

Project Deliverable F: **Business Model**
GNG 2101 – Intro. to Product Dev. and Mgmt. for Engineers
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Introduction

In this deliverable we will identify and describe a potential business model that will be well suited in commercializing our team's product. We will develop a business model by answering the how, what, who and how much of our product. We will also describe and comment on the core assumptions that we have made in developing our business model and its feasibility.

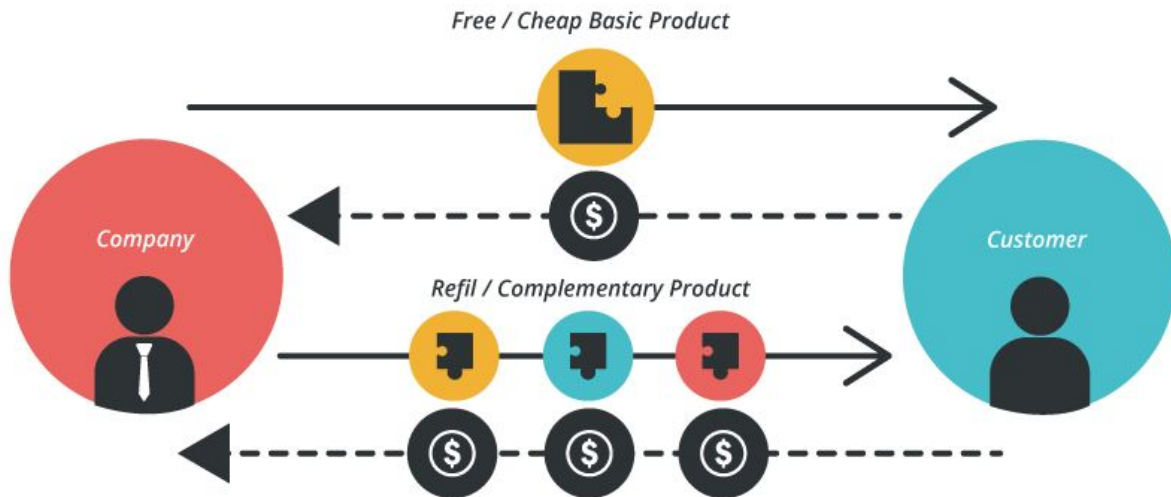
1. Identify and describe a type of business model that would be well suited to commercializing your team's product. Discuss the reasons for your choice.

The purpose of a business model is to describe how an organization creates, delivers and captures a multitude of values. These values include, but are not limited to: economic, social and cultural values. To maintain the successful operation of a business, a key business model must be appropriately designed to identify revenue sources, a customer base, products, and thoroughly address its details of financing.

Upon reviewing the multitude of predefined business models, it was pivotal for our group to select a model that would ensure the short and long term success of our company. As our product is a handheld device that provides assistance to individuals with mobility impairments, we decided that our ideal business model would be the Razor-Blade model.

The Razor-Blade business model, also known as the Bait & Hook model, is a system wherein the basic product is sold at a low price or given to the consumer for free in order to increase sales of a complementary good. As the basic product cannot be used without the complementary component, this confines the consumer to the business' ecosystem, increasing the company's profit in the long term.

Hook & Bait



Business Model **Toolbox**










<https://bmttoolbox.net/patterns/bait-and-hook>

As a group, we decided the hook of our model will be the handheld device that performs the required rotations to brush all areas of the teeth. This device will be sold at a reasonable price, providing affordability to our targeted demographic and maintain overall market competitiveness. We will determine this price through market analysis, surveys and benchmarking.

The complementary product that will serve as the bait will be a customized toothbrush head that attaches to the top of our device. We found this to be the ideal component to serve as bait since the bristles of a toothbrush are statistically the component that will deteriorate and lose its utility first. To add, this also falls within guidelines from the American Dental Association (ADA) who recommend that a toothbrush be replaced approximately every three to four months.

We plan on adjusting our product design to ensure all components of our device stem from our production facilities as our current minimum viable product requires the use of an external toothbrush purchased from a third-party. In order to prevent other companies from profiting off our design, we will file in a patent that will grant exclusive rights to manufacture and distribute the device and its unique toothbrush head.

2. Fill in a business model canvas by answering the how, what, who and how much of your chosen business model.

 Key Partners Well established distribution centers such as Amazon Major retailers and pharmacies Suppliers for raw materials Production facilities Platforms to advertise and sell our product : Amazon, Google Ads	 Key Activities Suppliers for raw material Factories to keep producing our product Distribution centers to package and ship our product  Key Resources Production facilities and employees Raw materials to manufacture products Equipment to manufacture products	 Value Propositions Assist in the brushing of teeth of individuals with mobility impairments Provide independence to said individuals positively affecting their mental health Maintain dental hygiene by accessing and thoroughly brushing all parts of the teeth Ergonomic device that is lightweight, easy to use and inexpensive	 Customer Relationships Supply a high quality product that executes its advertised function Provide warranty and quality customer service Loyalty program pricing  Channels Directly purchasing our product through a third party distribution centers that provide a reliable, affordable expedited shipping time Sales representatives that will contact organizations	 Customer Segments Individuals with mobility impairments Family members of individuals with mobility impairments Long term care organizations purchasing our product for their residents/clients. Includes nursing homes, retirement homes and hospitals
 Cost Structure Production cost of product : Employees, raw material, utilities, rent, machinery Marketing (advertisements), research and development		 Revenue Streams Sales of main device and disposable toothbrush head Subscription based model that lowers overall price per unit when buying in bulk		

The business model canvas is a tool that helps design and discuss new business models. It consists of nine building blocks that organize and answer the how, what, who and how much.

The key partners, key activities and key resources describe the “how” aspect of our model. The key resources define the infrastructure that will enable us to create and deliver value as well as show which assets are indispensable. The key activities show what is needed to be able to perform efficiently while the key partners show who can help us leverage our business model.

The “what” consists of the value proposition which identifies the problems we are addressing and why our customers will be attracted to our product. This is a crucial step in convincing potential customers to choose our product rather than similar offerings from our competitors.

The “who” is broken down into the customer relationships, channels and customer segments. The customer relationships outline the type of relationship we are establishing with our customers. The channels define how we plan on delivering our product to our client while the customer segments consist of all the people and organizations for which we are creating value.

The “how much” is split into the cost structure and revenue streams. The cost structure addresses the type of costs our business will be subjected to. This includes fixed, variable and economies of scale. The revenue stream make clear how and through which pricing mechanisms our business model will capture value through pricing and utility of revenue systems.

3. Describe the core assumptions that you have made in developing your business model and comment on its feasibility.

In order to make our business plan as realistic as possible, several core assumptions were made regarding the development of our project.

First, we assume that we will have access to enough capital to launch our product in the market and get our patent approved. As these things tend to require a significant amount of time and capital, we must assume that these are expenses our business can afford. Given our Razor-Blade business model, we must also assume that we will have enough capital to keep the business afloat until our sales volume increases with time. This is due to the fact that our basic product will have a minute profit margin, in hopes of increasing long-term profits through the sale of our complementary product.

Upon conducting market research, we concluded that a sufficient number of customers will be willing to buy our product. Given these numbers, we believe that this will be sufficient in generating enough profits to maintain product production costs. Our costs include overhead costs, manufacturing, marketing and rental fees. These costs will be paid off assuming that we will sell enough units at a price level that matches the desire of the market.

Another core assumption we have made in the development of our business plan is that we have the expertise and technical resources required to run this business profitably as soon as possible. Things like patenting, legal issues, marketing strategies and making a sustainable budget will be delivered by us as a team in a way that will allow us to make the business profitable in the short to medium run.

Those assumptions demonstrate that our business model is feasible since we will fill a gap in the market that has not yet been exploited and reach an ample amount of customers to generate enough sales. By applying these core assumptions, we believe we can generate enough profits to sustain our business in the long term.

Conclusion

Upon analyzing the various types of business models, we decided that a Razor-Blade business model would be optimal for our product. The base of the device will hook our consumers to our product while the disposable toothbrush heads will serve as the bait, providing a long term reliable source of income. We then developed a business model canvas addressing the nine building blocks that organize and answer the how, what, who and how much of our business model. Finally, we described and commented on the core assumptions our team has made in developing our business model and its feasibility.