

Deliverable H: Economics Report and 1 minute Pitch

Carolina Ortiz, Heidi Gordon, Jackson King, Stephen Marchewka

When creating a new product, it's important to consider all of the associated costs as you're starting a business. We will cover all of the costs associated with turning Ice Cube into a business as well as a 3 year income statement with expenses and profit. We will also find our break-even point with the help of NPV analysis. Finally, our video pitch will provide viewers with who we are and how we plan to allow all kids with disabilities to experience the joy of skating.

1.)

Cost Type	Cost
Variable	Wood materials 2x8x12 Millstead SPF - $\$16.25 \times 100 = \underline{\$162.50}$ Metal materials 24x48x0.25 aluminum - $\$39.00 \times 200 = \underline{\$7800.00}$ 3D printing materials - $\underline{\$20/kg}$ 24x96x1.5 styrofoam - $\$27 \times 100 = \underline{\$2700}$
Fixed	Building Rental - $\underline{\$500/month}$ Patent fees - $\underline{\$2000}$ Transportation of final product - $\underline{\$700/month}$
Direct	Machinery - \$1500 (flat fee) Packaging - %9 of Variable Costs. = $0.09 \times 10682 = \underline{\$961.43}$ Wages - \$14/hr
Indirect	Website fees - \$5/month Internet for building - \$50/month Marketing - \$300/month

2.)

Year 1

Sales	\$30000
Cost of Goods Sold	<u>10682.5</u>
Gross Profit on Sales	\$19317.5
Operating Expenses	

Marketing Expenses	3600
General & Admin Expenses	<u>3121.43</u>
Total Operating Expense	<u>\$6721.43</u>
Operating Income	12596.07
Interest Expense	<u>180</u>
Earnings Before Tax	12416.07
Income Tax	<u>3104.02</u>
Net Income	9312.05

Year 2

Sales	\$75000
Cost of Goods Sold	<u>26706.25</u>
Gross Profit on Sales	\$48293.75
Operating Expenses:	
Marketing Expense	3600
General & Admin Expenses	3063.56
Depreciation	<u>150</u>
Total Operating Expense	<u>\$6513.56</u>
Operating Income	\$41780.19
Interest Expense	<u>120</u>
Earnings Before Tax	41660.19
Income Tax	<u>10415.05</u>
Net Income	31245.14

Year 3

Sales	\$150000
Cost of Goods Sold	<u>\$53412.5</u>
Gross Profit on Sales	\$96587.5
Operating Expenses:	
Marketing Expense	3600
General & Admin Expenses	4807.13
Depreciation	<u>135</u>
Total Operating Expense	<u>\$8272.13</u>
Operating Income	88315.37
Interest Expense	<u>60</u>
Earnings Before Tax	88255.37

Income Tax	<u>22063.84</u>
Net Income	66191.53

3.

Break Even Point:
$$\frac{\text{Fixed costs}}{\text{Sales price/unit} - \text{Variable cost/unit}}$$

$$\frac{16\,400}{113.99 - 102.25}$$

1397

We will break even at 1397 units sold

Discount Rate: 10%

Discount Factor: $1/(1+r)^n$

Year	Cash Flow	Present Value
0	-33 000	-33 000
1	-3 000	-2 727
2	72 272	59 728
3	209 728	157 571

We will break even the second year of business.

4. Developing our economic report came with many assumptions.

We assumed that the value of the machinery depreciated by 10% each year. The value of machinery continually decreases so you can't have a fixed value because the machinery is always going to be worth something, so 10% is a reasonable amount to assume.

We assumed a constant income tax of 25%. Although income tax percent increases as the income of the business increases, we are unsure of at what values it will change so for our calculations we assumed a constant income tax of 25%.

We also assumed that the cost of production per unit would be \$102.25 while in reality partnerships and continuous customers could allow for potential deals that would decrease the cost of materials.

The interest rate was assumed to be 2% compounded annually. When we borrow money from the bank they will charge interest based on the amount of money borrowed.

We are assuming that we borrowed \$9000 from the bank and we pay back the interest plus \$3000 each year. This is because none of us have full time jobs, and we need money to purchase machinery, materials, etc.

Monthly fees were also assumed to remain constant when in reality they could fluctuate and impact the costs associated with the business.

After laying out all of the costs associated with the production of Ice Cube and the business, we have realized the true cost of a business. We have discovered the importance of looking at indirect costs that aren't as obvious as the direct materials and machinery to physically make the product. We realized that taxes and interest can make a significant impact on a net income, and that there is more to a business than total sales. We found that our break even point is when 1397 units are sold during our second year of business. With the help of our video pitch, we would expect to have interest in our product and be able to grow a business with the costs and sales provided.