Mealtime Insulin Calculator

Group E-12
Deliverable H

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Abstract

In this deliverable we will perform a cost analysis to determine the type of each cost associated with our business, an Income Statement, and an analysis to determine or break-even point. Finally, we will list all assumptions made in this deliverable.

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Introduction

The goal of the team in Deliverable H is to perform an NPV analysis and develop a forecasted income statement for our company. Completing these tasks will require us to assume that our business has been in operation for 3 years. With this assumption, our team determined all the costs that will be associated with selling the Mealtime Insulin Calculator. These costs were analyzed and were determined to be either fixed or variable and direct or indirect. With this data, we created a 3 year income statement to estimate the net income over the next 3 years. With the net income, and estimated number of units sold, an NPV Analysis was created to calculate a breakeven point for the company. The assumptions made when creating this economics report will be analyzed and their feasibility will be discussed.

Types of Costs

All total costs have been estimated based on our company being in business for 3 years.

Description (Category)	Fixed/Variable	Direct/Indirect	Cost	Justification
Marketing Campaigns	Fixed	Indirect	$75,000	We need a reliable marketing company w/ a lot of outreach to make the public aware of our app.
Salaries	Variable	Direct	$780,000	$65,000/year/employee & 4 employees are needed to maintain the app, improve user experience, & fix any issues that may arise.
Equipment	Fixed	Direct	$20,000	Computers and other tools/office equipment employees need to work productively.
Licensing	Fixed	Indirect	$15,000	Costs of different programs we may need a license for and to have our app published.
Rent	Fixed	Indirect	$108,000	$3,000/month x 12 months A small office space for our employees to work & have meetings as needed.

Income Statement

If we assume that we will be selling the app on the Google Appstore for $3 a download, then we can assume that with a successful app that has a good share of the insulin calculator market, we will have at least 10,000 downloads a year. We can also create a monthly subscription to premium features which include a more in-depth insulin analysis, suggested exercises to reach target blood sugar level, ability to have unlimited meals stored , and more. The premium subscription will cost $10 a month though not every user will choose to have this. We can assume for the purposes of the income statement that 20% of users will opt-in for the subscription. Thus, approximately 2,000 users will opt-in for the subscription. With these figures we can create the Income Statement.

Insulin Calculator Income Statement For Year Ending Third Year		
Revenue		
Sales	$90,000.00	
Subscriptions	720,000.00	$810,000.00
Cost of Goods Sold		
Equipment	$20,000.00	
Labour	780,000.00	($800,000.00)
Gross Margin		**$10,000.00**
Operating Expenses		
Marketing	$75,000.00	
General & Admin	108,000.00	
Licensing	$15,000,00	($198,000.00)
Operating Income		($188,000.00)
Net Income		**- $188,000.00**

NPV Analysis

$$PV = \frac{FV}{1+0.0025N}$$

Expenses (1st year) = $366,000
Expenses (Every year after) = $316,000

Annual Interest Earned from the Bank = 0.25%

PV = 366,000 + 316,000/(1+0.0025) + 316,000/(1+0.0025(2))

PV = $995,639.84 after 3 years of business

Break-Even Point
$995,639.84 = (3xN)
N = 331,880 downloads are needed in 3 years
Thus, we would need approximately 110,627 downloads a year to break even in 3 years.
And we would need 9,219 downloads a month to break even in 3 years.

Assumptions

- We will be selling the app on the google App Store for $3 per download
    - This price should not be of too much expense to most customers and will help us achieve a break even point at the very least.
- We will have at least 10,000 downloads per year
    - Thus, it will take more than 3 years to break even or we need to increase prices to break even.
- Our app will have a premium subscription option that will cost $10 per month for the user.
    - This upgrade will allow access to other features of the app that are usually obtained after purchasing other apps
- The break even point only accounts for the number of downloads the app gets.
    - This is assuming that not a single user will upgrade to the premium version, we hope this is not the case.
- About 20% of the total users will upgrade to the premium version
    - This 20% will stay constant throughout the life of the business
- The Bank of Canada Interest Rate is 0.25%
- Our business will spend more on Marketing and Equipment in the first year compared to the following years
    - The first year will be the hardest as we have to advertise our app for it to get known and build positive reviews, this will of course take time. After the first year it will be less challenging to convince customers to purchase the app in good faith

Conclusion

In Deliverable H our team worked with hypotheticals to determine how our business would perform financially after a minimum of 3 years of operation. To do this, we first determined all the costs associated with the business and classified them as fixed or variable & direct or indirect. After justifying these choices we created an Income Statement to determine how our business would perform after 3 years. We assumed that the app we are creating would be listed on the app store for $3 a download and that with a subscription service at $10 a month, we would have constantly have 2,000 subscribers a month. We found that even with these

assumptions, our business would still be negative in income. Using the costs that we determined previously, we performed a NPV Analysis to determine how much we could have spent in 3 years. Then we used basic math to determine that we would need 331,880 downloads in 3 years to break even. It is important to note that this value does not include the income generated by the subscription service. If this service was accounted for in the calculations, we would find that the number of downloads need to be significantly less than initially predicted. Overall this deliverable has helped us understand how businesses make money in their first 3 years of operation. The deliverable has also shown us that not every business has a positive net income after 3 years.