Deliverable H

1. Costs

### 1.1 Variable/Direct Costs

* Materials to build our product including:
  + Pair of downhill skis - **$40.00**
  + Ski wax/gloss - **$8.00**
  + Wheel tread - **$20.00**
  + Metal rods (for wheel guide) - **$10.00**
  + Locking Mechanism - **$22.00**
  + **Total Cost of Materials: $100.00**
* Production Supplies
  + Items like machinery oil will be consumed while using the mill and lathe; ~10 mL of machine oil per usage
  + Lubrication as per lubrication chart
* Piece Rate Labor
  + Amount paid to workers for every unit produced
  + An average of **3** units per hours at **$15/hour** totals to **$5** per unit paid to the workers.
* Advertising and Marketing
  + The amount of advertising and marketing will vary based on the supply and demand of our product in different annual quarters
* Shipping
  + Shipping rates will vary depending on where our product is being shipped

### 1.2 Fixed/Indirect Costs

* Product patent
  + Our one time payment of a patent for our product will be one of our fixed costs, varying from **$4,000 - $6,000**
* Depreciation costs for tangible assets such as production equipment
  + Mills, lathes, tools, etc.
* Salaries
  + Minimum wage (**$15.00**) paid to production workers
* Utilities
  + Electricity
    - Working hours are 9:00AM - 5:00PM, which averages $**0.10/kWh** throughout the day
    - Electricity cost per unit would average roughly **$0.50**
  + Phone bills, gas, website costs, etc.
* Production Equipment Maintenance
  + Milling machine
    - Inspection of slackness of bearings - annually
    - Inspection of electrics - every 3 months
    - Inspection of lubrication pump - semi-annually
    - Coolant renewal - semi-annually
  + Averaging roughly **$100.00** per inspection, and **$1000.00** annually

1. 3-Year Income Statement

Skweels Inc. Income Statement

|  |  |  |  |
| --- | --- | --- | --- |
| **Revenue** | **2016** | **2017** | **2018** |
| *Sales Revenue* | $200,000 | $228,000 | $296,00 |
| *Gross Profit* | $40,000 | $45,600 | $59,200 |
|  |  |  |  |
| **Operating Expenses** | $34,768 | $30,270 |  |
| *Salaries/employee* | $24,960 | $24,960 | $24,960 |
| *Machinery Maintenance*  *(Oil, lubrication, etc.)* | $1000 | $1000 | $1000 |
| *Electricity* | $1008 | $1120 | $1392 |
| *Product Patent* | $5000 | N/A | N/A |
| *Advertisement and Marketing* | $1200 | $1366 | $1678 |
| *Shipping* | $1600 | $1824 | $2368 |
| *Cost of Goods Sold* | $160,000 | $182,400 | $236,800 |
|  |  |  |  |
| **Operating Income** | $5232 | $15,330 | $27,802 |

1. NPV Break-Even Point

Break even point = Fixed costs / (Price of item - Variable costs)

= $10000 / ($100 - $0.5)

= 100 units

1. Justification

For our economics report, we mainly had a lot of assumptions on the different type of costs for each topic.

For our costs, we justified all of our assumptions by researching the prices of what topics that we need to have, and we decide for ourselves what prices we should set on those topics.

For example, we had to research the prices of how much each part cost to build our product. After we researched the prices, we would increase the researched price for each item by a factor of 0.3. Additionally, for another example, we also researched the price of minimum wage, and we just set the payment for each worker per hour equal to the minimum wage.

We figured that we would lose money the first year in business, and our assumption proved to be true. All in all, we had a good idea of our business dynamics and made mostly accurate assumptions based on our personal knowledge and online research.