



Methodology For The Development Of Business Models Dedicated To The Manufacture Of Hair Polishing Creams

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Abstract

There has been a remarkable change of lifestyle in society because previously there was not a wide variety of products that provided benefits to the hair and people had to adapt to those that generated medium benefit, now there is a wide range of treatments that allow the customer to choose the right choice depending on the problem. However, even if there are no hair abuse indexes, the use of hair repolarizing creams are of vital importance and act as a preventive treatment, avoiding any type of damage and diseases from the dermal pupil to the end of the hair shaft.

Keywords: activity, standard, method, process, process, variable

1. Introduction

Nowadays women in our society are presenting a problem that directly influences the beauty industry, specifically in hair care, since we live in an era in which they are exposed to various situations that in turn cause mistreatment and dryness. The application of strong chemicals to look different that generate irreversible damage and a bad appearance, the misuse of electrical appliances such as irons, dryers, curling irons, among others; damage caused by sun exposure and pollution as solar radiation is an aggression that deteriorates the integrity of the hair, because ultraviolet rays weaken the chemical bonds and alter the color of hair and other inferences that lead to diseases in the scalp as alopecia, seborrhea, pityriasis, ringworm, etc..

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generated medium benefit, now there is a wide range of treatments that allow the customer to choose the right choice depending on the problem. However, even if there are no hair abuse indexes, the use of hair repolarizing creams are of vital importance and act as a preventive treatment, avoiding any type of damage and diseases from the dermal pupil to the end of the hair shaft.

In search of a solution to this problem and to care for and improve the appearance of our hair, it was decided to create a hair repolarizing treatment, which will be composed of various beneficial nutrients that help to recover from the aforementioned damage, thus providing the necessary shine and vitality. Cream baths are very popular products nowadays as they help to keep the hair in the best conditions. This project provides knowledge about the product in terms of the technical and economic feasibility study in which the effectiveness it causes on the hair is detailed; besides knowing the components that integrate it.

It is important to highlight that all the techniques used such as ironing, hair dryer and hair dye application generate hair loss, that is why it is important to mention that coffee is the main component of the product acting directly in the prevention of this consequence. Developing a natural treatment using the magnificent properties of coffee is something that would not only benefit the physical appearance of women but also the national economy, since the main raw material would be obtained in our country and with an easy acquisition, establishing potential national suppliers.

The repolarizing cream is a hair treatment that provides softness and shine to the hair avoiding hair loss thanks to its excellent components such as: argan oil, coconut oil, among others; but mainly coffee, which is the one that allows to achieve permanent growth and generate an anti-frizz effect. This treatment effectively restores hair vitality lost as a result of chemical processes or the sun.

The benefits of coffee as a hair product are perfect for those who have very weak, fragile or excessively thinning hair, since caffeine helps to improve blood circulation in the scalp, strengthen the hair from birth and lengthen the life cycle of the hair follicle. And, as if this were not enough, with its regular application it is also possible to conceal gray hair in a natural way in brown and dark hair, as well as to give them much more shine. This product is considered for alternate use, approximately 2 to 3 times a week and requires heat in its application for best results. A sufficient amount should be applied and distributed throughout the hair from root to tip.

The hair repolarizing cream is intended to penetrate the market causing a great impact on the women of our society, for this reason it will be taken as a market segment:

Geographic segmentation: The hair repolarizing cream is aimed at a regional market, specifically at the nortesantandereana region in order to measure the acceptance of the product in our territory and then be marketed nationally.

Demographic segmentation: The hair repolarizing cream is aimed at women between the ages of 10 and 70 who wish to have healthy hair. A person with an income of one legal monthly minimum wage or who has the support of an adult who has this salary, who will be considered as the buyer, is in economic conditions to acquire this product, without requirements in occupation and education.

Psychographic segmentation: Women who want to keep their hair moisturized and shiny, concerned about hair health and physical appearance.

2. Article structure

2.1 Initial Research Context

According to DANE figures in the latest National Population and Housing Census 2018, the population in the Department Norte de Santander is 1,346,806 inhabitants, of which 50.7% corresponds to women and of that percentage approximately 88% of women aged between 10 and 70 years. Taking into account the application of the survey to 42 people, it was found that 92.9% of the women surveyed apply hair treatments that help restore hair.

Type of research. Descriptive: It is considered descriptive because it allows us to collect data and, with the information acquired, process and analyze the data to meet the expectations for which the survey was conducted.

Source of information: Primary: Surveys were administered to people with incomes equal to or greater than one legal monthly minimum wage, or who have the support of an adult with the same income who provides them with this product.

Sampling mode:

Table 1. Sampling target population

Population between 10-70 years old	Population earning the current legal minimum monthly salary or more
600.890	

$$600,890 * 70\% = 420,623 \text{ women}$$

$$n = \frac{Z^2 x p x q x N}{(N-1) x e^2 + Z^2 x p x q}$$

$$n = \frac{1,96^2 x 0,5 x 0,5 x 420.623}{(420.623-1) x 0,05^2 + 1,96^2 x 0,5 x 0,5}$$

$$n = 383,8$$

Due to the complexity of the survey application, it was decided to use 10% of the sample, obtaining a total of 39 surveys. It should be noted that the total number of people who filled out the survey link was 42.

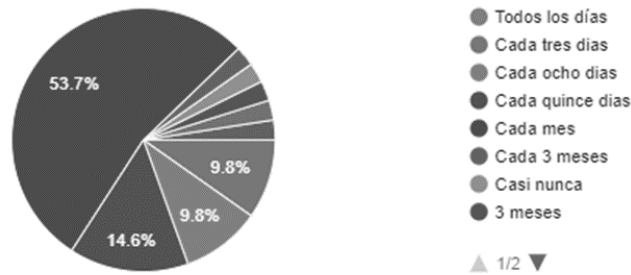
Sampling frame: Socioeconomic strata 2, 3 and 4

Scope: Department of Norte de Santander, specifically in the Municipality of San José de Cúcuta.

To project the calculation of potential demand, the 42 surveys conducted were taken into account. Based on the question "How often do you buy repolarizing creams for your hair?", the

following results were obtained:

Figure 1. Frequency of purchase



Consumption of units per person per year:

$$= (1 \times 9,8\% \times 120) + (1 \times 9,8\% \times 48) + (1 \times 14,6\% \times 24) + (1 \times 53,7\% \times 12) + (1 \times 2,4\% \times 4) + (1 \times 2,4\% \times 3) = 26.58 = 27 \text{ units per person per year}$$

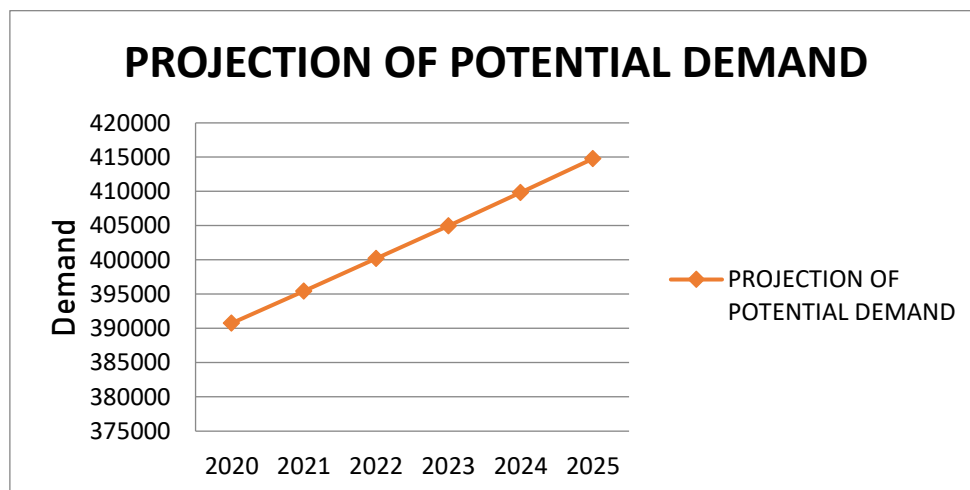
Of the total number of people surveyed, 3 of them said they did not apply hair treatments, so $3/42 = 0.071$. Now take away 0.071 from 1, which is 27 (units per person per year) and you get 0.929.

Potential demand is given by: 0.929 or 92.9%.

$$420,623 \times 92.9\% = 390,759 \text{ women (Potential demand)}$$

Taking into account the growth in the sector of 1.2% per year, the demand projection for the next 5 years is made. We calculate 1.2% to the value we have for the current year which is 390,759 and this gives us 4,689 which we add to 390,759 to calculate the projection for the year 2021 and so on for the rest of the years.

Figure 1. Demand projection



The graph shows that the potential demand forecast for the year 2025 is 414,772 women. In the survey conducted, it was detected that 4.8% would not purchase the hair product because they buy substitute products or because they simply do not apply this type of treatment to their hair.

$$1 - 0,048 = 0,952$$

Knowing that 95.2% claim to purchase the product, we then calculate this percentage to our real demand (92.9%) and obtain a value of 88.44%. Finally we conclude that the percentage of our real demand is 88.44%. $390,759 * 88.44\% = 345,587$ women (Real demand). From the graph we conclude that the actual demand forecast for the year 2025 is 366,825 women.

3. Method

In the following article, the creation of a hair cream production plant is proposed, for this purpose a series of location studies are carried out, which are focused on determining the most favorable place for the plant, after which a series of analyses of factors that in one way or another may affect or influence the performance of the plant in the future are carried out. It is important to emphasize that the raw material in this proposal will be obtained by a hydroponic cultivation method, which is oriented to optimize resources and increase production. The investment proposal in the design of the plant, after having carried out an evaluation of factors, with very good industrial projection and a good road infrastructure, concludes that this business model improves the economic aspirations, because it connects it with the main markets of the department, it is important to highlight that the difficult sanitary situation at world level (COVID 19), limited the obtaining of first information and the development of the field work, the latter essential in the decision making of the project. However, with the support of bibliographic sources, projects already carried out and the support of the tutor engineer of the subject, it was possible to trace a favorable path for the needs of the research.

4. Results

As a strategy plan to let the community know about the existence of our repolarizing treatment, strategies will be implemented to create positioning in the sector, during its growth in the market promotions will be offered to customers in order to propagate our product, as well as highlighting the benefits it offers. For the launch of the hair repolarizing cream we will pay advertising guidelines in social networks such as Instagram and Facebook, since mainly our sales will be made virtually so this strategy will allow us to analyze the sales that are made and think in the future to create a physical store, in turn small samples will be provided to friends and family, so that they can create a real testimony of what it was like to try the repolarizing treatment, so if the expectations of these people are met we can create a wave of propagation recommending our product. In addition to this, there will be attractive promotions, so that potential customers will find it easier to purchase our product.

Need/Wish, our treatment can meet both expectations, since some clients may purchase the treatment in view of a need to improve the condition of their hair or by desire to those women who even having their hair in good condition always think about continuing to take care of themselves while maintaining a good physical appearance.

Advantage, this is mainly based on the fact that the product offers various benefits, among them helps to combat and prevent hair loss, considering it as a differentiating point when compared to other treatments, it should be noted that its components are of excellent quality and best of all is its price, as it is more affordable. Our treatment will be offered to the public in a virtual way, if they wish to purchase it, the product will be delivered to the buyer's residence by means of a home address, attractive promotions will be created in order to motivate the viewers of the advertisement to buy the treatment.

Packaging: its presentation will be in a plastic container which will have a capacity of 300 ml.

Finished product: the package will be wrapped in plastic to ensure that the product is completely sealed and delivered to the customer in a small eye-catching bag with the repolarizer logo, storage recommendations and indications on the best way to apply the treatment for a quick effect.

4.1 Size of the venture

The size of the project refers to the production capacity of each capillary repolarizing cream during the life of the project and is defined taking into account the limiting factors such as: market size, raw material, skilled labor, financial capacity, among others; all this in order to determine the amount of capillary repolarizing creams that can be produced and those that will actually be ordered to be produced for subsequent marketing.

The size of the project is defined because it constitutes a primary basis for setting the production capacity of each hair repolarizing cream working in conjunction with a laboratory specialized in the manufacture of this type of product that encompasses the cosmetic and beauty trade, according to a percentage of unsatisfied demand calculated in the market study and its projected growth over the next few years, taking into account the physical, human, financial and technological resources available in the laboratory.

Market size: According to the analysis of the results obtained in the market study, it was demonstrated that this is not a limiting factor since the market growth is proportional to the size of the project, with a real demand for the current year of 345,587 women who would be willing to purchase a coffee-based hair repolarizing cream that helps to restore their hair.

Raw material: It is important to highlight that Colombia is one of the largest producers and exporters of the best coffee in the world, where the Eje Cafetero, Norte de Santander, Valle del Cauca, among other regions of the country stand out; this implies assuring the obtaining of the main raw material for the elaboration of the hair repolarizing cream and the security of complying with the requirements of the clients.

Qualified labor: The laboratory with which the production, design and packaging services will be contracted must have highly qualified personnel in the handling of chemicals and the necessary machinery.

Financial capacity: For the elaboration of each capillary repolarizing cream, there would not be a physical production plant, but there will be a contract with a laboratory specialized in this type of products; therefore, the project will not be affected by a demanding own capital available for the initiation of the project since there would be no investments in lot, machinery, labor, among others. However, the financial capacity will be limited by the financing from public and private entities at the time of acquiring the main raw material (coffee) and placing

the production order to the laboratory. This capacity would increase as the orders from the clients increase, since this would leave profits that would be reinvested in the production of more units.

4.2 Project capacity

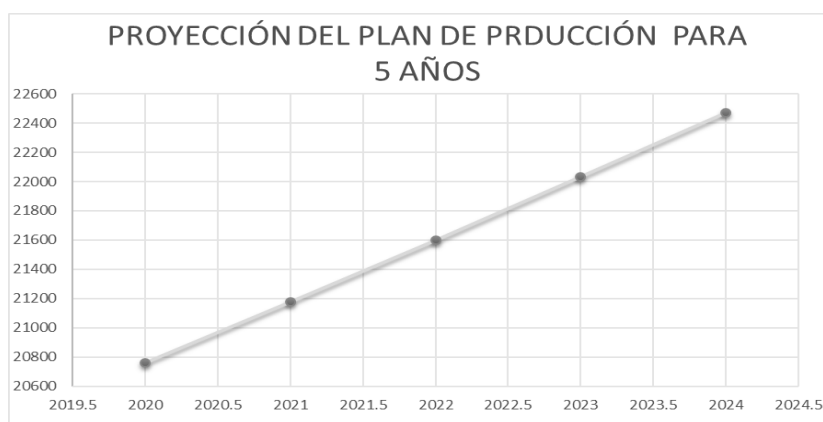
The capacity study of the project will be based on the market study, taking into account that with our potential and real demand it will be possible to analyze the designed capacity, effective capacity and utilized capacity. In view of the fact that the manufacturing process of the repolarizing treatment requires a monetary investment for the purchase of specialized machinery that allows a correct production process and also taking into account that it is a product that has enough competition in the market, we have chosen to contract directly with a chemical laboratory that has sufficient infrastructure and in such a way that they are in charge of the manufacturing, packaging and labeling of our product.

Based on the market study, we focused on our real demand, which was 345,587 women who would be willing to buy the treatment. From this demand we decided to take 10%, which corresponds to 35 women; based on this we decided to place an order for 50 units of the repolarizing treatment, which meets the demand studied and will also allow us to perform an analysis since we will study whether or not the project is considered feasible with these units. This capacity refers to the real time of operation of the clinical laboratory in the fulfillment of the orders placed, therefore, production orders must be placed in advance and delivery times and deadlines must be stipulated to avoid shortages in the storage area of the product and delays in delivery.

Based on 0.5% of our actual demand, which is 1727 women, we have decided to establish a production order of 1730 units of the monthly repolarizing treatment as follows:

For the year 2020, monthly orders of 1730 units will be placed, the year will be 20760 units, for the analysis of the following year, 2% will be added to the previous year and so on.

Figure 2. Projected production plan



4.3 Economic Study

In order to determine and study the sales price, the products mentioned in the evaluation of competitors were taken into account, so their retail prices, size and presentation of the product were identified and analyzed.

Milagros, is a company dedicated to the manufacture and sale of products for the care of our hair, this company is based in the city of Cúcuta, in turn has a biorepolarizing treatment. The price of the repolarizing treatment is \$30.000 and it is offered to its clients in a 450 ml. presentation.

Magic in your hair, is an establishment dedicated to the sale of hair products of the brand Magic Hair in which repolarizing treatments are offered. Adrysuatips is a virtual page from Cucuta that offers various products, including a repolarizer of the brand Adrysuatips, this entity does not have a physical store, therefore, sales are made by home delivery. The price of its repolarizing treatment is \$40,000 and it is offered to its customers in a 500 ml presentation.

Physical establishments in which hair treatments and a large number of products of various brands already positioned in the Colombian market are offered. Analyzing the competition, prices and content of their treatments we have decided to stipulate a price of \$25,000 for a size of 300ml, which becomes a product with a more affordable cost for the whole society, in turn we emphasize that the raw materials to be used must have the best possible quality, so that they can meet the expectations and expected results from the first use.

To estimate the selling price of the repolarizer product with 300 ml presentation up to year 5, the first thing to do is to calculate the selling price, adding the corresponding 6% CPI, which increases exponentially for each of the years.

Table 2. Sales price projection

Producto	Sales price	Year 1	Year 2	Year 3	Year 4	Year 5
Repolarizing treatment	\$ 25.000	\$ 25.000	\$ 26.500	\$ 28.090	\$ 29.775	\$ 31.562

The net present value of the operation has resulted in a value of \$\$4,881,601,105.76, which indicates that the project is profitable (it is feasible from a financial point of view), and for this reason, the decision to be taken is to execute it. It should be noted that a positive NPV means that the analyzed project is superior to the alternative project, which takes into account the equilibrium interbank interest rate, therefore it is attractive and accepted.

Table 3. Net Present Value

	Inv	1	2	3	4	5
VPN=	-\$ 7.817.083	\$ 1.118.536.268,45	\$ 1.157.237.623,34	\$ 1.197.278.045,11	\$ 1.238.703.865,47	\$ 1.281.563.019,21
VPN	\$4.881.601.105,76	En vista de que el VPN es mayor a 0, se acepta el proyecto				

The internal rate of return of the project was 14%, which means that the analyzed project returns the invested capital plus an additional profit, the project is profitable.

Conclusions.

The COFIBELL repolarizing treatment is innovative because it has different ingredients such as coffee which offers greater benefits for the care and prevention of our hair, in turn it is a product that manages an affordable price and quantity needed which makes it get points in favor when compared to the competition. Nowadays women are more exposed to damage to their hair due to excessive use of dyes, iron, dryer and daily exposure to the sun, which generates an unfavorable aspect in the hair, therefore this product offers good benefits and in turn taking into account the result of our actual demand will be well received by women since 88.44% responded that if they would be willing to purchase and try this innovative product.

Based on our actual demand and the calculations made on the production capacity, it is expected that at the end of the first year we will have marketed 20760 units of the repolarizing treatment, therefore we expect to have an annual increase of 2% of our actual demand. Since it is an innovative project, we decided to acquire the service of a chemical laboratory which will provide the process of elaboration, labeling and packaging of our product in order to analyze if this proposal can be feasible or not, if it is feasible in the testing process of one year and taking into account the profits obtained; a study will be done to let us know if it would be beneficial to create our own chemical laboratory to produce the capillary repolarizing treatment.

The NPV value is positive, indicating that the project would be considered profitable, because the investment costs are low since initially we would not invest in machinery, lots, among others. At the same time we obtain a very high IRR which indicates that we would recover the initial investment in a short time, since when calculating the PRC it can be seen that the recovery time is less than one year.

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Makalenin Türkçe başlığı buraya yazılır....

Özet

Türkçe özet.

Anahtar sözcükler: anahtar sözcükler1; anahtar sözcükler2; anahtar sözcükler3

AUTHOR BIODATA

Insert here author biodata.