

Project Deliverable H : Economics

Report and Video Pitch

GNG 2101

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11/14/2019

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Introduction:

In the first half of the deliverable, our group has created a three year forecasted income statement, based on sales and cost revenue estimated. Since, Automatic connect is a software company we don't have much start-up and material cost to account for like other businesses. Thus allowing our company to reach profitability very quickly and minimizing much risk. The unique aspect of our business is the small upfront cost of 75\$ per unit for the customer, once we advance our program 75\$ will be our cost of goods but were our company will make money is with the monthly adjustments made to the code, which includes updating the password each month. With subscription-based model, this allows our company to have a great understanding of our revenue for the upcoming year. In the second half, you can also find the later half of this deliverable attached.

H.1 Economics Report

1. Include a list of: variable, fixed, direct and indirect costs associated with your business, based on the manufacturing and sale of your product. Make sure that you distinguish between price and cost and realize that prototyping and higher-volume manufacturing costs will probably differ.

Here's a visual representation covering costs associated with our business.

Direct Cost	In-direct Cost	Variable Cost	Fixed
Direct costs are costs that are directly accountable to a cost object (such as a particular project, facility, function or product).	Indirect costs are costs that are not directly accountable to a cost object (such as a particular project, facility, function or product). Indirect costs may be either fixed or variable.	Variable costs are costs that change as the quantity of the good or service that a business produces changes	A Fixed cost is a cost that does not change with an increase or decrease in the amount of goods or services produced or sold
Our direct costs include the program development and research into code, other forms of direct cost for us are maintenance and repairs the clients may need throughout the years of using the product.	This will include our salaries, rent and functional costs that allow our company to stay running. Other indirect costs: Insurance, Utilities, office supplies.	The more we change to our code the more cost we will have to account for. Researching more efficient codes will increase our expense	Our web-domains, internet, overall operational cost will not change based on the amount we sell.

Table 1. List of costs.

2. Develop a 3-year income statement, which includes: sales revenue and costs of goods sold for each year, gross profit, operating expenses and operating income (no need to include interest and taxes).

Here's a visual representation of our business's 3-year income statement.

Automatic Connect		Income Statement		
Revenue	2019	2020	2021	
Sale price per unit	75	75	75	
Number of units sold	25	100	400	
Service revenue	7,500	30,000	240,000	
Interest revenue				
Other revenue				
Total Revenues	9,375	37,500	270,000	
Expenses				
Advertising	100	1,500	10,000	
Bad debt	-	-	-	
Commissions	-	-	-	
Cost of goods sold	950	8,500	30,000	
Depreciation	-	-	-	
Employee benefits	-	-	-	
Furniture and equipment	-	2,000	2,500	
Insurance	-	2,400	2,400	
Interest expense	-	6%	6%	
Maintenance and repairs	500	1,500	5,000	
Office supplies	-	150	250	
Payroll taxes	-	-	-	
Rent	-	12,000	12,000	
Research and development	100	1,000	5,000	
Salaries and wages	-	-	-	
Software	250	5,000	10,000	
Travel	-	-	-	
Utilities	-	-	-	
Web hosting and domains	100	1,000	5,000	
Other				
Total Expenses	2,000	35,050	82,150	
Net Income Before Taxes	7,375	2,450	187,850	
Income tax expense	14,936	9,920	9,920	
Income from Continuing Operations	(7,561)	(7,470)	177,930	
Net Income	(7,561)	(7,470)	177,930	

Figure 1. Income Statement for the business.

3. Using an NPV analysis, determine the break-even point (it is highly unlikely that your operating income will be positive in the first year because of fixed costs).

The group is making use of NPV for capital budgeting and investment planning to analyze the profitability of a projected investment because it shows the differences between the present values of cash inflows and the present value of cash outflows over a period of time. NPV-Based (or Economic) Break-Even point, is a better option because the opportunity cost of the capital is taken into consideration and the NPV at the economic break-even point is zero. Our break-even analysis is given below:

Cash flow forecast	Year 0	Year 1-3
Investment	\$900	
Sales		\$250,000
Variable cost (80% of sales)		\$240 000
Fixed cost		\$2000
Deprecation		\$300
Taxes at 40%		\$2200
Pretax profit		\$5000
Profit after tax		\$2,800
Cash flow from operations		\$3100
Net cash flow	-\$900	\$3100

Table 2. Cash flow forecast.

NPV break-even

Variable cost 80%
+ fixed cost + depreciation \$1.45M

Pretax (0.1765 sales) - (1.45M)
- Tax at 40% (0.40) * (0.1765 sales) - (1.45M)

After tax profit (0.60) * (0.1765 sales) - (1.45M)

Cash flow (\$0.300m) * (0.60) * (0.1765 sales) - (1.45M)
= (0.1025) * (sales - 0.2m)

This cash flow is for 3 years,

$$\begin{aligned} \text{PV}(\text{cash flow}) &= (\text{cash flow}) * (\text{annuity factor}) \\ &= (0.1025) * (\text{sales}-0.2\text{m}) * (3 \text{ years annuity factor}) \\ &= (0.1025) * (\text{sales}-0.2\text{m}) * (2.5) \end{aligned}$$

Note that NPV = 0, if $\text{PV}(\text{cash flow}) = C_0$

$$\text{NPV} = 0 \text{ if } (0.1025) * (\text{sales}-0.2\text{m}) * (2.5) = 2.4\text{m}$$

Calculation 1. Cash flow calculations.

4. Describe and justify all assumptions that you have made in developing your economics report.

Assumptions are made to better understand consumer and business behavior when making economic decisions. Making assumption allows us as a group to break down a complex process in order to develop the above theories and more understanding of economic management and in doing this, we can apply our developed theory to more complex scenarios for additional study or real-life workplaces especially in scenarios that involve people with disabilities/people who require help to access wifi and other basic amenities. We made sure to make rational and good simplification that will allow us to focus only on the most relevant variables. We also tried our best to not act independently based on information received, assumptions were accompanied with research.

H.2 1 Minute Pitch Video

The pitch video can be found attached with this deliverable.

Conclusion

In conclusion this deliverable covers the economic aspect of our project and presumably future plans by showing our growth over the course of three years. The pitch video includes a subtle yet humorous and rather convincing approach for people to be interested in our business.