



uOttawa

PD-G: Business Model and Economics Report

GNG2101, Section A01
Team 2

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November 18, 2021

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1. Introduction

This deliverable will go over what a startup company of our product would like business-wise and economically. The premise of the deliverable is that our team has commercialized our tabletop with a recessed tablet holder and the team must come up with a business model/plan and different types of economic reports to see if the business would be feasible. The deliverable contains a business model to base our newly formed company on, as well as a 3-year income statement that will cover the operating and non-operating expenses of the company. The expenses will be compared to predicted revenue and it will be determined if the company will make any profit in the first three years of its life. All revenue and costs are based on market research and well-educated assumptions.

2. Main Subject Body of the Report

2.1 Business Model

2.1.1 Business Model Type

The business model chosen for our company is called the “click and mortar”. The “click and mortar” model is an electronic system that leverages the strengths of both e-commerce and physical stores.

This model gives us the ability to sell physical products both online and in physical stores. This model is ideal for our company since it allows us to create a physical product that can be purchased online, as well as in our stores, which helps us reach a wider audience and brings our products to those who prefer to shop in person. The “click and mortar” model also allows customers to come into our stores to test our product.

2.1.2 Business Model Canvas

Table 1: Business Model Canvas

<p><u>Key Partners</u></p> <ul style="list-style-type: none"> -Apple company to supply tablets -Suppliers of the raw materials for building the table surface - care homes and residences 	<p><u>Key Activities:</u></p> <ul style="list-style-type: none"> - Manufacturing the tabletop -Research and development to improve the product 	<p><u>Value Propositions</u></p> <ul style="list-style-type: none"> -Manufacture comfortable, safe, and very convenient tabletops that fit in any kind of space. -Incorporate custom manufacture of unique table tops according to the customer's desired shape, material, and size. 	<p><u>Customer Relationships</u></p> <ul style="list-style-type: none"> -Excellent customer service. - One year warranty on the product. -Customer's reviews and call centres for information 	<p><u>Customer Segments</u></p> <ul style="list-style-type: none"> - Care, providers of the physically disabled, -People who need a tablet holder
	<p><u>Key Resources</u></p> <ul style="list-style-type: none"> -Human capital working in manufacturing -Business assets - Profits from selling tabletop 		<p><u>Channels</u></p> <ul style="list-style-type: none"> - Social media advertisement -General transportation to partner care homes & residences -Endorsement by famous people with disabilities 	
<p><u>Cost structure</u></p> <ul style="list-style-type: none"> - Cost of advertising. - Costs related to manufacturing of the table surface; paying for labour, rent, and raw materials -Cost in research and development 		<p><u>Revenue Streams</u></p> <ul style="list-style-type: none"> - Revenue from sales of the manufactured tabletop - Revenue from customized orders 		

2.1.3 Core Assumption and Feasibility

The core assumptions used in this business model are that we could find initial investment, would be able to form business relationships with various other entities, and that there is enough demand for this niche product to recoup the startup costs. All three of these assumptions are tied together in whether or not this product would be capable of turning a profit. The main problem of which is the potential customer base being very limited.

Very few people would be willing to pay the cost of something that could be easily replaced with a cheap tablet stand and simply move the tablet out of the way when not using it. Even among those with disabilities, it would require having enough movement issues that automating the storing and deploying of the tablet would be worthwhile, while still having enough dexterity and arm strength to want to use a touch device that is secured in place in front of the user at chest level, a fundamentally unergonomic position.

Considering the main issue with our assumptions is such a fundamental one, it seems fairly unlikely that this business model could ever be feasible.

2.2 Economics Report

2.2.1 Cost Associated with our Business

Table 2: Detailed Costs and Classification

Cost	Cost Type	Classification
Warehouse/Rent	Operating cost	Fixed, Indirect
Salaries	Operating cost	Fixed, Direct
Inventory/Materials	Operating cost	Variable, Direct
Equipment/Repairs	Operating cost	Fixed, Direct
Electricity	Operating cost	Fixed, Indirect
Overhead	Operating cost	Fixed, Indirect
Depreciation	Non-Operating cost	Fixed, Indirect
Marketing	Non-Operating cost	Fixed, Indirect

2.2.2 Three year Income Statement

Year 1: 2021

300 units sold at \$425/unit = \$127 500 = **Total Revenue**

Table 3: Expenses in the Year 2021

Cost	Amount (\$)
Warehouse/Rent	36 000
Salaries	273 000
Inventory/Materials	30 000
Equipment/Repairs	25 000
Electricity	6 000
Overhead	8 000
Depreciation	5 000
Marketing	5 000
Total Costs 2021	388 000

$$\text{Operating Income 2021} = \text{Revenue} - \text{Operating Expenses} = \\ \$127\,500 - \$378\,000 = \text{-\$250\,500}$$

$$\text{Gross Profit 2021} = \$127\,500 - \$388\,000 = \text{- \$260\,500}$$

Year 2022

$$750 \text{ units sold at } \$450/\text{unit} = \$337\,500 = \text{Total Revenue}$$

Table 4: Expenses in the Year 2022

Cost	Amount (\$)
Warehouse/Rent	37 080
Salaries	279 825
Inventory/Materials	45 000
Equipment/Repairs	15 000
Electricity	6 078
Overhead	12 000
Depreciation	5 000
Marketing	8 000
Total Costs 2022	407 983

$$\text{Operating Income 2022} = \text{Revenue} - \text{Operating Expenses} = \\ \$337\,500 - \$394\,983 = \text{- \$57\,483}$$

$$\text{Gross Profit 2022} = \$337\,500 - \$407\,983 = \text{- \$70\,483}$$

Year 2023

1000 units sold at \$475/unit = \$475 000 = **Total Revenue**

Table 5: Expenses in the Year 2023

Cost	Amount (\$)
Warehouse/Rent	38 192
Salaries	344 188
Inventory/Materials	65 000
Equipment/Repairs	12 000
Electricity	6 116
Overhead	15 000
Depreciation	5 000
Marketing	10 000
Total Costs 2023	495 496

Operating Income 2023 = Revenue - Operating Expenses =
\$475 000 - \$480 496 = - **\$5 496**

Gross Profit 2023 = \$475 000 - \$495 496 = - **\$20 496**

Explanation of costs:

The building rented was a 3 000 square foot warehouse and the rent per month in 2021 was \$1/square foot. The rent increases at 3% per year. In 2021 we hire 10 employees at \$27 300/year salary (after-tax) (\$15/hour at 40 hour work weeks). The salary increases 2.5%/year and in 2023 we hire two additional employees. Electricity starts at \$6000 and increases 1.3%/year. Other costs were determined through research and comparing the average costs of commercial businesses online.

2.2.3 NPV Analysis

Table 6: NPV of Expenses and Incomes

	Net Present Value Adjusted Values (\$)			
	Year 1	Year 2	Year 3	Sum
Warehouse/Rent	33962	33001	32067	99030
Salaries	257547	249043	288987	795577
Inventory/Materials	28302	40050	54575	122927
Equipment/Repairs	23585	13350	10075	47010
Electricity	5660	5409	5135	16205
Overhead	7547	10680	12594	30821
Depreciation	4717	4450	4198	13365
Marketing	4717	7120	8396	20233
Total Expenses	366038	363103	416028	1145169
Income	120283	300374	398819	819476
Net	-245755	-62730	-17209	-325693

Explanation of values:

The NPV was calculated using a 6% nominal interest rate. As of the end of the third year, we still expect to be losing money, but the losses are falling and if things go well, the fourth year may begin to see a profit. At the end of the third year, even neglecting interest, we will be 325k in debt, and unlikely to ever be able to break even. Due to the eventual saturation of the market, sales would likely begin to fall.

3. Conclusions and Recommendations for Future Work

In summary, the team has identified a “click and mortar” business model. The business will exist in both online space and physical spaces. The business operation will include selling pre-order made or custom-made tabletop. We look to partner with Apple to supply us with the latest model tablets. In addition, the business will strike a very good partnership deal with suppliers of raw material. The business model canvas—Table 1 outlines the company’s source of revenue, costs, marketing strategy and customer relations and segments. To determine the financial standing of the business in three years, we generated the cost statement and income statement. We use the net present value analysis to determine the future value of the cost and revenues from the business.

In the future, the business will look to expand to many other parts of the country. In addition, we look to improve on the technology of the product.

4. Task Plan Update

The next step in our project is to write a summary of our product and prepare a presentation to be performed on Design Day. The presentation should include the description of the final product, as well as some time dedicated to answering questions from the classmates, professor and judges. Additionally, a prototype demonstration of the functionality of the project would also be included in the presentation time.

<https://www.wrike.com/workspace.htm?acc=4960831&wr=20#path=folder&id=755613321&c=timeline3&vid=-4&a=4960831&so=10&bso=10&sd=0&f=&st=space-755613316>