

New Product Development Project

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Executive Summary

Our product is Scoogoo that consists of a suitcase that can be unfolded into an electric bicycle. Scoogoo will size student clothes or books. The Scoogoo is a green, foldable electric bike that allows one to travel in style. Using an app optimization, the device can move up to a speed of 18kmph and features the greatest and latest technology in electric transportation. It is appropriate for school-going kids of ages fifteen and above. The high speed provides a green way of having fun and exploring the city. It makes the last mile to work or to zip over the beachside pathways. With the Scoogoo device, one can go to any place and all you have to do is just relaxing and enjoying the ride. The motorized bicycle needs to be paired with the developed app. When using the device, ensure the battery is alright by checking speed and battery life. It can breeze up hills inclined up to 12 and mounds. The bicycle has strong features such as air-filled rubber wheels and sturdy features for shock absorbency and traction with a better view. As a result, you will have a super smooth ride in every place that you will go to.

Moreover, the bicycle is a bag or case that unfolds into a bicycle with storage for some books and clothes as shown in the diagram below. Because of its small size and convenience, the electric bike is expected to attract school going kids of 15 years to 24 years. The folding Bike bag consists of materials with high strength polyester fabric. It has higher wear and tear resistance that is very good and can be used for a long period of time and side area for storing other accessories and storing bag for storage keys. It has a very big zip pocket that's is practical and convenient for storing books and other accessories.

The bag can be used for a picnic and as a moisture-proof pad. The bike can be modified into a small storage bag and acts as a backpack that is easy and light to carry. The outer part consists of places convenient for separating the wheels and brackets and thus avoid scratching the frame.

The folding and unfolding is user-friendly. When folding the bike, simply remove the cushion, tap, front wheel without the rear wheel being dismantled.



The motor bicycle is pedal free so that you will have time to enjoy the ride while seated and the throttle will take you to the destination of your choice. The features of the Scoogoo such as the collapsible electric bike with handlebars and folding stem to allow the commuters to take the cycle to the subway, bus or train or the individual cars. The other feature of the bicycle is its ability to be used for the storage of books and a few clothes hence increasing the convenience of the students. The inconvenience of carrying the school bags and other luggage separately will be reduced hence eliminating the possible losses of school items. Scoogoo will be an all-in-one solution to the kids' transportation and storage problems.



Idea generation and idea screening

After being frustrated with bulky charging cables that will need the rider to keep moving with it around, we shall say goodbye to the old fashioned bike and embrace the Scoogoo that comes with charging compartment. The hidden compartment that comes with the Scoogoo stores the charging cable. The rider will just need to open the charging compartment and the cable will be plugged into the outlet and allow the user to experience a seamless charging experience. In the process, the charging process was made easy.

My energy will be conserved and no sweating will be required. The battery-powered Scoogoo will be completely pedal free and will be attached with two steel pegs that allows one to rest their legs. To allow forward movement, the electric throttle will be used to take you where you are required to go. You, therefore, have to just sit back and allow the throttle to do their work. Another benefit is the ability of the user of the Scoogoo device to allow themselves to be seen and see. The bikes battery headlight allows one to travel safely. After being powered on, the ultra-powerful LED light will assist you to navigate through the night in the low light environments. The LED light will allow the rider to see properly ahead as you ride. The LED light will also allow the pedestrians, other vehicles and riders to know that you are around.

Target market

The target market includes city residents and men. Ladies and women, in general, will be disadvantaged due to the tedious process involved in folding and unfolding the bike. The electric bike motor market is forecasted to grow into a multi-billion business. The most recent market research includes an annual growth rate of 10%. A campaign will be launched to ensure the product has achieved its target figures and get shipped internationally by the coming years.

Interview results

SCOOGOO- OVERALL RESULTS

Demographic Questions	Overall results
What is your age?	15-45
What is your gender?	40% female,
What is your household size?	Average of 3
What is your household income?	Average of \$21000 per annum
What is your profession	55% students, 25% professionals, 20% retail
What is your education level	60% Bachelor degree
Where do you live?	90% New York, 10% New Jersey
Psychographic questions	
What are your hobbies, interests, opinions or anything else that will assist us to learn more about our potential customers?	Cycling, running, reading, concerts, camping, beach, music.
Buying patterns	
Do you purchase bicycle for riding?	55% yes
If so, who in the household makes the buying decision?	Self

How often do you purchase bicycle and how long does it take you to make the buying decision?	Once every 3-5 years for those using the bicycle on daily basis.
What is your typical budget for an electric bicycle?	\$125
Where do you intend to purchase the electric bicycle?	Amazon
Benefits questions	
What features do you look for when purchasing the electric bicycle?	Durability, quality, price, ease of folding and unfolding.
What specific benefits do you look for in an electric bicycle?	Comfort when moving uphill, exercise and aerobic benefits, saves on fuel
What needs are you trying to meet when making the purchase?	Moving faster to the intended destination and without hassle of riding.

Product Specifications

The color of the product is black. Other notable characteristics include foldable and robust characteristics. The sturdy frame of the bike allows it to support up to 264 pounds. For easy storage, its handlebars and stem are easily collapsed. The torque of the bike is high tackling a speed of up to 18mph using the app optimization. Using the powerful zero emission motor, the device can climb up to 12 degrees. The charge is long lasting with a single charge that lets you traverse a distance of 15.5 miles of adventurous thrilling distance and offers an opportunity to make new discoveries. Using the Android or the iOS device, one can download and use the app to track the speed, trip, GPS location, and many more features. The presence of the USB port is

beneficial as it is being used by mobile devices and remain fully charged after being plugged into the USB port of the bike and remains that way wherever you go. The market price of a single product ranges from \$599.99 to \$999.99 in Amazon.



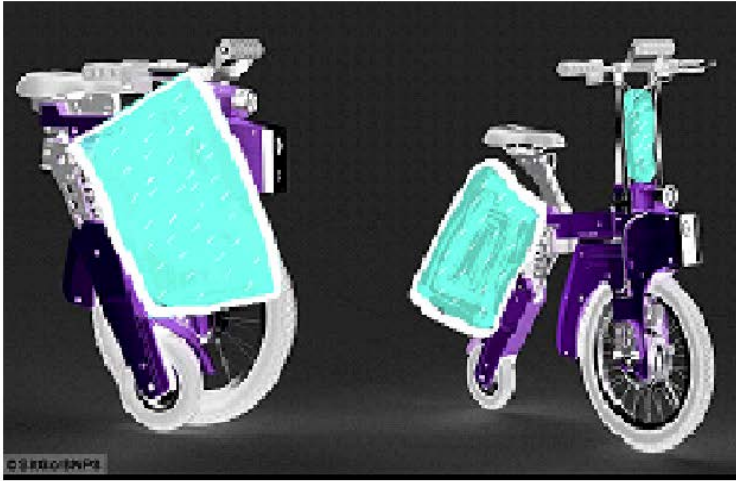
The adjustable heights come with four options including 65cm, 70cm, 75cm and 80 cm. The button on the handlebars control the brakes while the wheels are hollow and solid. The powering of the Scoogoo is by DC brushless motor that runs at 102900mAh batteries.

SWOT Analysis

The main strength of the device is the idea that a suitcase that can be unfolded into an electric bicycle to become an all-in-one solution to the kids' transportation and storage problems. Other features are the high speed of the Scoogoo bike that travels at 12.5mph (20km/h) in 45 minutes using a single charge with a weight of more than 85kg of the rider. The dimension of the bike allows it to be placed at the average backpack that exists. The folding bikes and the addition of an electric motor and still the bike can fit into a small bag is one of its major strengths.

The process of unfolding the bag carries with it major weaknesses. For example, several stages will be involved in unfolding the carbon fiber bike. The handlebars and the saddle will be unlocked into a twist position while the whole bike will be pulled into a specifically required height and the frame locks will again before putting it into place. The four stages for unfolding the Scoogoo include unlocking the handlebars and saddle and twist into position and the correct height will be sure to pull the bike into correct position and later all locked into place. The adjustable height comes with four positions of 2.1ft, 2.2ft, 2.4ft, and 2.6ft. The main challenge faced by riders, apart from the cumbersome process of unfolding is the challenge of selecting an electric motor that fits both the parameters in terms of weight and power. The other problem is the fact that since the bike doesn't have pedals, it might have its batteries run out in the middle, there will be no available means to power the device.

The opportunity that exists for the Scoogoo bike is the fact that the frame will be built from the circles rather than using the single horizontal girder. The new process will ensure that the bike spreads its weight equally among its frames and the seat and the handlebars from similar heights will be used at the rear and front wheels that will hence bear the riders weight equally. The fact that the bike is small and light to be folded into a backpack makes the bike desirable by consumers. Because if it's potential sales growth in the future, more investors will be attracted to invest and continuously improve the product.



The threat involving the addition of pedals to the bike is expected to take more space and become heavier. Because of the danger of the battery going off in the middle of the journey, we were thinking of adding an extra pedal to the bike. The other issue is the charging time it takes for the bike to fully charge. The owner of the bike should simply fold the bike into a backpack and walk to the nearest coffee shop to recharge the battery.

Patent Strategy

Patents will provide the invention with the exclusive rights to use, make and sell Scoogoo globally and in whichever country the patent is effective. As such, necessary measures will be

taken to patent this product. First of all, there will be a patent search to determine whether or not the idea is unique and is not in use elsewhere. This is according to the requirements of U.S. and Canadian patent offices (Miele, 2015). If it is found to be original, a formal application will be done. The necessary processes will take place including further patent investigation after which the proprietary rights will be given.

The rights will be important because it will prevent other companies from developing a similar competitive product using the same design and technology behind Scoogoo. Alternatively, it will generate revenue if any other company would want to use the technology in future through licensing fees and others. Considering the important role of patents even for future business strategy, the financial and other obligations that come with patenting the product will be incurred.

Platform Technologies

The company will embrace further innovation to develop closely related services and products to drive the demand from the customers. Given some of the innate limitations of Scoogoo, there will be opportunities to improve on it or develop similar products but with these features. The first area of consideration is the pedals on the bicycle. Considering the possible challenges with charging and cycling distance, the company in the future could consider developing Scoogoo with pedals to meet this possible need. Pedaling could also be a need for those that prefer to exercise their muscles and keep fit either to or from schools, picnic or any other location. Fitness enthusiasts will, therefore, be better served with a Scoogoo that has pedals. In developing pedals, there will have to be a tradeoff between the weight of the bicycle and an additional feature. Moreover, bikes with pedals will be larger and require more space. However, it will be considered in the future to expand the scope of the market and target a more specific niche of the market (Lutolf-Carroll & Pirnes, 2014).

Scoogoo could also develop and utilize a shared economy model of business similar to the Uber model. In this approach, there will be several Scoogoo bikes available to interested riders who can use them and in turn pay depending on the distance or duration of usage. In this approach, owners of Scoogoo can make their bikes available for use whenever they are not in use in return for some income. The mobile applications which enable the operation of Scoogoo could form the basis for linking an interested rider and owner with the company offering enabling services such as tracking the bike, billing, communication and acting as an intermediary between the parties.

Production

The production of Scoogoo is an intensive engineering process and entails the assembly of different parts, quality control and eventual tests to ensure that the product will meet the needs of the clients and function optimally. The cost of establishing an assembly line with engineers, machinists, welders, and painters among others will run into tens of millions of dollars and is definitely difficult to raise for a startup even with venture capitalists. The production process will, therefore, entail finding a company that already has the infrastructure in place and presenting the Scoogoo design (Smith, 2012).

At the first stage, there will be refining and redesign considering the input of the company engineers while maintaining the core features of Scoogoo. There will be the development of a prototype to test the design in real-life and find its capacity. The prototype will be tried by different people in various environments to determine if it is to be produced in mass scale or the need for any other adjustment (Baker, 2014). A successful prototype will help with the development of confidence and clarity about the final product that will be introduced to the market. The final conduct of this stage will pave the way for the mass production of Scoogoo.

There are several companies in China that produce such products cheaply and it will be sound businesswise to contract one of them to produce and ship the products to the depot in Brooklyn, New York for market distribution. The production and shipping costs are approximately \$400

per bike; the lower market price is approximately \$600 depending on the channel of distribution utilized (Morris, Pitt, Honeycutt, & SAGE Publishing, 2014).

Marketing Mix

Target Market

The target market for Scoogoo is school-going children and youths, both male and female aged 15 and above. The electric bike is specifically designed to meet their transportation and storage problems. By extension, their parents and guardians are targeted because they make the purchase decisions of such equipment for their children.

Planned Product Positioning

Scoogoo will be positioned in the market as the transport and storage solution to school-going kids. Its technical features including foldability, high speed, the addition of an electric motor and the capacity to fit into a small bag will be marketed as its major strengths.

The customer benefits will be used as the main positioning strategy. Scoogoo has superior features that will meet and exceed the expectations of the children. It caters for both transportation and storage in an environmentally-friendly manner (Orhun, 2016). It runs on an electric charge which does not cause pollution and also eliminates the strain associated with cycling. The bike is also small in size and light to be folded into a backpack makes the bike desirable by consumers and usable for picnics and other outdoor social events. In essence, Scoogoo will meet a need in the market that other bikes have never met. It is a highly differentiated and unique product.

An integrated marketing communication approach will be utilized to promote the product. The entire brand including logo, name, ads, and media will be used to propagate the difference between Scoogoo and any other electric bike and why it is better than the competition (Wind & Wharton School, 2019). The use of integrated communication channels will be effective in

swaying the customer loyalty towards the product. Online advertising, as well as social media advertising, will be used to communicate the product attributes. In addition, the traditional advertising channels including radio, TV, print media and billboards will be used to reinforce the message to the public (Richter, 2012).

Distribution Channels

The company will recruit retailers to stock the product and make it available to the consumers conveniently (Dent, 2015). In order to achieve this, stores that stock similar products such as other bikes will be recruited to sell Scoogoo. The company will also open its own retail outlets in various States and counties beginning with New York. Moreover, the company will utilize online sales channels including Amazon and Alibaba among others to make its product available to the online community.

Price

Scoogoo will adopt a head-to-head pricing strategy in which its price is set comparable to other competing products. The price set at \$599.99 is the price range for most e-bikes even those which have no special features like Scoogoo. The price considers the manufacturing costs and an appropriate profit margin (Schindler, 2011).



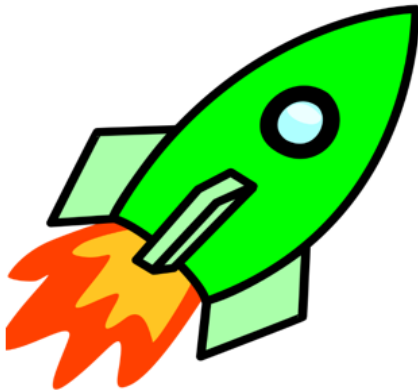
Branding and design

The positioning of our brand will be based on the competitive advantages of the product and will include the following parts:

1. SkooGoo is a fun and safe way to get to school.
2. This is a convenient way to get to the right place for adults too.

In order to emphasize the positioning, we chose a rocket as the logo:

SkooGoo



We chose green as the base color. The first models of the bike will also be green. This color is associated with environmentally friendly technologies and innovations for consumers.

The rocket symbolizes the fun that can be gained from using SkooGoo. This is important for a young audience, especially in the early stages of product development.

In all marketing messages, it is important to focus on these competitive advantages of the product: fun, versatility, safety.

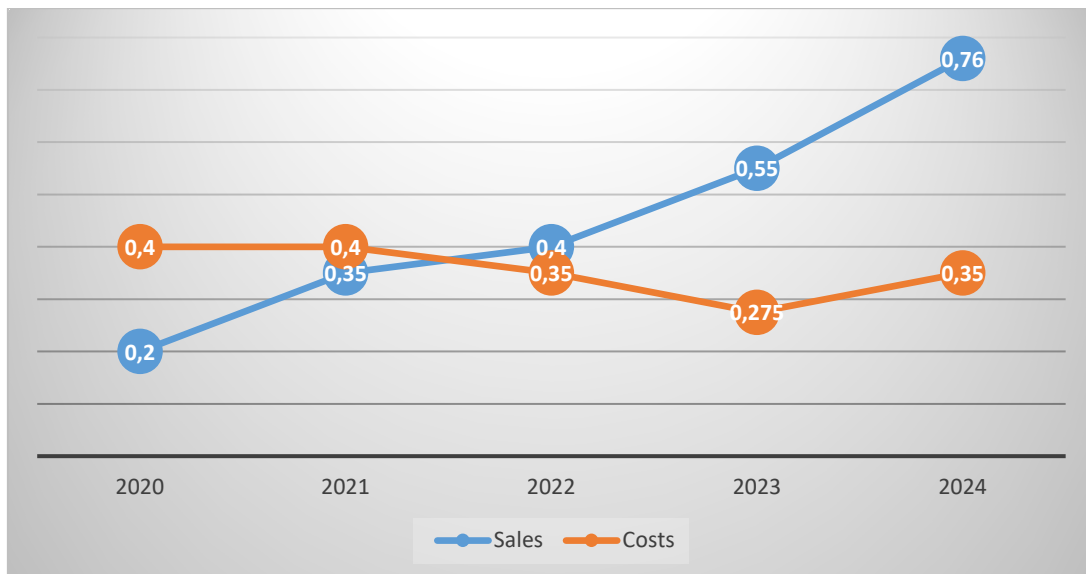
Sales and Profit Goals

We set the following goals:

1. to reach 760 thousand euros in revenue by 2024
2. to reach 200 thousand euros in revenue by 2020
3. to reach 410 thousand euros profit by 2024
4. to reach break-even point by 2022.

Financial forecast of revenues and Costs

Graphically, our revenue and cost forecast is presented below.



Concept testing and commercialization

The concept testing phase will include the following steps:

1. Conducting a deep market survey, which will include a survey of the target audience in Spain and in-depth interviews
2. Identification of opportunities for improving the product and adding new functionality
3. Repeat survey and final edits

After creating the prototype, we will move to the stage of commercialization. This includes the following steps:

1. IP protection. We are planning to apply to the European Patent Office for a patent. Prior to this, we will apply for a provisional patent in order to receive protection as early as possible. Then we will go through the process of patent validation in Spain.
2. Trade announcements in social media to start forming our brand.

3. Organizing of operations. We will outsource the most of the operations (production, supplying, quality control), but we still need to develop our distribution process and promotion.
4. Launching. We expect to launch the product in 2020.

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