

Business Plan: Eco-gym

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1. Introduction and Summary

a. Introduction

This document is as a first attempt to plan the starting of a new business. The goal of this project is to be able to provide different services to Gym companies: reduce their costs, make them be more attractive for customers and increase the motivation of the current customers to keep working out and not quit the gym.

The heart of the project is the utilisation of electricity generators which work using the energy generated by the customers and store it via batteries or alternatives systems. This kind of systems are currently not available in the gym machines that can be found in our market, so the development of new designs is mandatory. The implementation of electrical generation systems would have a positive effect over any gym: The costs related to electricity are drastically reduced, and the gym can call itself eco-friendly. This way, the price of the gym can be reduced without losing benefits, and we can help the gym to increase the number of customers.

Other services that can be provided to the gyms are informatic applications that calculate the amount of energy generated by the user and challenge them to generate more energy and go more to the gym. This means that customers will be more motivated, will be less probable that they stop going to the gym, and the possibilities of having their friends as new customers are increased.

We want this document to be a first approach to the business. It includes a discussion of the products that could be offered, a market analysis including which are our potential clients, a financial analysis to start planning how to finance this project, and an introduction to the marketing.

b. Team description

This idea was first developed by Alba Navarro Casanova and Xavier Corbella Coll, two young catalan engineers. Alba Navarro is a civil engineer that studied her degree in Barcelona and then pursued an Msc in Numerical Methods. She has a deep knowledge in engineering systems and experience with energy production methods. Her contribution to the project is specially devoted to the technical part and the design of the products and services offered. However, she also contributed to the commercial and financial viability of the project.

Xavier Corbella is a mechanical engineer who also studied Numerical Methods. He has experience with eco-friendly energy production methods, such as fuel cells and others. Even though he never studied finances or business, he likes to work on new projects and is the main responsible of the commercial and legal aspects of this project.

In order to make this project real, the team will have to be expanded before starting any real activity. More young and motivated engineers should join the project to ensure the viability of the

technical parts. It is also mandatory to associate with someone that can apport capital to the project. The Universitat Politècnica de Catalunya is a perfect candidate for that.

It is also necessary to have someone that be expertise in fitness and have some experience in gym management, personal training, and nutrition. This person should be the one in charge of the details of the services offered.

2. Description of the product

a. Technical parts

The objective of Nature-Gym is to be a company dedicated to the installation of generators in the different machines of gyms with the objective of saving energy and obtaining benefits.

As it is a new project that has not yet been carried out, it is difficult to allocate a budget for project implementation. It requires to a study the existing technologies and how to adapt them to the gym, and the development of new designs for the implementation of the project.

There is a wide availability of commercial electric generators that could be used, as well as battery-based energy storage systems. However, the system of gears to transmit the energy of the different appliances to the generator, and at the same time meet the expectations of users of the gym, almost does not exist commercially, and will have to be developed.

Our project requires gym customers who want to exercise and are aware of the sustainability of the planet. Fortunately, nowadays this is a reality since there are more and more people who want to take care of their body as well as our environment. In this way we will achieve our goal, taking advantage of the energy generated by gyms and is being wasted.

One problem we see is that the use of new renewable energies is very limited and supervised by those who are in charge of supplying us with polluting and limited energies, since they would detract from its benefits. This is one of the reasons why there are not too many options and aids to replace non-renewable energies. The solution involves social awareness and pressure on the companies that have the traditional energy in their hands, and investigating new non-polluting energies.

Many years ago the energy generated by animal power was taken advantage of and has been progressively replaced by other types of energy more comfortable and efficient, but also more polluting and destructive. In this chaotic world where power struggles are in the domain of energy, it is good to investigate and retake closer and more ecological energy sources.

Currently there are gyms that take advantage of the energy generated by the user. An example of them are static bicycles. According to Adam Boesel, owner of a gymnasium, "the energy produced by bicycles is more than enough to keep the lighting on."

We want to go further, adapting all kinds of apparatuses of the current gymnasiums, by means of a system of gears and pulleys that transmit the energy produced by the users to the electric generator, turning it into electrical energy that will be stored in batteries for its later use according to the demand. Through a correct gear and transmission system, machines such as static bicycles, treadmills or weight machines can be adapted.

Nature-Gym aims to adapt the conventional gyms to an ecological model where the kinetic energy created by gym equipment is transformed into electrical energy, which will be stored in batteries to supply the needs of the gym, and even sell it to the electricity networks if there is leave.

We will adapt small sensors to each machine that will be in charge of measuring the amount of energy that has produced each user. This information will be stored in the computer system, and will allow the gymnasiums to apply a discount on the subscriber fee proportional to the money saved by the user to the installation.

Technologically we distinguish three categories to develop:

- • Electrical: system of generation and storage of energy.
- • Mechanics: system of gears, pulleys and mechanical transmission.
- • Computer: control and monitoring of the facility in general and each and every one of the gym users.

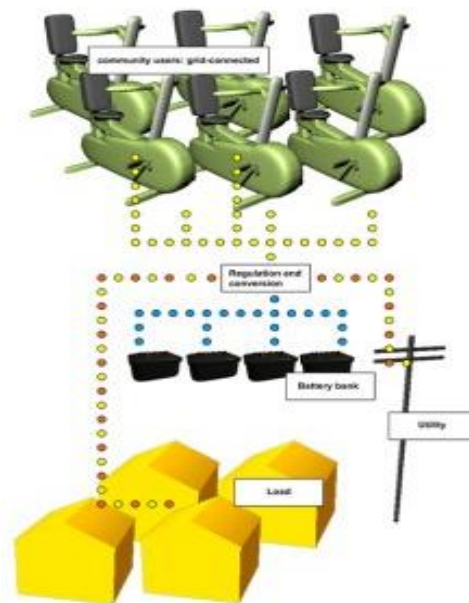


Figure 1: Eco-gym mechanical system.

The economic benefits that will contribute to the implementation of our project will facilitate the survival of current gyms. By contributing the project to the sustainability of the planet and making each user aware of their contribution in real time we expect an increase in users in the gyms in which the project is implemented. There are currently some gyms that have individual generators on static bicycles. These devices generate energy, but suppose an increase of cost to the user due to the high cost of the generators and their long time of amortization. Our project, based on a single generator, will lower the costs of implementation and will allow a shorter amortization time, even affecting part of the economic benefit to each user through discounts in their subscriber fees.

We want to use a minimum amount of materials and labor. To transform the energy of movement into electrical energy we will need alternators. There are different models on the market such as:

- - Typhoon 1200W three-phase alternator with permanent magnets (539.60 €).
- -750 Watt Permanent Magnet Alternator for Wind Turbine Generators (€ 428.56).
- As can be seen, prices are around 400-600 €

b. Informatics and communications

To generate publicity and attract customers to our business in addition to billboards and posters, we will create a website and a mobile application.

Web page

To advertise our product we will create a website that will attract customers. The website must meet several criteria:

- Must have a clear hierarchy.
- It must be direct and interesting.
- Must be automatically adapted to mobile devices (we will also create a smartphone app, website and app will be synchronized).
- With a space where users can interact with each other (chat), and a forum where they can transmit concerns and improvements.
- Design and content must always be tailored to the audience.

Mobile application (App)

Users with a smartphone can install an application with which they will have a follow-up of their exercise sessions, calories consumed, energy generated, contribution to the environment.



Figure 2: Mobile App.

Features that should have:

- It should be portable, not for a single device and also available in the most common media: Blackberry, Android, IOS and Windows.
- Can be used offline.
- It should satisfy a need or a problem.

- It can be linked to social networks.
- Make it fun.
- Make it a unique product and include things that no other application includes.
- Take care of the physical design so that it is attractive to the eye.
- It should not be complex nor have unnecessary functions.
- It should include a system of customer service that be always available for customers to consult their doubts or make their suggestions.
- To appear in media and blogs.
- Focus especially on young people.
- Have minimum advertisements, at least at the beginning.

With the application the users will have their own account in which they can consult how much energy they have produced and how many calories they have burned. In this account the user's data will be stored, so that they can observe their progress and improvement. This will make users feel more motivated to go to the gym. The application for mobile will also have different series of exercises and scheduled iterative courses that will serve as a guide on how to perform the activities correctly. The users will also be able to use a chat to get in touch with other users and exchange opinions.

c. Services

Our offer will be mainly focused on those gyms that need financial assistance, are bankrupt due to their high fees or simply look for new and more profitable strategies. We offer to reduce their maintenance costs while lowering user fees, helping the gym to maintain or increases its number of customers.

A direct benefit to users is the economic benefit. The more exercise they do, the more energy they will generate and the more discount they will have to use the facilities. The most loyal users will have a better quality of life by carrying out more sport and the satisfaction of contributing to a healthier and more sustainable environment.



Figure 3: Machines that generate energy.

With the adaptation of the current gyms to Nature-Gym we will contribute to the sustainability of the planet, and at the same time we will promote the sport and the healthy life of the users, making their experience of the sport habit much more rewarding.

We will provide the gym with technical service, so that they can easily reach us if they have any doubt or problem. We will also provide a guarantee of three years for the material we are selling. In exchange, we will require the gyms to work with us for at least two years.

3. Marketing Plan

a. Market Analysis

Our main customers are gym / workout companies. The different sports installations that can be found in the market can be divided according to their size / offer:

- Large sport facilities: Including outdoor (football, tennis...) and indoor (basketball, hockey...) facilities, as well as a gym or workout room. These installations usually offer some water sports.
- Medium gyms: They include a gym / workout room, and offer some other sports that do not require large space (for example, a couple of paddle pitches or an small climbing wall)
- Small gyms: They only offer a gym/workout.

The owners of the sports facilities can be:

- Single gym: The company / owner only manage a single facility. They are small companies that cannot afford large investments and can hardly plan for the long term (they tend to spend their income to maintenance and not increase the business).
- Public facilities: They are managed by the municipality and usually offer basic sports and cheap facilities. They tend to offer sports to be played in groups.
- Large companies: They manage several different gyms and have a large income. They spend an important amount of money in marketing and are always looking for new opportunities to grow.

At the start of our activity we should try to work with companies / gyms whose main activity is fitness and that open for long periods of time (between 12 and 24 hours per day). This way we can have a much larger impact over their company and they can be more open to invest on our services. For example, we could start to work with two or three small gyms in Barcelona. A good option is to try to start working with UPC's gyms in Terrassa, ETSEIB and Campus Nord: Since this project emerges from the university, we consider that it could be easier to negotiate with their administrators, and could get some help from UPC.

If the experience with the first gyms is positive, and we are able to get enough income, we should try to expand the company trying to get some new customers. We should try to work with some gym owned by a large company like McFit [1] or AnytimeFitness [2].

b. Analysis of the competence

The idea of eco gyms has been discussed for a long time. However, it was not until 2008 that Adam Boesel, a school teacher turned into personal trainer, developed his first eco-gym in Portland, Oregon [3]. He designed the first spin bike retrofit that is grid tied by simply plugging “out” into a normal wall outlet, and used it in his own gym. He also developed simpler and better ways to go green, not only with equipment, but also by creating an energy saving culture in his gyms. The Green Microgyms use about 85% less electricity and their carbon footprint is about one tenth that of a traditionally run gym. A member of The Green Microgym saves about ¼ ton of carbon compared to if they belonged to a traditional gym.

From 2008, other companies offering similar services have emerged in the US (see for example Pedal-A-Watt [4], Human Dynamo [5] or EcoPower Fitness [6]), UK [7], India [8], Germany [9] and Brasil [10]. In Spain some companies considered the development of similar projects, but it is still a new market without competence and a great opportunity for an starting company.

c. Commercial strategy

The market that we can aim at is very broad, and there is virtually no competence. However, we are a small starting company and cannot try to aim at the whole market. We should specialize in fitness and small gyms, since is the kind of activity where our services fit better. Moreover, the more we specialize, the less people that we require to study the market.



Figure 4: Strategic alliances.

We consider that our services may seem very interesting to fitness centers since we offer the following:

- Reduce the costs of the gym
- Differentiate the gym from the rest, providing an “added value”
- Go green, which is an attractive concept in the current society
- Contribute to the sustainability of the planet and offer a healthy and clean lifestyle

- Offer assessment in marketing and other activities so that they do not need to hire people to work on that

In a short term, we should open a website and work with the UPC to let people know about our activity. We should demonstrate that eco-gyms are possible and start free or cheap promotions to let people try our services. The main goal in the short-term is to let people know us and make our services real in UPC gyms.

After two years of real activity, we should start getting a profit and considering more aggressive marketing campaigns. Our goal should be to have a positive income to be able to invest in the development of better equipment to be able to work in more ambitious projects. It is very important to contact large companies like McFit or AnytimeFitness so that we can expand our business and make it more visible. At this stage, we should work with gyms around Catalunya and Spain.

In a longer term, we should also consider working in new markets where gyms and ecological projects are popular. A market that seems very attractive are the nordic countries, specially Norway: They invest a lot of money and offer statal help for ecologic projects, and the society have more tendency to do sports than in Spain. However, the taxes and costs of any commercial activity are larger, and we should have enough income from our activity in Spain to start working in Norway without going bankrupt.

4. Finance Plan

a. Expenses, assets and income

The initial investment and firsts months of activity are crucial for the future of the company. It is necessary to have enough cash to be able to pay all the cost before the company starts having some income.

In order to reduce costs, we plan to start working in collaboration with the university so that we can use their installations and equipment to manufacture the firsts products that will be used in the gyms of the own university. This way, we will be able to reduce the costs. The costs during the first year will come mainly from salaries, material and administrative costs, as well as the main office of the company:

Material and administrative expenses (First year)	
Material for 90 machines	6 000 €
Office material	500 €
Legal	500 €
Consultant	200 €
Insurance	100 €
Development	1000 €
Other	500 €
Commercial	1 000 €
TOTAL	9 800 €

Personnel Plan and Rent (First year)	
Administrator + Engineer	1 500 €
1 Engineer	1 x 1 200 €
2 Workers	2 x 1 000 €
Rent	500 €

TOTAL	5 200 € x month (62 400 € x year)
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Assets (First year)	
Production equipment	3 000 €
Computers	3 000 €
Development software	500 €
Storage place	1000 €
TOTAL	7 500 €

We assume that we will work with 3 UPC gyms for the first 4 months, and then start working with three new gyms every four months. If we count that we will sell 10 machines to every gym at the cost of 500 € per machine, and we also offer assessment and informatic service to every gym with a cost of 500 € per month, we can expect the following income:

Income (First months)	
Month 1 - 4	21 000 €
Months 5-8	27 000 €
Months 9-12	33 000 €
TOTAL	81 000 €

The cash flow statement of the first year is the following:

Cash Flow statement	
Fixed costs	-9 800 €
Salaries	-56 400 €
Rent	-6 000 €
Assets	-7 500 €
Selling machines	45 000 €
Services provided	36 000 €

Corporation tax	260€
TOTAL	1040 €

The total cash flow per month is the following:

Month	1	2	3	4
Salaries	-4700	-4700	-4700	-4700
Sells	15000	0	0	0
Services provided	1500	1500	1500	1500
Expenses	-5800	0	0	0
Assets	-7500	0	0	0
Rent	-500	-500	-500	-500
Taxes	0	0	0	0
Cash flow	-2000	-3700	-3700	-3700

Month	5	6	7	8
Salaries	-4700	-4700	-4700	-4700
Sells	15000	0	0	0
Services provided	3000	3000	3000	3000
Expenses	-2000	0	0	0
Assets	0	0	0	0
Rent	-500	-500	-500	-500
Taxes	0	0	0	0
Cash flow	10800	-2200	-2200	-2200

Month	9	10	11	12
Salaries	-4700	-4700	-4700	-4700

Sells	15000	0	0	0
Services provided	4500	4500	4500	4500
Expenses	-2000	0	0	0
Assets	0	0	0	0
Rent	-500	-500	-500	-500
Taxes	0	0	0	-260
Cash flow	12300	-700	-700	-960

The cash flow statement reveals that we should aim at working with at least two more gyms during the second year in order to have a clear income per month and start making our activity profitable if we maintain the current prices and costs.

b. Funding

The discussion of income, expenses and assets during the first year reveals that we need at least 34100 € (the costs of the first 4 months of activity) in funds to start the activity. However, it would be positive to obtain more funds.

The minimal initial capital (34 100 €) should come mainly from the savings of the associates. We could try to negotiate with the university to get some extra capital, but this option would not be easy since they would already be providing some installations and equipment.

After the first months of activity and having a real project, we should try to get financing from banks or venture capital so that we can start working even with more clients than expected.

5. Legal Plan

a. Legal form

The legal form that better suits this company is a Limited Society (“Sociedad Limitada” or S.L.). The name of the company will be NatureGym S.L.

The main characteristics of a Limited Society are:

- It is regulated by the Real Decreto Legislativo 1/2010, de 2 de Julio [11].
- The minimum capital required is 3000 euros.
- Must be enrolled in the “Registro Mercantil”
- They tax on corporation tax (Impuesto sobre Sociedades, see [12])

- Must provide “Escritura de Constitución” including
 - Identity of the associates
 - The will of constituting a Limited Society
 - Amount of contribution from every associate
 - Distribution of participations
 - Administrative organization and identity of the administrators.
 - “Estatutos de la sociedad” which specify the denomination, activities, objectives and capital of the society. It must also include how is the social capital divided amongst the associates.

In our case, we consider that starting with a single administrator would be efficient due to the small size of the company.

This society emerges from students of the Universitat Politècnica de Catalunya and pretends to maintain a symbiotic relation with the university. Thus, it is also necessary to negotiate the relation with the university and provide two different documents:

- A document stating the relation between the UPC and NatureGym S.L.
- A document defining the property of patents.

It would also be positive to register the society as a “PYME innovadora” [13] which would provide some bonuses in Social security.

b. Protection of intellectual property

It is a must that all the associates and workers of the company sign a confidentiality agreement so that the ideas and intellectual property of the company will not be available to the possible competence.

References

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