

Deliverable B - Business Model Canvas and DFX

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September 24th, 2023

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Introduction

In this deliverable, our team will identify and expand on our business model that suits our product’s commercialization using the *Triple Bottom Line* canvas. As such, we will identify potential social and environmental benefits and costs. Assumptions used for our business model are explained. Finally, five sustainability factors will be identified.

B.1 Business Model Report

B.1.1 Value Proposition

Value propositions are based on which problem the product addresses and why potential customers will want our product. We believe in inclusivity, access to a better lifestyle, and independence when it comes to installing and using the product.

B.1.2 Business Model Canvas

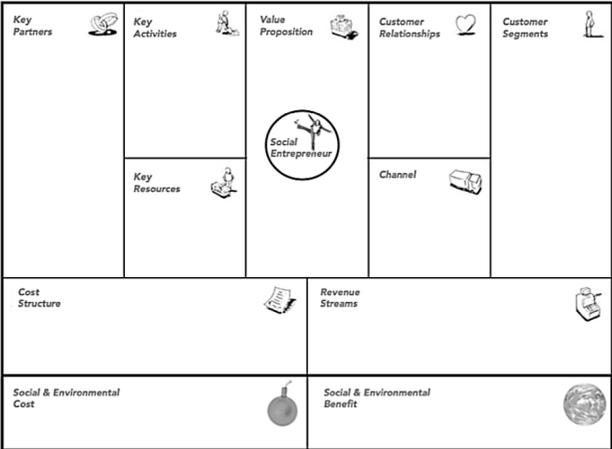


Figure 1: Business model canvas

- **Key Partners:**
There are many partners when it comes to commercializing our product. Firstly, suppliers are used for acquiring the necessary raw materials. Factories are needed to then assemble the materials into the finished product. When it comes to selling the product, public gyms and trainers are great as potential customers where the product will be used and exposed

to other potential buyers. Collaborations and relations with fitness companies guarantee that our product gets to its target market.

- **Key Activities**

The main activities are manufacturing, marketing, and selling the product. Constructing the product requires raw materials processed and assembled by manufacturing partners. The marketing and selling of the product are handled by different workers and require the help of partnered fitness companies and channels.

- **Key Resources**

The main materials used for the product are metal and plastic.

- **Value Proposition**

The product offers independence in letting the client exercise on their own without the help of an assistant. Also, it gives the opportunity to the users to better themselves and gives them access to a healthier lifestyle. The product is also a much cheaper and versatile alternative to wheelchair-specific equipment for customers.

- **Customer Relationships**

Our company's relationship with the customers is based on empathizing with them in order to improve our product through product reviews and feedback.

- **Channel**

Our physical product can be shipped directly to customers or bought in stores. This will be done with the help of our key partners in sales.

- **Customer Segments**

The main customers and users will be people bound to wheelchairs with mobility issues. Other potential customers are fitness gym owners who wish to make their gym more accessible for people with disabilities.

- **Cost Structure**

There are many different types of cost linked with our product. Firstly, we have material costs, followed by the cost of production. These are direct-fixed costs. There is also overhead for all workers, facility rentals, and shipping and handling of the product.

- **Revenue Streams**

The main stream of revenue will come from the sales of the product. A warranty comes with the product but once the warranty expires, the clients may pay to repair the product at cooperating repair facilities. Customers may also pay to extend their warranties.

- **Social and Environmental Costs**

There is an environmental cost that comes from manufacturing and shipping the product since waste is created and greenhouse gasses are released by the vehicles needed to ship the product.

- **Social and Environmental Benefits**

The product offers a clear social benefit since it allows more people to have an active lifestyle and better themselves. It gives more accessibility to those who are limited in their choices of activities, such as those bound to a wheelchair.

B.1.3 Core Assumptions

Our assumptions are all based on being feasible. We are assuming our product will attract inclusive gyms and clients with their own specific mobility challenges. An assumption is made that we will require material suppliers from which we will buy the required materials for our product. With our business model of selling a prebuilt and easy to use product, it will likely attract mostly gyms who have the infrastructure to hook up this equipment already. We are also assuming that these gyms will have staff available to help users set up the equipment to be used. Our business model is based on the fact that our product caters to a specific group of users and there is a big demand for accessibility products.

B.1.4 Sustainability Report

	Social	Environmental	Economic
Positive	<ul style="list-style-type: none"> ● Allows more people the ability to use the rowing machine ● Overall community health improves ● Gym has a better reputation in the community for being an inclusive company 	<ul style="list-style-type: none"> ● By using high quality components like steel and aluminum the device has less of a chance of breaking and ending up in landfill ● Materials like steel and aluminum can be 	<ul style="list-style-type: none"> ● Use of high quality materials ensures that the client avoids repair costs ● Gym costs for the user will be lower because the client has less costs to pay for

		repaired unlike other materials like plastic	
Negative	<ul style="list-style-type: none"> • Still doesn't make it useable for all people with disabilities • Certain people may feel inconvenienced if they have to remove the device before using the machine 	<ul style="list-style-type: none"> • The initial construction of the device requires materials that are mined from the earth which can cause negative environmental effects • Distribution of products will create greenhouse gasses 	<ul style="list-style-type: none"> • Initial purchase price for the client will be higher because high quality materials cost more
Net Outcome	<p>Positive: Net outcome is positive because while this device doesn't make the rowing machine useable for every type of disability, it allows more people to use it than originally could</p>	<p>Positive: Net outcome is positive because by using materials that will last forever and can be repaired, it will have a net positive outcome on the environment</p>	<p>Positive: Net outcome is positive because the client and user will both pay less for the product</p>

Table 1: Sustainability Report table

B.2 Design For X

Safety: Safety is undeniably the most important concern when designing a wheelchair rowing attachment. Ensuring the safety of the user should always be the top priority. This includes stable attachment mechanisms and protection against any potential risks or accidents during rowing.

Durability: The wheelchair rowing attachment needs to be built to withstand heavy use over time. Durability is essential to ensure that the equipment remains functional and reliable, reducing the need for frequent repairs or replacements. Users should have confidence in the attachment's long-term performance.

Accessibility: Accessibility is crucial to make the attachment usable for a wide range of individuals with different physical abilities. It should be designed in a way that allows easy use to various wheelchair models and accommodates users with different levels of mobility. User-friendliness is key.

Portability: Portability is important, especially for users who may need to transport their wheelchairs and rowing attachments to different locations. Designing the attachment to be easily disassembled or folded for convenient transportation can greatly enhance its usability and practicality.

Comfortable User Experience: While comfort is important, it ranks slightly lower in priority compared to safety, durability, accessibility, and portability. However, it should not be overlooked. The attachment should provide a comfortable and ergonomic rowing experience, minimizing strain and discomfort during use. Features like adjustable seating and cushioning can contribute to a more enjoyable experience.

Conclusion

To summarize this deliverable, we completed a business model report, outlined our groups core assumptions, crafted a sustainability report, and discussed what we are designing for. The business model report used the value proposition and business model canvas, as well as our assumptions, to determine the commercialization of our product. Our group's core assumptions were outlined in order to create building blocks which the rest of the project could be based on. The sustainability report was made to determine the effects of our product on society, the environment, and the economy. Finally we discussed what we are designing for, this is to ensure we have a clear vision of our groups goals and targets. Moving forward, we will use our assumptions and business model canvas to define and ideate the right product. Defining the metrics and constraints of the product will help us benchmark against similar projects and see what we can improve on.