

UBC Social Ecological Economic Development Studies (SEEDS) Student Report

**A Baseline Assessment of Current Barriers to Bring Your Own Mug
(BYOM)/Container (BYOC) Among the Campus Community in Order to Increase
Awareness and Support for Sustainable Waste Behaviours**

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Executive Summary

Single use coffee cups are a major contributor to campus waste and Canada wide, 1.6 billion of them end up in the landfill every year. Even with the “Sort it Out” bins around UBC with infographics illustrating where materials go, coffee cups continue to be recycled improperly or end up in the waste bin. A simple solution is to stop the waste at the source and encourage the use of reusable coffee mugs.

To find out what barriers are inhibiting the use of reusable mugs, a survey completed by 252 people on campus (84% of which are undergraduates and 79% of which buy coffee/tea on campus once a week or more) have given some answers to these questions. When asked, “rate each reason from 0 - 3 on why you use disposable paper coffee cups” the most popular answer was “I don't like to carry a mug around all day or I don't have the room.” The second most popular answer was, “I forget to bring my reusable mug;” and the third was, “I only get coffee/tea occasionally”. When asked to “rate each reason from 0 - 3 on why you use reusable mugs”, respondents chose a near three way tie between “I want to be sustainable”, “the insulation keeps my coffee/tea warm”, and “spill proof” as the most popular reasons. When respondents were asked if they consider single use coffee cups to be unsustainable, only 40% said yes. Next, a question asked participants to choose multiple reasons on “what would it take to get you to switch to a reusable to-go mug?” 60% of respondents said, “a bigger discount when bringing my own mug”, with 40% saying, “a regular reminder or prompt”. Lastly, two questions were asked about UBC's Eco-to-Go container exchange program and it was found that 70% of respondents have never heard about it. 19% of participants have heard about the Eco-to-Go program, but do not use it because they cannot find where to get the containers and drop them off or feel that not enough places carry them to make it worthwhile.

After analyzing these results, it is clear that there needs to be a better public understanding of the sustainability benefits of reusable mugs and containers, as less than half of the sample population agrees that single use coffee cups are unsustainable. Visual prompts or reminders were voted as a popular solution among the survey respondents to solve the problem of forgetting to bring reusable mugs, which is the

second most likely reason that the community chooses paper cups over reusables. Coffee discounts that are given when bringing a reusable mug are a secondary factor in respondents minds when using a travel mug, but 60% claimed that a larger discount would convince them to make the switch to reusables. The number one reason that people prefer disposables over reusables is that they don't like to carry around a mug all day or do not have the room to. Two comment responses from the survey suggested a sort of mug-share program or Eco-to-Go for mugs. This would be an interesting solution to that problem. Lastly it is clear that the Eco-to-Go program suffers from a lack of public knowledge about the program, poor availability of containers, and limited infrastructure for cleaning and redistributing containers.

There are a few issues with BYOM/C that could use some further research. These include: looking for a more sustainable version of the disposable coffee cup or how to make recycling of the current cups more efficient, how to efficiently market BYOM/C programs, a cost benefit analysis for discounts on coffee to maximize the discount while retaining profit, and a thorough analysis on what would make the perfect reusable mug to be distributed on campus at a budget price at the point of sale.

Recommendations for actions on BYOM/C campaign that can be taken immediately include a larger discount on coffee, a punch card or loyalty card for customers who BYOM/C, visual prompts at coffee shops that include quick facts about waste and remind customers to BYOM/C, separating costs of the paper cup from coffee on signage at coffee shops, raising awareness and increasing public knowledge of the issue through campus based social media games, having a reusable mug available at point of sale for \$5 or under, and lastly having a set time once a week during slow hours at specific coffee shops where customers receive a free drip coffee if they bring their own mug.

Introduction

The use of disposable, single-use, paper coffee cups are an unsustainable practice and make up a significant portion of waste in landfills. They are commonly made of virgin paper materials as to maintain strength, and are meant to be used once then tossed away either in the waste bin or recycling. Those which are recycled properly

often are downcycled or recycled into products of lesser functionality or quality. For all of Metro Vancouver it is estimated that disposable coffee cups make up about 3.5% of total landfill waste. Most of the cups available are made out of paper products which can be composted, however the inside is lined with plastic, usually polyethylene, which is not easily broken down. Currently these cups are recyclable, although many still end up in the waste. UBC's "Sort it Out" campaign originated in an effort to increase recycling at UBC in order to divert items going into the garbage and to eventually become a zero waste campus. There are multi-bin recycling stations all over campus clearly labelled with iconographs showing which items go in which bin for compost, plastic/glass containers, or paper products. These bins include pictures of coffee cups illustrating how to properly dispose of the lid, sleeve, and cup itself; however, single use coffee cups continue to get recycled improperly or are put in the waste bin. The best and most sustainable solution then is to avoid the use of them altogether and increase the use of reusable mugs.

UBC currently has several programs in place to reduce the waste of disposable mugs and containers. These programs are:

Eco-to-Go: a container exchange program offered at all AMS food and beverage locations as well as UBC Food Services locations. A \$5.00 refundable deposit fee is paid in exchange for a card and a reusable food container. Students or staff using the program must ask to use the Eco-to-Go container when purchasing food to go, they give their card in exchange for the container and upon returning the dirty container, receive their card back.

BYOM/C discounts: UBC Food Services offers a 15 cent discount and AMS food and beverage locations offer a 25 cent discount to customers who bring their own mugs or containers.

Methodology

To best understand what the current barriers are that inhibit the use of reusable mugs and containers, a survey was conducted on the website SurveyMonkey and then completed by 252 people on campus through face to face administration. Two tablets with the survey opened on the screen were handed out to customers waiting in line at

busy coffee shops on campus. Tablets were handed out at a certain place in the lineup, at least seven people back from the front of the line, and once the survey was complete and the line had moved forward, the tablet would come back and be distributed again at that same starting place in the lineup or about seven people back from the front. This secured an unbiased choice in sample population and ensured that the respondents were likely to be coffee or tea drinkers. The coffee shops chosen are Tim Hortons (David Lam), Tim Hortons (Forestry Sciences), Starbucks (SUB), and Ike`s Cafe. These shops are all under UBC Food Services and all offer a 15 cent discount when customers bring their own mugs or containers.

Results

84% of responders are undergraduates and on average, 79% purchase coffee/tea on campus once a week or more. The following graphs show the rest of the data collected via the surveys.

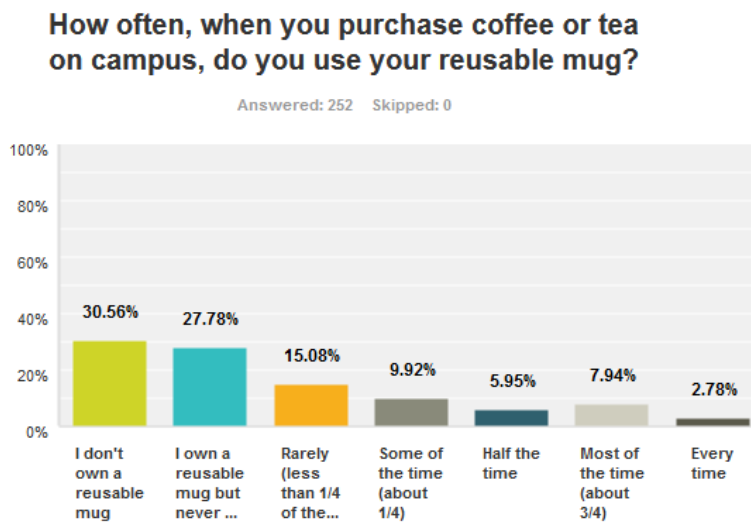


Figure 1: Question 3, “How often, when you purchase coffee or tea on campus, do you use your reusable mug?”. Responses from left to right, “I don’t own a reusable mug”, “I own a reusable mug but never use it”, “Rarely (less than ¼ of the time)”, “Some of the time (about ¼)”, “Half the time”, “Most of the time (about ¾)”, “Every time”.

Rate each reason from 0 - 3 on why you use disposable paper coffee cups.

Answered: 252 Skipped: 0

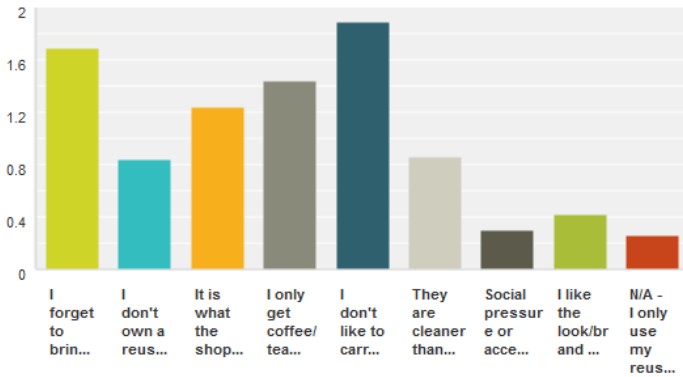


Figure 2: Question 4, “Rate each reason from 0 - 3 on why you use disposable paper coffee cups”, 0 being “doesn’t apply to me” and 3 being “applies to me”. Possible answers from left to right, “I forget to bring my reusable mug”, “I don’t own a reusable mug”, “It is what the shops offer and I have not considered the alternative”, “I only get coffee/tea occasionally”, “I don’t like to carry a mug around all day or don’t have the room”, “They are cleaner than reusable mugs”, “Social pressure or acceptance”, “I like the look/brand of the paper cups”, “N/A - I only use my reusable mug”. This graph shows the weighted totals of the responses.

Rate each reason from 0 - 3 on why you use reusable mugs.

Answered: 248 Skipped: 4

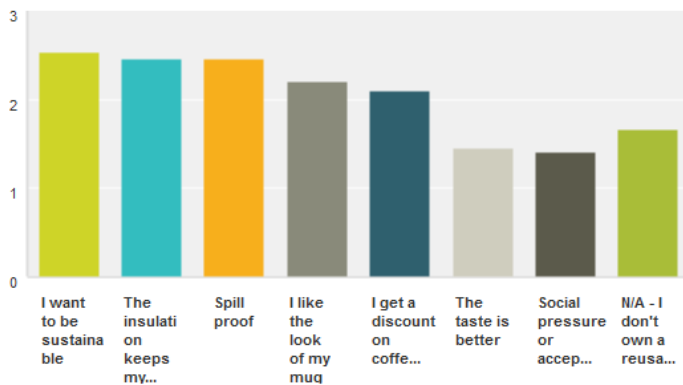


Figure 3: Question 5, “Rate each reason from 0 - 3 on why you use reusable mugs”, 0 being “doesn’t apply to me” and 3 being “applies to me”. Possible answers from left to right, “I want to be sustainable”, “The insulation keeps my coffee/tea warm”, “Spill proof”, “I like the look of my mug”, “I get a discount on coffee/tea”, “The taste is better”, “Social pressure or acceptance”, “N/A - I don’t own a reusable mug”. This graph shows the weighted totals of the responses.

Do you consider single use coffee cups to be unsustainable?

Answered: 252 Skipped: 0

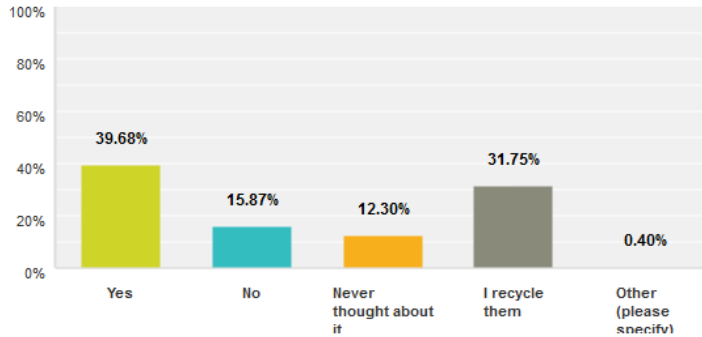


Figure 4: Question 6, “Do you consider single use coffee cups to be unsustainable?”. Possible responses ordered left to right, “Yes”, “No”, “Never thought about it”, “I recycle them”, “Other”.

What would it take to get you to switch to a reusable to-go mug?

Answered: 249 Skipped: 3

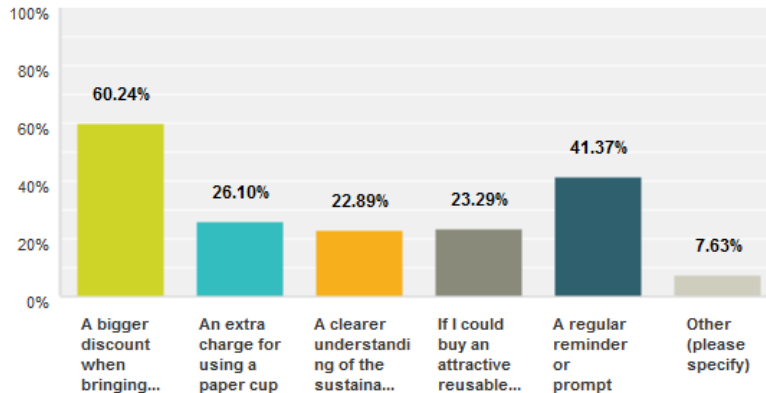


Figure 5: Question 7, “What would it take to get you to switch to a reusable to-go mug?”. Possible responses ordered left to right, “A bigger discount when bringing my own mug”, “An extra charge for using a paper cup”, “A clearer understanding of the sustainability benefits”, “If I could buy an attractive reusable mug at the point of sale”, “A regular reminder or prompt”, “Other”. Interesting comments from responders who chose the “Other” option include: “Mug share system”, “A program that reminds me, encourages me, and rewards me to do so”, and “Loaning the mugs from the retailers and giving them back for washing at different locations”.

What price would you pay for a reusable mug if they were made available at UBC cafes?

Answered: 247 Skipped: 5

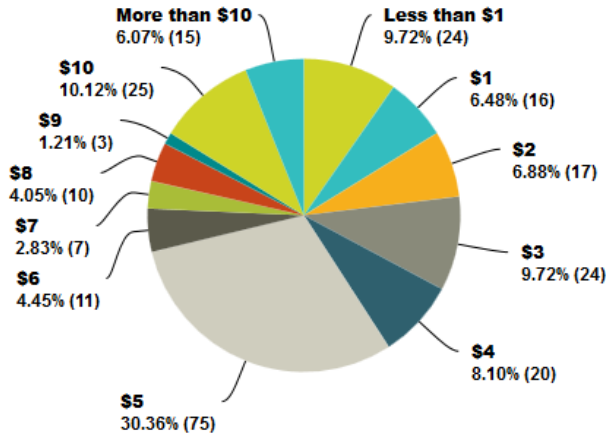


Figure 6: Question 8, “What price would you pay for a reusable mug if they were made available at UBC cafes?” 70% of responses preferred \$5.00 or less.

Have you heard of the Eco-to-Go container exchange program at UBC and have you used it?

Answered: 248 Skipped: 4

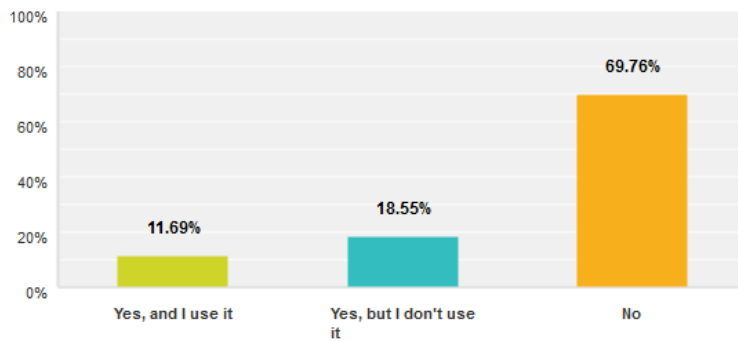


Figure 7: Question 9, “Have you heard of the Eco-to-Go container exchange program at UBC and have you used it?” Possible responses from left to right, “Yes, and I use it”, “Yes, but I don’t use it”, “No”.

I have heard of the Eco-to-Go container program but don't use it because...

Answered: 224 Skipped: 28

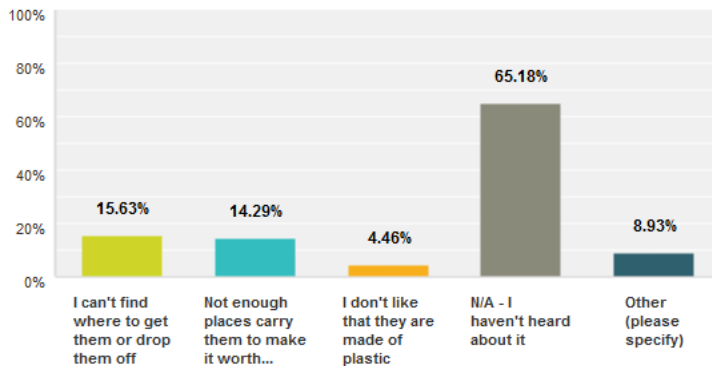


Figure 8: Question 10, “I have heard of the Eco-to-Go container program but don’t use it because...”. Possible responses from left to right, “I can’t find where to get them or drop them off”, “Not enough places carry them to make it worthwhile”, “I don’t like that they are made of plastic”, “N/A - I haven’t heard about it”, “Other”. Two notable comments made by respondents who chose the “Other” option: “some places on campus only have a limited supply of containers (ex. CIRS Loop) so sometimes they have none to give” and “Not enough knowledge”.

Discussion

Data collected from the till at the AMS coffee shop Blue Chip Cookies shows that 24% of the transactions offered a discount for BYOM/C. As the majority of sales are coffee, this number of discounts is assumed to be mainly due to customers bringing in their own mugs rather than containers. Blue Chip Cookies offers a 25 cent discount for BYOM/C whereas all of the shops targeted in this survey are UBC Food Services and only offer a 15 cent discount. Observing customers while administering surveys, it seemed that much less than $\frac{1}{4}$ of the people in line were using a reusable to-go mug. Two hypotheses for this difference is that either the targeted shops and Blue Chip Cookies simply attract different types of customers or that the 25 cent discount has a greater influence on a customer bringing in their own mug.

Though the data collected is fairly cut and dry, there are a few notable inferences within. Only 40% of the survey respondents claimed that they consider single use coffee cups to be unsustainable and 23% agreed that they would switch to using a reusable to-go mug if they had a better understanding of the sustainability benefits. The number one reason why people who do have reusable to-go mugs use them is because they want to

be sustainable. By looking at these independent points all at once it is clear that there is a lack of knowledge or concern about the wastefulness of the throwaway coffee cup. Less than half of the sample population consider the sustainability factor yet the majority of responders who are knowledgeable about the sustainability benefits, utilize reusable mugs foremost because of it. This seems to infer that if more people were aware of the issue and their personal role in contributing to the waste, they may be more likely to utilize a reusable mug.

Forgetting to bring a mug is the second most common reason why responders use single use coffee cups while 41% claimed that they would switch to using a reusable mug if they had a regular reminder or prompt. It seems that people who have a reusable mug and like to use it, but sometimes forget to bring it, may use it more often if they were given a visual reminder.

When asked to “rate each reason from 0 - 3 on why you use reusable mugs”, “a bigger discount on coffee” was the 5th most popular reason and the majority of those answers were a rating of 2 out of 3. Yet, 60% of responders agreed that they would switch to using a reusable mug if they received a larger discount on coffee when bringing in their own mug. The discount that UBC Food Services offers is 15 cents for BYOM/C, which doesn’t seem to be enough for consumers to make the discount a reason for bringing in their own mugs. If a larger discount was offered, it might become more of an incentive to bring in a reusable mug, especially for the tight budgeted student population.

The most popular reason that surveyors chose as to why they use paper cups, is that they don’t like to carry around the reusable mug or don’t have the room to. This seems like a difficult barrier to surpass although two comments were offered up as creative solutions to this problem. One responder commented that a “mug share program” would convince them to switch to using a reusable mug and another offered, that “loaning the mugs from the retailers and giving them back for washing at different locations” might make a good alternative to disposable cups.

As for the Eco-to-Go container exchange program, it seems that there are multiple issues that need to be addressed before it can be successfully utilized. There is a definite lack of information about the program as 70% of respondents have never

heard about it; many of the participants who have heard about it do not know where they can get the containers or where to drop them off when they are done. Other barriers inhibiting Eco-to-Go's use and growth include that most retailers know about the program, but do not carry the containers in stock and that many do not have the infrastructure to clean and redistribute the containers. The number of UBC Food Services discounts for BYOM/C has gone down consistently since 2011 correlating with Eco-to-Go container sales dropping from 2011 to 2013.

Recommendations

Research

Further research into several issues surrounding BYOM/C needs to be done in order to successfully increase the use of reusables and deter the use of throwaway containers and mugs. Learning how to best market BYOM/C and the Eco-to-Go program is necessary in order to effectively educate the community and raise awareness about the campaign.

Research into creating a biodegradable or more sustainable version of the single-use coffee cup or increasing the efficiency of recycling them would aid in reducing waste. Currently the Sort-it-Out bins have been successful in increasing the amount of recycling on campus, but for some reason many items aren't being placed in the proper bins. Finding out how to increase the efficiency of these bins is necessary to achieve a zero waste campus.

A cost analysis needs to be done for coffee discounts when customers bring in their own mugs or containers. Finding out what amount of discount would influence customers to bring a reusable mug as well as the maximum discount that could be given without cutting into profits too much is necessary before implementing a higher discount rate.

Before offering a reusable mug to sell at the point of sale at UBC cafes, finding out what would make the perfect mug should be done. This includes an analysis of materials in terms of recyclability, cost, durability, consumer preference, and style among other aspects.

Action

Immediate action can be taken on more straight forward ideas regarding waste reduction and coffee cups. The following are some recommendations for projects that could be implemented without further research:

A larger discount on coffee. The UBC Food Services discount of 15 cents needs to be increased to at least match what the AMS offers, which is a 25 cent discount, to guarantee a more influential discount while still retaining profits.

A punch card or loyalty card for customers bringing in their own mugs or containers. A possible example is that if a customer is BYOM/C they receive a stamp on a card and when they receive ten stamps they get a free drip coffee.

Having visually pleasing shelf talkers on high traffic counter space, such as the till of a coffee shop or on the mixing station where milk and sugar for coffee is kept. These little signs could be used for posting facts about coffee cup waste or reminders that discounts are offered for BYOM/C. Similar facts and reminders could also be posted on the paper cups themselves via a sticker or stamp.

Separating the cost of the coffee cup from the cost of the coffee itself on signage, as well as adding the cost in CO₂ in manufacturing, would aid in educating the public and increase public awareness of environmental impact.

Campus based games or competitions via social media have proved to have a significant impact while getting the community involved by having fun. There is a campaign called “Kill the Cup” where individuals as well as university teams are invited to share photos of themselves, via social media, drinking out of a reusable cup and they are entered into a draw and could win prizes. This campaign works with coffee shops as well and has proven to increase sales and reduce waste. UBC could get directly involved with this campaign or start up their own version.

The University of Ottawa does something called “Muggy Mondays” where at a certain coffee shop from the hours between 8:00 am and 12:00 pm every Monday during the school year, they give out free coffee to anyone who brings their own mug. UBC could easily adopt this practice or a version of it where there is a “happy hour” of free coffee when you bring your own mug at certain campus locations during slower hours.

Having an attractive reusable mug at the point of sale could increase the use of reusables. About 70% of survey respondents agreed that they would pay \$5.00 or less if they were made available.

References

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Appendix

Below is additional data graphs from the survey as well as tables of data taken from the tills for both AMS and UBC Food Services.

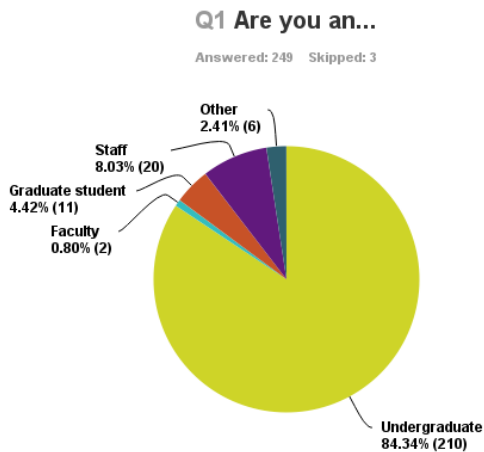


Figure 9: Question 1

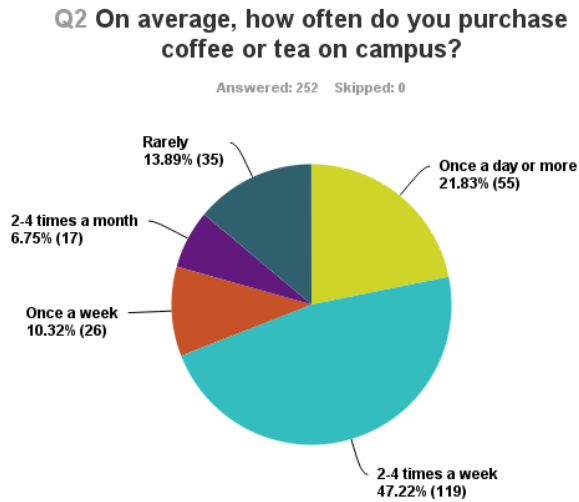


Figure 10: Question 2

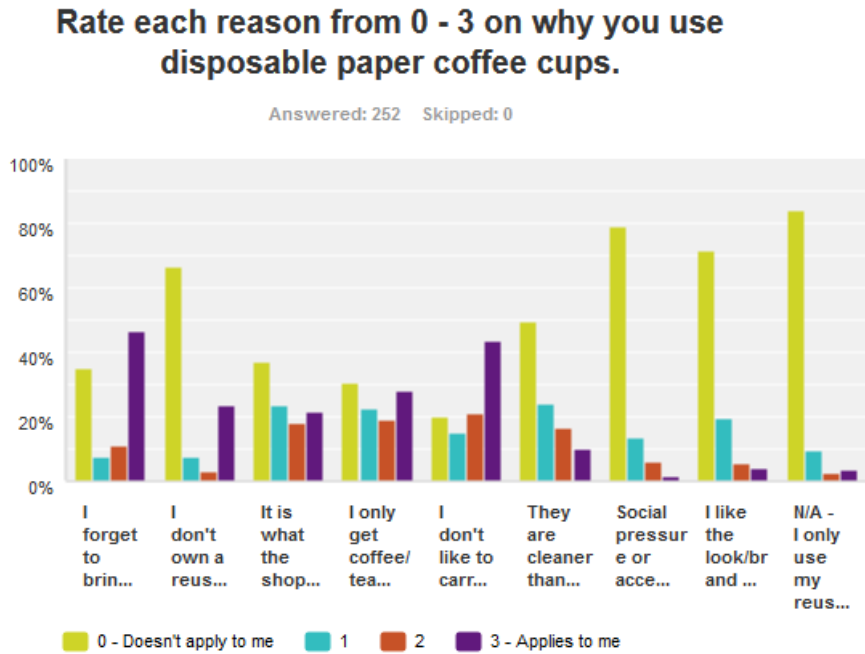


Figure 11: Question 4 non-weighted totals.

Rate each reason from 0 - 3 on why you use reusable mugs.

Answered: 248 Skipped: 4

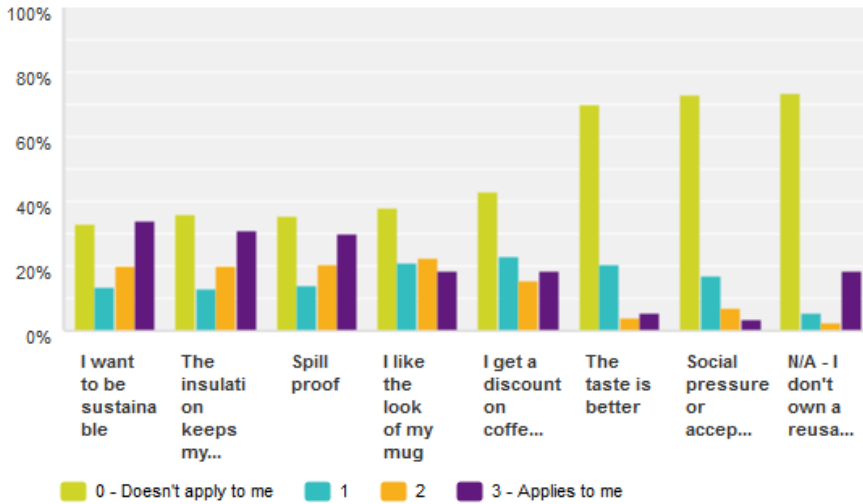


Figure 12: Question 5 non-weighted totals.

Year	Eco to Go Container Sales	Own Cup/Container Discount Claims (15 cent discount)
2010	65	187,747
2011	110	192,669
2012	50	185,275
2013	43	162,831
2014 (until Oct.1)	72	113,623

Figure 13: Table of till data from UBC Food Services locations.

	01-Sep-13	01-Jan-14	Total Year	Total	overall % of
own cup/container	31-Dec-13	31-Aug-14	Own Containers	Checks	containers vs transactions
Bernoulli's	915	808	1723	164808	1.0%
Blue Chip	23991	36321	60312	252700	23.9%
Gallery	179	435	614	121968	0.5%
Moon	367	293	660	114213	0.6%
Blue Chip % is based on coffee sales only as nobody goes with a plate to Blue Chip					
Other outlets are based on overall number of checks for food and beverage					

Figure 14: Table of till data of discounts at AMS food and beverage locations.