



NORTH TECHNICAL COLLEGE

**ENGINEERING SCHOOL OF APPLIED SCIENCE
TEXTILE ENGINEERING CAREERS**

SCIENTIFIC ARTICLE

TOPIC:

**" INSTALLATION AND STARTING A SMALL BUSINESS
CLOTHES AND GIRLS IN FABRIC FLEECE RAISING IN THE
PARISH OF SAN ANTONIO DE IBARRA "**

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I. Summary

This project installation and commissioning of a micro-fleece garments woven raising girls in the parish of San Antonio de Ibarra, was made with the intention of utilizing the resources are there in the parish of San Antonio de Ibarra and surroundings, to achieve socio-economic development within the parish.

In the initial part of this project a feasibility study for the creation of microenterprises where the technical, economic and financial factors analyzed was performed, giving a positive result and viable implementation of microenterprises in the abovementioned sector; on appeal aspects of the company, where the name is chosen analyzes, brand, labels, plus the mission, vision, principles and values that will be governed in microenterprises is performed other analyzed aspects are the organizational structure and the job description of the personnel working in this microenterprise.

In the third instance the technical aspects of the company is analyzed, it chooses the best suppliers in different areas that the company and the company is given the ergonomics necessary for the proper use of resources.

Below is operated microenterprise different aspects to consider, time is standardized and leaves control of the garments that are made is created.

Finally the cost of making different models that are produced and the corresponding retail price is analyzed.

II. Presentation

The activity of making clothing in the province of Imbabura has grown significantly in recent years, with or concerning the city of Atuntaqui, where currently some companies export their clothes outside. With the creation of this microenterprise in the parish of San Antonio, will help strengthen the sector and give it a significant economic dynamism, so that this project consists of the following chapters:

Chapter 1: This chapter discusses the feasibility study, in which the market study, technical study, financial study is analyzed, leading to positive results in the creation and implementation of microenterprises in the parish of San Antonio is developed.

Chapter 2: Includes all about the company, such as the name, the brand

will have the respective labels that carry the clothing. Besides the mission, vision, principles, values and objectives that the company will become a potential future entity plasma.

Chapter 3: This chapter discusses all aspects for installation of micro aspects such as machinery, raw materials, materials, supplies, furniture, the respective study of suppliers is made and choose the most suitable according to the need.

Chapter 4: This chapter starts microenterprise, aspects of personnel, design, manufacturing process, takes time for the different models and control sheets to control the garments in the process is analyzed. It ends with the packing and distribution of the finished pieces.

Chapter 5: Includes the cost analysis tailored garment, finished garment, cost model, the price of retail and ends with the results, conclusions, recommendations, bibliography and appendices.

III. Results

Results of financial evaluation

EVALUATION INDEX FINANCIAL RESULTS CONCLUSION

Benchmark High to the refresh rate is profitable

Positive NPV value is profitable

TIR High to the refresh rate is profitable

BENEFIT / COST Mayor 1 is profitable

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Therefore, it is concluded that the proposed installation and commissioning of microenterprise clothing is financially rewarding, so your investment is recommended.

Organizational Structure



Process of making garments

After defining the design and models to perform in microenterprises, technical study will allow the location of personnel and machinery so that the manufacturing process does not present obstacles and delays. Then you need to define the manufacturing process that starts with the delivery of the pieces of garments

each machine operator and then making them, so that does not slow the process and each machine operator to work together with others. Then the process of making plant described:

LAYING: Carried out manually to a considerable number of layers in the respective colors and girls such as: pink, pink, aqua among others.

Graphic: Pavement



Source: Fernando Orellana

PLOT: When mentioning above that chose to opt for the service of design and pattern that provides the company USE in the city of Atuntaqui, this in turn provides the plotter printing service. So the paper lying on the fabric with a special spray for this type of work, without drawing molds on the fabric was carried out at this point.

Graph: Plotting



Source: Fernando Orellana

CUT: In this process was conducted with the respective vertical slicer blade, which can be cut more layers that disc cutter.

Graphic: Court



Source: Fernando Orellana

PACKAGE: The preparation was carried out with machines such as straight, overlock, coater, depending on the work performed and finally made buttonholes and button sewing machine with zigzag, depending on the model that works

Graphic: Making Process



Source: Fernando Orellana

FINISHES: Finishes include embroidery clothing, or glued appliques, according to the model you are laboring, which has sought service depending on the case.

QUALITY CONTROL Strict quality control ensures a garment with great satisfaction of end customers.

It is at this point where the stitching, stitches and different faults that may have made up pendas thoroughly reviewed, if the garment is faulty is returned to the production process for subsequent arrangement.

PACKAGING: The packaging begins with cleaning the clothes which will then be folded and labeled with its own brand logo, before being sheathed, sealed and taken to the racks of the cellar.

Storage



Source: Fernando Orellana

Costs and Prices marketing of garments

In the tables below takes into account the total cost of each size stated in the above tables and a gain of 30% is estimated. Due to the detail of the clothes cost \$ 0.50 a ratio rises in each size obtaining the following result:

Candy sales price model

SIZE	C. PREND	GANC 30%	SALE	GAINS
1	8,58	11,16	11	2,42
2	8,74	11,36	11,5	2,76
4	8,91	11,59	12	3,09
6	9,08	11,80	12,5	3,42
8	9,37	12,18	13	3,63
10	9,55	12,41	13,5	3,95
12	9,72	12,64	14	4,28
14	9,92	12,90	14,5	4,58

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ANALÍA MARKETING MODEL PRICE

The trading price of this model is equal to the model CANDY due to their similar characteristics.

Retail price model Analia

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SARA MARKETING MODEL PRICE

Due to the difference in the weight of the garment, this set is sold at a price equal to the two models mentioned above

Sara sales price model

SIZE	C. PREND	GANC 30%	SALE	GAINS
1	8,19	10,65	11	2,81
2	8,57	11,14	11,5	2,93
4	9,05	11,77	12	2,95
6	9,46	12,29	12,5	3,04
8	9,84	12,79	13	3,16
10	10,21	13,27	13,5	3,29
12	10,49	13,64	14	3,51
14	10,81	14,05	14,5	3,69

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IV. Conclusions

Market research conducted has come to know that in the wholesale market in the city of Ambato, 33% of buyers than 200 customers purchase sets of girls and that there weekly approximately 60 potential customers who purchase this type of clothing dress.

According to the financial study, we conclude that the total investment for the project is \$ 28.302.74, of which 47% corresponds to own contributions and 52.98% will be financed by a bank. Where the first year it should sell a total

SIZE	C. PREND	GANC 30%	SALE	GAINS
1	7,93	10,31	11	3,07
2	8,17	10,63	11,5	3,33
4	8,43	10,96	12	3,57
6	8,68	11,28	12,5	3,82
8	8,95	11,63	13	4,05
10	9,20	11,96	13,5	4,30
12	9,45	12,28	14	4,55
14	9,74	12,66	14,5	4,76

of 5,739 sets of girls in 9600 to meet projected breakeven project.

The financial evaluation of the project for the installation and commissioning of microenterprises in the parish of San Antonio, the following was obtained Valuation criteria:

NPV = \$ 58.627.45, being positive, it means that the project is profitable.

IRR = 75%, higher than the rate limit, so the project is favorable.

B / C = 1.34, because the B / C ratio is greater than 1, the project is favorable.

Therefore it is concluded that the proposed installation and commissioning of microenterprise clothing in the parish of San Antonio is financially rewarding

In the SAM of each model differs more time in minutes in the candy model because this model has more process model have candy and 35.48 min, 30.87

min Analia model and model Sara 34.03 min.

Cost analysis of the sets of girls, it follows that the real cost of clothing is \$ 9 average and its profitability is 30% giving a net profit of \$ 3, on average, from size 1 price sale is \$ 11.00 and increases \$ 0.50 for each size, which is expected to meet the cash flow of the project.

It has made inroads into the market in a good way and a very interesting host with girls sets raising fleece fabric, taking into account aspects such as innovation, quality, enhance the competitiveness of the company and market requirements.

V. Recommendations

It is recommended that the project management, monitor emphatically than budgeted figures comply fully according to plan, in order to comply with the normal operation of microenterprises.

Distribute machinery plant properly to the production of garments flow efficiently and can meet the projected units on microenterprise.

We recommend investing in image and brand advertising, in order to reach more markets and expand the customer base.

The proper use, handling and maintenance of machinery, avoid excessive wear and also means savings for microenterprise.

We recommend bringing leaves production control all the cuts that are made, in order to keep track of time and costs that may allow future comparisons for continuous improvement.

We recommend using textile design software because it allows the optimization of human, financial and time in the process of design and layout of the pieces.

The system administration and operation of comprehensive maintenance program should be carried out and articulated model approach Ecuador, which are defined in this document in detail and objectively, and use formats and tools to enable optimal management, planning , control and evaluation for comprehensive maintenance activities, predictive, preventive and corrective suited to their institutional resources.

Consider the evaluation process as a tool to identify potential nonconformities and corrective establish parameters for continuous improvement of the management of maintenance programs actions.

VI. Bibliographic References

□ Barreno, Luis. (2004). Manual Project Formulation and Evaluation, First Edition. Quito: Editoria Suzaeta.

□ Brealey, Myers and Allen. (2006). Principles of Corporate Finance, eighth edition, Mexico: Editorial Mc Graw Hill.

□ Dumrauf Lopez, G. (2006). Financial calculation applied, a professional approach, 2nd Edition, Buenos Aires: Editorial La Ley.

□ Niebel, C. and Freivalds, A., (2004). Industrial Engineering, 11th edition, Mexico DF: Ed Alfaomega.

□ Olaya, Mauritius. (2002). Manual Quality Management, Quito Ecuador: Mc Graw Hill.

□ Olaya, Mauritius. (2002). Manual Production management, Quito Ecuador: Editorial Mc Graw Hill.

□ Sopena (2008). Aristos Dictionary, latest edition, Quito-Ecuador: Ed Sopena.