Interim Report

COEC 497 002
Professor Momo Deretic

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I. Introduction

While trying to achieve zero plastic waste by 2030, Canada has since enacted a nationwide ban (or partial ban) on plastic bags alongside many other countries across the world. Net Zero Checkout is a reusable and customizable bag made from straw waste that has the vision to make a greener world without the heavy price tag.

II. Primary Research

A. Summary Statistics of Survey/Interview Answers and Customer Profile

In understanding consumer problems, current solutions, and desires, we collected a total of 135 complete surveys (asking a total of 18 questions) and 11 interviews (asking a total of 12 questions). The average age of surveyees was primarily under 24 years old (94 people), 40 people between the ages of 25-64, and 1 older than 65. Our interviewee's average age was 30, being slightly older, but close to the age of our average surveyee. There was a somewhat even distribution between males and females surveyed, with 38% being female and the remaining 62% being male. Of those surveyed who reside in cities, 76% (103 people) have bans on single-use plastic bags. Of the 103 people, 98 live in Vancouver, 4 live in Richmond, and 1 in Victoria. The remaining surveyees primarily live in the Greater Vancouver area, which does not necessarily have bans on single-use plastic bags but has seen swift action by larger grocery chains starting to use plastic bag alternatives, predominantly being paper bags. Of the 11 interviewees, 10 of them reside in Vancouver, with 1 living in Toronto. Finally, of those that gave us information on their yearly income, 71 surveyed stated that they made an annual income of less than $50k dollars; 43 stated an annual income of $50k-$150k; 11 stated an annual income of $150k-$210k, and 1 stated their annual income was greater than $210k. From our survey and interview data, we deduce a general customer profile that is young (24 years and younger), male and female mixed, resides in Vancouver and earns an average annual income of less than $50,000.

B. Analysis of Summary Data

Customers Idea of the 'Pain':

In calculating the 'pain' that the single-use plastic bag ban has had on consumers, we asked our surveyees to quantify the impact of them out of 5 basis points. The average answer was 2.75 (5 being a lot) when asked about the impact on their grocery shopping experience. 63% of surveyees stated an impact that was 3 or greater, with 41% of the total surveyed saying they have experienced an impact of 4. As such, the majority of people have experienced a negative impact from this policy change. For our interviews, we instead looked for a qualitative answer, and the majority of the responses were that they experienced a reasonable amount of inconvenience when they forgot to bring their reusable bags to the store. With some of them having already used or switched to using reusable bags post ban, the negative impact they face is mainly in using "inconvenient" paper bags.

Customers Current Solution to the 'Pain':

The vast majority of our surveyees (70 out of 135) said that since the single-use plastic bag ban they use reusable bags. Surprisingly, many people still use plastic given the general shift towards paper bags and reusable bags. We can see that our main competition will be reusable bag makers. We see a general trend in the data that the shift towards reusable is well accepted.

Their Opinion About the Current Solution:

Our surveyees showed a general interest in the environmental impacts single-use plastic bags have on the environment. The majority of our sample survey responses showed that they were either extremely concerned with the environmental impact associated with single-use plastic bag use (34% of surveyees responded 5/5), or very concerned (30% of surveyees responded 4/5). Out of the surveyees, 76 attested to preferring reusable for shopping, 49 said they preferred plastic, and 10 said they preferred paper. From our interviews, 10 of the 11 people said they are very concerned, and 8 of the 11 believe that there is still more that can be done to help the environment at the point of checkout. These 8 people believe that more options for point-of-checkout bags that eco-friendly, durable, and price-related reasons are available.

How/Where Our Customers Buy Their Products:

The mass percentage of purchases is at the point of purchase, whether that be in a grocery or retail store. The percentage of surveyees buying shopping bags at grocery checkout was 47% of people, and those who purchase their shopping bags at retail stores account for (41%). 10% of people said they buy their shopping bags online, and the remaining 2% said they buy their bags elsewhere. Much to the same, the majority of interviewees buy their reusable and single-use bags from either checkout or retail stores.

Opinion of Our Solution and Willingness to Pay:

The overall consensus of peoples' opinion on reusable straw bags that are durable enough to use 10 times was very positive. 92% of those surveyed said they would prefer this over current alternatives, being that this product is more eco-friendly than current alternatives. Although there were only 36% of people who said that they had previously used straw bags, 78% of these people said they would use straw bags again, further showing support from our potential customer base. We examined people's willingness to pay (WTP) to gain a greater sense of overall demand for varying products. The first we asked them to price was a single-use plastic bag, which out of the 135 surveyed, averaged out to a WTP equal to \$0.50 per bag. The next product was a 10 times-use straw bag which averaged out to a WTP equal to \$0.90 per bag. Finally, the WTP for a straw bag with use greater than 50 times averaged out to \$3.84. From our interviews, we gathered that the WTP for reusable (10 times) straw bags also averaged out to \$0.90. Reasons given for this price were that it would offer much more convenience than paper bags. In addition, the added bonus of being more eco-friendly than current choices was very important. The WTP for reusable (50 times) straw bags averaged out to $7.45 (at this price point 6 of 11 would purchase based on their WTP). The additional reasons they gave for 10 times use straw bags, were the fact that a 50 times use straw bag would offer additional durability for long term use. As well, the option of being able to personalize the straw bags garnered a decent amount of interest. A potential explanation for the discrepancy in WTP between our survey and interview answers for the 50-time use of straw bags is that the idea of customizability was better portrayed in our explanations than it was over the survey questionnaire.

Suggested Changes to Our Idea:

There were many useful suggestions from both our interviews and surveys on how we could improve our Net Zero Checkout idea. The most talked of was that we focus more on a reusable product instead of single-use. Usability was another focus point where people were interested in having a variety of sizes, and the ability to fold up our bags when commuting to stores. Finally, people stated they would be more willing to buy the straw bag if they knew more about how straw bags protect the environment and what environmental impacts they have, and how they can be recycled. This transparency of the environmental impacts that straw bags have can be further addressed in our marketing and advertisements, even offering notice of the environmental impact on the bag itself.

III. Secondary Research

A. Analysis of the Industry

With our product, we will be attempting to permeate the shopping bag industry. The shopping bag industry in Vancouver consists of three main players: single-use plastic bags, paper bags, and reusable fabric bags. Such is also the case in most places around the world. These three bag types pose different prospective threats and opportunities to our straw bags.

Single-use Plastic Bags:

Amongst the aforementioned bag types, single-use plastic bags remain our most globally dominant competitor at this point in time. Currently, the single-use plastic bag is a $300 billion industry by revenue and growing. In fact, the industry is poised to grow globally by $0.66 billion during 2020-2024, with companies in the United States, India, and Italy contributing greatly to this surge (Globe Newswire, 2020). The single-use plastic bag market is currently experiencing an upward trend in growth and is expected to continue in this fashion, albeit at a declining rate due to the COVID-19 pandemic. Despite this, around 5 trillion plastic bags are used globally per year. Single-use plastic bags dominate the global shopping bag market, and remain as most people's main choice for shopping, due to their durability and being lightweight. These bags are thus our most dominant competitor in terms of pure market share.

Although the market for single-use plastic bags continues to expand globally, its significance in some areas of the world is declining, largely due to rising environmental and sustainability concerns. One example is the policy change that inspired Net Zero Checkout.

Vancouver, and its surrounding cities, have recently imposed a ban on plastic shopping bags, preventing businesses from offering them to customers who purchase their products. The ban states that plastic shopping bags of all thicknesses must not be used. This new policy reflects a grander Canadian goal for zero plastic waste by 2030, and, effectively, a drastic cut-down on the use of single-use plastic bags. This new rule will greatly impact the industry in Vancouver, and will most likely result in a great loss of market share for plastic bag businesses, which, in turn, creates a market gap for our straw bag idea.

The single-use plastic bag industry is not only in decline in the Greater Vancouver area but also in many other places around the world. For example, in England, single-use plastic bag usage has fallen by 59% over the past year, dropping from 140 plastic bags per person to only 4 bags per person (Nace, 2020). This trend has extended to other countries including China and Uganda, which have imposed their own respective bans for plastic bag usage. We can see that there is indeed some optimism for our position in the industry, as a shift in trends and attitudes toward plastic bags continue to take place within Canada and across the globe.

Paper Bags:

Paper bags will also prove to be competition for our straw bags in this industry, though to a lesser extent when compared to plastic and reusable cloth bags. Presently, the paper bag industry accounts for roughly 2% of the market size of plastic bags, making up roughly $5.2 billion of the global shopping bag market in 2022 (Future Market Insights, 2022). Furthermore, the market for paper bags, like that for plastic bags, is expecting continued growth with a forecasted $7.3 billion in 2030. This is greatly supported by the growing demand it has due to the numerous trend and policy changes regarding plastic bag usage. However, the market for paper bags faces several hurdles in Greater Vancouver. As a part of the previously mentioned plastic bag ban, the city of Vancouver has also attached a minimum fee to the use of paper bags. The law states that there must be a “minimum fee of $0.15 charged per paper shopping bag in 2022”, which increases to a $0.25 minimum charge in 2023. Thus, unlike plastic bags, customers will have to pay more money on top of their purchases to use a paper bag. As we’ve seen previously, laws like this could prove to hurt the performance of a certain product, much like plastic bags in England, as illustrated in the previous example above. This presents an opportunity for us to usurp the paper bag industry as well.

Reusable Fabric Bags:

Although it was earlier stated that plastic bags are our most dominant competitors, reusable fabric bags would be our closest competitors when we enter the industry. In 2018, the reusable bag industry is worth $6.02 billion globally and is expected to reach $10.1 billion by 2025 (MarketWatch, 2021). This growth is expected to be further propelled by the aforementioned trend shifts in the coming years, as more countries and businesses seek more environmentally-friendly and sustainable shopping bag options. The reason why we’ve labeled reusable fabric bags as our closest competitors rather than our most dominant is due to its expected expansion in the Greater Vancouver area. As such, many consumers are left with two options: purchase a paper bag for a fee when shopping, or purchase a fabric bag that could be reused. Many have switched to using reusable bags to avoid inconvenience at checkout. As an extension of the plastic bag ban, the city of Vancouver has also stated that a minimum fee of $1 must be charged per new reusable shopping bag in 2022 and that this fee will rise to $2 in 2023. This creates a “buy now” system for people due to its higher expected price in the future. As a result, the industry for reusable fabric bags is expected to grow in the near future in the Greater Vancouver area. Therefore, reusable fabric bags arguably benefit the most from the plastic bag ban in Vancouver, as well as the shifting trends and attitudes worldwide.

Competitors:

As for our competitors, there are several that presently dominate the industry. In British Columbia, West Pack Inc., Aurora Plastics & Packaging, and Great Pacific Packaging Inc. are a few of the biggest manufacturers for plastic bags in British Columbia. These companies serve single-use shopping bags to retailers and businesses in bulk. Applied Industrial Technologies (AIT) would also be one of our main competitors with regard to plastic bags. They provide an array of products but are most importantly an ISO 9001:2008 certified distributor of plastic bags. Moreover, Bulldog Bag Ltd. and Mayers Packaging are also companies that manufacture and supply paper bags in Vancouver. These companies sell recyclable paper shopping bags and poly woven bags in bulk, as well as personalizable reusable bags from Mayers Packaging. These companies are currently the biggest players in the shopping bag industry in Vancouver, thus rendering our closest competitors in the market.

IV. Conclusion: Pivots to our Business Model Canvas

The results from our surveys and interviews suggest that customers would prefer it if our product is reusable rather than a single-use or 5-10 times-use. Thus, whilst we initially aimed to enter and capture the single-use plastic bag industry, the primary research results show that there are more accessible customer segments in the greater scope of the shopping bag industry, which would include both the single-use and the reusable shopping bag markets.

Furthermore, we could modify our channels in the BMC. Our results suggest that an overwhelming amount of people (84.7%) generally purchase their bags at checkout. Hence, we would narrow down our channels of distribution to retail stores and grocery shops to maximize our profitability. In addition to this, people have suggested that they are more willing to purchase straw bags if they were aware of their positive impacts on the environment and sustainability. Thus, establishing e-commerce as a channel would help with our sales and subsequently market share.

Moreover, our surveyees have strongly emphasized the importance of usability in our products. This aspect slightly alters our value proposition, as usability is now an added feature. This entails having a variety of sizes to cater to different situations and the ability to fold the bag for commutes to stores. In addition to inexpensiveness and convenience among other characteristics, we now add foldability and customizability as value propositions for our consumers.

V. Appendices

A. Appendix: Summarized Interview Answers

11 Total Interviews

1. What city do you live in?
   Answer: Vancouver 10, Toronto 1
2. How old are you?
   Answer: Average age is 30
3. How has the single-use plastic bag ban impacted your shopping experience?
   Answer: 3 people stated not much. 8 stated it impacts them when they forget their reusable bag. 3 people said it is a lot less convenient when they have to use paper (no handles, raining, etc), which has made them buy reusable bags.
4. Before the ban, what bags and methods did you use to carry groceries home?
   Answer: 2 people mostly used reusable. 6 people mostly used plastic. 3 people said it was a mix of plastic and reusable.
5. What do you currently use for grocery/retail/takeout shopping?
   Answer: 8 people mainly use reusable (paper when they forget). 1 person uses paper/plastic/reusable (toronto). 2 only use paper.
6. What bag do you prefer to use when shopping?
   Answer: 7 people prefer reusable cloth bags. 1 prefers a durable plastic reusable bag. 1 person prefers paper. 2 people prefer plastic.
7. Are you concerned with the environmental impacts of single-use plastic & paper bags and what do you think is a solution to this problem?
   Answer: 10 people said yes, where 2 believe reusable is the solution. 8 people believe price needs to drop in conjunction with cheap durable eco friendly alternatives. 1 person is not concerned with the environmental impacts.
8. If you were to choose one type of bag to shop with, taking the environment, ease of use, cost to purchase, and convenience into consideration, which bag would it be?
   Answer: 2 people said reusable cloth. 2 people said reusable durable plastic. 2 people said straw bags. 4 people said paper. 1 said plastic.
9. If an eco-friendly **single-use** straw bag with handles that can carry 6kg, that is as low cost as plastic bags, more durable than paper bags, works when wet, and is significantly more eco friendly than both paper and plastic bags would you use it? Why?
   Answer: 11 people said they would use it over paper, for the nature of it being more convenient.

10. If an eco-friendly **reusable (10 times)** straw bag with handles is offered, how much are you willing to spend on it and why?

    Answer: 2 people said $2. 3 people said $1. 3 people said $0.75. 1 person said $0.50. 1 person said $0.05. For varying reasons of it being better than paper (more durable with handles), and eco-friendly.

11. If an eco-friendly **personalized** reusable (50 times <) straw bag with handles is offered, how much are you willing to spend on it and why?

    Answer: 2 people said $15. 2 people said $10. 2 people said $7.50. 2 people said $5. 2 people said $3. 1 person said $1. For varying reasons of it being better than paper (more durable with handles), eco-friendly, and the options of customizability.

B. Appendix: Survey Questionnaire

135 Total Surveys

1. Which age group do you belong to?

    0-24
    25-64
    65 and above

2. What's your gender?

    Female
    Male
    Transgender Female
    Transgender Male
    Prefer not to say

3. What city do you live in?

    Vancouver
    North Vancouver
    West Vancouver
    Richmond
    Burnaby
    Other:___________

4. What is your income bracket

    <50,000
    50,000-150,000
    150,000-210,000
    210,000<
    Prefer not to say

5. How much has the single-use plastic bag ban impacted your shopping experience?

My life is completely changed (5)
A lot (4)
A decent amount (3)
A bit (2)
Hardly noticeable (1)
Not at all (0)

6. Before the ban, which bag type did you use the most when going shopping?
   Reusable
   Plastic
   Paper
   Other
7. What do you currently use for grocery/retail/takeout shopping after the ban? (If there is no plastic ban, skip this question)
   Reusable bags most of the time
   Paper bags most of the time
   Plastic most of the time
   Mix of both
   Other:______________
8. Where do you typically buy your preferred type of bag for grocery/retail/takeout shopping?
   Checkout
   Retail
   Website
   Other
9. Where do you typically buy your preferred type of bag for grocery/retail/takeout shopping?
   Short Answer:______________
10. How often do you use your preferred type of bag?
    All the time (5)
    Very often (4)
    Somewhat often (3)
    Not often (2)
    Not often at all (1)
    Never (0)
11. How concerned are you with the environmental impacts of single-use plastic bags?
    Extremely Concerned (5)
    Very concerned (4)
    Moderately concerned (3)
    Neutral (2)
    Moderately unconcerned (1)

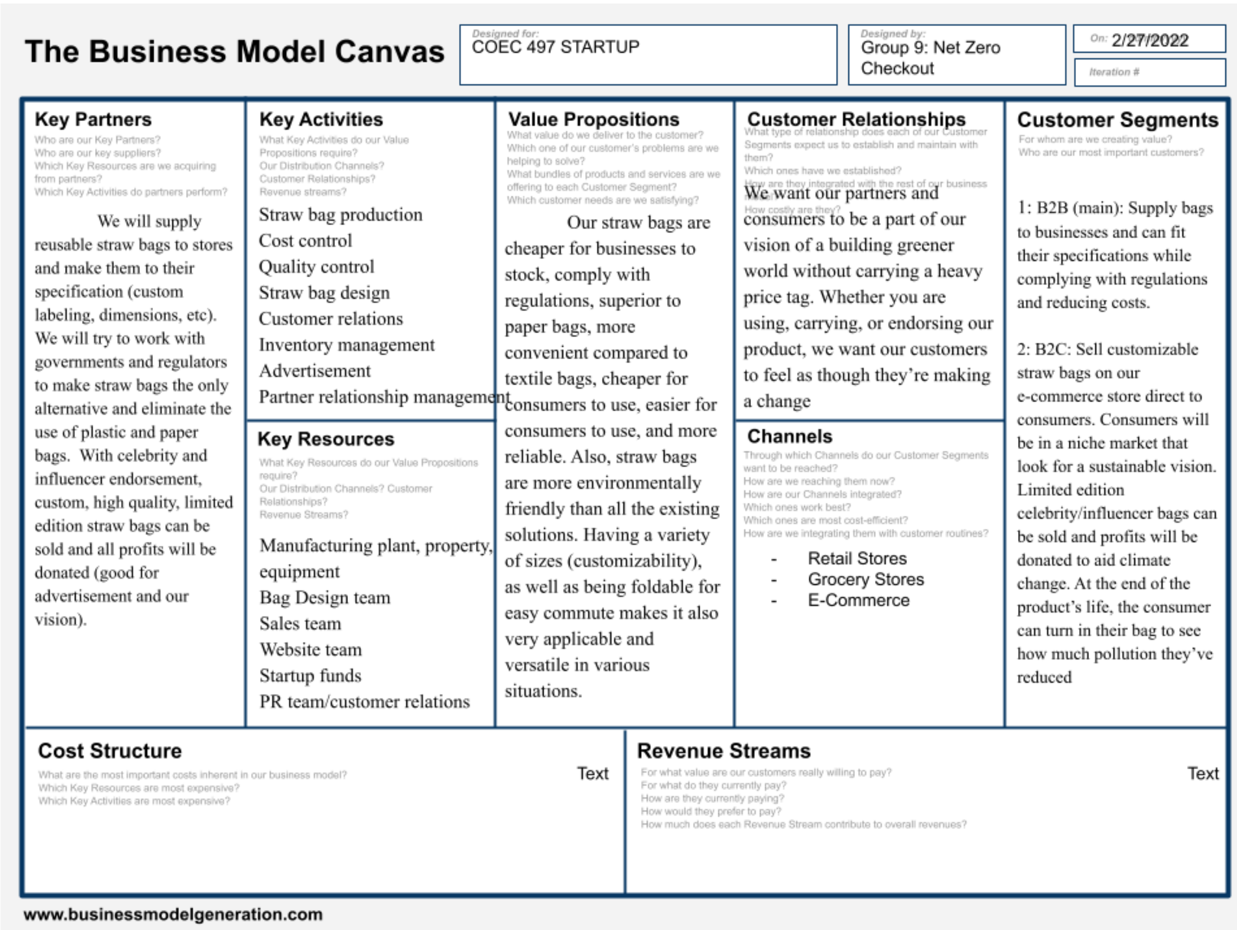
Very unconcerned (0)

12. Would you like a reusable (10 times) grocery bag made of straw that is significantly more eco-friendly than both paper and plastic bags while being able to carry 6kg of weight and will maintain strength when wet?
    Yes
    No
13. Have you used straw bags before?
    Yes
    No
14. If you choose YES in the previous question, would you use straw bags for shopping again?
    Yes
    No
15. If you were to choose one type of bag to shop with, taking the environment, ease of use, cost to purchase, and convenience into consideration, which bag would it be?
    Plastic
    Paper
    Straw
    Reusable
    Other:________
16. If an eco-friendly single-use straw bag with handles is offered, how much are you willing to spend on it?
    $0
    $0.25
    $0.50
    $0.75
    $1.00
    Other: _______

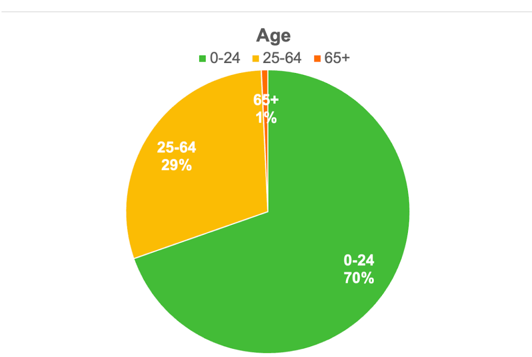
17. If an eco-friendly reusable (10 times) straw bag with handles is offered, how much are you willing to spend on it?
    $0
    $0.25
    $0.50
    $0.75
    $1.00
    Other: _______
18. if an eco-friendly personalized reusable straw bag with handles is offered, how much are you willing to spend on it?
    Short answer:_______

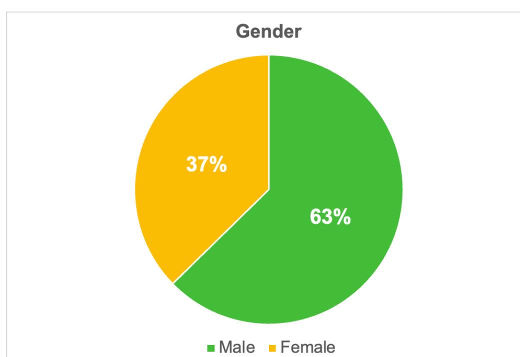
19. If you have any comments on the survey or the project, please leave a comment below.
    Short answer:_______

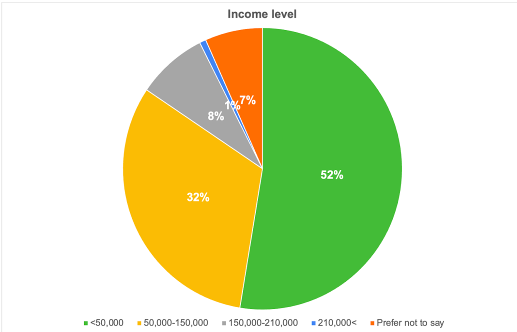
C. Business Model Canvas

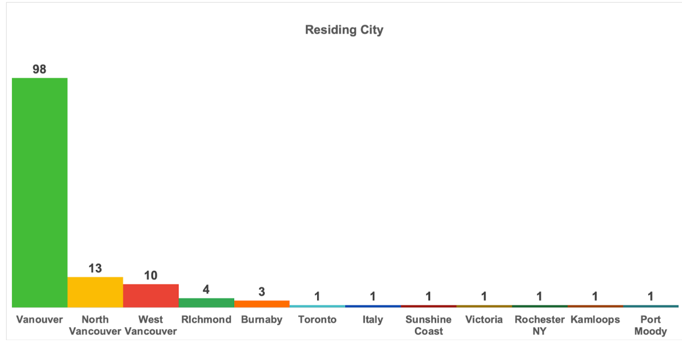


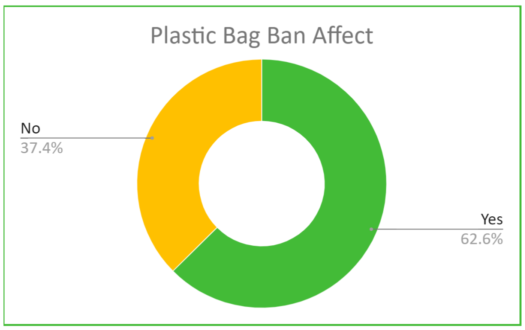
A. Appendix: Charts

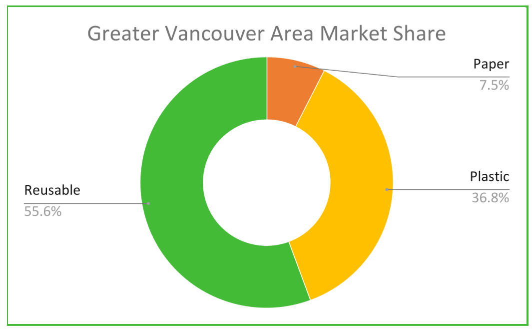


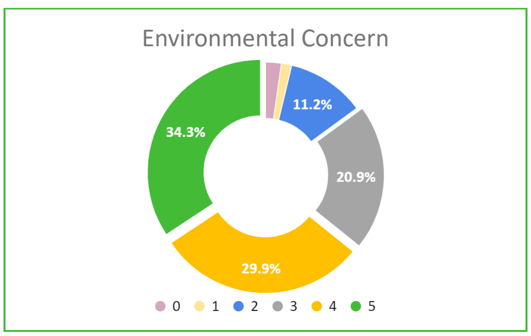


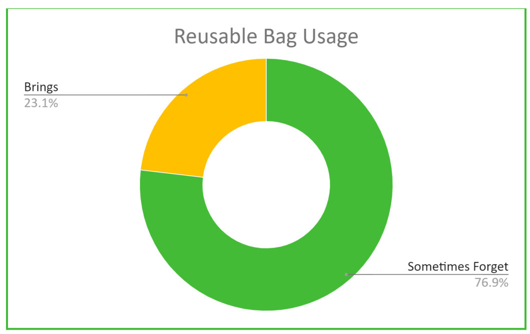

Income level
52%
32%
8%
1%
7%
<50,000
50,000-150,000
150,000-210,000
210,000<
Prefer not to say

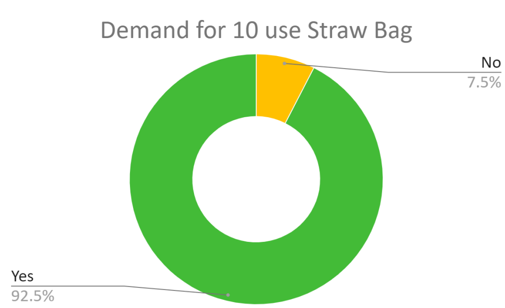

Residing City
98
13
10
4
3
1
1
1
1
1
1
1
Vanouver
North Vancouver
West Vancouver
RIchmond
Burnaby
Toronto
Italy
Sunshine Coast
Victoria
Rochester NY
Kamloops
Port Moody

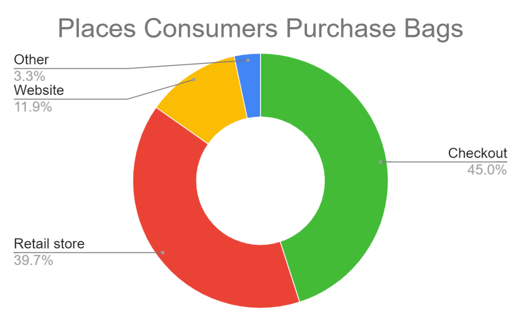

Plastic Bag Ban Affect
No
37.4%
Yes
62.6%

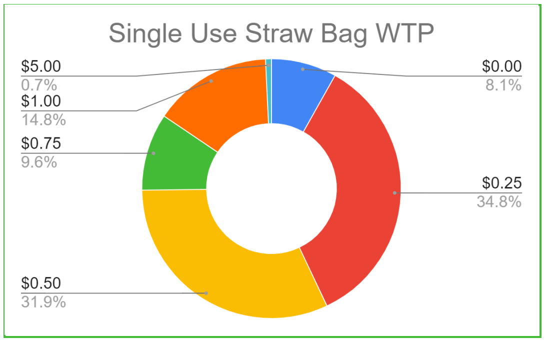

Greater Vancouver Area Market Share
Paper
7.5%
Plastic
36.8%
Reusable
55.6%

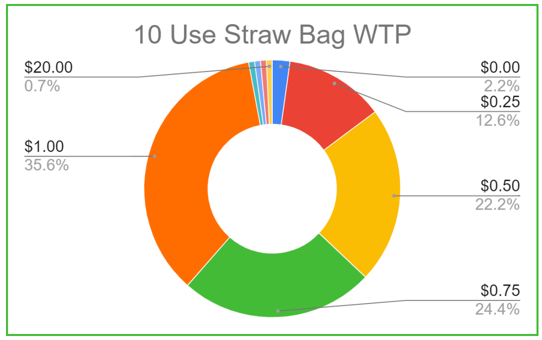

Environmental Concern
11.2%
20.9%
29.9%
34.3%
0
1
2
3
4
5

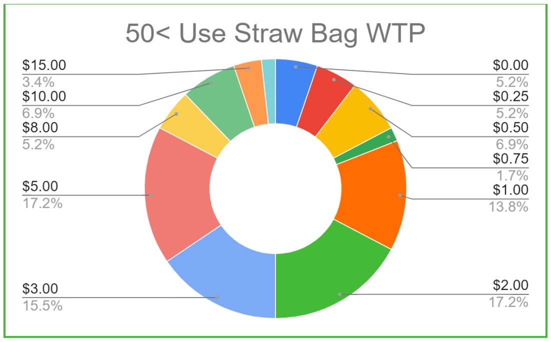

Reusable Bag Usage
Brings
23.1%
Sometimes Forget
76.9%


Demand for 10 use Straw Bag
No
7.5%
Yes
92.5%


Places Consumers Purchase Bags
Other
3.3%
Website
11.9%
Checkout
45.0%
Retail store
39.7%


Single Use Straw Bag WTP
$5.00
0.7%
$1.00
14.8%
$0.75
9.6%
$0.50
31.9%
$0.00
8.1%
$0.25
34.8%


10 Use Straw Bag WTP
$20.00
0.7%
$1.00
35.6%
$0.00
2.2%
$0.25
12.6%
$0.50
22.2%
$0.75
24.4%


50< Use Straw Bag WTP
$15.00
3.4%
$10.00
6.9%
$8.00
5.2%
$5.00
17.2%
$3.00
15.5%
$0.00
5.2%
$0.25
5.2%
$0.50
6.9%
$0.75
1.7%
$1.00
13.8%
$2.00
17.2%

VI. <u>Sources</u>

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