

An Investigation into a Bring Your Own Container Food Outlet for the New SUB

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An Investigation into a Bring Your Own Container Food Outlet for the New SUB



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ABSTRACT

“Bring Your Own Container (BYOC) Food Outlet Concept”

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In 2010, the Alma Mater Society (AMS) at the University of British Columbia (UBC) made the decision to construct a new Student Union Building (SUB). The AMS is considering operating one of the eleven food outlets as a Bring Your Own Container (BYOC) outlet, as part of the AMS Lighter Footprint Strategy.

This report compares the difference between a BYOC food outlet and a traditional disposable container food outlet. The BYOC outlet will serve customers only if they provide their own container. For this investigation, some important factors that can impact the success of the food outlet are disregarded. These factors include: the location and types of food available.

As a triple bottom line analysis of the BYOC concept, the report involves conducting environmental, social and economic evaluations of the concept. The analysis uses sources including previous reports on the AMS Food and Beverage Department and UBC Food Services, existing food sustainability strategies at UBC, and data collection through interviews and surveys.

Overall, it is recommended that the AMS implement the BYOC project in the New SUB. The BYOC concept requires a low initial cost and assists in promoting a sustainable lifestyle within UBC. However, there are some drawbacks that will affect the business’s profitability.

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GLOSSARY

Opportunity Cost

The money or other benefits lost when pursuing a particular course of action instead of a mutually exclusive alternative.

In-vessel Aerobic Composting

Composting biodegradable waste in the presence of oxygen in an enclosed reactor

LIST OF ABBREVIATIONS

AGSC	Agricultural Science
	Agricultural science is a multidisciplinary field that deals with the scientific study of agriculture.
AMS	Alma Mater Society
	The Alma Mater Society of UBC represents students who attend UBC and strives to make the students' voices heard.
APSC	Applied Science
	Applied science is the discipline that encompasses engineering and deals with solving problems by applying scientific knowledge.
BDT	Bone Dry Ton
	One bone dry ton is a volume of bulk material that would weigh one ton if all moisture content were removed.
BYOC	Bring Your Own Container
	The Bring your Own Container is a concept where customers bring their own containers instead of using disposable containers for food.
CIRS	Centre for Interactive Research on Sustainability
	A building at UBC designed to demonstrate leading research on sustainability
SEC	Student Environment Centre
	An AMS resource group focused on promoting environmental awareness.
SUB	Student Union Building
	The SUB is a building that serves as a centre for student activity at UBC and is the home of AMS operations.
UBC	University of British Columbia
	UBC is a Canadian research university located in British Columbia.

1.0 INTRODUCTION

The Bring Your Own Container food outlet concept is one of the many innovative ideas to promote sustainability in the New SUB at UBC. It is a part of the AMS Lighter Footprint Strategy, a strategy that fosters environmentally-friendly methods in the AMS's operations and lobbies for sustainable practices throughout the community (AMS Sustainability, n.d.).

The AMS has requested for a triple bottom line analysis of the BYOC food outlet concept to determine whether or not to proceed with this idea. In general, one of the eleven food outlets in the New SUB will operate as a BYOC food outlet. The concept strictly requires consumers to bring their own containers to be served. Otherwise, no service will be provided as disposable containers and cups are not provided.

The purpose of this report is to deliver a recommendation to the AMS regarding the initiation of the BYOC food outlet concept in the New SUB. The recommendation will be made by analyzing the economic, environmental and social viability of the concept, and conclusions will be drawn from findings in all aspects. In addition, considerations will be made regarding operational costs and procedures. If the AMS decides to go forward with this concept, the project will initiate in 2014, when the New SUB is complete.

Ultimately, the objective of this report is to determine the operational strategy that should be implemented for the BYOC food outlet in order to make it successful. By using a triple bottom line approach and researching economic, environmental and social factors, our team will be able to make a conclusion on whether to implement the BYOC concept. It is hoped that the findings in this report will prove to be of use in developing strategies for future projects.

2.0 METHODOLOGY

The triple bottom line assessment is the approach behind our methodology. The analysis takes into account economic, environmental and social aspects to create a well-rounded conclusion. Each member of the three-man team was therefore assigned to research one of the three aspects pertaining to the project.

The bulk of our research originates from secondary resources. Types of secondary sources used include newspaper articles, academic journals, peer reviews, books and previous reports by UBC students on topics relating to improving sustainability at UBC. The report utilizes generalized and synthesized information from these resources to support the findings.

Our primary resources involved in-person interviews with currently operating businesses and organizations such as Sprouts and the Loop Café at the Centre for Interactive Research on Sustainability (CIRS). Also, programs such as Eco - To Go and current AMS sustainability initiatives contained useful data to compile the data. In addition, a short survey was conducted to understand how the current UBC student population feels towards the BYOC concept. Our sample size is approximately 30 people; therefore it should be noted that the statistics may be skewed and may not be an accurate representation of the UBC population.

In the economic aspect of this report, information was gathered on the costs of disposable containers in traditional food outlets compared with the costs reduced from the BYOC concept. Information about the specific costs of these disposable containers was not obtained; instead, the market value of these containers was used to approach our analysis. The environmental section used mainly used online articles to calculate the impact of not using the disposable containers. In the social analysis, journal articles, previous reports and survey data were used to obtain our results.

3.0 ECONOMIC ANALYSIS

In order to evaluate how economic it is to operate the BYOC food outlet, the costs of a traditional food outlet, assuming similar menu offerings, were computed. The costs include the transportation cost of shipping the containers to the SUB, the disposal cost of recycling disposal containers and the cost of storage. These variables are used as indicators in the assessment. A poor indicator that was excluded is the profitability of the restaurant. For this report, our team contacted Sprouts, the Loop Café at CIRS and the New SUB Sustainability Coordinator, Collyn Chan, to gather primary information. Our secondary resources encompass online articles, academic journals and websites about similar projects.

3.1 ECONOMIC INDICATORS

The cost of purchasing and maintaining these containers in storage is a cost towards the business that needs to be accounted for. This cost is incurred at the time of purchase, along with the income that money would generate if it were invested at the current financing rate – one to ten percent depending on the market conditions. The formula to calculate this amount is:

$$\text{Future Value} = \text{Present Value} (1 + \text{interest rate})^{\text{time}}$$

Storage costs will depend on the volume of containers purchased at a certain time period and the market interest rate. This cost is incurred by traditional food outlets, but not the BYOC food outlet. The current market value for the cost of disposable containers ranges from \$0.01 to \$0.1 per piece. If AMS Food Services purchases approximately 360,000 containers per year for the traditional food outlet, this would cost them \$3,600 to \$10,800, excluding the opportunity cost* generated from investing this money.

* This term and all subsequent terms marked with an asterisk will be found in the glossary on p. v.

It should also be noted that the high volume of disposable containers from traditional food outlets will induce a disposal cost to remove the waste, which does not occur with the BYOC food outlet.

Restaurants that support the Tiffin project wash the customer's containers before they place their food in there (Lee, 2012). Therefore, the BYOC food outlet may want to follow a similar practice and reduce their liability for contaminated food by washing the containers for their customers – this idea is further discussed in Section 5.1. The labour cost of washing the containers provided by customers will be inflicted by the outlet, therefore increasing its operating cost. If AMS wishes to operate under this model, they may have to require additional workers to assist in cleaning these containers during peak hours.

3.2 IS SPROUTS AN ACCURATE MODEL OF THE BYOC CONCEPT?

Our team did an analysis on the Sprouts cafe operating inside the current SUB. After contacting with Camille Noulett, Sprouts VP, she indicated that Sprouts provides their customers with reusable containers and cutlery. In addition, she mentioned that some customers do bring their own food containers to take out food, but Sprouts does not offer them a discount. Since Sprouts customers are offered reusable dishes and cutlery, there is no incentive for their customers to bring their own container for food. Therefore, the data from Sprouts does not provide a good assessment of the BYOC concept.

3.3 INFORMATION FROM THE LOOP CAFÉ AT CIRS

The Loop Café at CIRS offers a 10% discount off all foods if the customer brings their own container. Information from the Loop could not be used because they do not enforce the BYOC concept. They only provide the option for customers to bring their own containers. Even though the Loop offers a discount, they mentioned not many people do bring their own containers. This is a major setback for the concept because this may indicate not many people are interested in bringing their own containers.

3.4 IS THE BYOC CONCEPT FINANCIALLY REASONABLE?

The BYOC food outlet is an unpredictable operation to assess. In the state of California, some grocery stores prohibit the use of plastic bags. The grocery stores were met with a public backlash, which resulted in the loss of customers. Even though, there are many differences between plastic bags and food containers, there is a similar behaviour between these two organizations (Barringer, 2010). They enforce a rule to promote sustainability.

Another reason why promoting consumers to bring their own containers will hurt revenues is because they may consider bringing their own food as well since it is not a substantial increase in weight. This idea that people might end up bringing their own food is speculative at best because it is not proven that this will happen (Michael, n.d.).

4.0 ENVIRONMENTAL ANALYSIS

The current usage of food containers and various other materials at the SUB has yet to be monitored and recorded (AMS Sustainability, n.d.). However, since 2010, all non-franchise food outlets at the current SUB have replaced their foam containers by more sustainable compostable food containers (AMS Sustainability, n.d.). The BYOC food outlet pushes the AMS sustainability initiatives one step further by trying to reduce the number of containers used. This section will examine the environmental benefits of the BYOC concept in comparison to the current use of compostable containers.

4.1 REUSING VS. COMPOSTING

When the compostable containers first replaced their foam counterparts, it was found that around 75,000 containers were composted from March to December of 2008 (Richer, n.d.). UBC contains its own in-vessel aerobic composting* facility at the South Campus. The facility was constructed by the Wright Environmental Management Inc. Aerobic composting facilities (UBC Building Operations, 2009). It regulates airflow and temperature within a closed container to create optimal conditions for the composting process. This method is very energy intensive since the temperature must be kept close to around 55 degrees Celsius within the container while still allowing in a continuous supply of oxygen (Nemerow, 2004). The carbon footprint, however, is relatively low due to the fact that the compost facility receives heating and electricity from the UBC Bioenergy Power Plant (UBC Sustainability, 2012). Energy production from biofuels does emit carbon dioxide; however, unlike fossil fuels, which introduce carbon from geological storage, the carbon in biofuels is already a part of the active global carbon cycle and does not add new greenhouse gasses into the atmosphere (Morris, 2008). The emissions from compost transport will also be low because the facility is located within UBC and delivers compost exclusively for UBC gardens (UBC Building Operations, 2009). Assuming that the New SUB will produce a similar waste output, and that the BYOC outlet will not suffer from significantly lower sales, roughly 680 containers could be saved each month.

4.2 REUSING VS. TRANSPORTING TO LANDFILL

It is not guaranteed that all of the containers will be disposed of in the compost bin. The Student Environment Centre (SEC) conducted a survey which indicated that, out of 144 UBC staff and students, only 75 percent regularly discard their waste in the appropriate places, while about 25 percent do not participate in or have not heard of composting or recycling options at UBC (Freeman, 2007). These statistics suggest that out of the 75000 containers composted per month, an estimated 2500 containers are added to the landfill. Unlike organic biodegradable waste, garbage and other non-recyclable wastes are sent to the Vancouver landfill located in Delta (UBC Building Operations, 2009). Both the transport of organic waste to landfills and the later decomposition produces significant amounts of carbon dioxide and methane. Uncontrolled landfills can release about 5.96 tonnes of greenhouse gasses per bone dry ton (BDT) of biomass within a single year (Morris, 2008). Using the same assumptions as before, the BYOC program could prevent an estimated average of 230 containers from entering the landfill each month.

4.3 OVERALL IMPACT

The impact of having a single BYOC outlet is miniscule in comparison to other projects such as compostable containers or bioenergy generators; however, this outlet is merely a temporary experiment. Therefore, if the social and economic issues are resolved, then the BYOC concept could potentially establish itself as the new standard food outlet at UBC with widespread participation and significant environmental benefits.

5.0 SOCIAL ANALYSIS

This section will examine the social aspect by considering various social factors affecting the operations of a BYOC food outlet. To assess the effects of the BYOC food outlet on the social domain, three main social indicators were identified: health implications (such as compliance to food safety policies), the impact on the public, and the public response to the concept. These were chosen as they were deemed the most relevant in the context of the New SUB, where the majority of people involved will be students and staff of UBC. Overall, the assessment determines whether the concept will be successful in the social domain by summarizing required implementations and strategies, and includes the results of an online survey consisting of responses from 37 arbitrary UBC students.

5.1 HEALTH IMPLICATIONS

One of the main health concerns associated with a BYOC concept is the risk of contamination due to unsanitary containers brought in by customers. As a result, compliance to food safety policies is definitely in need of consideration. In an exchange with the project stakeholder Collyn Chan, it was determined that all food outlets at UBC must pass Vancouver Coastal Health inspections and have a license to operate, which must be renewed annually. An examination of the Vancouver Coastal Health Inspection website showed that all food outlets in the current SUB hold valid permits (Vancouver Coastal Health, 2012). In this regard, it is recommended that the AMS follow the same procedures currently in practice for its existing outlets to ensure compliance to food safety standards for the BYOC food outlet.

However, in the case of the BYOC food outlet, because containers provided by customers cannot be guaranteed to be sanitary, an efficient and effective method of cleaning containers before serving food should be implemented as a precaution. A possible implementation of this procedure could involve a quick cleaning and rinsing of containers provided by customers at a point in the lineup before ordering, and then returning the cleaned containers later in the line-up after customers have placed their orders (see Figure 1). This would act as a buffer to reduce stall time in the line-up and

ensure that containers are clean and ready as soon as possible after the time of ordering. The cleaning method used can be a simplified version of the two- or three-sink dishwashing methods proposed by Vancouver Coastal Health (Vancouver Coastal Health, 2012).

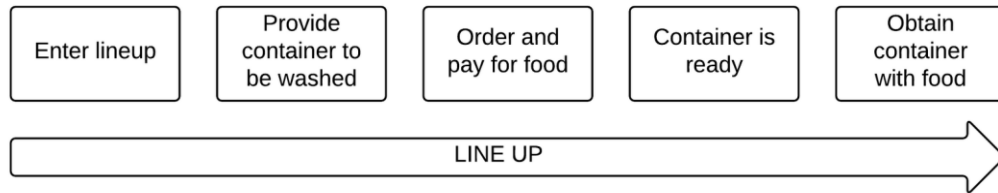


Figure 1. Example of line-up implementation

In terms of personnel, as outlined in the Vancouver Coastal Health Guidelines for Food Safety Management Plans (Vancouver Coastal Health, 2012), food handling employees are required to have undergone FOODSAFE training or an equivalent food safety training program. This is to ensure that proper sanitation procedures are followed when handling food containers of customers. If all such conditions are met, then health risks should be minimized.

5.2 IMPACT ON THE PUBLIC

When evaluating the impact on the public, two key ideas were considered. The first impact considered is the outlet’s ability to provide employment opportunities for students. The second impact is the outlet’s ability to raise awareness on sustainability and act as an educational model.

5.2.1 Employment Opportunities

By observing existing AMS food outlets, currently most employ two to four students, who work as sale associates or help with food preparation, with a team of about four staff members working in the kitchen. Offering positions to students is definitely possible and very likely to have a positive impact, as it gives an opportunity for students to make income and gain experience, particularly

those who could a bit more help financially or are looking for experience working in a food environment. A job at the BYOC food outlet can also be particularly useful for students majoring in culinary- and sustainability-related fields. The position requirements, operational schedule of the outlet and wages given to employees should be similar to other AMS food outlets and not require any extraordinary accommodations.

5.2.2 Educational Model

The presence of the BYOC food outlet can be used to promote the idea of sustainability. However, this requires the outlet to be iconic and easily recognized by the community. Since “all food outlets will be located on the main floor in clusters” near the entrances of the New SUB, one possibility is to have the BYOC outlet be placed in a cluster in the center or closest to the entrances for highest visibility (C. Chan, personal communication, November 15, 2012). Higher visibility allows for better marketing, leading to more opportunities to promote sustainability. In particular, the outlet can be used as a center to promote sustainability-related events, such as Fair Trade Week or Eco-Friendly Day at UBC, or even host its own events. There can also be weekly deals related to types of food or info tips at the outlet to consistently help raise awareness.

Another possible use of the outlet is to use it as an educational opportunity for students studying in fields including, but not limited to, agricultural sciences, applied sciences, and marketing. Specifically, UBC courses and clubs can have projects relating to the BYOC food outlet, such as researching viable marketing strategies, determining appropriate food choices, and measuring sustainability indicators. This is important in particular as it promotes long-term sustainable practices and allows more students to obtain a better understanding of the sustainability initiatives at UBC. To further improve awareness, the BYOC food outlet could become attached to the existing UBC Food Services Eco - To Go program and serve as an icon representing the forefront of the program, by accepting and distributing the Eco - To Go food containers (UBC Food Services,

n.d.). Overall, this could improve participation in the program and help integrate the various food sustainability strategies on campus.

Ultimately, these approaches would address at least four initiatives outlined in the AMS Lighter Footprint Strategy that have estimated ecological footprints of High or Very High, namely:

1. “Increase overall student awareness of the AMS’ environmental initiatives through communications strategies”
2. “Incorporate sustainability into the AMS’ communications with staff, clubs and constituencies”
3. “Encourage UBC Food Services to significantly reduce the ecological footprint at all of their food outlets, including franchises”
4. “Work with faculty, the UBC Sustainability Office, and other groups to develop a more problem-based learning curriculum aimed at reducing our ecological footprint and creating a stronger ecological learning community” (AMS Sustainability, n.d.)

5.3 PUBLIC RESPONSE AND SURVEY

To obtain a general idea of the public response, an online survey was conducted from Nov. 13 to Nov. 20 and distributed via Facebook. It was developed due to time constraints preventing an in-person survey from being conducted, and it also allowed respondents to put more thought into answering the open-ended questions. The survey questions can be seen in Appendix A. In general, the survey consisted of eight questions and touched on topics ranging from knowledge of current discounts, willingness to bring your own container, reasons for and against bringing your own container, and types of food desired at the BYOC food outlet. A total of 37 students participated in the survey, all of whom currently study at UBC. The survey results for the first two topics are shown in Figures 2 and 3. In regards to the types of food to be served, a “diverse selection of culturally appropriate” food, with healthy choices as well as vegetarian and vegan options seems most appropriate. This would fall in line with the initiatives outlined in the UBC

Food Services Green Report and cover more taste preferences, leading to more customers (Richer, n.d.).

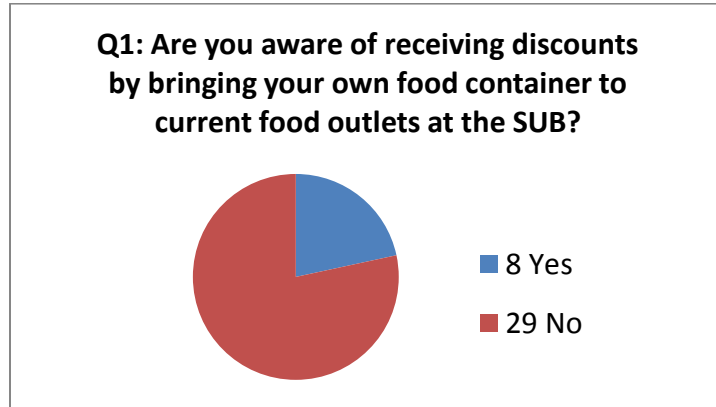


Figure 2. Results for Q1 of survey

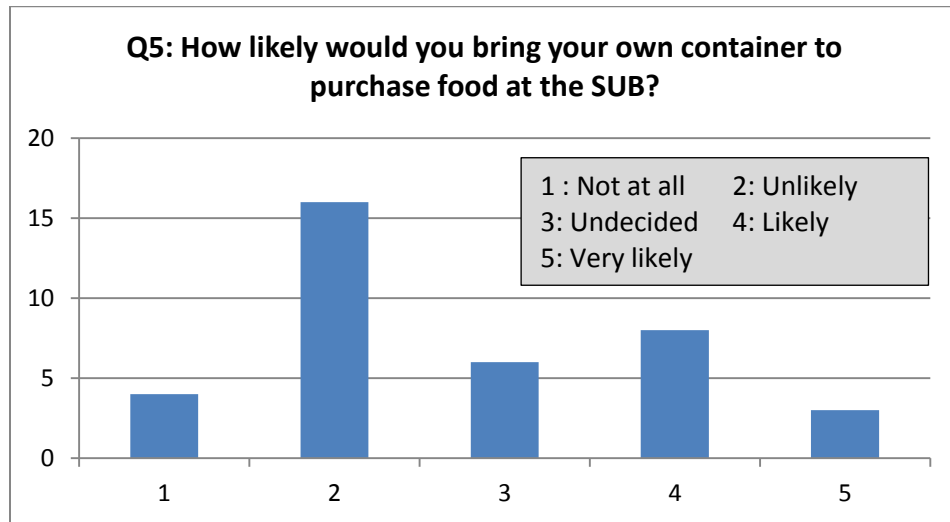


Figure 3. Results for Q5 of survey

From the results, the majority of students seem unlikely to bring their own container. It appears that the best two solutions are to have stronger marketing of sustainability initiatives and to offer better incentives such as larger discounts. A possible strategy to improve marketing is to have highly visible outreach signs in high traffic areas within the New SUB, as the signage in the current SUB seems inadequate (i.e. there only appears to be small signs at the current food outlets, but no overall large signage strategies).

Also, since it does not appear financially plausible to offer larger discounts on purchases, a possible alternative is to have a rewards program such as a stamp card, where every certain number of stamps equates to a large discount or free meal. Additionally, this program could run through all food outlets at the New SUB, but customers could get more stamps from the BYOC outlet compared to other outlets, adding more incentive to bring your own container. In fact, a study on store loyalty and the role of a green environment image found a significant positive relationship between store loyalty and a green environment image (Yusof, Musa & Rahman, 2011). In the context of the BYOC food outlet, customers would more likely be repeat customers if they perceive that the food outlet holds an environmentally-friendly image based on environmental initiatives - which is likely given that 78% of survey respondents said they would identify themselves as being sustainable by being a customer at the BYOC food outlet.

These results are supported by previous findings from AGSC 450 research groups. For example, from a report on social marketing of sustainability initiatives for The Honour Roll by AGSC 450 students in 2009, two main recommendations given were to “offer more discounts and promotions when customers bring their own containers” and to “increase advertising of sustainability initiatives” (Fong et al., 2009). In another report by AGSC 450 students in 2009 on reducing the ecological footprint of Blue Chip Cookies, recommendations given included focusing on marketing strategies and increasing advertising of available AMS Lighter Footprint Strategies initiatives (Cho et al., 2009). Overall, from the findings, it can be concluded that if stronger marketing strategies are implemented along with a better incentive, it is likely that the BYOC food outlet concept will succeed in the social domain.

6.0 CONCLUSION AND RECOMMENDATIONS

From the three aspects assessed, the findings concluded that the AMS should move forward with the BYOC food outlet concept and implement it in the New SUB. From the environmental perspective, the benefits of the BYOC food outlet may appear to be insignificant especially when compared to the effective sustainability initiatives which already exist. However it is an essential starting step towards a long term, large scale project which could drastically reduce or organic waste, landfill waste, and greenhouse gas emissions. Consequently, the BYOC concept should be considered as a long term project in order to become successful. It should be noted that the concept is primarily foreign in Canada, with a few business models operating in this way in the United States. Thus, the information available is miniscule and inadequate to construct a heuristic that can guarantee the success of this project.

However, while the economic, environmental and social assessments all found the concept to be potentially unpredictable, all three aspects emphasized the importance of people's willingness to participate in the program. Since the concept is intended as a pilot experiment, it is recommended that the BYOC food outlet be used to test the feasibility of such a concept. Therefore, in operating this outlet, it is crucial that strong marketing strategies be used to raise awareness of this initiative and that an effective incentive be used to increase acknowledgement and participation. Because only a small sample size was obtained for the online survey, it is definitely recommended that a survey be conducted on larger scale in order to obtain a more accurate perception of the public approval as that is essential to the outlet's success. After all, a restaurant can only be successful if it has customers, and in the case of the BYOC food outlet, each additional customer means a disposable container saved.

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APPENDIX A: SURVEY QUESTIONS

Question 1: Are you aware of receiving discounts by bringing your own food container to current food outlets at the SUB? (Y/N)

Question 2: Do you currently bring your own food container? (Y/N)

Question 3: If you answered Yes to Q2 above, what motivates you to bring your own container? (Open-ended)

Question 4: If you answered No above to either Q1 or Q2, what would motivate you to bring your own container? (Open-ended)

Question 5: How likely would you bring your own container to purchase food at the SUB? (1: Not at all – 5: Very likely)

Question 6: If bringing your own container gives you a discount, what is the minimum amount that would persuade you to do so? (\$0.25, \$0.50, \$0.75, \$1.00, \$2.00, Other)

Question 7: What type of food would you like to see available at this outlet? (Open-ended)

Question 8: Would you feel you are being sustainable by being a customer at this outlet? (Y/N)