Project Deliverable G.2

Economics Report

Submitted by

Group Z13

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1. Introduction

This will be an economic report. We will analyze how our products cost and sell, and how they compare to high-volume manufacturing. Next, make a series of economic reference documents such as income statement, cash flow, income profitability, etc. After that, use NPV to analyze the break-even point and describe it, proving that all the assumptions I made before are feasible in all current markets. Finally, a general description of the product is made based on the available information.

2. List of variables

Cost	Classification
Salaries	 Fixed cost: Salaries are independent of production levels Indirect cost: Employees that works indirectly on project or Direct cost: Employees that works directly on project
Marketing expenses	Fixed cost: Marketing is independent of production levels Indirect cost: Not directly related to project
Research and development	Fixed cost: Marketing is independent of production levels Direct cost: Directly related to project improvements
Electricity	Variable cost: Depends on the electricity consumption and price Indirect cost: Not directly related to project
Rent	Fixed cost: Rent is independent of production levels Indirect cost: Not directly related to project
Production of material	Variable cost: Materials are dependent of production levels Direct cost: Directly related to project

Table 1: List of variables that are relevant in our economics report

3. 3 year income statement

Sales Revenue: (# of items sold)*(price of product) # of items sold = 1,000(per year) Price = \$70

Cost of Goods: (# of items produced)*(cost of products) # of items produced = 1200 Price = \$20 for the parts

Gross Profit: Sales revenue - Cost of goods

Operation Expenses: Sum of all operation expenses (Salaries, R&D, Electricity, Rent, Marketing)

Operation Income: Gross profit - Operating expenses

Figure	1:	3	year	income statement summary	1
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The handlers					
Income statement					
Y	2022	2023	2024		
Revenues	Sales revenue	\$70,000	\$140,000	\$175,000	
	Total revenue	\$70,000	\$140,000	\$175,000	
Operating expenses	Salaries	\$51,000	\$75,000	\$100,000	
	Production of materials	\$30,000	\$30,000	\$30,000	
Marketing expenses Research and development		\$3,000	\$5,000	\$8,500	
		\$5,000	\$7,500	\$10,000	
	Electricity	\$900	\$910	\$985.40	
	Rent	\$2,000	\$2,000	\$2,000	
	Total operating expenses	\$90,900	\$120,410	\$151,485.4	
Operating income	Total operating income	-\$20,900	\$19,590	\$23,514.6	

Table 2: Income statement for years of 2022-2023-2024

4. NPV analysis and break even point

Year	2022	2023	2024
Profit	-\$20,900	\$19,590	\$23,514.6
Operating Expenses	\$90,900	\$120,410	\$151,485.4
Selling price per unit	\$150	\$160	\$170
Fixed cost per unit	\$130	\$135	\$140
Break -Even Point	4545 units	4817 units	5050 units

 Table 3: NPV analysis

5. Cash flow diagrams and NPV value

 Table 4: Cash flow table

	Amount (\$)
cash	5,000
equipment	18,000
inventory	2,000



Figure 2: Cash flow diagram

Assuming the interest is 2% per year

 Table 5: Cash flow for income

Year	NPV
2022	\$ 68,628
2023	\$ 134,564
2024	\$ 164,907

Table 6: Cash flow for expense

Year	NPV
2022	\$ 85,658
2023	\$ 113,466
2024	\$ 141,806

6. Assumptions and justification

We assume the use of social software to promote our products. Therefore, it takes a certain amount of time to let more people know about the existence of our products. For this we estimate that it will take about 1 year to have enough consumers to make our product profitable. According to statistics, there are nearly 15% of people with disabilities in the world, which is a considerable number, so we expect our products will account for 25% of the market for similar products (WHO, 2011). On the other hand, due to more capital invested in product development projects, the production process of the product will be optimized in detail, simplifying the production process to reduce production costs, increase production, and make our products more profitable. Additionally, more people will be hired to increase the production volume of our products and expand the consumer market. Thus from year 2, our products are expected to be significantly more profitable. Finally, our products will have a larger market due to the maturity of our technological means and the number of consumers.

In addition, more money will be spent on developing new features to increase the consumer base, for example, simplifying operation, increasing load, stability, and possibly becoming a prosthetic limb for those with physical disabilities. In addition, in order to cater to different consumer groups, our products will be launched in different versions depending on the function and quality, so that almost everyone can consume our products (the lowest price is expected to be less than 50 CAD).

7. Conclusion

In conclusion, the different costs related to our company were identified and classified. A 3 year income statement was developed to have some projected values of

the profits and the loss our company will encounter. The NPV analysis and the break even point gives us an idea of the units needed to be sold before the company becomes profitable. Our assumptions were then justified to make sure our projections are accurate.

8. Bibliography

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