DELIVERABLE G

Business Model And Economics

Report

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Abstract

This document provides our company's business model using a developed business model canvas and an economics report containing a 3-year income statement, NPV analysis and a list of all project associated costs, along with a look into our updated project plan at the end.

Table of Contents

Abstract **1**

Table of Contents **2**

List of Figures **3**

List of Tables **4**

Introduction **5**

Business Model **5**

Type of Business Model 5

Manufacturing business Model 5

Core Assumptions 6

Economics Report **7**

Associated Costs 7

Variable 7

Fixed 7

Direct 8

Indirect Costs 8

Income Statement 8

NPV Analysis 9

Cash-flow Analysis 9

Base Model 9

Model for 3 years 9

Overall Assumptions 10

Income Statement 10

NPV Analysis 11

Wrike Screenshots **12**

List of Figures

Figure 1: Business Model Canvas **6**

Figure 2: Total cash flow diagram for first year **8**

Figure 3: Production Cash flow diagram of 3 years **8**

Figure 4: Wrike Screenshot, Deliverable G and Final Prototype **12**

Figure 5: Wrike Screenshot, Deliverable H **12**

List of Tables

Table 1: NPV Analysis Table **10**

Introduction

This document intends to identify a potential business model using the provided business model canvas to market our final product, S.T.I.N.G upon and a complete up-to-date economics report. Assuming we have started a company already as per the directives provided in the deliverable instructions, please note that the business model provides information regarding who will use our product, what our product is, and why and how our product will be used, along with suitable assumptions that we had to make in order to judge the business model's feasibility. The economics report includes a list of indirect and direct fixed, variable and semi-variable costs related to our project, along with a 3-year complementary income statement of the finances of the company. A NPV analysis complete with cash flow diagrams, with appropriate assumptions has also been provided to determine our break-even point. This document also provides a look at our updated Wrike project plan.

Business Model

Type of Business Model

Manufacturing business Model

A manufacturing business model is a business layout or plan that details how a manufacturer will generate and deliver value in economic and social domains. Therefore, by this definition, a manufacturing business model will be our ideal business plan because it focuses on how manufacturers generate revenue and ensure business survival for their product. Our

product is a device that can be used with a walker to make it one-handed i.e controlled with a single arm. This business model will help us in creating possible revenue from our product.

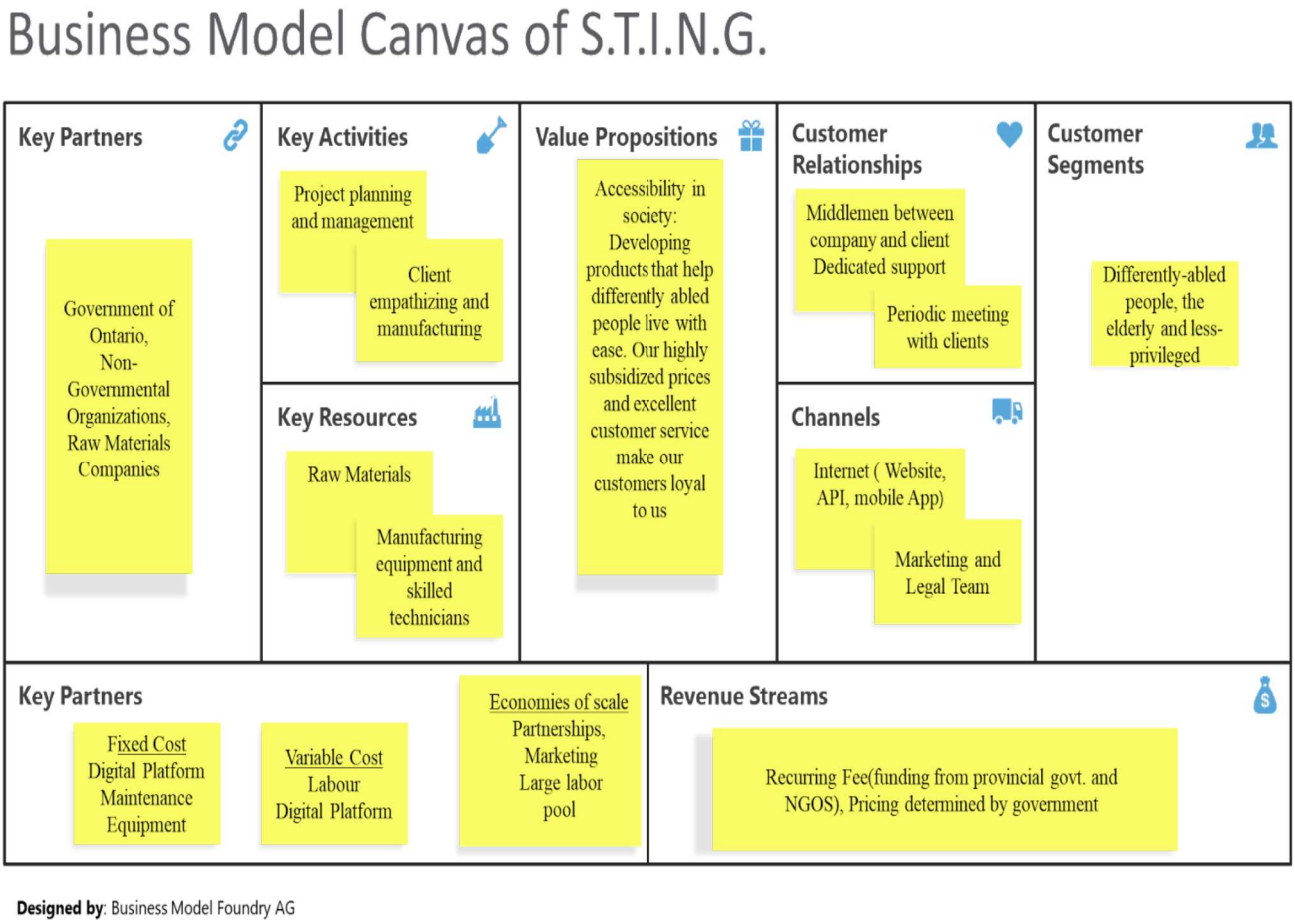


Figure 1: Business Model Canvas

Core Assumptions

Assumptions made in developing business model were;

- The government will be responsible for funding of all projects carried out by S.T.I.N.G. for the betterment of the general public.
- The company will work in conjunction with universities and technical colleges to enable easy assimilation of students into company projects upon graduation leading to a large labor pool.

- Clients will be technologically-savvy enough to communicate their needs with the company electronically or at least, have another individual who can assist them.

This business model canvas will have very high feasibility in the market because tax-payers' money will be used by the government to fund the projects of the company for the provision of accessible products to those who require it.

Economics Report

Associated Costs

Variable

Material Cost (ABS Plastic for injection molding)

Production Supplies

Delivery Cost

Fixed

Rent Payment

Salaries Expense

Utilities Expense

Insurance Expense

Loan Payment

Direct

Production staff wages

Advertising Expense

Travel Expense

Design Cost

Indirect Costs

Accounting Costs

Department Costs

Equipment Rental

Income Statement

Income Statement
Year ended December 31

	2026	2027	2028
Net sales*	$38,400	$480,000	$1,017,600
Cost of sales	6,000	62,280	120,930
Gross Profit	32,400	417,720	896,670
Operating Expenses	197,340	239,790	292,050
Operating Income	-$164,940	$177,930	$604,620

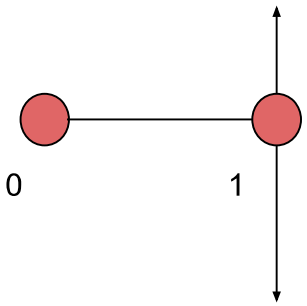
*(2026: 480units X $80/unit = 38,400; 2027: 4800 X 100 = 480,000; 2028: (10,000 X 100 = $1,000,000 + 220 X $80 = 1,017,600))

NPV Analysis

Cash-flow Analysis

All cash flow analyses are made using a **3.8%** inflation rate. Information regarding salaries is provided in the section “Overall Assumptions”.

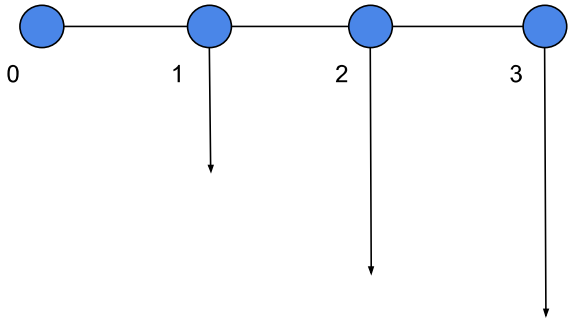
Base Model



PV = 500*$12 + 5*$37,000 +
$5800 + 12*$95 + 12*$390 +
12*$60 - 480*$80
PV = $164,940

Figure 2: Total cash flow diagram for first year

Model for 3 years



PV = 500*$12 + 5000*$(12*1.038) +
10,000*$(12*1.038*1.038)
PV = $6000 + $12,500 + $120,930
PV = $189,210

Figure 3: Production Cash flow diagram of 3 years

Year	**Operating Expenses**		**Production Costs** [$]	**Net Sales**
	General Expenses (Electricity, Internet, Water, Rent) [$]	**Admin Expenses** (Salaries, Marketing) [$]		
2026	6540	190,800	6000	38,400
2027	6790	233,000	62,280	480,000
2028	7050	285,000	120,930	1,017,600
Total Operating Income [$]	1,536,000 – 918,390 = 617,610			

Table 1: NPV Analysis Table

Overall Assumptions

Income Statement

The first assumption made when developing the income statement was the years over which the company will operate. We decided to assume operation in 2026, 2027, and 2028 as our team would have most likely graduated by that time and would be interested in starting a business. Another assumption made was that our workforce will remain the same throughout

the financial periods, meaning no employee leaves or enters the company, and everyone receives the same wage.

NPV Analysis

According to our calculations, in order to achieve any profit, considering we keep the production rate mentioned in the cash flow analysis above, we would need to sell around 7910 units over the course of 3 years. Any units sold after that point provide our company with a gross profit (check “Economics Report - Income Statement”). Please note that it is assumed that in the first year, our company produces 500 articles of S.T.I.N.G, followed by 5000 and 10,000 in the second and third year respectively. It is also assumed that 480 of those 500 articles are sold by the end of the first year, followed by 4800 articles in the second year and the complete inventory is sold off in the third year. A base starting salary for each of our 5 employees is assumed to be $37,000/yr, which is then bumped up to $45,000/yr for the second year and then to $55,000/yr the subsequent year. By pricing this item at $80 the first year and then $100 for the next 2 years, with some of the older unsold inventory being sold at a 20% discount in the 3rd year, we figure our profit margin to be around 87%.

Wrike Screenshots

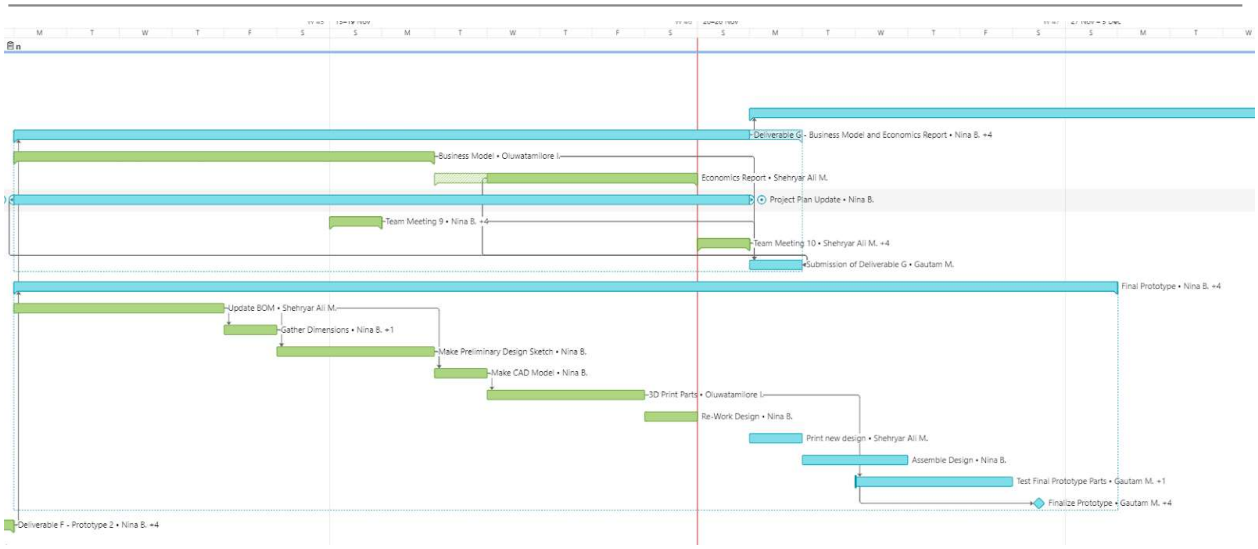


Figure 4: Wrike Screenshot, Deliverable G and Final Prototype

Above is the screenshot for Deliverable G, as well as the plane for the final prototype. Things are going according to plan, with only slight steps back. One example would be the need to re-print the piece we need, as the initial design made accidentally used the circumference as the diameter, vastly changing the size of the overall model.

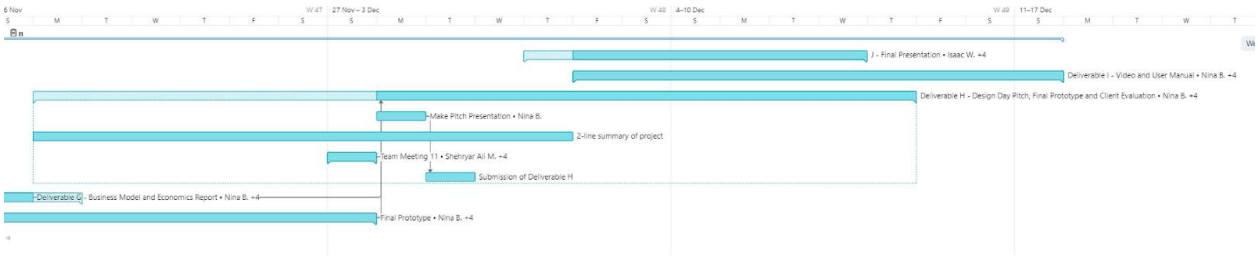


Figure 5: Wrike Screenshot, Deliverable H

Above is the screenshot for deliverable H, which is also the pitch presentation for design day. Currently, most tasks are not assigned as the final prototype is still being made.