Project Deliverable F: **Business Model**

GNG 2101- Introduction to Product Development and Management for Engineers

Faculty of Engineering - University of Ottawa

Submitted by:

Group C2

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Introduction:

In Deliverable E, the design team successfully gave a formal Project Progress Presentation. Key components of all previous deliverables were provided and explained, and the initial project plan was thoroughly described. The team also reflected on the feedback received from client meetings and provided an update on the prototype development. Furthermore, a clear plan for improving the future prototypes was formulated and presented. The team greatly benefitted from the questions asked and feedback received from the professor, TA, PM and classmates during the presentation. For instance, the TA suggested putting the problem statement and problem description together since they were presented at different times, which made it quite confusing. The professor, TA, and PM also recommended to avoid placing the team contract in the presentation and to include other more significant aspects of the project deliverables instead. They further collectively agreed that the benchmarking analysis should be explained more thoroughly. Moreover, they proposed that the background and theory behind developing the project plan should be omitted and that the Gantt Chart would have been more effective if it was clearer and easier to read. Another area for improvement is the client feedback; an explanation of how the team implemented the feedback would enhance the presentation, in their opinions. In addition, a more thorough explanation of the physical prototype was needed, and legal issues should have been more researched. In order to make the presentation more engaging and less overwhelming, fewer words should be placed on the slides. Finally, feedback was given regarding each team member's confidence, clarity, eye contact, movements, hand gestures, voice, and presentation styles. These comments were appreciated and taken into account, and the team plans to implement all suggestions in future project presentations. The next step moving forward is the identification of a potential business model and the development of a business model canvas that would be well suited to commercialize the product. First, the business model is chosen, and the reasons behind the choice are clearly stated. A business model canvas is then completed by answering the "how," "what," "who," and "how much" questions. Finally, core assumptions made while developing the business model are listed, and a feasibility analysis on the model is performed.

1. **Business Model:**

Among careful examinations of different types of business models, the "Direct Sales Business Model" was chosen as the most appropriate one. This is because the team plans to demonstrate and sell the product directly to the end customer, rather than sell it to distributors and stores. Another reason why the "Direct Sales Business Model" was chosen is because it can be a powerful way to develop the business if successful qualification of the target audience is performed. The product that is currently being developed, the rowing machine adapter, is suitable exclusively to wheelchair-users; therefore, the team plans to qualify the target audience and sell the product to wheelchair-users only, which can create value. Other common business models, such as the "Subscription Business Model" and the "Freemium Business Model," were deemed as inappropriate for the current project since potential customers will pay for the product once, rather than in regular intervals. Also, the rowing machine adapter is one product that does not necessarily require any complementary products. Therefore, the "Razor-Blade Business Model" was not chosen. For all of these reasons, the "Direct Sales Business Model" was found to be the best suited to commercialize the team's product.

2. **Business Model Canvas:**

<u>Key Partners</u>

- Richcraft Recreation Complex (Client)
- University of Ottawa
- Gym Owners
- Software Corporations: Microsoft, SolidWorks, etc.

<u>Key Activities</u>

- Designing and Building Rowing Machine Adapters
- Product Development and Management
- Customer Outreach

<u>Key Resources</u>

- Skilled Manufacturing Team
- Technology
- Access to Machine Shops and Manufacturing Centres

Value Propositions

- Wheelchair-users can exercise comfortably on rowing machines with the adapter
- Prices are less than competing accessible gym equipment, due to minimal manufacturing costs
- Almost all sizes of wheelchairs can be used with the adapter
- Wheelchair-users can exercise independently with minimal assistance
- High Quality Product

Customer Relationships

- Customer Service
- Social Media
- Promotional Offers
- Regular Communication (email, video calls, etc.)
- Physical meetings (gathering specific needs, considering feedback, etc.)

Channels

- Face-to-Face (Direct Sales)
- Social Media

Customer Segments:

- Wheelchair-users
- People with lower-body disabilities who want to use rowing machines at the gym
- Gym owners who want to have accessible rowing machines at their gyms

Cost Structure:

- Raw Materials and Equipment
- Overhead Costs
- Product Development
- General and Administrative
- Transportation

Revenue Streams:

- Product Sales

- Advertising
- Product Licensing (with fitness centres, recreational complexes, gyms or other companies who want to manufacture and sell the same product)

Business Model Canvas. What's Your Business:_____

Key Partners 	Key Activities 	Value Proposition 	Customer Relationships 	Customer Segments 
	Key Resources 		Channels 	
Cost Structure 		Revenue Streams 		

3. Core Assumptions and Feasibility

Core Assumptions:

In order to develop the business model, several core assumptions were made. First, it was assumed that key partners can be contacted easily if necessary. It was also assumed that the team has the required skills, resources, and technology at its disposal, and that the team members are sufficiently knowledgeable about product development, management and customer outreach to perform the key activities. Easy access to materials, manufacturing centres, and facilities was further assumed. Moreover, the product that the team offers was presumed to be better, cheaper, and more valuable than similar products currently on the market. Also, the team developed the model with the idea that wheelchair users and gym owners are in need of a device that allows them to adapt a rowing machine to make it wheelchair-accessible. In addition, it was assumed that the design team has adequate skills in social media and customer service to develop customer relationships. Profits are expected to be high; therefore, promotional offers were included in the "Customer Relationships" section. Transportation for the delivery of the product was presumed to be practical. Furthermore, the cost structure was developed knowing that the cost should not exceed the given $100. Finally, revenue streams were developed while assuming that the team is proficient in advertising and that the product will be successful, which will lead to possible revenues from product licensing.

Feasibility:

The chosen business model is sufficiently feasible. The key partners of the business can easily be reached and contacted. This is because the design team consists of University of Ottawa students who are given the permission to interact with the respective university and the assigned client of the project (Richcraft Recreation Complex). However, gym owners and software corporations might be quite difficult to contact directly. The key activities needed for the business to function are feasible since the team members have sufficient technical resources and skills, and this was clearly demonstrated in the successful development of Prototype 1. The design team has also performed several client meetings and has become quite adept at customer outreach. Technology is readily available, and software programs are provided free of charge for university students. Furthermore, access to manufacturing centres and facilities at the University of Ottawa is perfectly feasible. The usage of social media for customer relationships is achievable since the team members are proficient in utilizing social media, and it is free of cost.

Regular communication via email and video calls is also easily performed, and face-to-face delivery of the product is practical since transportation is relatively simple around the city. Additionally, costs are feasible and have been clearly determined and listed in the Bill of Materials of Project Deliverable D. However, for creating more value, accomodation of all sizes of wheelchairs might present difficulties since it is quite hard to achieve that level of competency with the maximum available cost. The implementation of promotional offers might also not be as simple unless a good amount of profit is made. Revenues from advertising and product licensing might not be as feasible at the current pace of the project. These are goals that the team plans to work towards to develop the business and obtain more revenues.

Conclusion:

The design team successfully planned how to commercialize the rowing machine adapter. The appropriate type of business model was chosen, and the reasons behind this choice were thoroughly explained. A business model canvas was then filled in by answering all the required questions regarding the chosen business model. While developing the business model, certain assumptions were considered, and these assumptions were clearly stated. A feasibility study on the model was also performed to determine its practicality, and pertinent comments were provided.