SESAME

Encourage the deployment of agricultural projects in urban & peri-urban areas through the development of innovative training

MODULE 5 :
BUSINESS WORLD & URBAN DEMANDS

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1. Entrepreneurship and urban demands

1.1. Urban market theory and consumer demands

This section presents the specificities of the food markets through an analysis of specific trends in demand and the characteristics of food supply in urban areas.

1.1.1. Drivers of demand for food products

Trends and consumption behavior of fruits and vegetables are spatially heterogeneous and differ between continents, countries and regions. The highest vegetable consumption is found in North Africa (154 kg per capita per year) and Europe (119 kg per capita per year), while the highest fruit consumption is found in America, Australia and New Zealand (FAO, 2011). In Europe, per capita vegetable consumption is higher in Mediterranean countries than in northern countries. On the contrary, the pattern of fruit consumption is not clear in Europe. Fruit consumption per capita is relatively low in Eastern Europe, but higher in the Mediterranean and Northern countries (Sweden, the Netherlands and Denmark).

During the last decades, the consumption of fruits and vegetables has increased considerably in European countries such as France, Italy and Germany. On the other hand, the proportion of fruits and vegetables in the diet has decreased in favor of prepared foods. This shows a change in habits.

Most people buy fruits and vegetables once a week. This behavior is gaining importance, while the regular purchase of fruits and vegetables (daily or twice a week) is decreasing.

The origin of food is important for European consumers, especially in Greece and Italy, while the Dutch and the British are less sensitive in this respect.

Europeans consume a lot of fruit and vegetables compared to other regions of the world, and demand is growing, but food expenditure is decreasing. Households spend only a small part of their budget on food, with a preference for prepared foods and processed products. The fruit and vegetable market is dominated by supermarkets. However, people are becoming more aware of the geographical origin of food, showing a good opinion of locally sourced products.

Food wastage has been reduced throughout Europe. In most European countries, food accounts for less than 20% of household expenditure, while in some countries, such as Germany, it represents only 10%. City dwellers spend a lower percentage of their total budget on food than the rural population. The importance of the overall reduction of food in household expenditure is related to economic growth.

In addition to household income, the consumption of fruits and vegetables can depend on a wide range of factors. Here we have to think about demographic and individual consumption factors, economic factors and other types of factors that may affect the consumption of fruits and vegetables.

Population growth (along with increased demand for food) is occurring in urban areas. In addition to urbanization, age and gender also have an effect on fruit and vegetable consumption. Fresh fruit consumption increases with age, reaching a peak at 50/60 years of age. Each generation consumes more fruit and vegetables as they grow older, but less than the previous generation. In economic terms, the increase in prices implies a decrease in consumption and a higher income implies an increase in consumption in most cases. Consumption behavior with respect to food price fluctuations can vary from one household to

another, depending on characteristics such as individual preferences, the existence of substitute products, income level, educational level, habits, etc. Other factors have been highlighted in various studies:

- Perception of product quality:
    - Taste
    - Aesthetic aspect
    - Nutritional quality
    - Trends
- Labels:
    - Quality
    - Geographical origin
- Public policies and awareness-raising campaigns

Regarding the diet of Catalans, there is a present and future study of the diet in Catalonia. A prospective study by Bosch et al. (2013) characterized the average diet of the Catalan population during 2010 and analyzed its evolution compared to 1992 and 2004.

Fruits (17%), vegetables (15%) and milk and dairy products (15%) represent the majority of the diet, almost half (46%) of the daily food consumption. However, the average diet in Catalonia is not very balanced. There is an excess of protein and saturated fats, a consequence of an excess of animal foods, and an excess of simple sugars due to an excess of fruit and pastries. The low consumption of cereals and derivatives, vegetables, dried fruits and very low consumption of legumes means that fiber consumption is low (Tuson, 2014).

The consumption of eggs has decreased significantly since 1992, going from a consumption of 2.9 units per week to 2.3 in 2010. As for the consumption of milk and dairy products, these represent an important part of the diet (15%). However, milk consumption has decreased by 20% in recent years, from 234 ml per person per day in 2004 to 186 ml in 2010, while the consumption of dairy products during the same period has increased by 1 kg per person per year. In analyzing the distribution of the different foods that make up the category of dairy derivatives, it can be seen that the percentage of milk products is the same as in 2004, 41%, but the percentage of iogurts has decreased by 5%, from 43% to 38%.

With regard to meat consumption, compared to 1992 there was an increase of 10%, from 139.3 g per person per day to 153 g. However, recent studies indicate that in subsequent years there has been a decrease of 18% in meat consumption (specifically between 2013 and 2016). Regarding the distribution according to the type of meat in 2010, chicken stands out with 29% of the meat consumed and pork with 23%. Beef only represents 11%, probably due to the high price, while rabbit meat, although economically very affordable, only represents 4%. The evolution of meat consumption according to the technological treatment to which it has been subjected shows that fresh meat is the most consumed with more than 40 kg per person per year. On the other hand, the least consumed is frozen meat, with less than 1 kg per person per year. As for processed meat, which includes meat derivatives such as sausages and sauces, it is around 12 kg per person per year.

The consumption of fish in Catalonia is very much introduced to the diet, probably due to the high availability, and the evolution of the consumption with respect to 1992 is quite stable. However, from a nutritional point of view it is interesting to differentiate between the consumption of white fish and blue fish (rich in polyunsaturated fatty acids (omega 3)), and it

should be noted that the consumption of white fish has decreased by almost 1 kg per person per year compared to 2004. As regards consumption according to technological processing, consumption of frozen fish continues to be a minority, with 20% of total consumption.
Regarding the consumption of vegetables and fruit, these represent a fundamental part of the diet, with 15.2% and 17.3%, respectively. With respect to their evolution, both consumptions have remained stable since 1992, and with respect to the average consumption in Spain, the Catalan consumption is clearly higher. Regarding distribution, potatoes represent 25% of total vegetable consumption, and the most consumed fruits are oranges (20%), followed by apples, melons and bananas. A fact that should be highlighted is the increase in the consumption of fresh fruit of IV generation, net fresh fruit, sliced and packaged.
The consumption of vegetables and rice has decreased by 20% compared to 2004, and that of pasta, by 10%. The consumption of pasta seems to have stabilized, but the consumption of both vegetables and rice has maintained the tendency to decrease. Olive oil is a characteristic food of the Mediterranean and Catalan diet, and this is demonstrated by its consumption, since in 2010 10 kg per person per year were consumed. As for the daily consumption of bread, there is a clear tendency to decrease. In 2004, 115 g per person per day was consumed, while in 2010 it was reduced to 90 g, a 30% less. In addition, the consumption of industrial bread has increased by 20%.
Prepared dishes (cooked foods that only need a final heat treatment) is the food group that best represents the change in eating habits and lifestyle of the Catalan population, together with the consumption of industrial bread. Thus, the consumption of prepared dishes shows a clear upward trend, from 37.6 g per person per day in 2004 to 42 g in 2010. Another group of foods indicative of this change in habits is soft drinks. The consumption of these has increased by 12%, from 35 liters per person per year in 2004, reaching 39 liters in 2010. However, the Spanish consumption is even higher, 46.3 liters. In both cases, it represents more than 60% of total consumption.
Finally, although there has been a decrease in the consumption of alcoholic beverages of 22% compared to 1992, since 2004 it has remained stable, but with differences between the consumption of the different beverages. While that of wine and cava has decreased steadily, that of beer has increased in the same proportion, and that of high alcoholic beverages has remained stable.(Ajuntament de Barcelona et al., 2017).

1.1.2. Local food supply: limitations and opportunities

After analyzing the characteristics of demand, we analyze the supply. In this section, we study the problems related to food production in an urban and suburban context. We consider:

- Food supply specificities,
- The soil market and competition for the use of soil,
- Urban externalities and production externalities.

Food supply specificities

Food production is specific because of its dependence on climatic and biological factors. Thus, there are more uncertainties in agriculture than in any other type of production system. Moreover, seasonality is specific to agriculture. The characteristics are that the producers:

- Unable to change production strategy in the short term

- Low supply response to changes in demand.
- Potentially high price variations.

In economics, the supply curve is rigid, so that it does not adapt easily to external opportunities. This specificity leads to high price volatility. An increase in agricultural production can lead to a decrease in farmers' income, since prices will decrease faster than production will increase.

Agricultural production provides many other environmental and social services in addition to production itself (multifunctionality), such as climate regulation, landscape maintenance, biodiversity, etc.

The land market and competition for land use

The problem of agricultural land prices, which is of great interest when studying urban and suburban agriculture, will be explored. In fact, land located close to cities is often more expensive than land located further away. This can be a constraint for agricultural production. To understand the historical reasons for the patterns of agricultural land prices, we present the theoretical views of the von Thünen model. This model presents spatial patterns of agricultural activities around an urban center related to the theory of land rent and optimal balance thinking. The theory of land rent explains that because of the low transport costs it is possible to obtain a higher income, therefore, it is possible to pay more for a hectare of land located near the market (city).

Theoretically, the optimal configuration implies that:

- Close to the city, with low transport costs and high land prices, it will be available:
    - Possibility of having a perishable and fragile production.
    - Possibility of selling directly to consumers
    - High value-added production
    - Production that does not require a lot of space.
    - More intensive production.
- The further away from the city with higher transport costs and lower land prices, the better:
    - Products can be easily packaged and transported.
    - Low assigned values per hectare
    - Activities that require more land.

The most important limitations of the von Thünen model are:

- The distribution and structure of the market has evolved.
- Appearance of multicentric cities
- Model assumptions (no geographic heterogeneity, etc.)

Some of Thünen's statements can still be observed in recent situations: land prices decrease on average with increasing distance from the city and farms are more intensive near city centers. However, Thünen's model cannot fully explain the price patterns of the land around the cities.

Let us move to a more contemporary analysis and look at the implications for agricultural production. Today, the distribution of land prices in cities is mainly explained by urban pressures and agricultural measures. The plots of land around the cities could change their agricultural use for residential use.

Thünen's theoretical views on the selection of the location of farms can also be applied to the decision of where to locate the residence. Assuming that most people work in the city center, they value accessibility to the city center and are therefore willing to pay more for housing located close to the city center.

The high land prices close to the cities are a severe constraint for urban farmers. They often compensate for these high prices:

- Allocating smaller parcels, but investing heavily in equipment to allow a larger production (greenhouses, technology, innovation, ...).
- By allocating income streams (vertical integration, direct sales, services, diversification) independent of the resources offered by the farm.

Urban externalities and production externalities

An important specificity of the supply of agricultural products is the provision of other services, apart from food production itself. This can have consequences in terms of opportunities and constraints, especially in an urban or suburban context. Externalities are, (from an economic point of view) indirect consequences of the action of an economic agent on the welfare of another agent, which is normally not taken into account in the market or in the price. They can be positive (welfare improvement) or negative (welfare reduction). Positive externalities are, for example, the maintenance of the landscape, cultural heritage, preservation of biodiversity, etc., while negative externalities include water pollution, soil depletion, greenhouse gas emissions, etc.

1.2. Qualitative market research

The changing nature of urban agriculture is changing roles and skills. This section will examine the "sharing economy" with some examples of Urban Green Train, the role of technology and what skills are required to be successful in urban agriculture.

With the average age of farmers increasing significantly in areas such as Europe and North America, it is important to know who will be farming in the future, and this will be a major political concern. High land prices make it difficult for many to enter the countryside. Urban agriculture provides an opportunity for people who want to farm and continue to enjoy the many benefits of living in cities. This brings with it new forms of organization not normally associated with rural agriculture, such as the emergence of the sharing economy.

As mentioned above, consumption trends and patterns vary from country to country and region to region. Market research (qualitative) aims to lead to customer-oriented business, which considers the needs, desires and demands of (potential) customers and stakeholders.

Market research ideally follows a certain iterative order:

1. Definition
    a. Problem definition
    b. Setting the objectives
2. Design
    a. Elaborate hypotheses/research questions
    b. Determine sources of information and survey methods
    c. Time and budget planning

3. Data collection
    a. Acquisition and training of staff
    b. Data collection organization, implementation and monitoring
4. Analysis
    a. Analysis, consolidation and interpretation of data
5. Documentacion
    a. Reports
    b. Presentation of results and conclusions

There are a large number of data collection methods. You have to choose the one that best suits your research. First of all, it is necessary to differentiate between primary and secondary research. We will only focus on qualitative market research (primary field research), although secondary research offers some advantages such as low cost and immediate access to data. However, desk research also presents some problems, such as not being up to date, doubts about objectivity and accuracy, aggregation of data, etc.

The qualitative methods in field research are interviews and observations. Interviews are a data collection method by which people are asked to answer questions posed by the researcher. The level of standardization differentiates qualitative data (low level of standardization) from quantitative data (high level of standardization). The objectives of the qualitative interviews are:

- Represent the subjective point of view of the interviewee(s),
- Understand the causes, antecedents and interactions,
- Structuring a new area of research and generating testable hypotheses.

Which allows extensions and changes of questions. Deliberate interactions between the interviewer and the interviewee lead to more information than the standard quantitative approaches. The data collected are verbal and not numerical. The types of qualitative interviews are:

- Qualitative personal interviews
- In-depth interviews
- Narrative interviews
- Expert interviews
- Group discussions.

The analysis of qualitative interviews is based on interview records, memory records, audios and transcripts. The pros and cons are summarized in this table:

Pros	Cons
Flexible method, adaptable to many research contexts	High cost of time and resources
Possibility of interaction	Requires a lot from the interviewer (the quality of the data depends on the direction of the interview)
Allows the identification of subconscious problems	Data analysis is uncomfortable
High explanatory power of the questions through open discourse	There are no quantitative results

	There is a lot of room for interpretation

Observations are another important component of qualitative market research. There are different types of observations, such as visual tracking, customer tracing, shopping behavior, web and application usage patterns, product handling, work routines, etc., which are mainly recorded with protocols.

2. Business planning

2.1. Business models of urban agriculture

Urban agriculture offers social and ecological benefits to society, but it also has an economic dimension. Well-managed urban farms and projects are the "hidden champions" of urban ecological development strategies. Two surveys, carried out by the COST action "Urban Agriculture Europe", with funding from the EU and the Erasmus + project "Urban Green Education for Enterprising Agricultural Innovation", identified six basic business strategies among several successful studies, which in practice are mainly followed in combination. These strategies generate economically viable businesses and projects that would not have been possible in the future under "conventional agricultural industry" conditions. The business models of urban agriculture are often highly innovative, the companies and projects serve as "living laboratories" for the agriculture of the future. This should serve as an argument to obtain political support from local, regional and European decision-makers.

The cost reduction strategy is typically used by large/mid-size producers, who aim to reduce their costs per unit of production by increasing production using state-of-the-art technologies. But there are also ways for small urban farms to apply this strategy, for example by specializing in high-value horticultural crops and exploring synergies with other industries, utilizing surplus energy or organic waste from other industries, reducing collection costs through self-harvesting schemes or through the support of volunteer manpower.

The differentiation strategy, which is frequently applied in urban areas, consists of creating distinctions with respect to conventional agriculture in production, processing and/or marketing. This strategy helps to survive competitively in markets with low production prices, is suitable for small farms and part-time farms with no possibility of increasing their productive surface. Its success is based on the fact that it offers personal, transparent and reliable relationships between the producer and the consumer. Differentiation is often related to direct marketing and the process itself: freshness, taste, origin, tradition and personality can be convincing sales propositions for consumers.

Asserting non-agricultural economic activities, as promoted in the diversification strategy, is another response to the increasing urban pressure on the land. This strategy is often used in medium-sized peri-urban farms, where parallel activities take place in some or even many business areas, including services related to agricultural production, such as agrotourism, leisure activities, therapeutic agriculture, ecological education and training measures, recycling of green waste or landscaping. Diversification requires a lot of management, creating synergies between the different activities and using the assets of a farm in a "smart" way to reduce its costs. Another type of diversification is done by the institutions, with key non-agricultural activities. These activities are related to social benefits, often focused on the inclusion of disabled or socially disadvantaged people.

In contrast to business models oriented exclusively to profit and as an expression of a new civil society, initiatives based on shared economy strategies are increasingly being initiated. Production is organized collectively, and the necessary resources are mobilized and managed, such as land, manpower, credit, tools, machinery, contacts and knowledge. Community initiatives, worker cooperatives, projects financed with crowdfunding or crowdfunded labor projects follow this strategy.

The experience strategy is based on providing added value by offering experiences over the goods or services on offer, i.e. selling a story rather than a physical product. It requires high skills in customer relations and marketing, but it can be implemented in relatively small production plots. Urban farms are capable of creating unique experiences precisely because of the ultra-short distance between them and the consumers, they can create a direct and very exciting interaction in the city between opposing phenomena such as nature and culture, green spaces next to the grey buildings, etc. Training or leisure activities (for example, gastronomic experiences) are important elements in this strategy that are combined with food production.

The experimental strategy in urban agriculture is based on initiatives that integrate technological innovation in processes that address societal needs, for example, climate change mitigation, environmental pollution prevention and resource efficiency improvement. They are often particularly suited to respond to specific urban contexts, using abandoned buildings, spaces and synergies with other structures. Innovations range from production (for example, aquaponic systems), processing (for example, recycling of urban waste) to external functions (for example, revitalization of former industrial areas). Agricultural production often plays a secondary role, the "state-of-the-art" technology is mainly focused on marketing.

Within all the strategies, urban agriculture has to adjust to urban environments by using the existing opportunities to face urban disadvantages, turning its location into a market asset. Businesses that ignore urban requirements and conditions, struggle to remain economically viable, are abandoned or do not develop beyond the initial phase. In order to choose the right business model, entrepreneurs and partners in a project must first define their initial position: their resources, objectives, strengths, weaknesses, opportunities and threats. The business models that are successful in practice are those that combine different strategies of those described below.

In short, the six strategies:

- If wheat is planted on a large scale to reduce operating costs Cost reduction strategy.
- If a specific variety of wheat is planted, milled and produced Differentiation strategy.
- If wheat is planted and it is offered in a cafeteria located on the same farm Diversification strategy.
- If wheat is planted jointly with partners and the harvest is shared Shared economy strategy.
- If the wheat is planted and an event is organized so that customers can mold it and cook their own bread Experience strategy.
- Whether it's planted on the wall or inside the house Experimental strategy.

Examples:

https://www.youtube.com/watch?v=m5RmEBy6Wlc&feature=youtu.be
https://www.youtube.com/watch?v=I8Lktk8ZVi0&feature=youtu.be
https://www.youtube.com/watch?v=4UcNGJqgoAQ&feature=youtu.be

In 2018, a total of 616 farms operated in the AMB. Of these farms, 88.7% were managed by individual entrepreneurs and only 5.7% adopted a corporate form (Àrea Metropolitana de Barcelona, 2018).

2.2. Business project template

2.2.1. Basic fundamentals of the company's business plan

A business plan

- is a "ticket" for your own company,
- it is a plan/schedule, of how the business idea can be put into practice,
- it is the most important planning tool to start a new company,
- it informs other people and institutions about your objectives and the measures to achieve them,
- serves as a basic document for negotiations with banks, investors, advisory services and potential partners,
- is often the basis for their decision to support the project or not.

Characteristics of the commercial plans

In summary, a business plan would have to:

- inform
    - which products and services
    - to which customers
    - at what prices to the consumer
    - with what "structure" (production, marketing, distribution ...)
    - in which markets
- to cover all the factors that influence the success of a new business;
- indicate the possibilities and risks in a transparent, honest and plausible way;
- convince potential partners and investors that we have the necessary skills to manage the business (if there are investors);
- to be treated in a flexible way, if new circumstances require an adaptation.

There is no official international structure of a business plan, but the different methods for setting up these plans mostly follow the same principles and contain the same contents. Here we present a business plan structure following the guidelines proposed by the German Federal Ministry of Economy, which should also be accepted in other European countries. They structure the content of a business plan as follows:

1. Summary
2. Personal data of the founder(s)
3. Business idea: product(s) and/or service(s)
4. Market and competition
5. Marketing
6. Organization and personnel
7. Legal form
8. Possibilities and risks
9. Planning and financing
10. Attached documents

Summary

This is the most important part, because investors and partners will read it first and will only be able to continue if the content arouses their interest. A confusing summary will probably mean

that not even your idea will be discussed. Therefore, a well-written summary must offer all the important information about your business idea in a very short but clear and precise way to awaken the reader's interest. Do not offer long general presentations and background information, just state your arguments (big points), because your creation will be a success!

A summary has to present brief information about

- Founder(s)
- Business idea (product(s) and/or service(s))
- Unique selling proposition
- Market
- Marketing
- Distribution
- Legal form
- Capital and financing requirements
- Date of foundation of the company

Write the summary and test it with your friends and family, test if they understand your business idea and if the summary is able to convince them.

Personal data of the founder(s)

Here you have to introduce yourselves and your colleagues. Explain your motivation to enter the chosen field of business, inform about your competence, your training, qualifications, knowledge, professional experience, etc. In addition to technical skills, you must also have and demonstrate commercial skills.

Business idea: product(s) and/or service(s)

You have to convince your reader of your products and/or services, and why they are better than those of your competitors. Are there specific "added values" compared to standard products on the market? What is the unique selling proposition of your offer (what "makes the difference" from a customer's point of view, if he/she buys your product(s) or service(s) compared to the products of another company)?

Describe how you produce the products and services you want to offer. Do you use specific (outstanding) production technologies? In this case, you should explain them, but in an understandable way (generally they are not experts). Attach significant photographs and illustrations. Finally, report on your short and long term business objectives, that is, the important development steps for your company over the next few years.

Market and competence

This section deals with four issues: your market, your customers, your competitors and the location of the company.

Your market: check and present data and information on the performance of the specific market in which you operate. How do consumer prices, sales and profits of existing companies behave? Is it possible to "make money" in this market? Statistical and business data can be used later as assumptions of the business plan.

Your customers: what are the specific needs and buying power of your potential customers? Describe what would be the added value of your products and services. What specific

customer segment would you like to target in particular? If possible, make a short survey and present the answers.

Your competitors: if you are entering an existing and profitable market, there are probably already other companies. What is their specific offer, what prices do they charge, what may be the amount of their annual sales and how important is their market share? What is their unique selling proposition, their strengths and weaknesses compared to your new offer?

Your location: in principle, for any company a good location is a place where there are potential customers who live or work nearby or pass by regularly. Some companies improve the attractiveness of their location to be more competitive. You have to justify your choice of one location or another. You have to contact public institutions and public service providers and check all the costs and legal conditions related to your location. Similar problems to those we will encounter with "virtual locations" if the company has a simple web or supplementary presence.

Marketing

Keep in mind that marketing is more than advertising. When it comes to marketing, there are four central questions:

- What is the added value of your products and/or services for your customers (this question is directly related to the unique selling proposition)?
- At what prices will you offer them? (Price policy)
- How will your products and/or services reach your customers? (Distribution policy)
- How will your customers be informed about your offer? (Communication policy)

The offer: how you will produce your offer, here you have to show "how you bring your products and services to your customers or to the market". This starts with the unique selling proposition and the value added to your customers, but there are some more specific questions. Do you have planned or have you already tested the product? Do you have a quality policy to guarantee the quality of the product/service? Do you apply for quality certification by a public or independent institution?

Prices: show your price calculation and justify the minimum prices of each product/service according to its costs. Your pricing idea should not only cover your costs, but also be competitive in the market (what are your competitors' prices? Justify why you want to set higher or lower prices compared to them). The pricing policy is directly related to your global business strategy. This part can only be done correctly after having configured the financing part; especially after having made a cost calculation including direct and operating costs per product/service.

Distribution: How do your products physically reach your customers? How can customers find the location of the service offered? Do they come directly or through intermediaries? Do you use a web shop? Describe and justify your "distribution route". If you are looking for distribution partners, check and describe their competence and distribution costs, often these costs represent an important part of the final price.

Advertising: by what means and through which channels will you inform potential customers about your offer? Describe and justify why you are using a specific measure for a specific target group/specific customer segment. Estimate a communication budget.

Organization and personnel

You cannot do all the work alone, what role does each person play in your company, do you want to have employees and/or partners? What would be their individual tasks? Do you plan to outsource some tasks? Provide an organizational plan of your company.

Establish a small staff planning table showing labor needs over the first three years.

What type of labor contract would you offer? What would the total labor costs be? Take into account calculating the structural costs in hourly wages, social security, vacation time and absence in case of illness.

Legal form

What type of legal form will your company have? It may also depend on how to include potential partners and also on the bureaucratic requirements for its foundation. It is possible (usual) to change the legal form at some point after the start-up.

Possibilities and risks

No one can predict the future, but it is useful to think about possible changes in factors that may have a positive or negative influence on the company's success. Think about these factors, analyze them and describe how these changes may affect your company and what is your reaction margin. This method is called "scenario formulation" (it consists of imagining what could happen in the future). It is recommended to formulate a scenario in the best and worst case scenario. Ask yourself and describe the three most important opportunities and risks that can positively or negatively affect the company. Try to estimate the practical and financial consequences of each opportunity and each risk and explain how the opportunities will be exploited and the problems caused by the risks will be prevented or solved. Investors and partners will accept risks, but they want to know your ability to manage them.

Planning and financing

The financial part is the core of all business plans. With regard to financing, the following issues are important:

- What are your capital requirements? (data provided by the investment plan, sales planning, human resources planning, etc.)
- From which sources will you collect them? (Data provided by means of the financing plan)
- What sales and what expenses increase in the first three years? (Data provided by the investment plan, the sales planning and the human resources planning)
- At some point, will your company have sufficient liquidity? (Data provided by the liquidity plan)
- How would be the forecast of results and losses for the first three years; will it be profitable in the long term? (Data provided for the profit and loss account and the profitability calculation).

The capital requirements plan: this plan shows the amount of money you need to start your company and run it during the first years. The total capital requirements are made up of investment costs including foundation costs (end of investment planning), direct production costs (end of sales planning), manpower costs (end of human resources planning) and other operating costs/general costs. Direct costs and operating expenses, including labor costs, must be prefinanced, depending on when the first incoming money from sales of products and/or

services is obtained; it is recommended not to be overly optimistic in this respect. Finally, the members of a company and its partners have to live during its creation phase, so you should include a salary for you and your partners or you could cover your private expenses from other funds.

The financing plan: this plan shows where the money will come from to cover the capital requirements, including any reserves for unforeseen problems and the financial conditions (interest, repayment taxes, non-amortization periods). In general, you have to start by deciding how much of your own money you want to/could contribute to your project (equity). This can be done in different ways and with different instruments. An important part of the equity capital covers your capital requirements, improving the chances of success of your company and the conditions for obtaining bank loans or loans from private investors. Normally, the amount not covered by capital stock must be financed with bank or private loans or other financial instruments. You also have to check if your project is eligible for public grants, such as specific loans and subsidies for start-ups and young farmers.

Liquidation planning: the objective of the liquidation plan is to show capital donors and commercial partners of input supplying industries the potential solvency of the company at any given moment. A critical point could be the moment in which the periods of time without loans to amortize run out. The liquidity forecast method consists of comparing all the financial flows that enter and leave in a defined period of time (normally one month) only considering the "real" costs and sales (the "virtual" costs such as depreciation are not part of this account). If the balance at the end of the month is positive, your company is solvent. If there is a relatively large surplus, it can be considered as a liquidity reserve to cover unforeseen costs or a decrease in sales.

Profit and loss forecast / profitability calculation: this plan shows mainly the development of sales, costs and potential profit (short term, medium term and long term). It can be done with a profit and loss account on a monthly or annual basis, but profitability can be additionally demonstrated with other profitability calculation methods such as the net present value method and the internal rate of return method. These two methods of yield calculation are adequate to show the potential benefits over long periods of time. It is advisable to use them and present the results. The results of all these calculations report in detail on:

- If sales can cover costs
- How long it takes to start making profits
- The profitability of your operation in absolute sums.
- The relative profitability compared to alternative investment options.

From these data, you have to think if the profit is enough to meet your expectations, to face the risks, to accumulate reserves to face possible financial problems and to develop the company and cover your living costs (depending on whether you have calculated a salary for you and your partners or not).

Attached documents

It is recommended to attach documents, such as curriculum vitae (CV), contracts about associations and/or references about the legal form, technical documents and other useful explanations.

2.3. Financing

Financing is the raising of financial capital through equity and/or borrowed capital, while financial management is the expenditure of financial capital through private investments or investments in a company. Investments have a long duration and economic purpose, such as investments in fixed assets, especially land, buildings, machinery and buildings for energy production, but also fixed assets such as bonds and shares. The investments are aimed at generating profits, simplifying work and reducing business risks.

According to the legal position of the capital provider, we differentiate between own capital (equity) and external capital (liabilities). Furthermore, it is necessary to differentiate between internal and external financing. Internal financing (that of the company) can be done through self-financing (profit) and regrouping of assets (sale of land, depreciation). External financing from outside the company includes debt financing (private company funds), social capital (cooperation participation) and credit financing (credit from a bank or other people). Crowdfunding, which belongs to credit financing, is a more recent form of financing. The particularity is that there is a group of private individuals who lend money, mainly in smaller amounts. This can be of special interest when setting up a new urban agriculture business. On the Internet, you can find platforms to advertise your idea in order to find providers. In addition, there are also mixed forms of financing, which are a mix between equity and credit financing. Venture capital is a form of equity capital, although mainly in larger companies, if there is a high risk start-up and no bank is willing to grant a loan, there is the possibility of finding a venture capital company willing to finance the project during the start-up phase. After a few years, the venture capital company raises the money.

In terms of temporary credit, financing can be differentiated into:

- Short-term loans (<1 year)
    - Discover
    - Commercial credit
    - Term loans
- Medium-term loans (1-5 years)
    - Producer's or supplier's credit
- Medium and long term loans (> 5 years)
    - Annual loan
    - Amortization loan
    - Quick loan

Below is an example of an annual loan with the annual debt service plan. The loan amount is €10,000, the term is five years and the interest rate is 5%.

Year	Loan	Annuity	Interest (5%)	Repayment
1	10.000,00 €	2.309,75 €	500,00 €	1.809,75 €
2	8.190,25 €	2.309,75 €	409,51 €	1.900,24 €
3	6.290,01 €	2.309,75 €	314,50 €	1.995,25 €
4	4.294,76 €	2.309,75 €	214,74 €	2.095,01 €
5	2.199,75 €	2.309,75 €	109,99 €	2.199,76 €
Total		**11.548,75 €**	**1.548,74 €**	**10.000,01 €**

Excel provides a formula already established to calculate the annuities. The annual payments (annuities) are:

Annuity ("recovery factor") = Initial capital x annuity factor

The annuity factor is calculated using the following formula: ((1 + i) n x i) / ((1 + i) n -1)

i: interest rate, p. 0.04 for an interest rate of 4%.

n: number of years

The annuity remains the same throughout the repayment period of the loan. On the other hand, the amortization loan is characterized by changing (reducing) the debt service from year to year.

Year	Loan	Debt service	Interest (5%)	Repayment
1	10.000,00 €	2.500,00 €	500,00 €	2.000,00 €
2	8.000,00 €	2.400,00 €	400,00 €	2.000,00 €
3	6.000,00 €	2.300,00 €	300,00 €	2.000,00 €
4	4.000,00 €	2.200,00 €	200,00 €	2.000,00 €
5	2.000,00 €	2.100,00 €	100,00 €	2.000,00 €
Total		**11.500,00 €**	**1.500,00 €**	**10.000,00 €**

Banks or other lenders require collateral to provide loans. In agriculture, these are usually property (land, buildings) or the financial performance of the company. When a loan is requested from the bank, the bank wants to receive information on the demand for capital, the balance sheet for three years, an overview of assets and liabilities, the forecast of losses and results (profitability) and liquidation plans. The following are some of the important issues when negotiating with a bank:

- Ask about the effective interest rate of the loan (all costs included).
- Ask about additional taxes that are not included in the effective interest rate.
- Ask for the possibility of making special payments.
- Ask for a later payment initiation (to increase the money during the initial phase).
- Ask for amortization schedules (terms without amortization) in case of cash shortage.

Before approaching a bank, you should be familiar with terms such as exchange rate, nominal amount, loan disbursement/net pay, discount, nominal interest rate and effective interest rate. The interest rate also depends on your company's bank rating and the collateral offered. The internal rate of return method calculates the effective interest rate of a loan, which is one of the key numbers in deciding when to contract a loan. Excel provides a function for this: IRR.

An important rule of financing is that the maturities of the financing and the investment need to match. Thus, short-term liabilities should be financed with available capital and fixed assets should not be financed with short-term liabilities. In addition, a minimum amount of equity capital is required to mitigate the risk and access additional borrowed capital.

2.4. Business detail - Business plan economics

Step 1: setting up gross profit calculations

For each type of product and service, first you have to think about the selling price per unit. Then, you have to decide on the basis of your gross profit calculation: do you want to calculate per unit of product, per area of fields (ha), per area of greenhouses (m^2)? Multiply the number of units per sales price and you will get your sales per reference base. Then, you will have to think about the cost of the goods sold (mainly the sum of your costs of raw materials such as the seeds, the planter, the fertilizer, the irrigation water, the energy or any other material that is not "durable" or that cannot be used for more than one production period).

Note that seasonal labor (paid directly according to the production activity (e.g., crop harvesting paid by number of units or kg harvested)), can be included in the calculation of the cost of goods sold and gross profit, but according to the gross costs of the contracting company. The gross hourly wage per hour of seasonal work may differ from one country to another due to specific national regulations, such as minimum wage laws and/or the obligation to pay social security or not. You need to find/demonstrate this specific regulation and the eventual "additional" labor costs for the employers.

Taking all the costs of the goods sold together, calculate their sum per reference base and per unit. Finally, the costs of goods sold per unit are deducted from the price of the product and a gross profit per unit is obtained. This first key figure is used in practice for short-term monitoring, but for business planning it only provides an approximate guideline: the gross profit should sooner or later be positive, because you have not yet considered operating expenses, interest or taxes.

Step 2: Calculation of labor costs of permanent employees for operating costs

The costs of employees with monthly, annual or indefinite-term contracts must be treated differently. They are part of the operating expenses, not part of the cost of goods sold. Here you first have to think and decide how many employees you need for what kind of tasks and also about your own role, whether you can be employed by your company and/or get a share of the net income from it. This decision depends on the type of business project and your personal needs. Again, you have to investigate the national regulations that determine the monthly costs of an employee, in general you have to start with the pre-tax salary (gross salary) and add the cost of a social insurance, specific payments for vacations or a higher salary and possible further expenses related to a person's employment. Depending on your country of reference, you have to calculate a surplus of 30% to 50% of your income before taxes.

Step 3: Calculate the general costs of operating costs

In addition to the fixed costs of the machines and buildings, there are other general costs within the operating expenses for:

- External services
- Telephone and internet
- Drivers
- Utilities
- Insurance
- Repair and maintenance
- Advertising and marketing
- (Possible) patents and licenses

- Other expenses

Think of them and estimate these cost positions.

Value-added tax (VAT)

In general, every company in most countries of the world is obliged to pay the so-called value added tax (VAT) on the difference between its sales and purchases. In practice, they collect VAT from their customers and pay VAT to their suppliers, if there is an internal VAT surplus, they have to report it to their tax office. Very often there are complex national VAT regulations, with exceptions and/or specific regulations for small businesses and farms. In addition, different VAT rates are also applied per country and per production sector. For example, the general VAT rate in Germany is 19%, but food sold in markets and shops is 7% and in restaurants 19%. For your calculations, it is recommended to define zero VAT rates and to calculate all input and sales prices without VAT for the first planning, because VAT does not affect the profitability, but the liquidity of a company. However, for a correct planning of the liquidation, VAT will have to be calculated later.

Step 4: Investment plan

You have to think about the fixed assets necessary for your new company (your "investments"). In short, it is about production equipment, which are "durable" or can be used for a long time (years, seasons, etc.). Typical fixed assets are machines, buildings (property), land, technical equipment or "intangible" assets, such as patents, licenses or other forms of intellectual property. Other elements of an investment plan are "current assets" (assets that you can use for more than one year, but you calculate them at their full cost the year of purchase) and "start-up costs" (all costs directly related to the founding of a new company).

Step 5: calculation of amortization for operating expenses

For all fixed assets/investments, you have to set up a small table with their acquisition costs, their useful life (in months or years), the purchase date, the probable residual value after the useful life is over and their depreciation (per month or per year). Whether you calculate per month or per year depends on your decision and the nature of your production processes. If they are shorter, you can calculate them monthly, if they are longer (as for example in agriculture), you can calculate them annually. The depreciation per year (per month) is calculated using the following formula:

(acquisition costs - residual value) / number of years (months) of useful life.

Attention, land has to be treated in a specific way, it is absolutely durable, therefore, there is no depreciation (and land costs only produce operating expenses, if it is leased).

Step 6: Capital requirements plan

The acquisition costs of the durable assets are the largest part of the capital requirements completed by the costs for the initial working capital/inventory of the production inputs and start-up costs which also represent creation costs. These start-up costs are the fees such as notary, commercial registry, consultancy, lawyers, marketing, etc. Finally, you have to estimate the need for capital to cover your costs of goods sold, your operating expenses for labor and general costs and your personal living costs at least until the date and when you will obtain revenues from the first sales. If you have summarized all these cost items, you have calculated your initial capital requirement.

Step 7: Financing and loan plan

Having an idea about your initial capital needs, you have to think about financing them. Capital financing can be simply " own capital" (social capital) provided in different ways, but also "silent participations" - money, which someone puts into a company without requiring active participation in management decisions. Small and medium-sized companies often participate in this way. Debt financing can be done through shareholder loans (loans from company owners) or through bank loans. Another important source of start-up funding can be public funds in the form of grants. If you have decided on financing, you can set up a financing plan showing the financial contributions to cover your capital needs by type of source.

The item "Net income before financing" is providing losses and gains as positive/negative contributions to the company's financing. "Current account drawdown" is the possibility to obtain short term credit (at high interest rates...) to the current bank account, usually there is a maximum amount that limits the "drawdown" (= the maximum negative value that your bank account can have from your bank).

Step 8: Calculation of interest payments

The amount of interest payments to be made by your company at any given time depends on your financing instruments and the terms of the loans. If you have a loan financing, you can normally choose between an annual loan or an amortization loan. You can calculate the annual (or monthly) debt service of your loans, including interest rates and annual (monthly) interest payments. The interest payments are part of the calculation of the interest and the interest expense, but not of the repayment taxes.

Step 9: Settlement planning

Economists like to say "liquidity before profitability", it means that a company can endure losses for some time, but if it is not able to pay its invoices, interest and repayments on loans, it is really in danger. Therefore, you must be careful to always be solvent or "liquid". The purpose of a liquidity plan is to demonstrate that, if your business plan is working properly, your company will be able to pay its invoices at any time.

The liquidity (start of period) is the sum of all the liquid assets (bank account(s) + cash). From this value, remove all outgoing payments within a period of time and add all incoming payments. The final value of "liquidity (end of period)" should sooner be positive, and that would mean that your company can pay its invoices and have some reserves. The value of the column "pre-initial" of row 24 (see table above) is transferred to the column "period 1" of row 4 and will continue to follow this scheme. In addition to a liquidity plan, you can calculate liquidity indicators and also present them in your business plan.

Step 10: Prediction of results and losses

Finally, you want to know if your company will make a profit in a defined period of time (per month, per quarter and per year, depending on the duration of your production process. In agriculture, most profit and loss calculations are based on one year. We normally start with the results of your gross profit calculation (step 1) and then add all the elements of operating expenses (fixed labor costs/step 2, overhead costs/step 3 and depreciation/step 5). After these, you have to consider the interest payments of your loans/step 8.

On the other hand, if your company has income or expenses outside the defined commercial operations (for example, income from financial investments), you must also take these data into account (non-operating income and non-operating expenses from the previous table).

Attention, the depreciation rates are more or less covered by the depreciation values and do not form part of the income statement. Finally, before obtaining your estimated net income, you have to consider the income tax.

However, it is likely that in the first few months (or more ...) your company will lose money. Some start-ups do it for years, this can be caused by large investments, long term constructions, production capacities and knowledge development that consume time compared to the opening of markets and the increase of turnover. But that does not mean that in the end there is no success. Therefore, the profit and loss account, as a forecast, is a first perspective of profitability for the first periods of time, but for a better valuation, you have to use methods that take into account the whole life of your fixed assets.

Step 11: Adaptations and modifications

Finally, you have the results of a business plan, but before presenting it, check the credibility of the data and whether they are satisfactory and adequate or not. If necessary, think about the modifications of your business plan! Negative liquidity always requires an improvement in financing and/or a decrease in costs and/or an increase in sales. It is possible to support a negative profitability during the beginning of the activity, but it is not possible to accept it during the whole investment. Therefore, the first calculation results often require a second or third adaptation, but keep your numbers and assumptions realistic.

Performance calculations

"Profitability calculation tool, based on Excel, will help you to analyze the profitability of your business project in the medium and long term. It combines three analytical methods: all of them should give a clear positive result to conclude that your company will be able to make money.

Deciding the analysis periods

To work with this tool, some explanations are needed. Start entering data in section A: list your most important investments, their acquisition costs, their useful life for years and their probable residual value (if you sell them after use). Secondly, you have to decide which analysis periods are best suited to your business project. In the logic of investment calculations, the analysis period is the time period in which you expect all your investments to be returned through future sales and your company to generate profits. This time period will generally be determined by the useful life of your most important investment, in most cases this would be the investment that has the longest useful life. For example, if you invest in a solid greenhouse (price 100.000 €, useful life 20 years), a tractor (price 30.000 €, useful life 6 years), and watering equipment (price 20. 000, 10 years of useful life), then the investment in the greenhouse would be the "main investment" and would establish its analysis period at 20 years, which would correspond to its useful life of 20 years and its higher initial investment value.

Deciding on the interest rate

The next problem to be solved and introduced in section A is the interest rate of your investment calculation (calculation interest rate). However, this will depend directly on your financing: for example, if you have access to your own capital, for which a low interest rate is not expected or not, you can keep the calculation interest low, and derive it from the yield rates of alternative financial investments. If you want to finance your company with loans, you have to use the effective interest rates of your loans as the basis for your "calculation interest rate" and add a supplement of 0.5% to 1.0% as compensation for business risks and as a

"reserve amortization". Example: You obtain your loans with an effective average interest rate of 3%, so you have to define the calculation interest rate between 3.5% - 4%.

Data entry for "payment flow"

The methods used for this tool are the so-called dynamic calculation methods, which allow you to enter different business numbers each year. You must enter the B-D section (according to the analysis period you have chosen) for each year:

- Gross profit
- Operating expenses
- Depreciation
- Interest
- Reinvestments
- Sales of assets

The "payment flow" values are relevant for the calculation of the net present value and the internal rate of return. Amortization and interest should not be considered according to the nature of these two methods (so that the flow of payments formula adds amortization and interest, which were previously treated as elements of operating expenses).

There is a problem regarding the different useful life of the investments. We return to the previous example: the tractor has a useful life of only six years, therefore, you will have to acquire a new one in year 7 and year 13. To integrate it in the calculation, you have to introduce the acquisition costs of a new tractor in the row "Reinvestments" in the cells of year 7 and year 13. If so, you have to enter this residual value in the row "Asset sales" for year 7 and also for year 13. The same procedure to be applied for the reg equipment (reinvestment in year 11).

To interpret the average results of gains and losses

The key figure "Average profit and loss" informs you about the possible annual net income before taxes. It simply consists of calculating the average operating income over all the years of the analysis period and taking into account the asset values.

Interpretation of net present value results

The net present value of an investment (here your business project is considered an "aggregate investment") is calculated by decomposing all future sales and expenses at their present value, adding them and subtracting from this sum the total initial value of the investment. If the calculated net present value of a business project is positive compared to the aggregate value of all the initial investments, then your planned company can be considered profitable (all this, according to the assumptions you made). In other words, a net present value of, for example, €20,000 indicates that your business activities will return the initial investments and you will obtain a surplus of €20,000 in present value during the analysis period. In present value this means that the actual positive revenue streams that follow will be considerably higher, but if these future revenue streams are decomposed and aggregated, the present value of all of them would be €20,000 plus the value of the initial investment.

In principle, it is possible to consider that any project with a positive net present value can be profitable, but for a better valuation, this value must be compared with the total amount of the initial investment. If you have initially invested €1,000,000 and your net present value is only

€5,000, there is no significant return. But if the initial investment was €4,000, the return would be more than excellent.

To interpret the internal rate of results

The internal rate of return is calculated using an algorithm that finds the interest rate that would result in a net present value of zero. This interest rate indicates the annual rate of return of €1, which you had initially invested in the business project. Let's assume that the internal rate of return is 3%, that means that for 1 € you will get 0,03 € each year.

But how does this indicate the profitability of your business project? To decide this, you have to compare the internal rate of return with your personal idea of the minimum rate of return. However, this minimum rate of return depends mainly on the financing of a project, to consider it profitable, the internal rate of return should clearly exceed your personal minimum rate of return, and above all the rate of loans. For example, if you have financed your company with a bank loan at an interest rate of 4%, an internal rate of return of only 3% cannot cover the interest and repayment of this loan, your project would be considered non-performing. However, if you have financed your project with equity capital and calculate an average return of 1% for alternative financial investments, an internal rate of return of 3% would be sufficient to conclude that your project is economically viable, but with a low return.

What to do if there is no satisfactory yield?

If this is the result of the profitability analysis, you have to review your business plan and your assumptions, do not try to manipulate data just to demonstrate profit possibilities, which in reality do not exist. If a profitability calculation leads to negative results, it keeps you away from a risky operation and loss of money, you have also fulfilled your purpose.

3. Managing the business

3.1. Marketing

Different corporate communication strategies have different strategic objectives. It is convenient to have a clear understanding of the intended communication objective and the different methods that can be applied.

Often the methods have overlapping objectives: Advertising a product can and should create a strong brand. Customer relations can and should be used to promote products. Parts of corporate communication:

- Product: advertisement increase sales
- Brand: public relations create a positive image of the company
- Customer: customer relations maintain a satisfied customer base

Throughout the life of a product, there are different product communications:

- Introduction phase:
    - Create attention and generate curiosity
    - Increase the visibility of the product
    - Generate big sales from the very first moment
    - Create a concise and different brand image
- Growth phase

    - Defensive strategies against competition
- Saturation phase
    - Maintaining the customer base (the most important)
    - Adapt to market changes
    - Eventually correct the market positioning
- Phase of degeneration
    - Low priority
    - Normally, the exit of the market is not compatible with communication.

Classic advertising is a mass communication, it can be used to increase brand awareness and brand image and use different types of media.

Another strategy is to pay for the placement of a product in a specific location; for example, in the set of a film or television production. The main objective is to improve the image and maintain the customer base. An advantage is that the brand is represented in an authentic and credible brand so that the effect of the advertising is not felt by the client. Sponsorship is also an inferior communication and a principle of mutual benefit. The objectives are brand awareness, image positioning and quality of contact. Ambush marketing, promotional teams, event marketing, point-of-sale activities, guerrilla marketing and word-of-mouth are other types of communication.

The criteria for the selection of communication tools are:

- How can the target group be influenced?
- Budget constraints
- Communication objectives
- Involvement of the target group
- Creative possibilities and options
- Reach or reach out
- Time constraints
- Authenticity

3.2. Logistics and supply chain management

The distribution of goods and services requires sophisticated management and logistics. It is gaining increasing relevance due to new information technologies and geographic positioning, multichannel distribution and new and more heterogeneous consumer preferences. The general trends are:

- Structural changes and process concentration, especially in retail:
    - Larger markets.
    - Special conditions of sale of brands known by consumers to large retailers.
    - Large retailers impose their conditions on small producers.
    - Small retailers cannot offer the diversity demanded by many consumers at low prices.
    - Closing of small shops due to:
        - Lack of consistent succession plan
        - Long working hours

        - Decrease in the level of income.
- E-commerce and flexible delivery service providers:
    - Expansion of the potential distribution area.
    - Lower market entry barriers Specialized stores.
    - Strong position of large platforms.

Special characteristics of supply chain management and logistics:

- Decisions are strategic and long-term: difficult to review.
- Decisions affect many other areas of a business/project (product, price, promotion).
- Supply chain management and logistics are a key element in consumer marketing.
- The strong impacts produced by centralized retail platforms can destroy economies of scale.

3.2.1. Supply chains

Producers choose different distribution channels for one or more products simultaneously: multichannel distribution.

Key characteristics that differentiate direct and indirect distribution:

Direct distribution

- Services, investment assets
- Poorly developed physical distribution
- High individualization
- High technical complexity
- High need for explanations
- Guarantee and performance of the service of great importance
- High price
- Low frequency of purchase
- High level of innovation

Indirect distribution

- Mass consumption goods
- Well-developed physical distribution
- High standardization
- Low technical complexity
- Low need for explanations
- Low importance of service guarantee and performance
- Low price
- High frequency of purchase
- Low level of innovation

3.2.2. Physical distribution and logistics

Physical distribution:

- All the functions necessary for the planning and execution of the plans.
- To ensure the physical flow of materials and products
- From the production area to the place of consumption
- With the objective of satisfying the customer's requirements
- To obtain profits!

The logistics is limited to those activities that:

- They are performed or controlled by the producer.
- Commissioned by the producer

The main objective of logistics is to achieve a certain level of delivery service with minimum costs or to achieve a maximum level of delivery with specific costs.

The basic principles of logistics systems include:

- Optimum capacity utilization rate
- Minimal packaging functions
- Minimal transport functions
- Creation of large commands
- Standardized physical measurement of commands

Decisive factors in the availability of delivery services:

- Improvements in delivery service costs
- Market/customer requirements/interested in fulfillment services
- Competitor delivery service
- Possibility of product substitution
- Physical characteristics of the product

Logistics system compensation:

- Logistical systems: order processing, packaging, transport, packing
- Possible compensations:
    - Transport and packaging costs: a larger transport volume can reduce transport costs, but can lead to longer packaging periods and higher inventories, thus increasing packaging costs.
    - Transport and packaging costs: optimal use of transport space reduces transport costs, but requires more effort to achieve adequate packaging, thus higher packaging costs.
    - Transport costs and packaging facilities: the reduction of transport through decentralized packaging facilities leads to higher costs through a larger number of packaging plants.

4. How to become a farmer in Catalonia

In Catalonia, becoming a farmer is a bureaucratic process that involves a certain complexity. The following is an explanation of what documents are required to become a farmer and what bureaucratic obligations are involved in becoming one. To simplify, it has been assumed that this farmer does not have livestock, will only commercialize unprocessed products and will be paid on a personal basis (not from a company).

The first step to be taken to become legal as a farmer is to apply for the registration in the census of businessmen, professionals and withholders at the Tax Agency. This is done by filling out form 037 (individuals) which can be found on the internet or purchased at any tax office. Once completed we can present it electronically or if we have it in paper, we can deliver it to any of the official organizations with registry (for example the offices of the DAAM) and they will do the processing. We can also send it by registered mail but they will charge us. At the registry (or by mail) they have to stamp the copy that we will keep.

The farmers, if they don't expressly renounce, they go to the Simplified System of Agriculture. In this regime VAT is not charged, only a compensation if it is paid to other farmers or companies, and what is paid to the Treasury is based on gross income. It is necessary to keep a book of sales and incomes (it is not necessary to write down the expenses), which can be an

Excel spreadsheet. It is computed as income, the sales, the subsidies and the work and services done by others.

If it comes to businessmen (cooperatives, shops,...) they will make a withholding on account of the income of 2%. If more than 30% of the sales are to individuals (without invoice) it is necessary to make a quarterly installment payment on account of the income (print 130). It is paid 2% of the gross income of the quarter.

Once a year the income tax return has to be made. It is not a complicated declaration and moreover it is made at the tax office. The benefits are calculated from the gross income, applying a percentage that depends on the type of agricultural activity. For those who produce within module 5 (cereals, citrus, dried fruit, horticultural products, legumes, grapes for table wine without denomination of origin, mushrooms for human consumption and tobacco) it is considered that the net yield or profit is 26% of the gross income. If these same products were processed, then the profit would be 36%.

To have an idea of what these numbers could mean, with an annual gross income of 19,500 €, a profit of 5,070 € would be calculated (26% of 19,500) and the tax return would be negative because this profit is below the minimum net income per person (5,151 €) above which tax is paid.

At the time of making the income tax return, all the withholdings that have been made on account (on invoices to clients or in the quarterly returns) will be deducted and if the return is negative, the tax authorities will return the money.

To register as self-employed in the Special Agricultural Regime of the Social Security it is necessary to fill out a form and provide the following documentation:

- Tax rebate of the rural property or rental contract.
- Printed declaration of activity: No. 37 of Public Treasury
- Identity card

Once registered, you pay €196.82 per month if the minimum contribution base is calculated (the base is between €850 and €3,200 approximately). Optionally, insurance for accidents at work and the right to unemployment can be added. The amount to be paid in this case depends on the type of agricultural activity being carried out. For example, in the case of horticulture, the total amount would be 221.05 € per month with a minimum quota.

The printed form can be downloaded from the internet and once completed, it can be sent by registered mail or registered in a registry office (the stamped copy must be kept).

The subsidies are applied for through the DUN (Single Agricultural Declaration) where a description of the farm is made and the subsidies for which the applicant wishes to apply are listed. The DUN is presented from the beginning of February to the end of April. The DUN is also used to process CAP payment entitlements, which used to be linked to production, but were later dissociated and associated as historical entitlements to each person who had received them up to that time. These rights can be bought (you can apply to the banks) or there may be someone who will give them to you (they must be very dear to you).

If you are young (< 40 years old) and you are newly incorporated (you have not been registered as an agricultural self-employed person, but you may have been contracted in the sector as a paid worker before), you can apply for CAP rights to the national reserve. You can also apply for the subsidy for the first installation. In order to apply for it, a Global Farming Contract (CGE)

must be made, which is: "a collaboration agreement between the Administration and the owner of a farm whose objective is to improve the competitiveness of the farms and guide them towards sustainable rural development". A contract is drawn up on the basis of a preliminary diagnosis and a farm plan for the next five years. From this point onwards, applications are made for the grants to which it is believed that it is possible to have access. In the case of grants for the incorporation of young people, a business plan must be presented from which it can be deduced that the income from the farm will be between 35% and 120% of the reference income (€27,503 in 2011).
In short, you can get them to subsidize you:

- Cost of the first year of a land lease contract.
- Notary and registry fees derived from the first installation.
- Financial expenses of the loans destined to finance the working capital in the first year.
- Expenses for permits, licenses and administrative authorizations arising from the installation.
- Economic contribution to the associative or corporate entity.
- Acquisition of individual and transferable production rights.
- Payment of loan guarantees.
- Payment of the inheritance rights to the co-owners.
- Acquisition and conditioning of the habitat that constitutes habitual residence.
- Acquisition of land capital.
- Acquisition and/or adaptation of the capital of the exploitation.
- Expenses of the approved projects and business plans up to 12% of the amount of the actions.

With regard to the acquisition and/or adaptation of the farm's capital, it should be noted that only the purchase of new machinery is subsidized, not second-hand machinery. In return, if the subsidy is approved, personalized training will be provided by a teacher from the agricultural school (ECA) provided by DAAM. Until now, a young person who decides to join and who has already completed an agricultural training course, has to do a minimum of 80 hours more. On the other hand, a person with no previous agricultural training has to do around 400 hours. In both cases, the Department gives two years of time to complete the training itineraries.

If you are over 40 years old or have worked in agriculture before, you can always apply for an aid for modernization of the farm. It is also necessary to draw up, beforehand, a Global Farming Contract. In this case the eligible investments are:

- Construction, acquisition or improvement of property, excluding housing.
- Acquisition and installation of new machinery and equipment, including computer programs and software.
- Investments in crops (Castañeda and Monllor, 2012).

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