

# Plastic Wave



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# 1. Executive Summary

Plastic Waste is a massive problem. The Ellen MacArthur Foundation predicts that by 2040 there will be more plastic in our oceans than fish. Plastic waste is causing toxins to enter our ecosystems - damaging humans and animals. Unfortunately, many people are not aware of the plastic waste problem, and when they are aware of it, they feel powerless about what to do about it. We want to increase public awareness about the plastic waste problem by turning post-consumer plastic into cool durable products.

We are Frank and Allison, and together we are Plastic Wave. We have been experimenting with making souvenirs out of recycled materials for two years and now want to start a business creating injection-moulded products made from locally collected plastic waste. We believe Plastic Wave can help people from all over the world start seeing plastic as a valuable and beautiful material that should be preserved for long term uses instead of single-use packaging. Our products not only convey the beauty and value of plastic but also represent a memory for anyone visiting Turtle Island.

We also hope to improve the image of Turtle Island by adding sustainable business to its offer as a travel destination. We believe these sustainable souvenirs will improve its image and educate locals and tourists about the plastic waste problem. Plastic Wave can help reshape Turtle Island's image as a place for designers and creative people developing local solutions for big environmental issues like plastic pollution. We believe our initiative will bring more people to visit the island and create much needed extra tourism revenue.

## 2. Mission

Plastic is the most common material used for single-use packaging. Unfortunately, plastic was designed to last for hundreds of years. That means it doesn't break down naturally and often ends up in the environment, where it's sometimes carried into the ocean.

Turtle Island is known for crystal clear waters and great scuba diving. However, our turtles and other ocean species are suffering immensely from the consequences of plastic pollution. The beach receives waste from all over the world, which locals and tourists can see while diving or visiting.

As awareness of plastic pollution has risen over the last few years, some projects started collecting plastic and cleaning the ocean, transforming plastic waste into shredded plastic and then new products. However, our society still doesn't see the true value of plastic - we believe our products can help change that perception.

Besides making products, we want to provide interactive workshops to schools, businesses, and tourists interested in learning more about the problem of waste and the process of recycling plastic into new products. This will help people see plastic waste transformed into something valuable first hand, and empower them to reduce plastic waste in the future.

### 3. Team



**Name:** Frank Holgers

**Role:** Product Maker and Operations

**About :**

8 years of experience in designing products out of recycled materials. Winner of the 3R (Reduce - Reuse - Recycle) design competition in 2015. Participation in the project Design4Life that aims to create products that are designed to last.



**Name:** Allison Morjana

**Role:** Sales and Marketing

**About:**

5 years working in entrepreneurship projects related to sustainable design. Participated in zero waste business certification training.

## 4. Market Analysis

### A. Products & Services

Plastic Wave will create meaningful and beautiful souvenirs so tourists remember the island and learn the importance of seeing plastic as a precious material. We will only be using plastic waste collected and shredded locally.

We want to produce products that are functional and serve as a daily communication tool about the plastic waste problem. We will start with three main products that can be produced with the injection machine and easily adopted as a souvenir or gift. The products are flowerpots, Carabiners, and iPhone cases.

A flowerpot is an ideal product because it is easily given as a gift or used by locals for some of the island's beautiful plants. The carabiner is a small and useful object that allows people to keep their keys together or hang other objects. They are attractive for every age range, are easy to carry in your luggage as a souvenir, and can be sold at a low price because we will inject multiple at the same time. Lastly, the iPhone case is a product that can be a very powerful communication tool because people see them many times throughout the day.

We will also offer workshops as a place for customers to learn the process behind the making of Plastic Wave products and receive one at the end of the workshop. We will teach our participants the basics of plastic identification, sorting, and the history of plastic use in products. We believe that showing the process from shredded plastic to useful products will encourage an even deeper understanding of the plastic waste problem than just buying a recycled plastic product.

Product Photos or Sketches:

Flower Pots	
Carabiners	
iPhone Cases	

What differentiates our products from other souvenirs on the Island is their ability to tell the story of plastic waste recycling. The injection machine creates beautiful color patterns as the plastic heated that really shows the material flow as it is melted into a new product. This leaves a handcrafted look that invites the user to think about the source of the material. Mass producers of plastic products have a



difficult time achieving this level of aesthetic quality. Also, no other product being sold in this market is produced locally using only locally collected plastic waste.

## B. Target Groups

We will primarily target the tourists that visit the island, as they are willing to pay a higher price for products and often contribute to the plastic waste problem without recognizing their impact. Tourists visiting the island look for products that are made by locals, tell a story about the area, and are small enough to pack in their luggage.

We will also target locals who are aware of the plastic waste problem and are looking for environmentally sustainable products and services. There is a growing segment of locals on Turtle Island interested in finding solutions for plastic waste. Very often, people that care about environmental sustainability search for products that have a transparent production process like ours.

Additionally, we will target sustainable shops and souvenirs shops on the island can sell our products under consignment. After meeting with 10 local shop owners we can conclude that there is interest in the products and workshops (Appendix 1). Also, the local government showed interest in establishing a collaboration to perform workshops in public schools on the island as part of demonstrating Turtle Island as a sustainable tourist destination.

According to the Turtle Island tourism department, each year the island hosts around 100,000 tourists that spend an average of €30 on consumer goods. This provides a total available market opportunity of €3 million. We aim to reach 5% of this market, meaning we want our products to reach 5,000 tourists each year. By capturing just 5% of the tourist consumer goods market, we will earn a yearly revenue of €150,000. We expect the tourism market on Turtle Island to grow in the coming years based on the current trend (3% growth according to Turtle Island Economic Department), so our market opportunity will grow over time.

### C. Engagement

Social media will be a key engagement tool for connecting with all three target groups. Our main platforms will be Instagram and Facebook, where we have already started posting content and gaining more followers. Our posts highlight what products we're developing and show our future production process. We use hashtags and geolocation tags to associate our posts with Turtle Island tourism spots and experiences.

Secondly, we will engage our target groups through travel blogs and travel agencies related to the tourism industry on Turtle Island. This will be crucial for building awareness around our workshops. We believe our workshops can be a great experience for visitors, and travel blogs and travel agencies are the ways that tourists find out about what to do during their stay. The workshop experience will be posted on Tripadvisor, which many people use to plan their trips. We will ask our workshop customers to write us a review on this platform so future potential customers can see the value of the experience.

### D. Sales Channels

The souvenir shops around the touristic area, hotels, and airport of the island will be our main sales points for products due to the high density of tourists they attract. A small section inside the shop will be set up to advertise and sell Plastic Wave products. For each product we sell, the store will receive a commission of 30 percent. This way of selling on consignment is common for retail shops.

The Precious Plastic Bazar, an online marketplace of the Precious Plastic community, will also serve as a digital showroom for the products and will eventually provide an opportunity for sales from outside Turtle Island. We will experience some additional costs through this channel because of shipping, but it opens up growth opportunities for expansion.

## 5. Operations

### A. Key Resources

Our workspace, the injection machine, and shredded plastic are our fundamental key resources to running our business. Likewise, our team is an invaluable resource. Frank, our designer has specific knowledge on operating and maintaining the injection machine and Allison provides key experience in the field of sales, distribution and successful business operation.

The set of moulds and tools are also essential for delivering on our mission. Quality materials and equipment will make for a more efficient and high-quality production process, and help us deliver our products on time.

### B. Key Tasks

There are a few tasks that are fundamental to our business model. Efficient production and maintenance of our injection machine will be the cornerstone of our business model - without it, we face the risk of running out of products or machine failure. We will be checking our machine weekly to ensure it's been properly maintained. Running the workshops with clear communication and organization skills will also be important for delivering an unforgettable customer experience.

A well-executed marketing effort will be crucial to reaching our target groups and meeting our sales targets. We will also spend time maintaining a close relationship with the shops that sell our products, as they are our most important sales channel. The content that we post on social media and use in advertising needs to be good at conveying our story to future visitors of the island.

We will also need to set up an efficient system for inventory, sales, and logistics. By these key actions, we expect a steady flow of revenue from product sales to balance out the workshops which may be more intermittent.

## **C. Running Costs**

Our primary running costs will be wages, rent, utilities, and shredded plastic. Our workspace is located in an office with other small businesses outside the main city on Turtle Island. Even though we have a small Precious Plastic shredder to use for workshops, we don't use this to shred plastic for our products. Instead, we source our shredded plastic from another local Precious Plastic workspace that focuses on shredding local plastic waste collected by two Precious Plastic collection points. This shredder workspace will charge €2 per kilo for us to purchase their plastic, which is a slightly higher cost than from industrial recyclers, but is able to provide the range of colors we need.

## **D. Collaborators**

There are several organizations on Turtle Island that we plan to collaborate with and will be crucial to our success. For example, our local machine builder will sell an injection machine to us and a mould fabricator will produce moulds we need to get started. They will also help us maintain and expand our production capabilities as we grow over time.

Our local shredder workspace will also be an important partner because they will provide us with a constant supply of shredded plastic for us to produce our products. In order to ensure a smooth production process, we will maintain a close relationship with this shredded plastic supplier.

For our workshops, we will partner with the schools of Turtle Island, the Precious Plastic community builder and the local government of the island. Forming a close Precious Plastic community will be fundamental to start changing the view of plastic waste on Turtle Island.

Currently, the local government already showed interest in collaborating for workshops and some schools showed interest in planning interactive educational

workshops (Appendix 2). There are possible public funds that we will tap into to develop our educational workshops further.

## 6. Impacts

### A. Community

The main impact on our community will be increased awareness and education about the plastic waste problem and how it is impacting the ecosystem on Turtle Island. Our products and workshops form a mix that makes the plastic problem tangible, as well as connect it to behavior change. By keeping track of the number of participants in the educational workshops, we have a clear and quantified way to measure our impact.

We are also creating green jobs based on sustainable tourism and product making that can help change the image of Turtle Island. This will attract new tourism segments, create more awareness about the island, and boost the local economy.

For the Precious Plastic community, we will open-source our new products, moulds and curriculum for our workshops through “How To’s” on the Precious Plastic community platform. This enables us to contribute back to the Precious Plastic community, which provided the open-source diagrams for the injection and shredder machine we’re using.

### B. Planet

In terms of helping the planet, we will be turning plastic waste that would have been landfilled, burned, or floating in the ocean into new useful products. This has a direct environmental benefit by making sure this material is being used and valued instead of wasted. Also, the products that we sell will have a secondary effect on the user’s attitude towards plastic in their own life. We believe this will help them reduce their single-use plastic consumption and make them generally be more aware of their environmental impact.

We will keep track of how many kilograms of plastic we recycle into new products to be able to share our environmental impact measures with our followers and supporters. We will also use the number of kilos recycled to find the amount of CO<sub>2</sub> saved from not using virgin plastic. We can also use these metrics when applying for future grants and social impact lending.

### C. Income Streams

Our two main income streams will come from product sales and workshop sales. Each product has a unit price which will differ depending on if we are selling to retailers or directly to consumers. The profit margin will be a bit lower when selling to retailers because they need to add their own margin for reselling to consumers, but partnering with retailers will allow us to greatly increase the sales quantity. We believe we can sell 250 - 300 products per month during our first year, which will account for about half of our total revenue.

Our second income stream comes from workshops. Depending on the occasion, we will either charge one fee to the hosting organization or sell tickets to each person attending the workshop. We envision about 2 workshops per week with 15 people attending each workshop. This will account for the other half of our total revenue.

## 7. Financials

Below is a summary of our investment costs to get started. The estimated total is €6,626.00 . This includes all the one-time costs we need to build the workspace and start producing products and workshops. In addition, we need to cover some other costs to be able to start, such as our wages for the first month and the monthly costs of operating. This cost is €5,572.00 for the first month, which comes to a total investment cost of €12,059.20 to start Plastic Wave.

Investment Costs	
Initial Investments	Cost
Injection Machine	1,000.00
Workspace Renovation	400.00
Business License and Permits	250.00
Cup Mould	400.00
Carabiner Mould (for 6 units)	500.00
Iphone Case Mould (for 1 unit)	450.00
Speaker	25.00
Cleaning tools	30.00
First Aid Kit	30.00
Table and chairs	100.00
Office Supplies (paper, pens, glasses, dishes, etc)	60.00
Van	2,500.00
Computer	300.00
Safety set	70.00
Ventilation System (Fan, Filter and ducting)	130.00
Storage bags	8.00
Storage bag hangers	3.00
Small sorting container	10.00
Shredded plastic storage containers	2.00

Storage shelf (shredded plastic, moulds, inventory)	30.00
Mixing station	15.00
Post-processing station	20.00
Ventilation caddy	90.00
Workbench	20.00
Display shelf	8.00
Timer	5.00
Safety glasses	5.00
Heat resistant gloves	15.00
Scoop	5.00
Mixing containers	5.00
Scale	20.00
Filter mask	50.00
Putty knife	3.00
Offcut bucket	5.00
Hammer	10.00
Chisel	10.00
Boxcutter	5.00
Screwdriver	4.00
Wrenches	25.00
Channel lock pliers	8.00
Total	6,626.00

Initially, we will finance the investment costs with personal savings from a previous project we ran together. We are still negotiating with the local government to see if there is a budget available from the waste management educational department to help us run more workshops in collaboration with them and Laura Smith ( Precious Plastic community builder). This would help us lower our costs and create a stronger local network collaborating to fight the plastic waste problem.



The projected profit and loss statement below shows our estimated financial outlook for the first three years of operation. It shows that the project can be economically sustainable over time and that we can generate profits while pursuing our mission.

Profit and Loss Statement			
	Year 1	Year 2	Year 3
Revenue	83,400.00	91,740.00	100,914.00
Cost of Sales	15,933.12	17,526.43	19,279.08
Net Revenue	67,466.88	74,213.57	81,634.92
Fixed Costs	9,360.00	9,360.00	9,360.00
Gross Income from Operations	58,106.88	64,853.57	72,274.92
Business Taxes	11,621.38	12,970.71	14,454.98
Net Income	46,485.50	51,882.85	57,819.94

The projected cash flow statement shows that we will have enough money on hand to meet our financial obligations throughout the first year. Some other complementary financial forecasts can be found in the appendix section to better understand the viability of the project (Appendix 3).

[illegible]

<i>Investment</i>												
<i>Revenue</i>	6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950	6,950
<b>Total Cash In</b>	<b>19,009</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>	<b>6,950</b>
<i>Investment Costs</i>	(6,626)											
<i>Variable Costs</i>	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)	(1,328)
<i>Fixed Costs</i>	(780)	(780)	(780)	(780)	(780)	(780)	(780)	(780)	(780)	(780)	(780)	(780)
<b>Total Cash Out</b>	<b>(8,734)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>	<b>(2,108)</b>
<i>Net Cashflow</i>	10,275	4,842	4,842	4,842	4,842	4,842	4,842	4,842	4,842	4,842	4,842	4,842
<b>Money In Bank (End of Month)</b>	<b>10,275</b>	<b>15,118</b>	<b>19,960</b>	<b>24,802</b>	<b>29,644</b>	<b>34,487</b>	<b>39,329</b>	<b>44,171</b>	<b>49,013</b>	<b>53,856</b>	<b>58,698</b>	<b>63,540</b>

## 8. Legal Structure

In Turtle Island, every business needs to be registered with the local chamber of commerce. Also, if you are working with production or manufacturing you need to pay a one time license and permit to start running and certify that you comply with safety regulations.

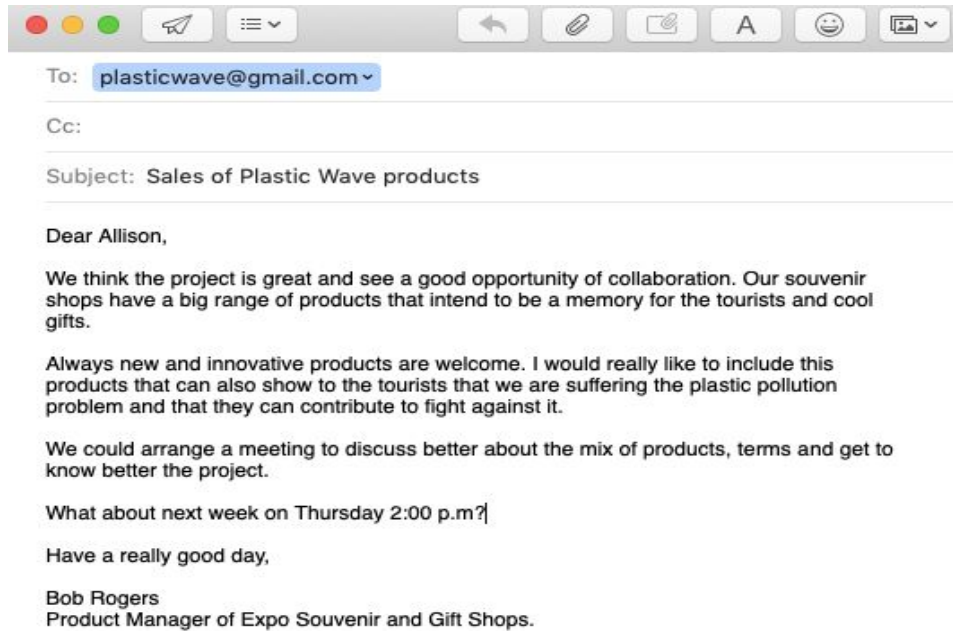
We will register as a limited liability commercial organization because we believe that businesses can be profitable while at the same time creating positive impacts for the community and the environment. This legal entity is best suited to help us meet our

mission and easily expand over time. The commercial organizational will be owned in equal parts between Allison and Frank (50/50 percent each).

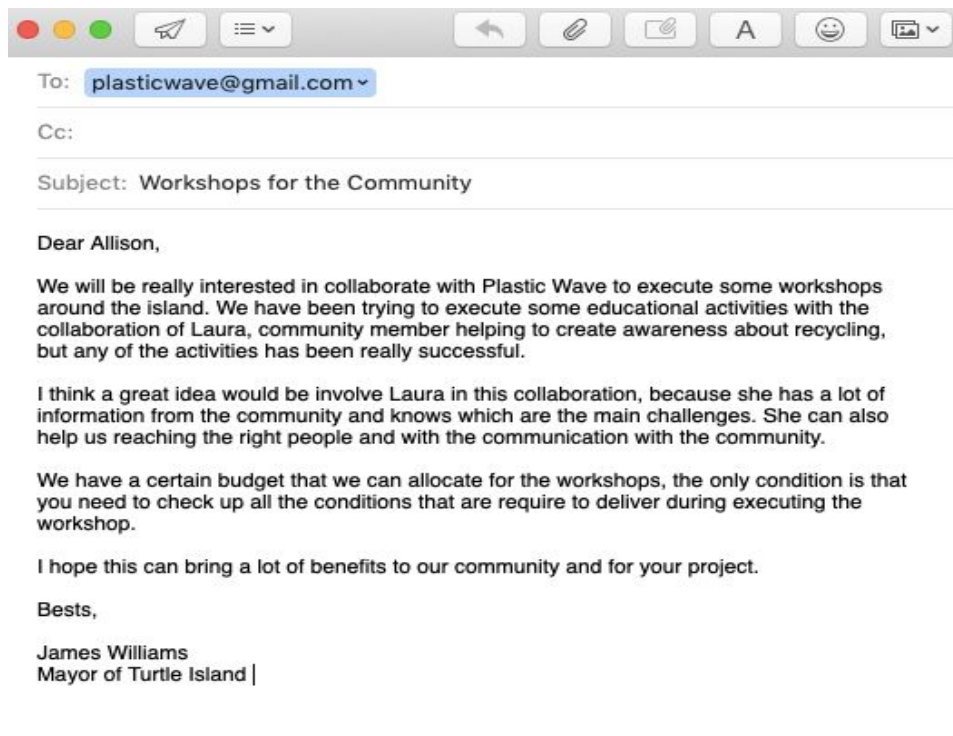
Under government regulations, we fall under a special legal structure for businesses that have a social orientation and that create a positive impact on their communities. These organizations are called S.I. (social impact) and they are benefitted by a 5% reduction in corporate tax rates.

## 9. Appendixes

### Appendix 1:

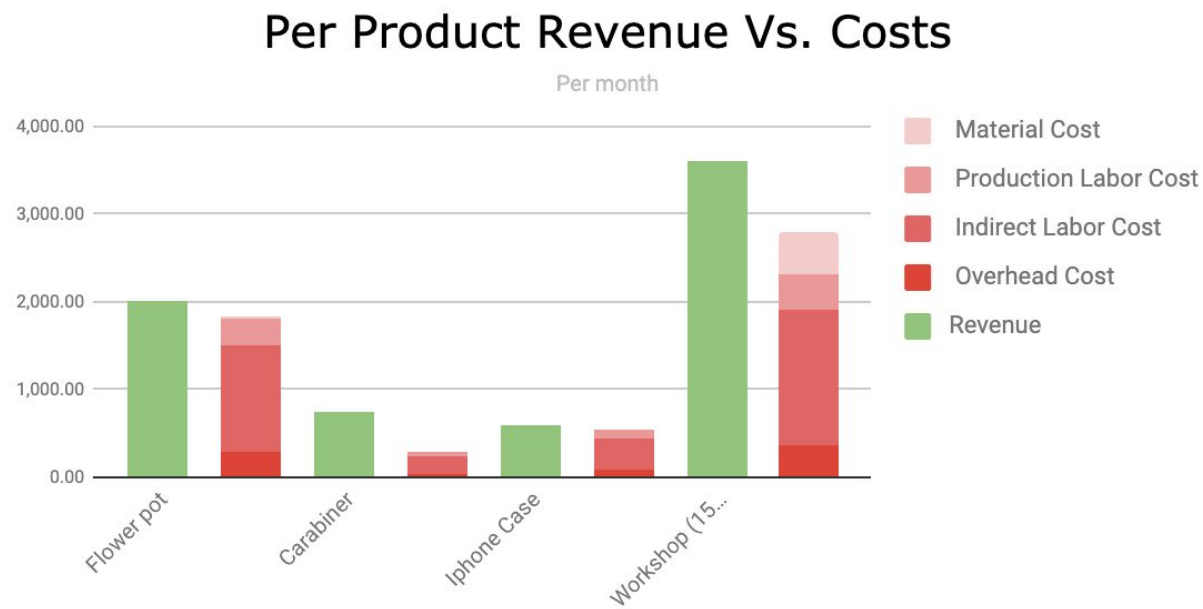


### Appendix 2:

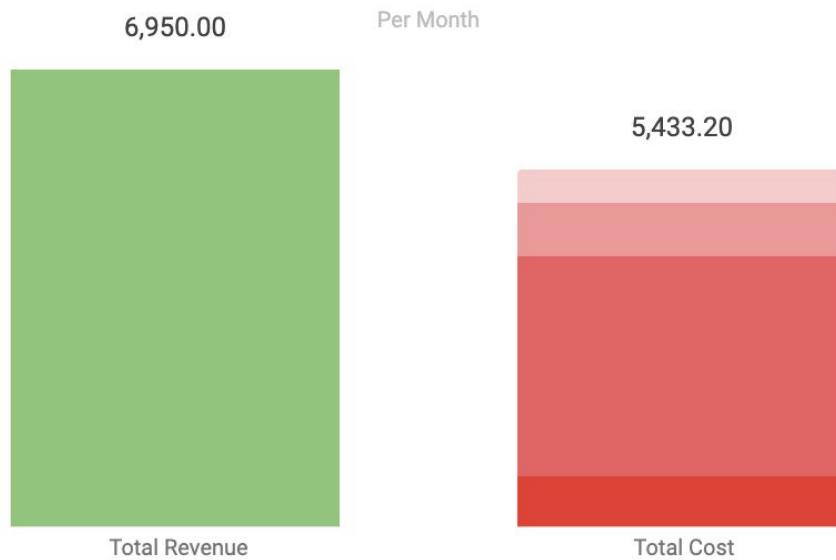


Appendix 3:

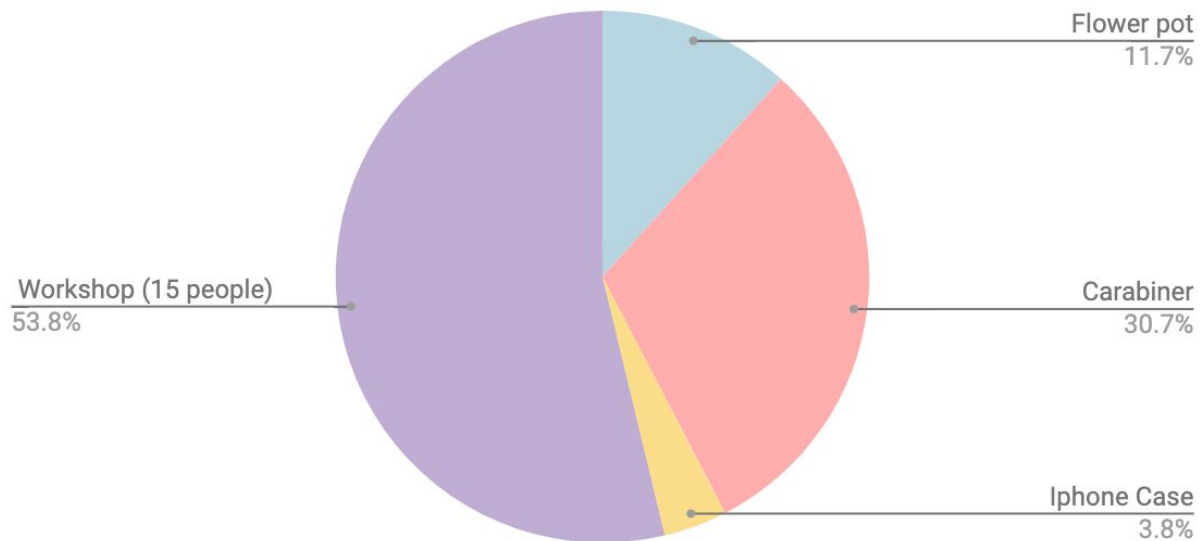
Sales				
Products & Services	Selling Price Per Unit	Number of Expected Sales Per Month	Total Product Cost	Profit Margin
Flower pot	20.00	100.0	18.23	9.71%
Carabiner	5.00	150.0	1.89	164.19%
Iphone Case	20.00	30.0	18.06	10.76%
Workshop (15 people)	450.00	8.0	348.08	29.28%



## Total Revenue Vs Costs



## Total Monthly Profit by Product



Summary	
Money Needed to Start	12,059.20
Months to Pay Back Investment	9
Full Time Employees Needed	2.0
Revenue Earned Per Month	6,950.00
Fixed Costs Per Month	780.00
Material Costs Per Month	506.96
Total Wages Paid Per Month	4,146.24
Total Profit Earned Per Month	1,516.80

