

Milestone 2 - Group 33

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Innovate 1X03: The World of Entrepreneurship

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Summary of Project

The cold and harsh winters come with grueling snowfall, leaving many people the terrible and back aching task of having to shovel snow. This can be a major problem for those homeowners who need to wake up early in the morning for work, sparing time to shovel snow with minimal stretching and reduced sleep hours, or for the elderly who are no longer physically in shape to shovel snow. This is where our innovation, the AutoPlower, an autonomous robotic device which saves the day with its unique features including a compact size, improved mobility and safety technology, eliminates the need for you to use a shovel or snow blower ever again. At Winterly, we enable homeowners to enjoy the satisfaction of having a clean driveway without moving a muscle.

* Budgeting is done in the Excel sheet. *

Break Even Analysis

Price	430
Units Sold	151.4285714
Break Even Analysis	Amount
Revenue	65114
Cost of Goods Sold (COGS)	59814
Fixed Costs	5300
Income	0

The decided price for the selling of each unit was chosen to be \$430. This would mean we would need to sell 152 units in order to produce the revenue or \$65114, which would be enough to

cover the cost of \$59814 for producing the goods sold as well as the added 5300 for fixed costs. This would bring our income to the break even point of \$0 in the span of 56 months.

Notes to reader

Winterly requires a total investment of \$185000 to cover the one-time expenses and the startup cost. This includes the R&D phase (first nine months) and the period till the financial breakeven point is reached (Net Income is equal to 0), which is calculated to be at Year 4, Q2. There will be 3 major sources of investment, bootstrap funding, kickstarter campaign, and Angel/Venture investors. There are 5 entrepreneurs in our group, each willing to contribute \$17000 each for a total of \$50000. In addition, we hope to make \$50000 after paying the 5% fee from the kickstarter campaign. Finally, after we build our prototype we would approach a potential investor for the rest (\$50000) at an evaluation of \$333333 at 15% equity. This valuation is approximately 1.73 times the total revenue (\$192727) which is about the time when we plan on approaching an Angel/Venture investor as our account balance drops to \$5356 (Year 2, Q1), and we require \$50000 more to take us through the break-even point.

Moreover our one time expenses include permits, licensing costs, and funds required for the tools and equipment. Some of these permits and licensing costs include business license (~\$80), DBA permit (~40), incorporation fee (~200) etc (Service Ontario, 2020).

We are spending \$50 each month in advertising, and we are hoping on the first month of selling we will sell 25 units (1 unit for every \$2 of advertising), and increase the number of sales in the upcoming months to reach our break even quantity of 151 units by month 56 (Year 4, Quarter 2)

Variable costs (per month)

- Material (\$230) - which are the cost of the metal chassis and shovel (\$50), rubber tires (\$50), sensors (\$100), and other minor components (\$30) (Intellias Automotive, 2018).
- Labour (\$80) - Assuming it take 1 hour for production, 5 entrepreneurs working simultaneously on it and getting paid \$16 each
- Packaging and Delivery - \$15 for packaging and \$10 for shipping (UPS) (Burns, 2019).
- Advertising (\$50) - Social media advertising (Facebook, Instagram etc) for \$50

Fixed costs (per month)

- Rent (\$1100) - In the Toronto area, the rent ranges between \$8 - \$27 per square foot, so we are hoping to rent a medium sized office space (Haas, 2018).
- Salaries (\$2500) - 5 entrepreneurs working approximately 31.25 hours each month for \$16 per hour
- Utilities (\$800) - Electricity (\$400), phone and internet (\$70), water (\$200), and others (\$130) (Iota Communications. 2020).
- Insurance (\$700) - Worker's Compensation (\$85), Business Owner's Policy (\$85), General Liability (\$60), Product Liability (\$100), Professional Liability Insurance (\$50 month) etc (Progressive Commercial, n.d.).

References

- Service Ontario. (2020, October 5). Register a business name or a limited partnership. Retrieved March 21, 2021, from <https://www.ontario.ca/page/register-business-name-limited-partnership>
- Intellias Automotive. (2018, November 29). The Ultimate Sensor Battle: Lidar vs Radar. Retrieved March 21, 2021, from <https://medium.com/@intellias/the-ultimate-sensor-battle-lidar-vs-radar-2ee0fb9de5da>
- Burns, R. (2019, February 22). Calculate Shipping Costs: Carrier Rate Calculators & Estimates. Retrieved March 21, 2021, from <https://www.shipbob.com/blog/how-to-calculate-shipping-costs/>
- Haas, T. (2018, September 10). Small Business Full Time Office Space Cost. Retrieved March 21, 2021, from <https://www.intelligentoffice.ca/blog/cost-of-leasing-a-full-time-office-space-for-small-business>
- Iota Communication. (2020, August 10). What Is The Average Utility Cost Per Square Foot Of Commercial Property? Retrieved March 21, 2021, from <https://www.iotacommunications.com/blog/average-utility-cost-per-square-foot-commercial-property/>
- Progressive Commercial (n.d.).How much does business insurance cost? Retrieved March 21, 2021, from <https://www.progressivecommercial.com/business-insurance/business-insurance-cost/>