Lack of expertise, know-how and skilled workforce: As it is a start-up, there is a lack of experience and know-how in the sector. This makes Legomo vulnerable against competitors and the idea will be easier to copy. Other competitors with more resources and expertise could develop it in less time. The lack of skilled workforce in the starting phase results in a slower development of the App. This is a weakness as there are

competitors with more resources and know-how that can obtain better results in less time or copy the idea.

6. Saturation in the lifestyle App market: A new App will have more **difficulties** to reach the potential clients before getting enough reviews and comments. Therefore, it might be necessary to invest more resources in **marketing campaigns and advertising**.

THREATS

The App market is quite threatening as there are thousands of Apps being launched every day. This makes standing out from the rest of the competitors almost impossible. The threats analysed in the SWOT analysis are:

1. Competitors with more resources: The main threat is that competitor who have already entered this sector, could potentially start offering the same products and services as Legomo. For instance, Bosch has already developed the SmartGrow but doesn't offer as many services through the App. However, if they start doing so, they could potentially reduce Legomo's value proposition.
On the other hand there are competitors that have not entered but could potentially do so. For instance, home appliance companies that have not yet explored the smart gardening industry could do so soon. These potential competitors such as Teka or Haier, have many resources and the capacity to recycle their expertise and know-how in the smart home appliance sector to develop quality products and Apps in less time.
2. IoT industry: The Internet of Things industry is in exponential growth nowadays and it is expected to continue growing in the upcoming years. This technology is accessible, and it is becoming more user-friendly, which allows new unknown competitors to take advantage of the existing technology and enter the market.
3. Engagement: Although a freemium strategy can be a very powerful tool to attract new customers (specially in a software-based business), there is a potential threat. Not being

able to convert the adequate number of users to the subscription plan could result in losses for the company. Freemium strategies are very powerful but engagement is not immediate and takes time which is quite risky for the business.

OPPORTUNITIES

Apart from the threats, the business model of the App works by taking advantage of many opportunities in the market.

1. No-Code tools: The available tools to program Apps make the process more agile. These tools are, in many cases, free to use and offer support and prewritten code to develop Apps in a more user-friendly way. This could save time and effort in the software development phase for the MVP. Moreover, the process to develop software using these Apps is very Lean as it is easy to make any desired changes and edit the project. This allows for constant improvement and a Lean development of the App as well as building from the bottom up (from basic functionalities and adding more complex ones later on).
2. Consumer habits: After the State of the Art and the External Analysis, it is clear that young consumers tend to prefer natural and sustainable products that respect the environment. Not only does this support the actual smart garden but it also supports the business idea behind the creation of a sustainable online community.
3. Content marketing supported by presential events: Content marketing is a powerful tool to increase engagement and interaction with the targeted audience. Being a start-up, complementing this with events that offer hands-on experience with the product and services is a great way to attract new customers and increase word-of-mouth and recognition. Moreover, these tools do not necessarily imply high costs compared to their returns. There are organised (pre-existing) events and workshops. Therefore, partnerships can be a great way to lower costs and collaborate with bigger communities that already carry out these activities. This could be an opportunity to gain visibility and traction in the market.

4. Increase in vegetables consumed: People are more aware of their diets and the benefits of a healthy lifestyle and therefore, the number of vegetables consumed increase. As well as this, due to inflation and the rise in prices, it is less expensive to eat vegetables than other products such as meat or fresh fish. Therefore, a smart garden could be interesting to many potential clients.
5. Trend in sustainability: Many brands are designing their products to reduce their impact in the environment and be more durable and eco-friendlier. This trend is something that could be used to create commercial relationships with sustainable brands that could sell their products through the App and share them in the community created. Moreover, it supports the business idea behind the App. Lastly, due to this trend it is more likely to find numerous suppliers of sustainable products.
6. Online working/learning: Since the Covid-19 pandemic, the online work has come to stay. Nowadays, most companies offer flexible schedules that allow for partial online working from home. This is an opportunity as it can be favourable for the business. Online working from home allows users to take care of their plants more frequently and therefore they might be interested in a smart garden. Moreover, this allows workers to cook their own meals instead of eating takeaway or in restaurants, thus supporting the idea to promote healthy lifestyle values and share healthy recipes through the App.

The following matrix has been developed.

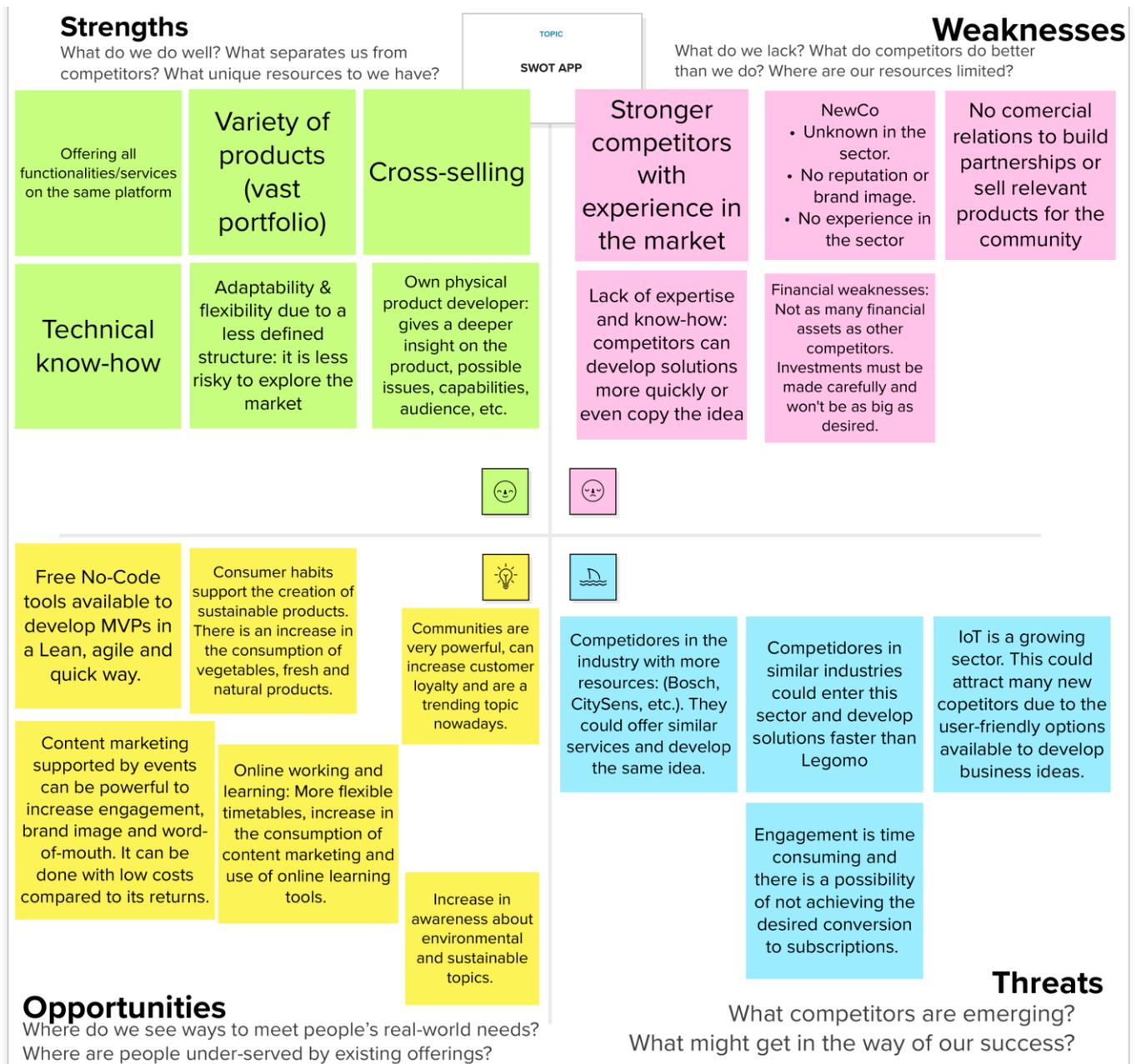


Image 7: SWOT analysis

VALUE HYPOTHESIS

Having studied the external environment and carried out a SWOT analysis, the following pillars for the value hypothesis have been identified.

1. Community: The benefits of a community have been proven. The sense of belonging to a community with shared values, concerns and interest is very powerful and increases customer loyalty and implication with the brand.
2. Relevant content marketing: Supporting the community with relevant and valuable offer of content strengthens the community and starts a flywheel where network effects appear, and more customers are attracted.
3. On-hand activities, events: The offer of on-site events where people from the community can meet and interact and newcomers can get an insight of the community can be beneficial to build brand image. This is a powerful asset that can increase engagement and be valuable for customers who seek a community to belong in.
4. Variety in the portfolio in just one platform: Offering a wide variety whilst still growing can be beneficial. Competitors are not offering such a wide variety of services of interest for a sustainable community. Offering services that support a lifestyle rather than an individual need strengthens the value proposition. Moreover, users can find different reasons to subscribe to the App.

STP: SEGMENTATION, TARGETING & POSITIONING

MARKET SEGMENTATION

The aim of this section is to differentiate the target market from the rest of the general market. To do so, five different criteria have been applied (geographical, demographic, socio-economic, psychographic and behavioural segmentation).

Firstly, a superficial analysis has been carried out to identify the relevance of each criteria. A table showing the factors considered in each criterion and an overall score out of 5 is provided below. Criteria with an importance score lower than 3 will not be considered.



Image 8: Market Segmentation Relevance Analysis

As it can be seen from the previous chart, the most important criterion is the psychographic factor with a score of 4 out of 5.

1. **Psychographic segmentation:** This category mixes psychology and demographics to better understand consumers. It takes into account trends, tastes, hobbies, lifestyle, etc.

This product (App) is most likely to be useful for people interested in:

- Growing their own plants, vegetables, small herbs and fruits.
- Cooking: following healthier recipes, learning fast and healthy ways to make food, etc.
- Healthy lifestyle: changing their habits to improve their quality of life.
- Ecology: people who are interested in the environment and the impact they can have. Those who want to learn about climate change news and different sustainable product options.
- Recycling: people looking for information and workshops on recycling, reducing their waste and carbon footprint, etc.
- Sustainability: educative content on sustainable tips and advices to change small things in their routine that could make an impact on the environment.
- Technology: In the development of an online community linked to an App technology is a key factor. Moreover, the physical smart garden can be very interesting to technology-savvy customers who know about trends in this sector. As it has been previously mentioned in the External Analysis, there is a trend on the Internet of Things and Artificial Intelligence. Users of this technology could be interested in this product.
- Home automation: The rise of home automation systems could be influential in the type of clients interested in this product. Young people are willing to buy smart home appliances (Haier, 2022) and there is room for these customers too.

Typically, people who cook their own food, lead healthy lifestyles, recycle at home and are concerned about the environment and the climate crisis. This is the reason why all these topics are grouped into the same App.

TARGETING

Having carried out a segmentation of the market, the most important characteristic is the **psychographic** dimension.

Considering the psychographic characteristics shared by the potential users, the App could be targeted to:

“A community of environmentally conscious individuals interested in a sustainable and eco-friendly lifestyle. Individuals who share concerns and values and are open to learn and take part in the community.”

Moreover, considering that the product is an App, the use of technology is essential. As well as this, the physical product sold is a smart garden which is categorised as a smart home appliance. Therefore, it is also important to target this product mainly at people with ease of use of technology who would profit from an App and the physical product.

POSITIONING

Having defined the market segment and the targeted customers, a more in-depth value proposition analysis is carried out to attract the potential clients.

VALUE PROPOSITION

With the identification of the trends in today’s society, to potential interests of clients have been identified. And a better definition of the business can be carried out. Moreover, analysing relevant competitors and the actual offer of different services and products allows for the identification of a strong value proposition that allows Legomo to stand out amongst its competitors.

Having analysed all the factors already mentioned, the business will be configured as follows.

1. Physical product: The smart pot is the starting point of the App’s business idea. At first, it was thought that an app to offer functionalities to control the Smart Garden was

enough. However, the possibility of creating a community was explored and it was decided that it was a strong starting point.

2. App and online community:

The main value proposition of this business is to create a **strong community that is loyal to the following values.**

- a) Sustainability: Taking care of the planet, being eco-friendly and impacting the environment in a positive way is valued by customers nowadays.
- b) Healthy lifestyle: The importance of taking care of one's well-being, promoting a healthy lifestyle and offering tools to do so.
- c) Innovation: Innovative and creative solutions are offered to provide user-friendly services.
- d) Co-creation: The definition of community is “the condition of sharing or having certain attitudes and interests in common”. This implies having certain behaviours, such as supporting and caring for the community and its members. The customer's voice is heard and taken into account.

Due to the definition of these four values, the App aims to offer wider services than competitors including the creation of a sustainable community with a determined lifestyle. It focuses on other topics that Bosch doesn't get involved with and therefore aims for different user personas. By offering content on healthy lifestyle habits, ecology, sustainability, workshops, etc. the App being developed aims to create a strong and powerful community and profit from the network effects too.

The functionalities of the App are presented in the following list.

1. **Smart-Garden functionality:** The Smart Garden has sensors and controls that can be activated through the App. The measurement of different parameters can be consulted (i.e., soil humidity) and different actuators can be activated (i.e., watering system).
2. **Create a community of orchards in the same geographical area:** Taking advantage of the orchard's competitive advantage, by having a Wi-Fi module, users of the orchard and the app can consult other orchards in the same geographical area. In this way they can agree to exchange products from their garden, garden tools, seeds, etc.

3. **Newsletter:** So that users know what products to grow at what times of the year, the application will have a “newsletter” section where they can check the seasons of different vegetables, fruits, vegetables, legumes or spices. For this functionality, a freemium strategy is proposed. Seasons and offers can be consulted for free whenever the App is accessed. However, in order to activate notifications and have the phone “warn” that the season for a vegetable is approaching or the time to buy certain seeds, it will be necessary to be a subscriber. There will be different types of notifications according to the needs of the clients.
4. **e-commerce platform:** To make the above functionality even more powerful and make more sense, a platform should be created so that users can buy different products related to the smart urban garden. This way, if someone discovers the App before the orchard, they can buy it directly through the platform, which will serve as a tool to attract customers thanks to all the services it offers. The products that are intended to be offered are shown below:
 - **Products:**
 - Garden: base pot (in its three available sizes)
 - Extensions: temperature, UV light, pH, etc.
 - Garden tools: shovels, rakes, gloves, seeds, etc. – This is to be done through partnerships with other brands.
 - Sustainable products: partnerships with other brands so they can sell their eco-friendly products through the App.
5. **Multimedia content:** Due to the growing interest in different Social Networks that offer online content (Tik Tok, Instagram Reels) and the different movie platforms (Netflix, HBO, Amazon Prime, Disney Plus, Movistar Plus, etc.) intends to take advantage of this trends to offer specific multimedia content for garden users. This functionality is intended to offer specific content which is interesting to attract customers who become subscribers through the App.

- **Media Content Type:**
 - Online gardening workshops: Gardening and plant care lessons at different levels. Tips and tricks for garden care, etc.
 - Recipes: Quick and easy recipes could be developed to make with the different vegetables that may have been grown in the different seasons throughout the year using the smart pot.
 - Workshops: Events regarding interesting topics for users such as sustainability, recycling, gardening, plant care, environmental impact, reducing carbon footprint, etc.
- 6. **Forum to share gardening advice/tips:** Plant care can be confusing at times. Plants can have diseases, pests and other problems. They may be too dry, too exposed to the sun, they may have been overwatered... All these things will manifest themselves differently depending on the type of plant. A forum could be created in which users can post a photo of the plant and a paragraph explaining what happens so that people can comment on solutions, advice and tips, this promotes participation in the community and content enrichment.

Once all the potential functionalities have been identified, the following table aims to compare the most relevant competitors to the business being developed.

BUYER PERSONA

The identification of the different functionalities allows to better define the potential clients to attract. The following “profiles” of potential clients have been created as follows.

María

Age: 42 years old
Nationality: Spanish (Madrid)
Mum of 2 children (5 and 7 years old).



EDUCATION AND PROFESSIONAL CAREER

- Studied Finance in LSE
- Works for an international consulting firm.

INTERESTS

- Yoga
- Healthy lifestyle
- Nature
- Traveling
- Enjoying time with her family, specially her kids.
- Developing her professional career and being successful.

FRUSTRATIONS & PROBLEMS

- Her work schedule is extremely stressful and she struggles to find free time.
- She wants to ensure that her children are healthy and happy.
- Her work forces her to travel with short notice.

WHY IS THE APP USEFUL FOR MARIA?

- Having fresh, natural products at hand with the smart pot that are maintained fresh for a longer period of time.
- Saving time and money in the smart garden maintenance.
- Educational and healthy activities that her children can learn: workshops about recycling, recipes, videos, etc. As well as this, learning about the importance of following a healthy lifestyle through their parents own behaviour.

Image 10: Buyer Persona (1)

Javier

Age: 27 years old.
Nationality: Spanish (Barcelona).
Single without kids



EDUCATION & PROFESSIONAL CAREER

- Studied Telecommunication Engineering in Barcelona.
- Works for Telefonica whilst developing his own start-up.

INTERESTS

- Craft beer - producing his own beer, he likes knowing how it is done and where it comes from.
- Tech-savvy
- Sustainable lifestyle - recycling, eco-friendly products, local businesses
- Start-ups and entrepreneurship
- Traveling in his van - he appreciates useful and practical products he can take with him
- Innovation

FRUSTRATIONS & PROBLEMS

- Struggles to balance his work with the development of his own business.
- Would like to work for a more innovative company.
- He is very curious and always learning about new trends.

WHY IS THE APP USEFUL FOR JAVIER?

- Variety of alternative products to be more sustainable - promoting reusing and recycling.
- Workshops and events to learn new tips to recycle, take care of the garden, etc.
- Tech-trendy product with sensors and remote control that is user friendly and can be transported - van life or camping friendly.
- Opportunity to grow his own ingredients to prepare creative recipes for his friends

Image 9: Buyer Persona (2)

Sara

Age: 35 years old.
Nationality: Spanish (Bilbao).
Just moved to Madrid with 2 friends



EDUCATION & PROFESSIONAL CAREER

- Studied Psychology in Bilbao.
- Now working in the family business.
- Doing an online course in event organisation

INTERESTS

- Documentaries
- Social Networks - following influencers
- Masterchef and cooking - is very strict in her diet - focuses on a healthy lifestyle and tries to eat vegetables in every meal
- Sustainability and ecofriendly values

FRUSTRATIONS & PROBLEMS

- Shares an apartment with friends and they have trouble with the household chores.
- She is new to the city and doesn't know anyone

¿WHY IS THE APP USEFUL FOR SARA?

- Saving time and effort in the maintenance of plants.
- Quick recipes to continue learning how to cook in a healthy way.
- Similar product to the one used in MASTERCHEF (Bosch SmartGrow Life)
- Sharing natural ingredients with her flat mates.
- Community with healthy lifestyle values to share tips, opinions and advice.
- Presential workshops and events to meet new people with her same interests.

Image 11: Buyer Persona (3)

VALIDATION OF FUNCTIONALITIES

To validate the different functionalities of the App, a survey was carried out too 100 people using Google Forms. The questions and results from the survey are presented below:

Age

100 respuestas

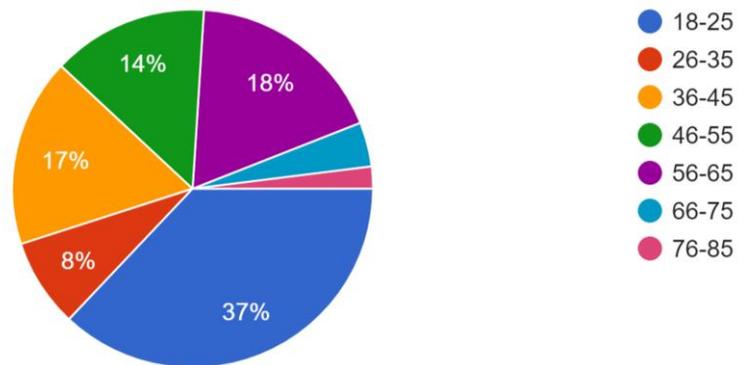


Image 12: Age - Survey Results

Gender

100 respuestas

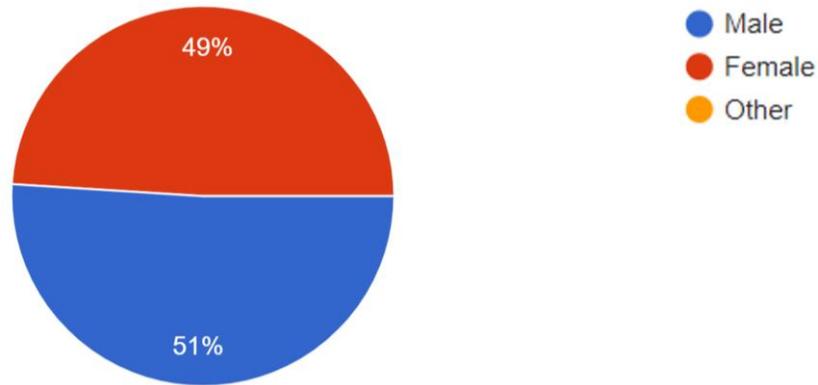


Image 13: Gender - Survey Results

As it can be seen, the age is somehow evenly distributed although a large group of 18–25-year-olds answered the survey. Regarding the gender it is equally divided.

What brands do you follow on social media?

100 respuestas

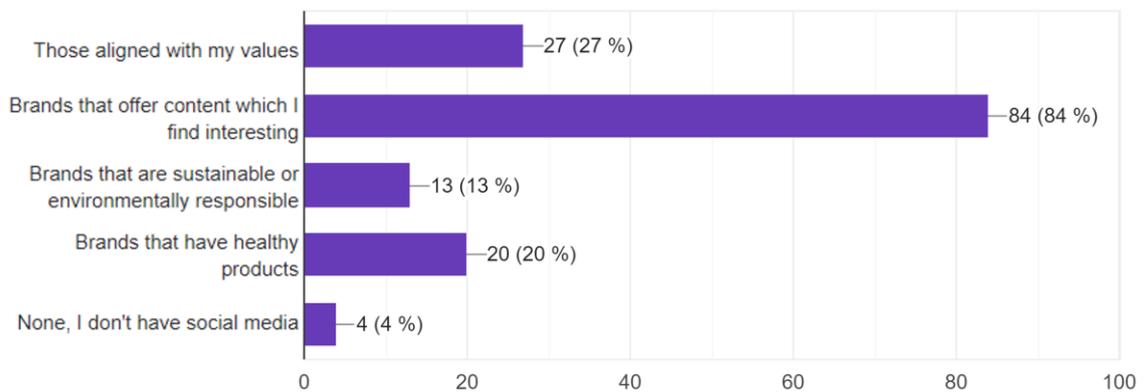


Image 14: Brands followed on social media - Survey Results

The main reason people follow brands on social media is due to the content they offer (84%). This reinforces the importance of offering content marketing as it is extremely valuable for customers and attracts potential clients with low cost. Regarding those with no social media, they belong to the elder age group (76-85). Moreover, the definition of clear, relatable values also seems as a good strategy as it reinforces the “personality” of the brand increasing the loyalty of customers.

Please select the two most important characteristics when choosing a product

100 respuestas

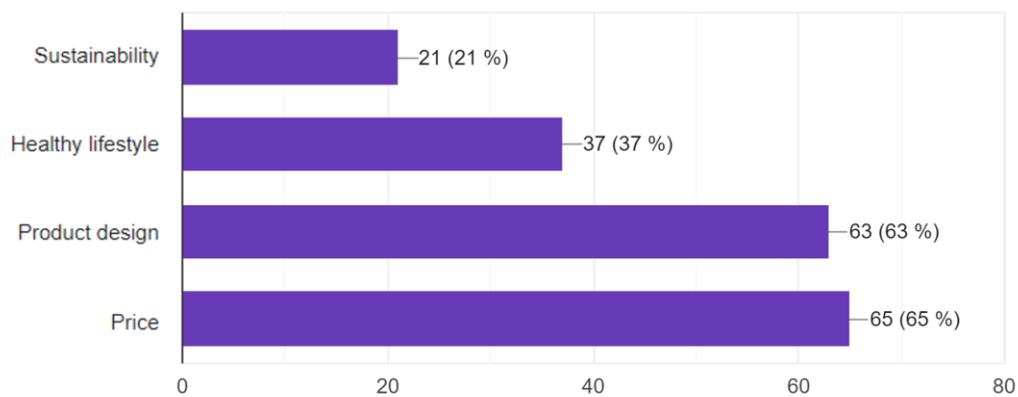


Image 15: Characteristics when choosing a product - Survey Results

When choosing a product, the most important characteristics where expected: price & design. However, a significant amount of customers also seem to value healthy products that are sustainable.

How would you define your consumer habits?

100 respuestas

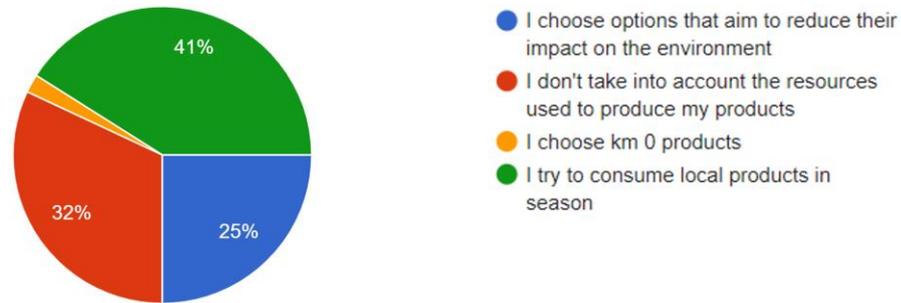


Image 16: Consumer habits - Survey Results

In terms of consumer habits, most prefer local products in season, which perfectly aligns to the nature of Legomo and their interests and consuming habits. Moreover, the environmental impact is considered in the most voted answers which aligns to the values of the brand.

How often do you recycle?

100 respuestas

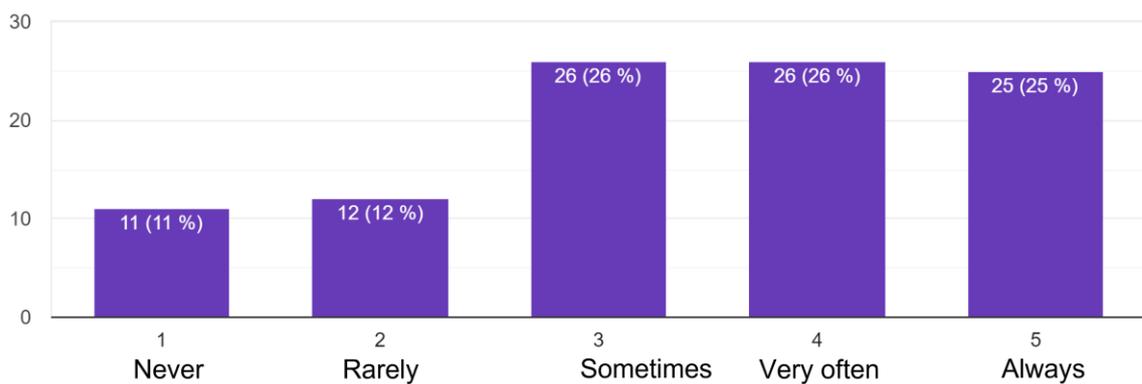


Image 17: Recycling - Survey Results

Although in the previous question, many of the surveyed didn't take into account the resources that products are made of, the reality is that this is not due to an environmental reason as most of them recycle at least "very often". Therefore, it is clear that there is sustainable conscience in terms of waste management but not when buying product. Most likely, these people just buy their products without checking labels or composition but would prefer an eco-friendly option if offered one (as their recycling behaviour shows).

How often do you eat fruits and vegetables?

100 respuestas

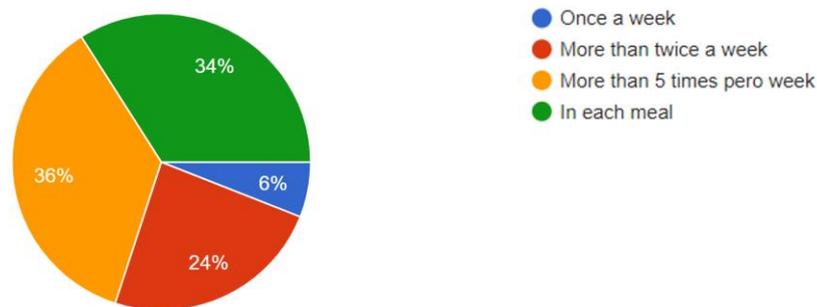


Image 18: Fruit/Vegetable consuming habits - Survey Results

How important is it for you to have a healthy diet?

100 respuestas

1: Not important at all
5: Extremely important

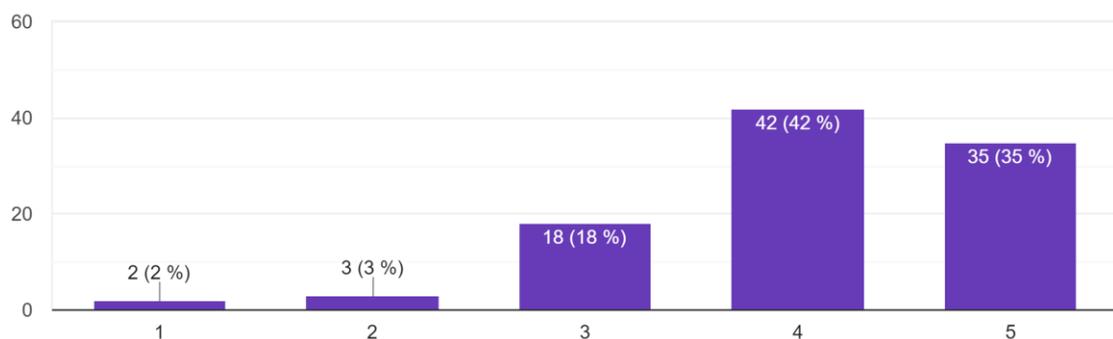


Image 19: Healthy diet - Survey Results

The diet habits support the business idea of offering healthy alternatives and a healthy community as people are interesting in their well-being and health.

Which statement do you identify yourself the most with?
100 respuestas

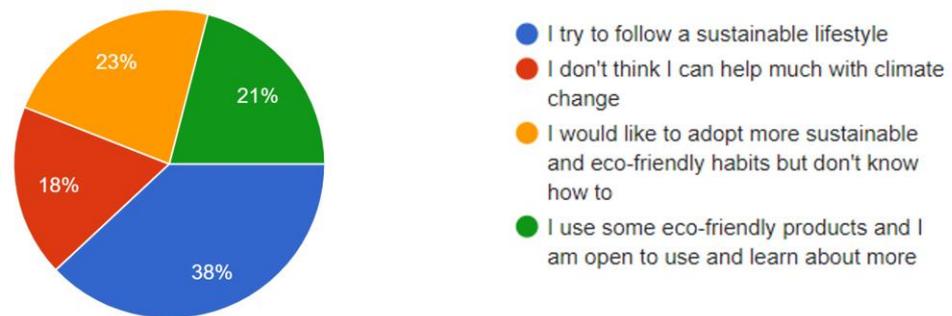


Image 20: Statement identification - Survey Results

The community tries to follow a sustainable lifestyle in its majority or is trying to adopt more habits but doesn't know how. There is room for improvement but there is also interest in the

As a customer
100 respuestas

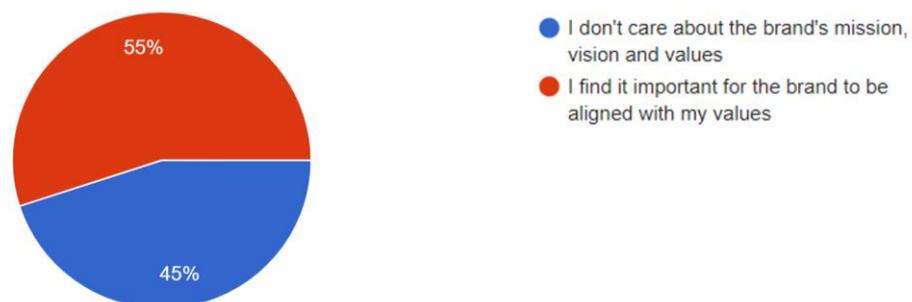


Image 21: Mission, Vision, Values - Survey Results

topic and most importantly, in learning, supporting the idea for educational content about sustainability.

Regarding the mission, vision and values, the trend is that people try to be aligned with the values of the companies they purchase from. Moreover, focusing on topics such as health and sustainability, this statement seems to have special importance. Of the 45% that do not look at these characteristics, it could be because of lack of information or them not wanting to spend time researching.

What do you think of domestic orchards and growing your own vegetables and fruits?

100 respuestas



Image 22: Domestic Orchards - Survey Results

Most importantly, although 23% were not interested in domestic orchards, most of the surveyed people were. This shows potential in the physical product of Legomo. Moreover, 6 people already owned an orchard, which shows that slowly, this idea is growing in society as the market research stated. There is a small implementation of this technology and many potential clients or users. As well as this, Legomo solves the problem that 33% of the people have: lack of space, as it offers a product in three possible sizes that can be put on top of a kitchen or table.

Moreover, for those whose problem is not knowing how to take care of their plants or those who don't know which steps to follow but still show interest, the functionalities offered by the App educational content marketing, workshops and events, are valuable services.

COMPARISON AGAINST COMPETITORS

Functionalities	Legomo	Bosch	Citysens	Amazon Smart Garden
Smart Garden remote control	✓	✓	✗	✓
Smart garden community (locating other users to contact them and meet them)	✓	✗	✗	✗
Newsletter	✓	✓	✓	✗
e-Commerce (cross-selling products of the same brand) – i.e., selling the physical smart garden through the App	✓	✓	✗	✗
e-Commerce for external gardening products (seeds, tools, etc.)	✓	✓	✓	✗
e-Commerce for sustainable products	✓	✗	✗	✗
Content marketing: Multimedia content – Plant care topics	✓	✓	✓	✗
Content marketing: Multimedia content – Lifestyle (recipes, sustainability, ecology)	✓	✗	✓	✗
Forum (sharing tips, questions, advice, etc)	✓	✓	✓	✗
Notification system	✓	✗	✗	✗
Workshops & Events	✓	✗	✗	✗

Table 1: Functionality comparison against competitors

MARKET SIZING: TAM, SAM, SOM

Once the potential client profile has been addressed, a more quantitative analysis of the potential market is carried out.

TOTAL ADDRESSABLE MARKET (TAM):

The business unit being analysed is not the actual smart pot but rather the App supporting it.

For the calculation of the TAM, an estimation of the number of smartphones worldwide is used. According to Statista, the expected number of smartphones in 2023 will be **6,841 million** and a growth trend is expected in the following years (Taylor, 2023).

As well as the number of smartphones, the age range of potential users is also taken into account. The App is aimed at users **from 18 years old to 80 years old**. This is due to the fact that these users will more likely have deeper knowledge about sustainability, their life habits and values, etc. Moreover, they will be more likely to subscribe or purchase through the App. Regarding the upper limit, it is more likely that older people don't use apps so often.

Looking at the world's population pyramid shown below, approximately **64.9%** of the world's population is within this age range (PopulationPyramid, 2023).

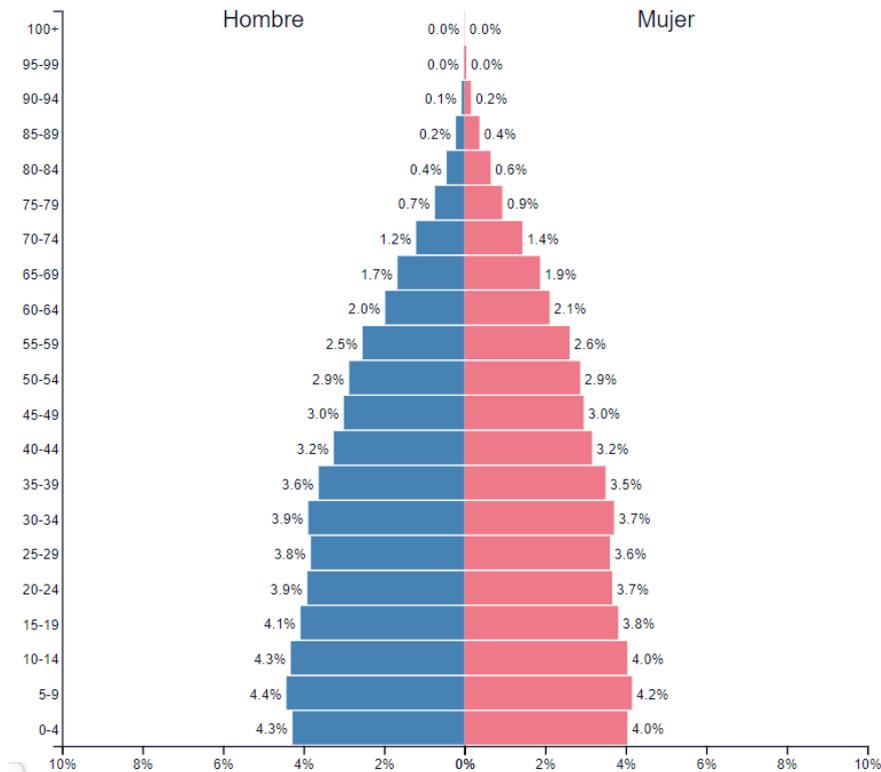


Image 24: Population Pyramid World 2022

Source 4: PopulationPyramid <https://www.populationpyramid.net/world/2022/>

Applying this percentage to the number of smartphones gives as an approximation of **4,439 million people** with smartphone and within this age group.

Moreover, looking at the App downloads, **8% are lifestyle App downloads** (BuildFire, 2023). Applying this percentage to the previous figure leaves a **TAM of 355.12 million** people who could be interested in lifestyle apps, own a smartphone and are in the desired age group worldwide.

SERVICEABLE AVAILABLE MARKET (SAM):

Considering that Legomo is a startup which is not known in Spain and less in international markets, it is more likely that the first users come from Spain.

This is because the physical product will be sold in Spain during the first years until it gains some traction. This will allow more clients in Spain to find out about the App.

The population of Spain is **47.5 million** people, this is **0.6%** of the world’s population.

Applying this percentage to the TAM calculated previously, we obtain a SAM of **2.13 million people** who have a smartphone, **could be interested in lifestyle apps** and are in the desired age group.

SERVICEABLE OBTAINABLE MARKET (SOM):

This last category refers to the actual market Legomo can obtain with the actual resources. Regarding that it is a startup, it won’t reach the whole Spanish market mentioned previously.

A realistic approach being somewhat conservative would be to obtain a 2.5% of the market share in the first 5 years with continuous growth during this time.

Year	% of market share	% of market share cumulative	Annual organic downloads	Monthly organic downloads
2024	0,10	0,10	2.130	178
2025	0,60	0,70	12.780	1.065
2026	1,40	2,10	29.820	2.485
2027	2,00	4,10	42.600	3.550
2028	2,50	6,60	53.250	4.438

Table 2: Market share 5-year forecast - Realistic approach

The following graphs show the SOM and desired annual downloads to achieve the SOM in the first five years:

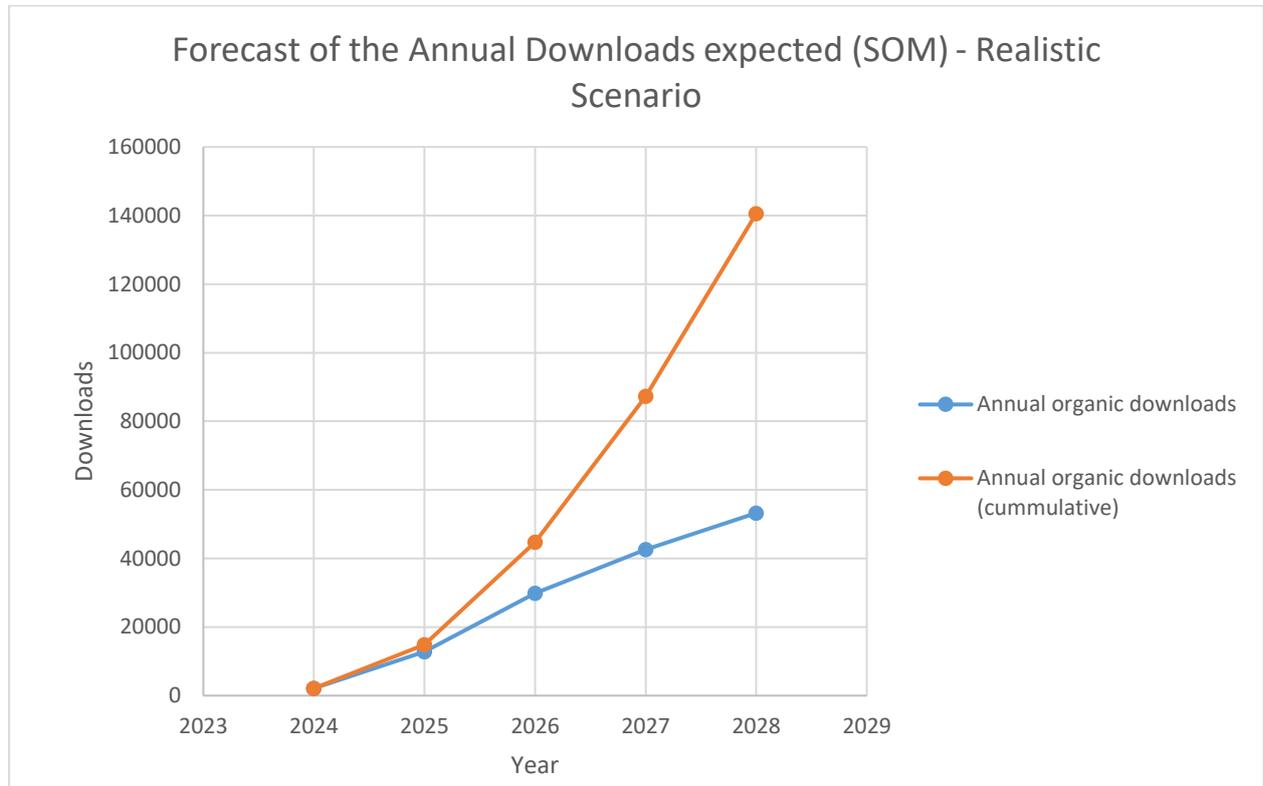


Image 23: SOM and prediction for next 5 years

4P'S OF MARKETING

This section aims to develop the business objectives for Legomo and the consequent strategies in terms of product, price, place and promotion that are required to achieve these objectives.

BUSINESS OBJECTIVES:

Having analysed the size of the market, the aim is to achieve the following objectives:

- Become a leading community in the sustainable lifestyle industry.

It must be clarified that there are two ways to download the App:

- Downloads due to Smart Garden Sale: People who discover the physical product first and decide to buy a smart garden must then download the App for the remote control functionality of the Smart Garden.
- Organic downloads: People who don't know the Smart Garden yet but are seeking for an eco-friendly community to belong in and want to use other functionalities in the App can download it before buying the Smart Garden (then they could purchase it through the App itself).
- Obtain the following downloads in the first 5 years (downloads of the “free” plan):

Year	% of market share	% of market share cumulative	Annual organic downloads	Monthly organic downloads
2024	0,10	0,10	2.130	178
2025	0,60	0,70	12.780	1.065
2026	1,40	2,10	29.820	2.485
2027	2,00	4,10	42.600	3.550
2028	2,50	6,60	53.250	4.438

Table 3: Market share 5-year forecast - Realistic approach

- Obtain a 4% conversion rate to a “subscription” plan. In other words, achieve that 4% of the free users of the App pay for the services after trying the free functionalities. This conversion rate has been chosen because according to an article published by Toplyne, a usual conversion rate for SaaS (Software-as-a-Service) businesses ranges between 2% and 5% (Toplyne, 2022).

Year	Total annual downloads (free plan)	Monthly Free Plan Downloads	Annual App Subscriptions	Monthly App Subscriptions	Cumulative total annual downloads (free plan)	Cumulative Annual App Subscriptions
2024	2.804	234	56	5	2.804	56
2025	14.505	1.209	290	24	17.309	346
2026	32.974	2.748	659	55	50.283	1.006
2027	47.560	3.963	951	79	97.844	1.957
2028	60.394	5.033	1.208	101	158.238	3.165

Table 4: Download 5-year forecast - Realistic approach

- Make Legomo’s App Business Unit profitable in the second year.

PRODUCT

In summary, as it has already been defined, the product is a digital platform that aims to support a physical product (Smart Garden) and build a community around urban gardening, providing a range of functionalities and services such as orchard exchange, newsletter, e-commerce, multimedia content, and forum for gardening advice.

The product offers a unique value proposition for people interested in sustainable lifestyles and healthy diets as it provides a comprehensive solution for urban gardening with a wide variety of services in just one platform.

The App offers four types of functionalities:

- Core functionalities: Remote control of the smart-pot and consulting measurements.

The smart garden comes in three sizes (S, M, L) to grow different kinds of vegetables. Apart from the pots with the different sensors (soil and ambient humidity and temperature), further extensions can be purchased considering particular needs of different clients. For instance, a temperature extension with a light bulb providing heat, a luminosity extension with a UV light promoting growth, or a pH extension with a pH sensor for the soil.

- Functionalities offered through the App: Newsletter, multimedia content and e-commerce platform.
- Co-creation of content (created by the App with the collaboration of its users): Forum, sharing recipes amongst users.
- Meeting between Legomo and its community (engagement): Events and workshops where the community meets the brand in person and has a hands-on experience with Legomo.

There are two different types of users:

- Basic plan: Recently introduced into Legomo's community, these users are just looking for the basic functionalities and are not willing to pay for premium services.
- Subscription plan: These users benefit from more premium services and would be willing to pay.

The following table aims to describe the different functionalities within each category and the difference between the basic and premium services in each functionality.

CORE FUNCTIONALITY	
SMART-GARDEN REMOTE CONTROL	
BASIC	PREMIUM
<p><u>Control of the Smart-Gaden:</u></p> <ul style="list-style-type: none"> - Consult the measurement of different parameters (soil humidity, atmospheric humidity, temperature, etc.) - Activate different actuators (watering system, UV light, etc.) 	
APP FUNCTIONALITY	
GEO-LOCALIZATION OF SMART-GARDEN COMMUNITIES	
BASIC	PREMIUM
<p><u>Consult where other smart gardens are / Consult smart gardens near me:</u></p> <p>Users will be able to consult where nearby smart gardens are and user communities in other areas. They will also be able to consult the offers made by users (products, gardening tools, etc., that they offer).</p> <p><u>[OBJECTIVE:</u> By being able to consult the location of other gardens, people are encouraged to participate in the community. If they see a community nearby, they are more likely to want to contact the offers they see]</p>	<p><u>Putting garden users in contact with each other:</u></p> <p>The app allows to contact users (to exchange products, gardening tools...) without accessing their personal data.</p> <p>[The customer will have to pay a monthly fee to contact other users].</p> <p><u>[OBJECTIVE:</u> Apart from the Data Privacy and Protection Policy, by not showing users’ contact details, they feel more comfortable posting offers and participating in the community. This leads to more interaction from users. They will be able to exchange the products they want or negotiate a price with the interested person, this is not the responsibility of the App]</p>
NEWSLETTER	
BASIC	PREMIUM
<p><u>Consult the seasonality of different vegetables + consult offers:</u></p> <p>Users will be able to look up the seasons of different vegetables (start & end of the season), when they could start preparing seedlings, etc.</p> <p>As the App is also a platform to buy the smart garden, its extensions and products related to the</p>	<p><u>Activate notifications:</u></p> <p>Users who want to stop worrying about checking the App periodically to find out the news and information they need, can activate notifications of different types (by product, by offer, by price, by season, etc.)</p>

<p>garden, they will be able to consult the current offers in a catalogue. [OBJECTIVE: To offer clear and useful information to the user to increase the “value” of the App]</p>	<p>[The customer will have to pay a monthly fee to activate notifications].</p>
e-COMMERCE PLATFORM	
BASIC	PREMIUM
<p><u>E-commerce:</u> 1. Users will be able to buy the garden and its different extensions through the App. - The BASE POT (1L, 5L and 10L) - Extension Temperature - Extension Luminosity - Extension pH 2. Other gardening products: shovels, rakes, bags of soil. 3. Seasonal seeds 4. Sustainable products: reusable bottles, shopping bags made of recycled materials, etc.</p>	<p>There is no Premium service regarding the e-commerce as it is a revenue channel itself.</p>
MULTIMEDIA CONTENT	
BASIC	PREMIUM
<p><u>Videos:</u> “Instructions” and videos to get started in the urban garden -> how to install the garden and its extensions, how to start planting... [OBJECTIVE: to get the customer “hooked” on the content and see its real usefulness. We are offering help and “customer service” to the new user who is most in need. They will see the real usefulness of the App and will be more likely to want to pay the subscription because the videos have already helped them]</p>	<p><u>Interesting videos</u> Videos with interesting content to solve problems regarding the garden and plants, tips to cultivate, sustainable and healthy lifestyle topics, etc. [The customer will have to pay a monthly fee to access these videos].</p>
<p><u>Recipes:</u> Simple, healthy and quick recipes that can be done using products grown in the Smart garden. [OBJECTIVE: Offer creative approaches to recipes that might already be known. Raise</p>	<p><u>Recipes:</u> More “popular” recipes like healthy snack alternatives, or healthy desserts, etc Menu for the week Themed recipes (Halloween, Christmas, etc.)</p>

<p>awareness about the possibilities regarding the Smart Garden.]</p> <p>*IDEAS:</p> <ul style="list-style-type: none"> - Vegan recipes - Cultural recipes (recipes from different countries) - Healthier versions of classic home-made recipes 	<p>[The customer will have to pay a monthly fee to access these recipes]</p>
CO-CREATION	
FORUM TO SHARE TIPS, QUESTIONS AND ADVICE	
BASIC	PREMIUM
<p>Posts: Users can post photos or queries on the forum. Other users can reply with recommendations, opinions, advice, etc.</p>	<p>There is no Premium service regarding the forum as it is a service that all users should enjoy participation in the community and sense of belonging. The interaction between users might be a good way to “convince” users with the free plan to shift to the subscription option.</p>
<p>Recipes: Users can enjoy a space in the “recipe section” to share their own recipes and feel part of the community.</p>	<p>To access other user’s recipes, the user must be a Premium user. This user is strongly involved in the community and most likely willing to pay due to its deep involvement. Basic Plan users only have access to the Apps recipes (not the ones posted by other users).</p>
MEETING BETWEEN LEGOMO AND ITS COMMUNITY	
WORKSHOPS & EVENTS	
BASIC	PREMIUM
<p><u>Announcements of workshops and events regarding different topics:</u></p> <ul style="list-style-type: none"> - Gardening - Sustainability - Healthy lifestyle - Recycling - Waste management 	<p><u>Reduced ticket price for premium users.</u></p>

Table 5: Freemium plan functionality description.

Product Comparative Analysis:

The following table provides a comparative analysis between the main competitor (Bosch) and another powerful competitor in the sustainable lifestyle App industry (Good Guide). Both have been presented in the external competitor analysis.

	LEGOMO	BOSCH (SmartGrow App)	GOOD GUIDE
PRICE (€/month)	?	Free	Free
FUNCTIONALITIES/ SERVICES			
	Smart Garden remote control.	Learn about more than 50 different plants (e.g., herbs, salads, edible flowers, fruits and new microgreens/seedlings) how they should be harvested and how you you can prepare them in food or tea.	Search, browse or scan safe and healthy consumer product goods based on scientific ratings.
	Smart Garden community (locating other users to contact and meet them).	Learn more about the proportion of vitamins and minerals as well as use and care.	Identify the highest rated products on the market.
	Newsletter	Track your crops from planting to harvesting.	Find out the Nutritional Value of Food products.
	e-Commerce (cross-selling products of the same brand).	Use the tips and tricks for optimal support during growth, e.g. a hint that the water has to be refilled.	Find out the Health Hazards of Personal Care and Household Cleaning products.
	e-Commerce for external gardening and other sustainable products.	Inspiration to try something new and different (content marketing).	Find out whether a product contains ingredients with health concerns.
	Content marketing: Plant care topics, lifestyle (sustainability, ecology, etc.).	Use the videos to get to know tips or setting options even faster (content marketing).	Get informed about the potential health effects of different chemicals.

	Forum		Discover better alternatives for your daily purchases.
	Notification system		
	Workshops and events		

Table 6: Comparative analysis between competitors

With this analysis, it can be concluded, that there is a differential value proposition in offering all the services via one platform. This allows for the creation of a stronger community than that offered by the competitors and the creation of Legomo is justified.

For a clearer picture of the product, **Annex B** shows the **MVP – App Design**.

PRICING STRATEGY

Once the product has been defined in detail, a more precise revenue system can be developed.

FREEMIUM STRATEGY:

Having identified Legomo’s products and business lines, the most suitable strategy would be a **freemium strategy**. There are two different client profiles (Basic Plan and Premium Plan). The Premium Plan profile will be willing to pay for more advanced services as seen in the previous table.

Apart from being quite successful in software related businesses (i.e., Apps), and internet-based businesses (Segal et al., 2022), it allows to acquire customers without having a recognised brand or developed reputation. Being an unknown start-up compared to its competitors, giving users a trial of limited free functionalities makes it more likely that they subscribe to the App and builds **loyalty**.

There have been many examples of successful companies following this strategy, amongst which, the most notable are online content related platforms such as: Spotify, LinkedIn, Evernote, Dropbox, etc. What all these platforms have in common with the Legomo App, is that they offer multimedia content which is attractive for customers. Once customers have

somehow “tested” the product and verified that it suits their needs, some of them (but enough to meet business objectives) will be willing to pay for additional content.

Moreover, it encourages word-of-mouth, speeding up the process of customer acquisition and brand recognition, thus, potentially decreasing Customer Acquisition Costs (CAC) (Paddle, 2023). The CAC refers to the resources and costs incurred in to acquire an additional customer.

As well as this it enables data analysis of the preferences of “free plan” users to further develop or adjust the subscription plan or value proposition. This enables a deeper knowledge of the user base and a better subscription proposition, thus, **potentially decreasing the churn** (Paddle, 2023).

Regarding the different possible pricing strategies, three categories have been identified according to an article published in “Marketing 4 ecommerce” based on a study by Naveira. (Naveira, 2017).

- Low cost: Price between 0.80€ - 6€ monthly.
- Medium cost: Price between 6€ - 17€ monthly.
- High cost: Price between 17€ - 50€ monthly.

The study conducted concluded that the Apps in the medium cost category portrayed higher conversion rates (7.16%) as well as the lowest CAC. The conversion rate is 5 times higher than that of low-cost Apps and 6 times higher than that of high-cost Apps (Naveira, 2017).

With this study it can be concluded that it would be most reasonable to price the App in the medium cost category price range.

However, to verify this hypothesis, other factor must be considered. A comparative analysis is carried out to assess the prices and services of different competitors in the industry.

Price Comparative Analysis:

The following table provides the different prices of Apps by category and length of subscription in 2021 (Curry, 2023).

Category	1 month (\$)	1 year (\$)
Fitness	15,03	79,32
Meditation	12,49	73,32
Wellbeing	7,94	64,99
Nutrition	10,09	55,82

Table 7: Price comparisson within different App types.

After carrying out this comparative analysis and seeing that many Apps are indeed in the medium cost category, the previous theory is feasible.

However, it must also be said that the main competitor, **Bosch**, offers its App SmartGrow for free. As well as this, other powerful competitors in the industry such as GoodGuide, which reviews if products are safe, healthy, green, and socially responsible, is also free. This is the case for many Apps that fit as competitors.

Therefore, taking this into account, such a big difference between 0 € and 7 € is not feasible.

Considering that many functionalities offered (for instance on-site workshops and events, e-commerce, partnerships, etc.) imply many more costs than those of competitors, the price of the subscription plan could be higher than that of competitors but lower than 7€.

A reasonable price could be **2.5 €/month**.

It must be highlighted that the price is not fixed with a cost perspective but rather an approximation to a value-based versus cost-based pricing strategy. The main considerations have been the value that the target users perceive from the app, as well as the great sensibility in price that Apps perceive. Considering all of this factors as well as the market analysis made in previous sections, this is a good price option.

PLACE

Being a digital App, the services aforementioned can be accessed through smartphones or tablets via different App stores such as Google Play (Android) or Apple Store (iOS).

In this category, to achieve good reputation and image is to do **partnerships** with powerful players in the industry. For instance, by selling the Smart Garden through retailers such as the ones previously mentioned (Leroy Merlin, IKEA, Fronda or Verdecora), Legomo could attract many more users and achieve a better positioning in the market whilst cutting costs of renting a physical shop. Regarding the e-commerce functionality, possible partnerships could come from sustainable businesses such as Freshly cosmetics (sustainable cosmetics), Patagonia (sustainable fashion), and other businesses selling eco-friendly products such as reusable bottles, bags to reduce the use of plastic bags, etc. This would be a win-win situation as then Legomo could sell the partner's sustainable products through the App too.

Lastly, one of the functionalities described is both a value proposition and a marketing strategy. The **workshops and events** proposed through the App are useful to create a strong community within the users of the App and also attract new customers. If users can invite or tell their friends to attend and event, they are more likely to become potential clients. These events and workshops are a possible way of attracting new customers whilst also providing value to those already subscribed to the App.

PROMOTION STRATEGY

In a digital industry, the most suitable approach would be a **360° promotion strategy** including specific actions in the different stages of the customers' journey. The channels considered are:

1. **Social Networks**: Platforms like Instagram, Tik Tok, or Twitter would be primary channels to promote Legomo's App. With the creation of engaging posts, using viral topics and trends that are widely spread in these media, the App could engage with a large group of potential users at a low cost.

Moreover, it is a way to reinforce the Freemium strategy as the content in social media could show the features and services of the App.

The message to be transmitted would be:

“A community for those who choose a healthy and sustainable lifestyle.”

The budget for Social Networks in the first year is 500€ from the 2.500€ destined to Advertising.

2. **Influencer marketing:** Regarding that most young adults are influenced by famous people or experts on social media, it would also be beneficial to engage with influencers that defend or follow similar values to those of Legomo. This would help the brand reach even more people and considering the influencers engagement and reach the cost behind this strategy is lower than that of more traditional marketing campaigns. Some influencers that would be suitable for the marketing campaigns could be Marta Riumbau (662K followers), Jonan Wiergo (610K), Elena Bueno (205K) or Carlota Bruna (198K).

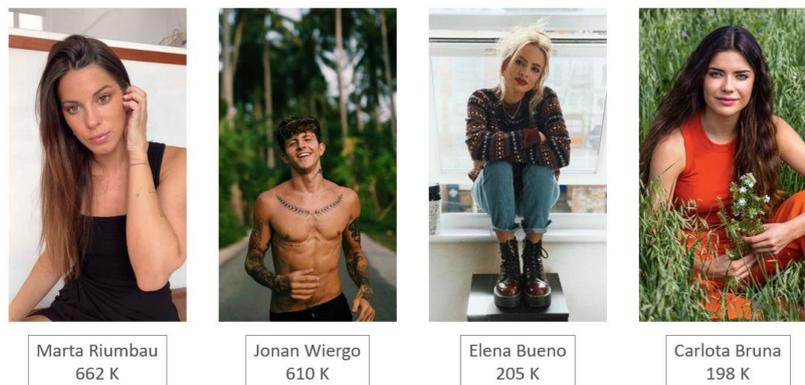


Image 24: Influencer marketing proposal

The budget for Influencer Marketing in the first year is 1.500€ from the 2.500€ destined to Advertising.

3. **Search Engine Marketing:**

- **Optimizing the App's visibility in the App Stores** (Google Play or Apple Store). This is done through **App Store Optimization (ASO) techniques**. Incurring in this cost implies the use of relevant key words, the creation of an appealing logo, compelling descriptions and positive reviews from early adopters.

- Incurring in **Geo-Targeted Advertising**. The creation of a strong community is essential. This tool would be useful to attract users in certain areas. More precisely, this could be done through social media ads or Google Ads.
- Pay-per-click (PPC) advertising on search engines like Google can be used to target people searching for urban gardening or sustainable lifestyle related topics. This is very powerful as it targets people who are more likely interested in the product and are therefore more likely to pay for it.

The budget for SEM is 852€ in 2024.

4. **Events:** Apart from the in-house workshops and events offered through the App, Legomo could participate in other events related to sustainability, lifestyle, etc.

- During the first year, Legomo could take advantage of the existing events organised by Red de Huertos Urbanos de Madrid for their users.
- The following years, events related to the following topics could be carried out:
 - Sustainability
 - Recycling
 - Waste management at home
 - Eco-friendly habits
 - Healthy lifestyle and recipes

Regarding places to do these events, it would be good to start with lower-cost options. For example, depending on the number of attendants, they could be hosted in a room in the office (which would already be rented) or renting event venues.

The budget for Workshops & Events is 2.000€ in 2024.

5. **Co-creation:** The “co-creation” content in which both Legomo and the customers take part (i.e., recipes, blog, forum, comments, etc.) is proof of the strength of the community. It adds value to the already existing users whilst attracting new ones. This tool helps in the customer journey promoting loyalty and retention as there is a great added value and users feel part of the community whilst participating and contributing. Moreover, if users create content, it is more likely that they might share it in their own Social Networks increasing potential user awareness.

6. **Public Relations:** Press releases can be sent to magazines, newspapers, etc. As well as this, journalists can be pitched to cover the App’s launch and its features.

As specific examples, there are magazines sold in plant nurseries (Fronza, Verdecora, etc.) as well as other magazines that could align with the brand’s image. For instance, National Geographic, Hola Lifestyle, or other sustainability magazines such as Nature Sustainability Magazine (an on-line magazine) or Sustainability X amongst others.

As well as this there are other channels such as multi-brand pop up stores like The Sustainable Pop Up which brings together multiple brands aligned with environmentally friendly lifestyles.

The budget for Public Relations is 1.000€ in 2024.

The total budget for the Promotion Strategy is 6.352€ in 2024.

BUSINESS LEAN CANVAS

The Business Lean Canvas tool is used to define different internal parts of the business and the relationship between them. This “map” offers a visual and clearer idea of the specific key partners, key activities and key resources necessary to carry out the value proposition (also shown in the map).

This serves to address different customer segments and build customer relations through defined channels. Once this is also defined, the different revenue streams generated by the business are analysed as well as identifying the cost structure.

The Business Lean Canvas is shown below:

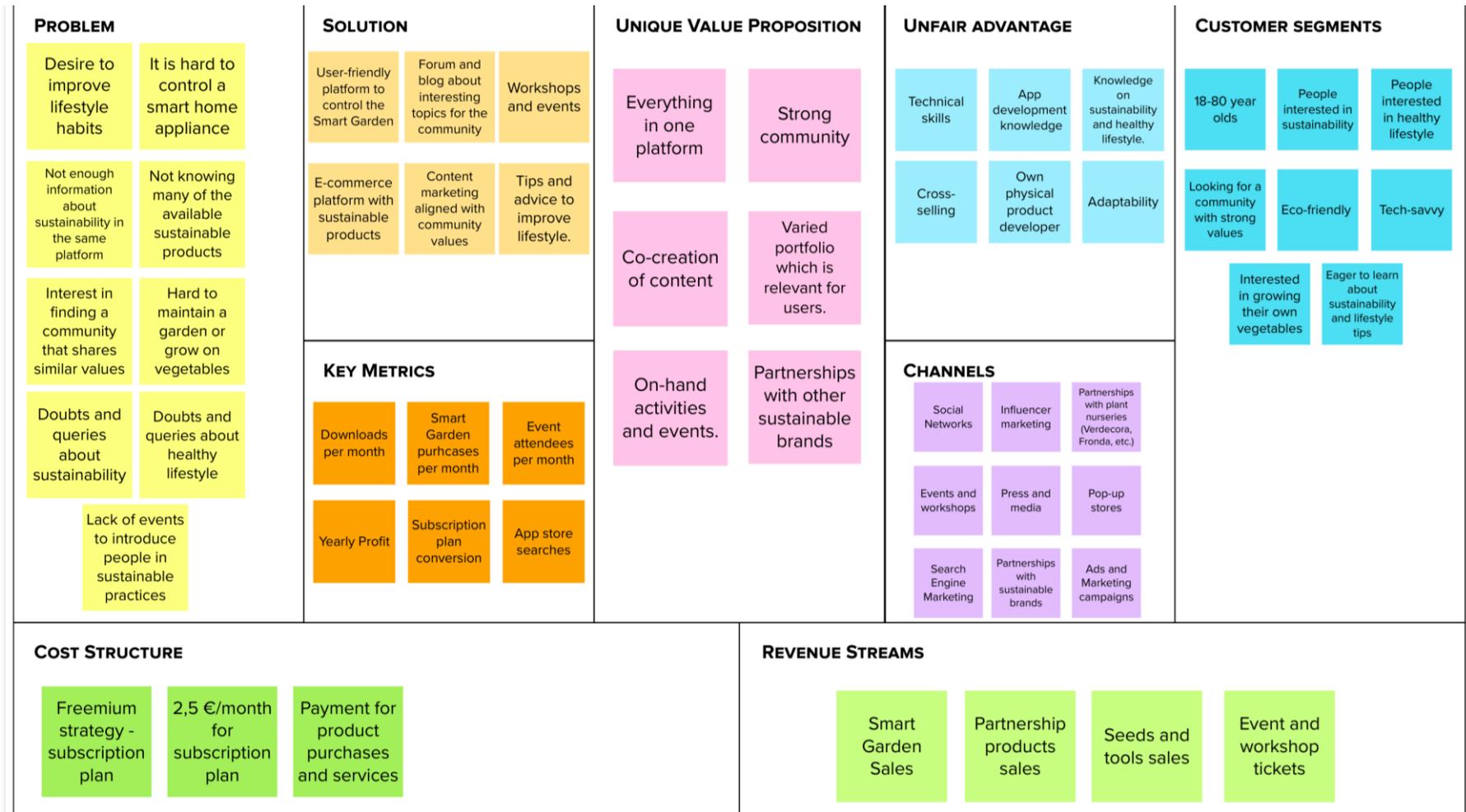


Image 25: Business Lean Canvas

FINANCIAL & ECONOMIC STUDY

The following section aims to analyse the economic and financial viability of the project. More precisely, the revenue model of the business will be analysed, and the financing of the project will be studied in consequence.

Moreover, this section provides an insight into the calculation of the breakeven point, the rentability analysis and the sensibility analysis. Appropriate conclusions will be drawn of this economic analysis to evaluate the correct strategy in terms of price, pricing, financing, investment, etc.

RESOURCES

Regarding the resources needed for the development of the App they can be classified in four different groups.

1. **Technological resources:** A digital business like an App requires technological resources of different types.
 - a. Software development: Resources to build the interface of the App (No-Code tools, programming licenses, etc.).
 - b. E-commerce tools: Tools to build the e-commerce platform and allow online shopping.
 - c. Hosting: Resources to host the app and data in a cloud server and the use of other services such as Amazon Web Services.
 - d. Mailing: Resources to manage large volumes of mails to clients, etc.
 - e. Licenses: Other basic program licenses such as Microsoft, design programs, etc.

- f. Communications (telephone & WiFi)
 - g. Acquisition costs: Costs like the ASO, PPC, etc.
2. **Workforce:** Although the Engineering Master's allowed for technical knowledge in the fields required to build the App and the physical product itself, it must be noted that a team will be needed to provide the services and functionalities. As the financial resources are limited, during the growing phase, three types of workforce are distinguished.
- a. Business development: Workforce responsible for creating and implementing strategies that increase revenue, profitability, and market share. During the first 5 years, the responsible would be the founder (Carmen Torroja), with the salary progressively rising as the sales do too, according to the market sizing and the 5-year forecast presented below.
 - b. Software development: Workforce responsible for designing, developing, testing, and maintaining software applications, systems and platforms. During the first 5 years, a single worker will be hired full time with a monthly salary of 1.800 €. Only one person is needed as the software and maintenance requirements are not very complex.
 - c. Sales & Marketing: Workforce responsible for promoting and selling a company's products or services to customers and clients. This includes developing and implementing strategies to generate leads, build brand awareness, and close sales. As well as this, in the starting phase, this team will build partnerships with interesting brands for the customers. Regarding the salaries of the sales team, as the founder (Carmen Torroja) will be part of the sales team it has been considered that during the first 2 years, the sales employee will work part time. The full-time salary considered is 1.500 €.
 - d. Accounting: External services for accounting purposes.

It must be clarified that all yearly salaries have been multiplied by 1.3 in the income statement to cover the Social Security of employees.

3. **Raw materials:** This project and the P&L in the following section accounts for the cost of the cost of the Smart Gardens that are expected to be sold through the App. Apart from this, other products sold through the App have costs (gardening tools, seeds, sustainable products from other companies, etc.).
4. **Infrastructure:** Once the business grows and the sales and workforce increase it might be necessary to rent an office and a warehouse.

Regarding the workshops and events that the App aims to offer, there are several resources needed such as location expenses to rent event venues (to properly carry out a safe event) and personnel expenses to be in the event and interact with potential users and subscribed clients.

Regarding the office, due to the fact that only three people can carry out the main functions during the first 5 years, a small office will be rented. This can be found for approximately 500 € in different places in Madrid. Although, for the first year, whilst the product is tested in the actual market, this cost is not perceived as the work can be done from home, due to a smaller volume of expected sales.

5 YEAR FORECAST

EXPECTED MARKET SHARE AND DOWNLOADS

It must be clarified that there are two ways to download the App:

- **Downloads due to Smart Garden Sale:** People who discover the physical product first and decide to buy a smart garden must then download the App for the remote control functionality of the Smart Garden.

- Organic downloads: People who don't know the Smart Garden yet but are seeking for an eco-friendly community to belong in and want to use other functionalities in the App can download it before buying the Smart Garden (then they could purchase it through the App itself).

The table below presents the SOM calculated in the market sizing and the organic downloads expected.

Year	% of market share	% of market share cumulative	Annual organic downloads	Monthly organic downloads
2024	0,10	0,10	2.130	178
2025	0,60	0,70	12.780	1.065
2026	1,40	2,10	29.820	2.485
2027	2,00	4,10	42.600	3.550
2028	2,50	6,60	53.250	4.438

Table 8: SOM & organic downloads 5-year forecast - Realistic approach

The following table shows the expected annual organic downloads and annual downloads due to Smart Garden Sale. These two categories are the total annual downloads (free plan) and with the previously mentioned conversion rate, the annual app subscriptions can be estimated.

TOTAL DOWNLOADS (ORGANIC + SALES) [FREE + SUBSCRIPTION]				
Year	Annual ORGANIC Free Downloads	Annual downloads due to Smart Garden Sale	Total annual downloads (free plan)	Annual App Subscriptions
2024	2.130	674	2.804	56
2025	12.780	1.725	14.505	290
2026	29.820	3.154	32.974	659
2027	42.600	4.960	47.560	951
2028	53.250	7.144	60.394	1.208

Table 9: Total downloads 5-year forecast - Realistic approach

The cumulative values are provided in the following table for a clearer picture. A conservative approach has been kept trying to be as realistic as possible.

TOTAL DOWNLOADS (ORGANIC + SALES) [FREE + SUBSCRIPTION]		
Year	Cumulative total annual downloads (free plan)	Cumulative Annual App Subscriptions
2024	2.804	56
2025	17.309	346
2026	50.283	1.006
2027	97.844	1.957
2028	158.238	3.165

Table 10: Cumulative downloads 5-year forecast - Realistic approach

Although in the following income statement, this data is not taken into account, it is useful to know the expected sales of Smart Gardens through and additional web page and through shops. However, this is the focus of the Engineering Thesis.

Smart Garden Sales through WEB/SHOP				
Year	Homes with automation systems	Growth rate	Estimated % Market Share	Annual Smart Garden Sale (Web/Shop)
2024	336.978	-	0,00	674
2025	431.332	0,28	0,00	1.725
2026	525.685	0,22	0,01	3.154
2027	620.039	0,18	0,01	4.960
2028	714.392	0,15	0,01	7.144

Table 11: Expected SmartGarden sales through web/shop (not App) 5-year forecast - Realistic approach

INCOME STATEMENT

The following Income Statement shows the expenses and income expected in the first 5 years after the launch of Legomo.

To make the most realistic forecast possible, only the costs and income of the sales of Smart Gardens made through the App are considered.

Profit & Loss Account					
	2024	2025	2026	2027	2028
INCOME					
E-commerce Sales	30.471,96	169.964,56	391.746,32	562.159,72	707.936,28
Smart Garden [S] Sales (via App)	5.857,50	35.145,00	82.005,00	117.150,00	146.437,50
Smart Garden [M] Sales (via App)	6.390,00	38.340,00	89.460,00	127.800,00	159.750,00
Smart Garden [L] Sales (via App)	2.662,50	15.975,00	37.275,00	53.250,00	66.562,50
Smart Garden Accessories Sales (via App)	2.102,97	10.878,99	24.730,58	35.670,23	45.295,44
Seeds	1.401,98	7.252,66	16.487,06	23.780,16	30.196,96
Gardening Tools	841,19	4.351,60	9.892,23	14.268,09	18.118,18
Sustainable Products	11.215,82	58.021,31	131.896,44	190.241,24	241.575,70
Subscription	140,20	865,46	2.514,17	4.892,19	7.911,88
Expected Basic Plan Conversion Rate	2%				
Subscription Price (€/month)	2,5				
Subscription Plan Revenues	140,20	865,46	2.514,17	4.892,19	7.911,88
Other Income	568,64	2.941,68	6.687,15	9.645,23	12.247,89
Workplaces & Events	568,64	2.941,68	6.687,15	9.645,23	12.247,89
TOTAL INCOME	31.180,80	173.771,71	400.947,64	576.697,14	728.096,05
EXPENSES					
Cost of Goods Sold	11.609,63	66.782,97	154.746,08	221.629,33	278.206,65
Smart Garden [S] Sales (via App)	3.195,00	19.170,00	44.730,00	63.900,00	79.875,00
Smart Garden [M] Sales (via App)	3.485,45	20.912,73	48.796,36	69.709,09	87.136,36

UNIVERSIDAD PONTIFICIA COMILLAS

Escuela Técnica Superior de Ingeniería (ICAI)

Trabajo de Fin de Máster – MBA

Smart Garden [L] Sales (via App)	1.452,27	8.713,64	20.331,82	29.045,45	36.306,82
Smart Garden Accessories Sales (via App)	1.682,37	8.703,20	19.784,47	28.536,19	36.236,35
Seeds	1.121,58	5.802,13	13.189,64	19.024,12	24.157,57
Tools	672,95	3.481,28	7.913,79	11.414,47	14.494,54
Gross Margin	19.571,16	106.988,74	246.201,56	355.067,81	449.889,40
Software Expenses	1.220,00	1.328,00	2.598,00	2.598,00	5.608,00
Hosting	600,00	600,00	1.200,00	1.200,00	1.500,00
<u>Licenses</u>					
Microsoft	140,00	140,00	210,00	210,00	280,00
E-commerce (shopify)	360,00	360,00	960,00	960,00	3.600,00
MailChimp	120,00	228,00	228,00	228,00	228,00
Advertising Expenses	3.352,00	7.612,00	14.428,00	20.040,00	25.300,00
Advertising	2.500,00	2.500,00	2.500,00	3.000,00	4.000,00
SEM	852,00	5.112,00	11.928,00	17.040,00	21.300,00
Infrastructure Expenses	-	500,00	500,00	500,00	500,00
Office Rent	-	500,00	500,00	500,00	500,00
Warehouse	-	-	-	-	-
Personnel Expenses	40.780,00	41.780,00	54.480,00	58.980,00	61.480,00
<u>Business Development Team</u>	1,3				
Yearly Salary	1.000,00	2.000,00	3.000,00	7.500,00	10.000,00
<u>Sales & Marketing Team</u>					
Yearly Salary	11.700,00	11.700,00	23.400,00	23.400,00	23.400,00
<u>Software Development Team</u>					
Yearly Salary	28.080,00	28.080,00	28.080,00	28.080,00	28.080,00
Accounting	600,00	600,00	600,00	600,00	600,00
Communications (tlf + wifi)	480,00	480,00	480,00	480,00	480,00
Insurance	150,00	150,00	150,00	150,00	150,00
Travelling	-	-	-	-	-

UNIVERSIDAD PONTIFICIA COMILLAS

Escuela Técnica Superior de Ingeniería (ICAI)

Trabajo de Fin de Máster – MBA

Bank Charges		383,81	1.809,72	4.081,48	5.838,97	7.352,96
Public Relations		1.000,00	1.000,00	1.500,00	2.000,00	2.500,00
Workshops & Events		2.000,00	2.000,00	2.500,00	3.000,00	3.200,00
Location Expenses		1.000,00	1.000,00	1.000,00	1.000,00	1.000,00
Event Personnel Expenses		1.000,00	1.000,00	1.500,00	2.000,00	2.200,00
TOTAL EXPENSES		61.575,44	124.042,69	236.063,56	315.816,30	385.377,61
EBITDA		-	-	-	-	-
EBITDA		30.394,64	49.729,02	164.884,08	260.880,84	342.718,44
Depreciation/Amortization	10	800,00	800,00	800,00	800,00	800,00
PRETAX PROFIT		31.194,64	48.929,02	164.084,08	260.080,84	341.918,44
Interests	7%	2.435,14	2.435,14	2.435,14	1.050,00	700,00
Taxes	25%	-	12.232,26	41.021,02	65.020,21	85.479,61
RESULT		-	-	-	-	-
Net Profit		33.629,79	34.261,62	120.627,92	194.010,63	255.738,83

Table 12: Income statement - Realistic approach

To calculate the income from the sale of S, M and L Smart Gardens, tools, workshops and events and other sources of income, approximations of the cost was made for each size of SmartGarden and source of income, and a prize was set based on the available competitors. The following table shows the hypothesis made.

It must be highlighted that for the workshops and events tickets, a different price is set for the free option users and the premium users (who get a discount on their tickets).

PRICES		COST
55	Price (S)	30
75	Price (M)	40
125	Price (L)	68
15	Average Accessory Price	12
5	Average Ticket Price (Free Plan)	
2	Average Ticket Price (Subscription Plan)	
5	Average Seed Price	4
15	Average Tool Price	12
20	Average Sust. Prod, Price	16

Table 13: Hypothesis for the income statement

BALANCE SHEET

Balance

Period	2023	2024	2025	2026	2027	2028
Gross Fixed Assets	8.000,00	8.000,00	8.000,00	8.000,00	8.000,00	8.000,00
Acc. Depreciation		800,00	1.600,00	2.400,00	3.200,00	4.000,00
Non-Current Assets	8.000,00	7.200,00	6.400,00	5.600,00	4.800,00	4.000,00
Inventories		967,47	5.565,25	12.895,51	18.469,11	23.183,89
Receivables		2.598,40	9.521,74	21.969,73	31.599,84	39.895,67
Cash	61.575,44	25.663,52	51.502,92	137.029,99	314.423,71	550.309,32
Current Assets	61.575,44	29.229,39	66.589,90	171.895,23	364.492,66	613.388,88
Total Assets	69.575,44	36.429,39	72.989,90	177.495,23	369.292,66	617.388,88
Capital Stock	24.351,40	24.351,40	24.351,40	24.351,40	24.351,40	24.351,40
BA Premium	5.218,16	5.218,16	5.218,16	5.218,16	5.218,16	5.218,16
Crowdfunding Premium	5.218,16	5.218,16	5.218,16	5.218,16	5.218,16	5.218,16
Retained Earnings		(33.629,79)	631,84	121.259,76	315.270,39	571.009,22
Equity	34.787,72	1.157,94	35.419,56	156.047,48	350.058,11	605.796,94
Non-Current Liabilities	34.787,72	34.787,72	34.787,72	15.000,00	10.000,00	
Notes Payable		241,87	1.391,31	3.223,88	4.617,28	5.795,97
Accounts Payable		241,87	1.391,31	3.223,88	4.617,28	5.795,97
Accrued Accounts						
Current Liabilities		483,73	2.782,62	6.447,75	9.234,56	11.591,94

Table 14: Balance Sheet - Realistic approach

COST OF ACQUISITION

For further clarification, the deconstruction of the SEM cost in the Income Statement is provided in the following table.

Cost of Customer Acquisition Calculation						
Inputs yearly		2024	2025	2026	2027	2028
Total Web Visitors		42600	255600	596400	852000	1065000
Cost per click (SEM) - Google Display Network	0,30 €					
Cost per click (SEM) - Google Search Network	0,10 €					
Conversion of total to "free" option %	5%					
Conversion of "free" option users to "basic" plan %	10%					
No of Sales & Marketing Staff	1	1	1	1	1	1
Cost per employee per month (Salary)	1.500,00 €					

Flow	Qty.					
Total Web Visitors	0	42600	255600	596400	852000	1065000
Free option users	0	2130	12780	29820	42600	53250
Basic plan users	0	213	1278	2982	4260	5325

Total Marketing Cost (SEM)	852,00 €	5.112,00 €	11.928,00 €	17.040,00 €	21.300,00 €
Total Employee Costs	1.500,00 €	1.500,00 €	1.500,00 €	1.500,00 €	1.500,00 €

Cost of Customer Acquisition						
Costs without considering employees		0,36 €	0,36 €	0,36 €	0,36 €	0,36 €
With headcount costs		1,00 €	0,47 €	0,41 €	0,40 €	0,39 €

Table 15: CAC breakdown

FUNDING

Although it is not necessary due to the estimated sales, to keep a really conservative approach, the aim will be to finance the expenses of the first year and the required investment. The expenses are approximately 61.575,44 €. The investment required considering 3 employees is 3 computers (with an estimated cost of 1.000 €/computer) and the furniture for the office (estimated cost of 5.000 €). Therefore, the required financing adds up to:

$$\text{Financing} = 1st\ year\ expenses + investment = 61.575,44 + 8.000 = \mathbf{69.575,44\ €}$$

To finance this, the following structure has been decided:

- **50% will be financed with equity: Capital Stock + Issue premium (34.787,72 €).**
- **50% will be financed with debt (34.787,72 €).**

EQUITY

1. Bootstrapping: Firstly, to get the business started, design an MVP and a mock-up App, the founders invest their own money (personal savings or credit) to support the initial development of the business. The founder of the company will maintain 85,72% of the capital stock

$$\text{Bootstrapping} = 85.72\% * 24.351,4 = \mathbf{20.872,63\ €}$$

The remaining 13.915,09 € of equity will be financed through crowdfunding and the investment of a Business Angel.

2. Crowdfunding: Several platforms such as Kickstarter, Indiegogo or GoFundMe could be used to raise funds. These platforms raise money by soliciting small contributions from a large group of individuals. This is an extremely interesting option as it also serves to validate the market and build a community of potential early adopters before the

product is even launched. According to Kickstarter’s statistics, approximately 75% of crowdfunding campaigns raise something less than \$10.000 (Kickstarter, 2023).

Considering this data, it is reasonable to estimate that 50% of the remaining equity needed could be financed through a crowdfunding platform.

$$\text{Crowdfunding} = 50\% * (13.915,09) = \mathbf{6.957,55 \text{ €}}$$

The crowdfunding investors will own 7.14% of the company because their shares will be issued at **6.957,55 € (1.739,39 € par value** and a premium of **5.218,17 €**), purchasing their shares at a post-money company’s value of **97.44,68 €**.

The other 6.957,55 € will be invested by a Business Angel (Angel Investor).

3. Angel investors: It is expected that the Business Angel will invest 6.957,55 € in Legomo, owning 7.14% of the company because his shares will be issued with a premium of **5.218,17 €**. The post-money company’s value is **97.44,68 €**. These investors look at different KPIs such as:

- Start-up valuation: As the angel investor owns 7.14% of the company, the indicators below are calculated as follows:

$$ROI = \frac{\text{Profit} - \text{Cost}}{\text{Cost}} = \frac{20\% * (\sum \text{Cashflows}) - \text{BA Investment}}{\text{Investment}} = \mathbf{590\%}$$

Although the number is impacting, the scenario is realistic and in certain cases, startups can behave like this. For this reason, an optimistic approach doesn’t seem necessary.

$$IRR: NPV = 0 \rightarrow \sum_{i=0}^n \frac{CF_i}{(1 + IRR)^i} = 0$$

$$\mathbf{IRR = 52\%}$$

The 5 year IRR for the Angel Investor is high, which makes the business attractive and increases the possibility to obtain funds. The risk is moderate and the investment needed is very low for the Business Angel (6.957,55€)

$$\text{Payback period} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflows}}$$

$$\text{Payback period} = 2,78 \text{ years}$$

- Market Size: This is a favourable point for Legomo as the market is expected to grow, both due to the interest in eco-friendly and sustainable communities and the development of home automation systems.
- Internationalization: The trend in sustainable behaviours and the implement of home automated systems is a worldwide opportunity not restricted to a particular country. The fact that this business could be interesting internationally is a positive point for an angel investor.
- Start-up phase: This start-up is in a pre-seed phase. This is a negative aspect when raising funds as the investment is riskier and not as reliable. However, with a strong business model, the negative impact of this point could decrease.
- Competitors: There are both national and international competitors as it has been seen in previous sections. Although this is a threat, it also validates the model and proves that there is an actual interest in this kind of product. Moreover, having seen that there is a possible threat of new competitors entering the business, this is the perfect opportunity to develop a startup of this nature.
- CAC: Legomo relies on a SEM Cost of Acquisition at first as it is an unknown small startup. The virality of this product cannot be predicted so an important investment to ensure customer acquisition is needed.

- Monthly cash consuming: The company has very low cash consumption as the costs are minimal.
- 4. Grants: There are many government grants available, especially for startups that are focused on sustainability and eco-friendly products that Legomo could apply to.

LIABILITIES

The debt needed to finance the company is **34.787,72 €** which will come from:

- Crowdfunding: 3.000€ - 5 year maturity at 7% interest.
- Banks: 7.000 € - 5 year maturity at 7% interest.
- Friend, Fools & Family: 10.000 € - 5 year maturity at 7% interest.
- Founder: 14.787,72 € - perpetual at 7% interest

To give a clearer picture of another possible scenario, **Annex A** shows the **Pessimistic Scenario**.

CONCLUSIONS

To conclude this Business Plan, it must be said that the business opportunity studied is quite promising. Not only due to the interest shown on topics such as sustainability and healthy lifestyle but also due to the technologies being developed that support the creation of a Smart Garden at an affordable cost.

Moreover, the possible functionalities that can be offered through the smart garden itself are varied and this is a strong asset for the product as it is customizable. Clients can buy the different accessories they need separately to adapt their own smart garden to their specific needs and requirements. This is not only beneficial for the user, but also for Legomo as the margin of selling separate accessories is higher.

However, on the other hand, it is also true that there are numerous threats like the already existing powerful competitors and the potential new entrants in the business with more resources (big brands such as LG, Haier, etc.).

This is something to consider, and the creation of the business unit in this project is a strong differential value. Having studied the market, external environment, specific environment and finance, the conclusion is that the product on its own is not as powerful as the community.

In fact, the offer of substitute products (other brands selling similar solutions or alternative solutions such as autonomous watering systems and other sensors) is huge. Therefore, the actual key element for Legomo is the App presented in this Business Plan.

Whilst the product has been proven to be somewhat useful, it lacks strength to make Legomo a leading brand in the industry. However, a strong community has been proven to be a much powerful asset to create loyalty and advocacy amongst users and it is very likely that users stay and enter the community just for its functionalities rather than the smart gardens.

Therefore, having carried out this project, it is concluded that although the physical product is interesting, the focus should be on the customer centric community created through the App which will ensure a much more stable income.

BIBLIOGRAPHY

Aesval. (2021, August 30). *¿Cuántas casas hay en España?* <https://aesval.es/cuantas-casas-hay-en-espana/>

Assimakopoulos, D., & Yan, J. (2005). Social network analysis and communities of practice. *Encyclopedia of Communities of Practice in Information and Knowledge Management*, 474–480. <https://doi.org/10.4018/978-1-59140-556-6.CH079>

Ayuntamiento de Las Palmas de Gran Canaria. (2014, May 29). *Resolución del Concejal de Gobierno del Área de Movilidad Ciudadana y Medio Ambiente, por la que se aprueba las Normas Básicas de Uso de las parcelas de los Huertos Urbanos del Término Municipal de Las Palmas de Gran Canaria.* <https://www.laspalmasgc.es/export/sites/laspalmasgc/.galleries/documentos-medio-ambiente/140610-RES.-NORMAS-BASICAS-uso-Parcelas-Huertos-Urbanos.pdf>

Bosch. (n.d.). *Huertos Domésticos de Interior | Smart Grow – BOSCH*. Retrieved February 2, 2023, from <https://www.bosch-home.es/electrodomesticos/huertos-domesticos-smartgrow?contentType=products>

BuildFire. (2023). *Mobile App Download Statistics & Usage Statistics (2023) - BuildFire*. <https://buildfire.com/app-statistics/>

CitySens. (n.d.). *Estanterías para Macetas y Plantas, Maceteros de Pie y Riego Automático Macetas de Pared | CitySens*. Retrieved February 3, 2023, from <https://www.citysens.com/es/>

Curry, D. (2023, March 8). *App Pricing Benchmarks (2023) - Business of Apps*. <https://www.businessofapps.com/data/app-pricing/>

Ecobnb. (2020, February 25). *7 Eco-Friendly Apps to Help You Help the Environment - Ecobnb*.
<https://ecobnb.com/blog/2020/02/eco-friendly-apps/>

El Mueble. (n.d.). Retrieved February 3, 2023, from <https://www.rbapubliventas.com/el-mueble>

Fernández, Y. (2021, July 9). *9 aplicaciones para identificar plantas con tu móvil*.
<https://www.xataka.com/basics/9-aplicaciones-para-identificar-plantas-tu-movil>

Haier. (2022). *INFORME SOBRE LOS ELECTRODOMÉSTICOS CONECTADOS EN ESPAÑA*. <https://www.marronyblanco.com/wp-content/uploads/2022/01/Informe-sobre-los-electrodomesticos-conectados-en-Espana-de-Haier.pdf>

Hello. (n.d.). *About Us - HELLO! Magazine*. Retrieved February 2, 2023, from
<https://www.hellomagazine.com/about/>

Hervás Pérez, A. (2021, September 27). *Impacto psicológico de las redes sociales ¿Cómo te afectan?* | *Psicólogos Anima*. <https://psicologosanimae.com/impacto-efecto-psicologico-redes-sociales/>

Ida Del Greco, N. (2010). *Estudio sobre tendencias de consumo de alimentos*.
<https://alimentosargentinos.magyp.gob.ar/contenido/procal/estudios/01/TendenciasConsumoAlimentos.pdf>

Kickstarter. (2023). *Estadísticas de Kickstarter — Kickstarter*.
<https://www.kickstarter.com/help/stats>

Martínez Madrid, B., Garrido García, J., Llobera Serra, P., & Rodríguez García, A. (2013). Red de Huertos Urbanos Comunitarios de Madrid. Prácticas y reflexiones colectivas. *Hábitat y Sociedad*, 6(6), 129–137. <https://www.ucm.es/data/cont/media/www/pag->

56050/Articulo%20HyS6.%20Red%20de%20Huertos%20Urbanos%20Comunitarios%20de%20Madrid.%20Pr%C3%A1cticas%20y%20reflexiones%20colectivas..pdf

Moreras, N. (2022). El huerto en otoño: cultivos, cosechas y tareas para cuidarlo. *Hola*.
<https://www.hola.com/decoracion/galeria/20220928218043/cultivos-mantenimiento-huerto-otono-nu/9/>

Nations, U. (n.d.). *Sustainable Development Goals | United Nations*. Retrieved February 3, 2023, from <https://www.un.org/en/academic-impact/page/sustainable-development-goals>

Naveira, A. (2017, August 28). *Deberías cobrar más por la suscripción a tu app (en serio)*.
<https://marketing4ecommerce.net/estudio-sugiere-los-desarrolladores-deberian-cobrar-mas-las-apps-suscripcion/>

Olsen, E. (2021, August 4). *Digital health apps balloon to more than 350,000 available on the market, according to IQVIA report | MobiHealthNews*.
<https://www.mobihealthnews.com/news/digital-health-apps-balloon-more-350000-available-market-according-iqvia-report>

Paddle. (2023). *Everything you need to know about freemium in 2023*.
<https://www.paddle.com/resources/freemium>

PictureThis. (n.d.). *PictureThis App - Online plant encyclopedia and plant identifier*. Retrieved February 3, 2023, from <https://www.picturethisai.com/app>

PopulationPyramid. (2023). *Población: Mundo 2022 - PopulationPyramid.net*.
<https://www.populationpyramid.net/es/mundo/2022/>

Press, E. (2020). *La domótica crecerá un 300% en España hasta 2024 y los expertos dan las claves para crear un hogar inteligente*.

<https://www.europapress.es/portaltic/sector/noticia-domotica-crecera-300-espana-2024-expertos-dan-claves-crear-hogar-inteligente-20201219103037.html>

Prosegur Alarmas, M. (n.d.). *Evolución de la domótica: Cómo nace y cómo es ahora - Blog Prosegur*. Retrieved February 16, 2023, from <https://blog.prosegur.es/evolucion-de-la-domotica-historia/#cual-es-el-futuro-cercano-de-la-domotica-y-los-electrodomesticos>

Ricart Elias, L. (2021). Las mejores apps para cuidar plantas. *El Mueble*. https://www.elmueble.com/plantas-flores/apps-cuidar-plantas_46657

Rodríguez, D. (2020, August 7). *¿Sabes cómo elegir una app educativa? – Información y TIC*. <https://informacionytic.com/2020/08/07/sabes-como-elegir-una-app-educativa/>

Segal, T., Kindness, D., & Perez, Y. (2022, December 26). *Freemium: Definition, Examples, Pros & Cons for Business*. <https://www.investopedia.com/terms/f/freemium.asp>

Sharma, A. (2022, July 26). *Key Google Play Store Statistics in 2022 You Must Know*. <https://appinventiv.com/blog/google-play-store-statistics/>

Soria, C. (2019). Tener tu propio huerto podría aumentar tu esperanza de vida. *Hola.Com Lifestyle*. <https://www.hola.com/estar-bien/20190611143630/tener-huerto-propio-aumenta-esperanza-vida-cs/>

Taylor, P. (2023, January 18). *Smartphone subscriptions worldwide 2027 | Statista*. <https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/>

Toplyne. (2022, October 10). *Everything You Need To Know About Freemium Conversion Rates*. <https://www.toplyne.io/blog/everything-you-need-to-know-about-freemium-conversion-rates-benchmarks-tips-more>

Turner, A. (2023, January). *How Many People Have Smartphones Worldwide (Feb 2023)*. <https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>

Verdecora. (n.d.). *Homepage - Blog Verdecora*. Retrieved February 16, 2023, from <https://verdecora.es/blog/#>

Wood, J. (2022). *These 3 charts show how online learning is growing globally | World Economic Forum*. <https://www.weforum.org/agenda/2022/01/online-learning-courses-reskill-skills-gap/>

WorkMeter. (2022). *Las nuevas tendencias de teletrabajo 2022*. <https://www.workmeter.com/blog/tendencias-teletrabajo-2022/>

IMAGES

Image 1: Similar product developed by Bosch (SmartGrow Life)	6
Image 2: Legomo's logo - logo of the start-up	7
Image 3: PESTEL Analysis.....	16
Image 4: Online learners: Registrations vs. enrollments.....	18
Image 5: Total Price of Semiconductor & Electronic Components (Index)	21
Image 6: Sustainable Development Goals	22
Image 7: SWOT analysis.....	43
Image 8: Market Segmentation Relevance Analysis.....	45
Image 9: Buyer Persona (1).....	51
Image 10: Buyer Persona (2).....	¡Error! Marcador no definido.
Image 11: Buyer Persona (3).....	52
Image 12: Age - Survey Results.....	53
Image 13: Gender - Survey Results.....	54
Image 14: Brands followed on social media - Survey Results.....	54
Image 15: Characteristics when choosing a product - Survey Results	55
Image 16: Consumer habits - Survey Results	56
Image 17: Recycling - Survey Results	56
Image 18: Fruit/Vegetable consuming habits - Survey Results	57
Image 19: Healthy diet - Survey Results.....	57
Image 20: Statement identification - Survey Results	58
Image 21: Mission, Vision, Values - Survey Results.....	58
Image 22: Domestic Orchards - Survey Results	59
Image 23: SOM and prediction for next 5 years	64
Image 24: Influencer marketing proposal	76
Image 25: Business Lean Canvas.....	79

Image 26: Download 5-year forecast - Pessimistic approach	105
Image 27: Start page.....	114
Image 28: Log-in page	115
Image 29: Choice of plan screens	116
Image 30: Home Page	117
Image 31: Smart Garden Control	118
Image 32: e-Commerce Platform	120
Image 33: Content Index	121
Image 34: Multimedia content (1).....	122
Image 35: Multimedia content (2).....	123
Image 36: Blog & Forum	124
Image 37: Newsletter	126
Image 38: Events and Workshops (1)	128
Image 39: Events & Workshops (2).....	129

TABLES

Table 1: Functionality comparison against competitors	60
Table 2: Market share 5-year forecast - Realistic approach.....	63
Table 3: Market share 5-year forecast - Realistic approach.....	65
Table 4: Download 5-year forecast - Realistic approach	66
Table 5: Freemium plan functionality description.	70
Table 6: Comparative analysis between competitors.....	72
Table 7: Price comparisson within different App types.	74
Table 8: SOM & organic downloads 5-year forecast - Realistic approach.....	83
Table 9: Total downloads 5-year forecast - Realistic approach.....	83
Table 10: Cumulative downloads 5-year forecast - Realistic approach.....	84
Table 11: Expected SmartGarden sales through web/shop (not App) 5-year forecast - Realistic approach	84
Table 12: Income statement - Realistic approach	87
Table 13: Hypothesis for the income statement.....	88
Table 14: Balance Sheet - Realistic approach.....	89
Table 15: CAC breakdown.....	90
Table 16: Market share 5-year forecast - Pessimistic approach.....	105
Table 17: Download 5-year forecast - Pessimistic approach	106
Table 18: Cumulative download 5-year forecast - Pessimistic approach	106
Table 19: Income Statement - Pessimistic approach.....	109
Table 20: Balance Sheet - Pessimistic approach.....	110

ANNEX A

PESSIMISTIC SCENARIO

To keep a conservative approach, a reasonable estimate could be 1,8% market share acquisition in the first 5 years. This could be reasonably spread as follows.

Year	% of market share	% of market share cumulative	Annual organic downloads	Monthly organic downloads	Annual organic downloads (cumulative)
2024	0,2	0,2	4260	355	4260
2025	0,2	0,4	4260	355	8520
2026	0,4	0,8	8520	710	17040
2027	0,5	1,3	10650	887,5	27690
2028	0,5	1,8	10650	887,5	38340

Table 16: Market share 5-year forecast - Pessimistic approach

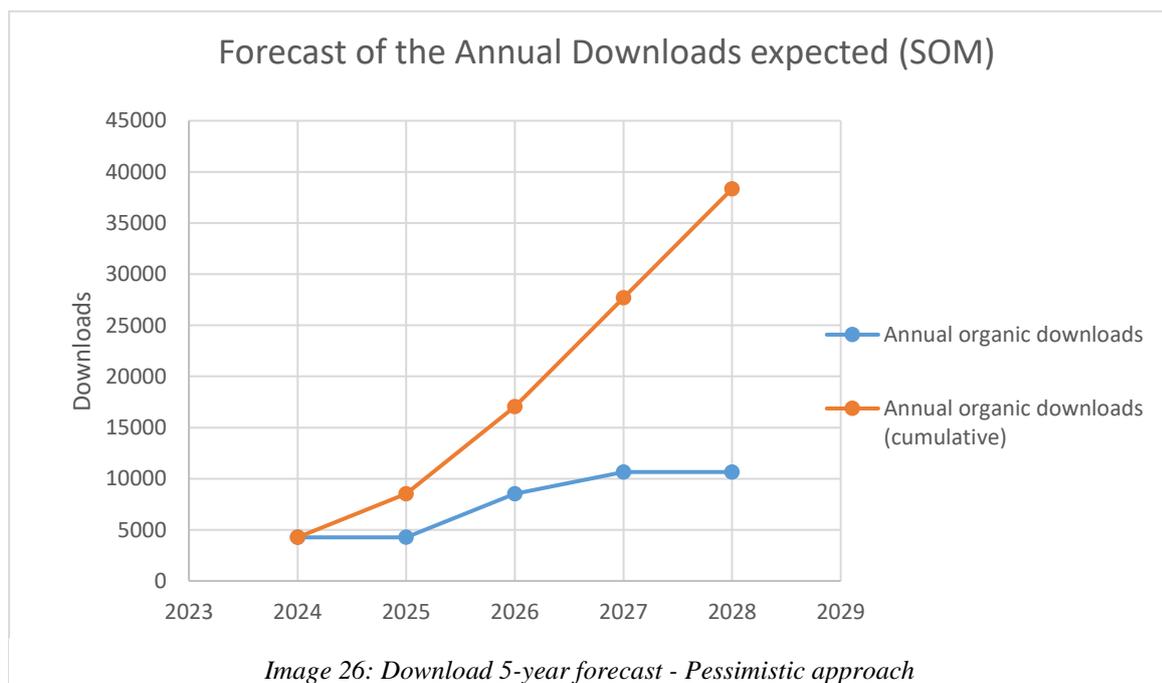


Image 26: Download 5-year forecast - Pessimistic approach

The download forecast in this case is lower than that of the realistic approach due to a smaller market share (total 1.8% of the market share in 5 years compared to a 6.6% in the realistic approach).

TOTAL DOWNLOADS (ORGANIC + SALES) [FREE + SUBSCRIPTION]				
Year	Annual ORGANIC Free Downloads	Annual downloads due to Smart Garden Sale	Total annual downloads (free plan)	Annual App Subscriptions
2024	4260	674	4934	99
2025	4260	1725	5985	120
2026	8520	3154	11674	233
2027	10650	4960	15610	312
2028	10650	7144	17794	356

Table 17: Download 5-year forecast - Pessimistic approach

The cumulative values in the table below provide a global picture for this scenario.

TOTAL DOWNLOADS (ORGANIC + SALES) [FREE + SUBSCRIPTION]		
Year	Cumulative total annual downloads (free plan)	Cumulative Annual App Subscriptions
2024	4934	99
2025	10919	218
2026	22593	452
2027	38204	764
2028	55998	1120

Table 18: Cumulative download 5-year forecast - Pessimistic approach

INCOME STATEMENT

Profit & Loss Account	2024	2025	2026	2027	2028
INCOME					
E-commerce Sales	57.203,46	63.038,56	124.431,32	161.187,22	173.306,28
Smart Garden [S] Sales (via App)	11.715,00	11.715,00	23.430,00	29.287,50	29.287,50
Smart Garden [M] Sales (via App)	12.780,00	12.780,00	25.560,00	31.950,00	31.950,00
Smart Garden [L] Sales (via App)	5.325,00	5.325,00	10.650,00	13.312,50	13.312,50
Smart Garden Accessories Sales (via App)	3.700,47	4.488,99	8.755,58	11.707,73	13.345,44
Seeds	2.466,98	2.992,66	5.837,06	7.805,16	8.896,96
Gardening Tools	1.480,19	1.795,60	3.502,23	4.683,09	5.338,18
Sustainable Products	19.735,82	23.941,31	46.696,44	62.441,24	71.175,70
Subscription	246,70	545,96	1.129,67	1.910,19	2.799,88
Expected Basic Plan Conversion Rate	2%				
Subscription Price (€/month)	2,5				
Subscription Plan Revenues	246,70	545,96	1.129,67	1.910,19	2.799,88
Other Income	1.000,61	1.213,82	2.367,51	3.165,77	3.608,61
Workplaces & Events	1.000,61	1.213,82	2.367,51	3.165,77	3.608,61
TOTAL INCOME	58.450,76	64.798,35	127.928,50	166.263,18	179.714,77
EXPENSES					
Cost of Goods Sold	22.383,56	23.687,26	47.006,81	60.020,42	62.728,10
Smart Garden [S] Sales (via App)	6.390,00	6.390,00	12.780,00	15.975,00	15.975,00
Smart Garden [M] Sales (via App)	6.970,91	6.970,91	13.941,82	17.427,27	17.427,27
Smart Garden [L] Sales (via App)	2.904,55	2.904,55	5.809,09	7.261,36	7.261,36
Smart Garden Accessories Sales (via App)	2.960,37	3.591,20	7.004,47	9.366,19	10.676,35
Seeds	1.973,58	2.394,13	4.669,64	6.244,12	7.117,57
Tools	1.184,15	1.436,48	2.801,79	3.746,47	4.270,54
Gross Margin	36.067,20	41.111,09	80.921,69	106.242,76	116.986,67
Software Expenses	1.220,00	1.328,00	2.598,00	2.598,00	5.608,00

UNIVERSIDAD PONTIFICIA COMILLAS

Escuela Técnica Superior de Ingeniería (ICAI)

Trabajo de Fin de Máster – MBA

Hosting <i>Licenses</i>	600,00	600,00	1.200,00	1.200,00	1.500,00
Microsoft	140,00	140,00	210,00	210,00	280,00
E-commerce (shopify)	360,00	360,00	960,00	960,00	3.600,00
MailChimp	120,00	228,00	228,00	228,00	228,00
Advertising Expenses	4.204,00	4.204,00	5.908,00	7.260,00	8.260,00
Advertising	2.500,00	2.500,00	2.500,00	3.000,00	4.000,00
SEM	1.704,00	1.704,00	3.408,00	4.260,00	4.260,00
Infrastructure Expenses	-	500,00	500,00	500,00	500,00
Office Rent	-	500,00	500,00	500,00	500,00
Warehouse	-	-	-	-	-
Personnel Expenses	40.780,00	41.780,00	54.480,00	58.980,00	61.480,00
<i>Business Development Team</i>	1,3				
Yearly Salary <i>Sales & Marketing Team</i>	1.000,00	2.000,00	3.000,00	7.500,00	10.000,00
Yearly Salary <i>Software Development Team</i>	11.700,00	11.700,00	23.400,00	23.400,00	23.400,00
Yearly Salary	28.080,00	28.080,00	28.080,00	28.080,00	28.080,00
Accounting	600,00	600,00	600,00	600,00	600,00
Communications (tlf + wifi)	480,00	480,00	480,00	480,00	480,00
Insurance	150,00	150,00	150,00	150,00	150,00
Travelling	-	-	-	-	-
Bank Charges	656,51	719,98	1.351,28	1.734,63	1.869,15
Public Relations	1.000,00	1.000,00	1.500,00	2.000,00	2.500,00
Workshops & Events	2.000,00	2.000,00	2.500,00	3.000,00	3.200,00
Location Expenses	1.000,00	1.000,00	1.000,00	1.000,00	1.000,00
Event Personnel Expenses	1.000,00	1.000,00	1.500,00	2.000,00	2.200,00
TOTAL EXPENSES	73.474,07	76.449,24	117.074,09	137.323,05	147.375,25

UNIVERSIDAD PONTIFICIA COMILLAS

Escuela Técnica Superior de Ingeniería (ICAI)

Trabajo de Fin de Máster – MBA

EBITDA						
EBITDA		-	-			
		15.023,31	11.650,89	10.854,40	28.940,13	32.339,52
Depreciation/Amortization	10	800,00	800,00	800,00	800,00	800,00
PRETAX PROFIT		- 15.823,31	- 12.450,89	10.054,40	28.140,13	31.539,52
Interests	7%	2.851,59	2.851,59	2.851,59	2.851,59	2.851,59
Taxes	25%	-	-	2.513,60	7.035,03	7.884,88
RESULT						
Net Profit		-	-			
		18.674,90	15.302,49	4.689,21	18.253,50	20.803,05

Table 19: Income Statement - Pessimistic approach

BALANCE SHEET

Balance

Period	2023	2024	2025	2026	2027	2028
Gross Fixed Assets	8.000,00	8.000,00	8.000,00	8.000,00	8.000,00	8.000,00
Acc. Depreciation		800,00	1.600,00	2.400,00	3.200,00	4.000,00
Non-Current Assets	8.000,00	7.200,00	6.400,00	5.600,00	4.800,00	4.000,00
Inventories		1.865,30	1.973,94	3.917,23	5.001,70	5.227,34
Receivables		4.870,90	3.550,59	7.009,78	9.110,31	9.847,38
Cash	73.474,07	49.795,62	36.559,12	37.617,50	54.028,23	74.781,39
Current Assets	73.474,07	56.531,82	42.083,65	48.544,51	68.140,25	89.856,11
Total Assets	81.474,07	63.731,82	48.483,65	54.144,51	72.940,25	93.856,11
Capital Stock	28.515,92	28.515,92	28.515,92	28.515,92	28.515,92	28.515,92
BA Premium	6.110,56	6.110,56	6.110,56	6.110,56	6.110,56	6.110,56
Crowdfunding						
Premium	6.110,56	6.110,56	6.110,56	6.110,56	6.110,56	6.110,56
Retained Earnings		(18.674,90)	(33.977,39)	(29.288,17)	(11.034,67)	9.768,37
Equity	40.737,03	22.062,13	6.759,65	11.448,86	29.702,36	50.505,41
Non-Current Liabilities	40.737,03	40.737,03	40.737,03	40.737,03	40.737,03	40.737,03
Notes Payable		466,32	493,48	979,31	1.250,43	1.306,84
Accounts Payable		466,32	493,48	979,31	1.250,43	1.306,84
Accrued Accounts						
Current Liabilities		932,65	986,97	1.958,62	2.500,85	2.613,67
Equity & Liabilities	81.474,07	63.731,82	48.483,65	54.144,51	72.940,25	93.856,11

Table 20: Balance Sheet - Pessimistic approach

FUNDING:

The variable changed in this case was the market share. The expenses are approximately 73.474,07 €. The investment required considering 3 employees is 3 computers (with an estimated cost of 1.000 €/computer) and the furniture for the office (estimated cost of 5.000 €). Therefore, the required financing adds up to:

$$\text{Financing} = 1\text{st year expenses} + \text{investment} = 73.474,07 + 8.000 = \mathbf{81.474,07 \text{ €}}$$

To finance this, the following structure has been decided:

- **50% will be financed with equity: Capital Stock + Issue premium (40.737,04 €).**
- **50% will be financed with debt (40.737,04 €).**

Equity

5. Bootstrapping: The founder of the company will maintain 85,72% of the capital stock like in the previous case, having to finance:

$$\text{Bootstrapping} = 85.72\% * 28.515,92 = \mathbf{24.443,85 \text{ €}}$$

The remaining 16.293,18 € of equity will be financed through crowdfunding and the investment of a Business Angel.

6. Crowdfunding: The same percentage as in the previous case is used (50% of the remaining equity)

$$\text{Crowdfunding} = 50\% * (16.293,18) = \mathbf{8.146,59 \text{ €}}$$

The crowdfunding investors will own 7.14% of the company because their shares will be issued at **8.146,59 € (2.036,03 € par value** and a premium of **6.110,56 €**), purchasing their shares at a post-money company's value of **114.097,90 €**.

The other 8.146,59 € will be invested by a Business Angel (Angel Investor).

7. Angel investors: It is expected that the Business Angel will invest 6.957,55 € in Legomo, owning 7.14% of the company because his shares will be issued with a premium of 6.110,56 €. The post-money company's value is 114.097,90 €. These investors look at different KPIs such as:

- Start-up valuation: As the angel investor owns 7.14% of the company, the indicators below are calculated as follows:

$$ROI = \frac{Profit - Cost}{Cost} = \frac{20\% * (\sum Cashflows) - BA Investment}{Investment} = 12\%$$

$$IRR: NPV = 0 \rightarrow \sum_{i=0}^n \frac{CF_i}{(1 + IRR)^i} = 0$$

To obtain a positive IRR for the Angel Investor the forecast would have to consider more years as the investment opportunity is not good in this case. This makes it less reliable and it is not calculated in this case.

$$Payback\ period = \frac{Initial\ Investment}{Annual\ Cash\ Inflows}$$

Payback period = 5 years

Liabilities

The debt needed to finance the company is **40.737,04 €** which will come from:

- Crowdfunding: 5.000€ - 5 year maturity at 7% interest.
- Banks: 8.000 € - 5 year maturity at 7% interest.
- Friend, Fools & Family: 12.000 € - 5 year maturity at 7% interest.
- Founder: 15.737,04 € - perpetual at 7% interest

ANNEX B

MVP – APP DESIGN

The following images aim to give a clearer picture of the App itself and the customers' experience when using it.

START PAGE AND LOG-IN SCREEN:

Firstly, a visual and intuitive Start Page and Log-in interface aim to aid the customer through the needed steps to enter Legomo's community.

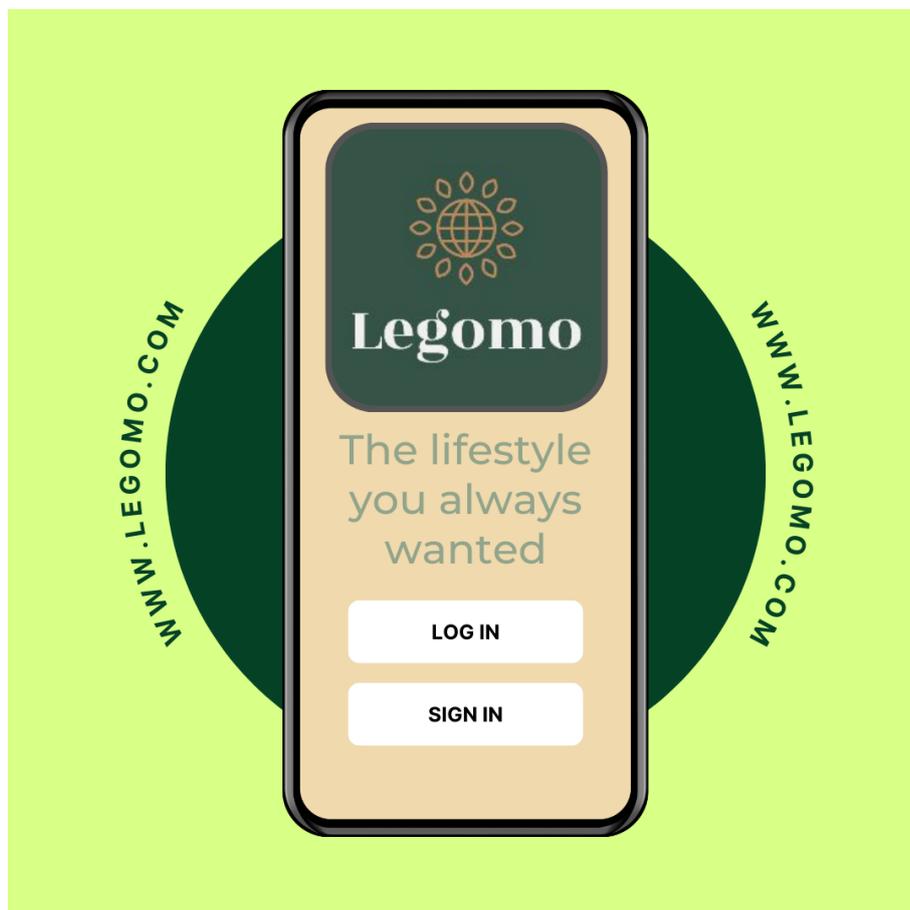


Image 27: Start page



Image 28: Log-in page

PLAN OPTIONS:

Next, a clear description of each plan and the price is given so the user can choose their best fit.



Image 29: Choice of plan screens

HOME PAGE

Then, a home a visual and intuitive home page provides all the available functionalities.

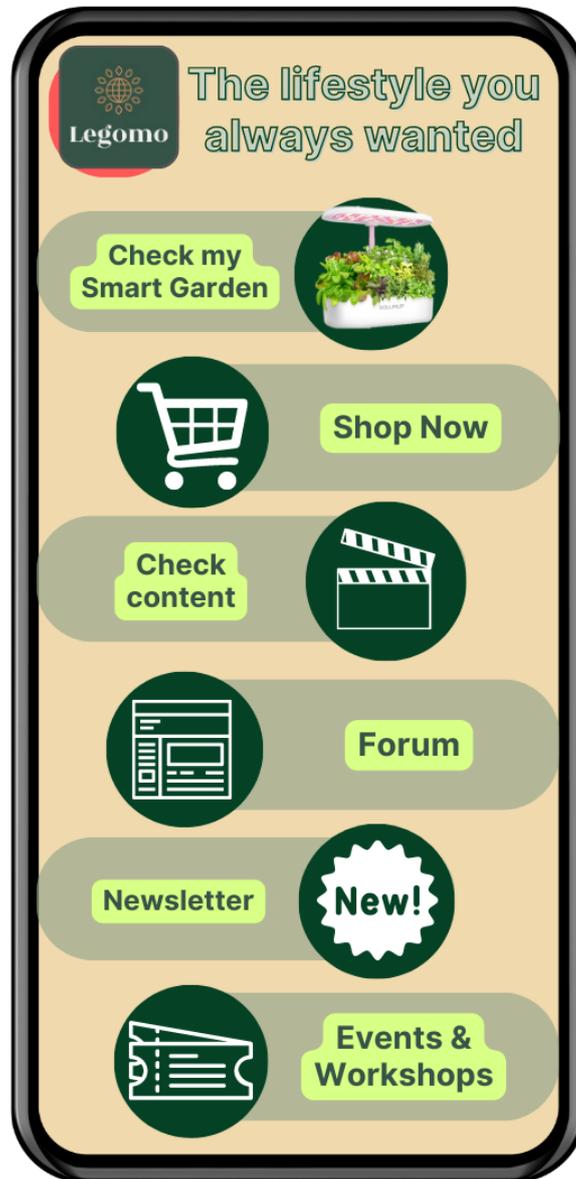


Image 30: Home Page

SMART GARDEN CONTROL:

An understandable interface for the user to control their Smart Garden and check the different measurements.

Image 31: Smart Garden Control



E-COMMERCE PLATFORM:

An e-commerce platform to buy Smart Gardens, tools, seeds and other sustainable products from partnerships with different brands.

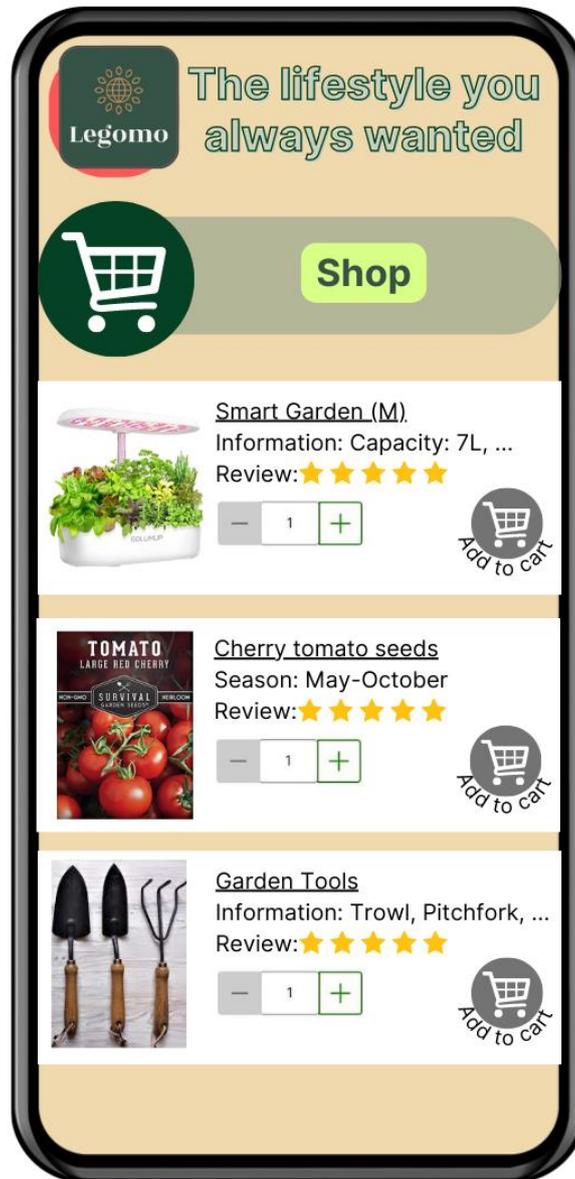


Image 32: e-Commerce Platform

MULTIMEDIA CONTENT:

Firstly, an index is provided to select the topic in which the user is interested.

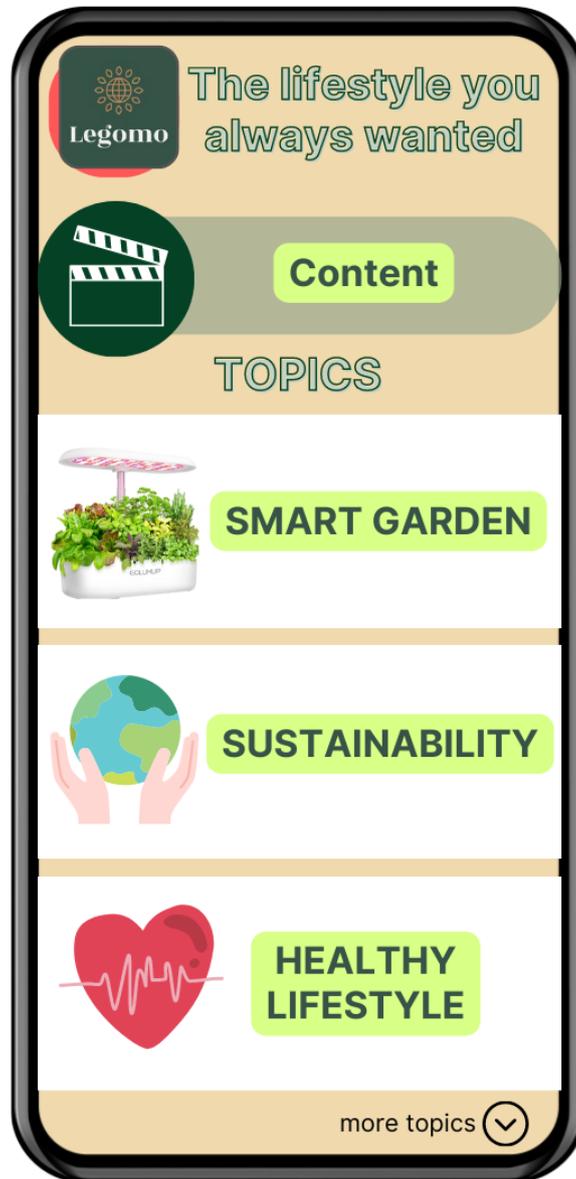


Image 33: Content Index

Then, the three different topics (Smart Garden, Sustainability and Healthy Lifestyle) show different short videos that can be interesting for the user.



Image 34: Multimedia content (1)



Image 35: Multimedia content (2)

BLOG & FORUM:

The blog and forum are spaces showing content in written format which can be published both by Legomo or other users.

Image 36: Blog & Forum



NEWSLETTER:

This functionality shows sales, vegetable seasonality and events in a calendar format.



Image 37: Newsletter

EVENTS & WORKSHOPS:

Lastly, similarly to the Multimedia Content functionality, an index is provided to help users look for the events which they might find the most interesting.

Then, the different events within each topic are displayed inside the respective option.



Image 38: Events and Workshops (1)

The lifestyle you
always wanted

SUSTAINABILITY

Sustainable Pop-Up

Discover new sustainable brands in Legomo's Sustainable Pop-Up
Date: 17/06/23 16:30 - 17:30
C/ Fuencarral 23

Buy tickets

Recycling Workshop

Learn how to give a second life to simple things at home and how to recycle.
Date: 17/06/23 16:30 - 17:30
C/ Princesa 23

Buy tickets

Talk about Climate Change with

Javier Martín Vide.
The Spanish expert Javier Martín Vide will give a talk on climate change.
Date: 17/06/23 16:30 - 17:30
C/ Princesa 23

Buy tickets

more events

The lifestyle you
always wanted

HEALTHY
LIFESTYLE

Yoga and Stretching Workshop

Learn how to cope with stress with the Yoga Workshop
Date: 17/06/23 16:30 - 17:30
Retiro Park

Buy tickets

Healthy Snack Masterclass

Cook 10 healthy snacks.
Date: 18/06/23 16:30 - 17:30
C/ Goya 5

Buy tickets

Talk with Marián Rojas about

Mental Health
Learn about the importance of Mental Health with the psychologist Marián Rojas.
Date: 22/06/23 16:30 - 17:30
C/ Goya 5

Buy tickets

more events

Image 39: Events & Workshops (2)