Investigating the prevalence and reduction of single-use food and beverage items in the UBC AMS Nest

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Practitioners' Summary

Background

Single-use item usage is an increasingly pressing issue and drastic reductions in our usage must take place to shift away from a linear economy. As part of efforts to advance the Alma Mater Society (AMS) owned food vendors in the AMS Nest towards a circular economy for materials at UBC, our work acted as a check-in to inform current reduction efforts of Single-Use (SU) Food and Beverage (F&B) items usage. The goals for our project included: 1) the creation a baseline understanding of the prevalence of SU F&B items in the AMS Nest and, 2) identification of factors that lead to the use of SU F&B items in the AMS Nest.

With consultation of our clients and SEEDS representative we:

- 1) Conducted a SU F&B item audit to identify common items by type, and examine procurement data to determine current prevalence
- 2) Identified motivations for SU F&B items usage for food vendor managers through semistructured interviews and their patrons through a short Qualtrics survey
- 3) Assessed the degree to which principles in the UBC's Zero Waste Food Ware (ZWFWS) have been adhered to and implemented by AMS food vendors through observations and developed recommendations for increasing ZWFWS compliance.
- 4) Conducted a preliminary assessment to gauge interest in participating in a pilot reusable cutlery program through a short Qualtrics survey

Key Takeaways:

- 1) Low compliance of the Zero Waste Food Ware Strategy (ZWFWS) among food vendors
- 2) Most prevalent single-use items by quantity: paper sandwich bags, cups and sushi trays
- 3) Cost and benefits of single use items and reusables are an important factor for vendors
- 4) Patrons are open to using reusables, but there is a lack of availability of these dine-in options or attractive reusables programs
- 5) Good acceptance of a reusables pilot program but there was more support for dine-in options.
- 6) ZWFWS offers passive support for vendors, but food vendor managers are primarily responsible for implementation and compliance. There may be uncertainty on expectations of compliance and/or lack of enforcement.



Compliance of ZWFWS among food vendors

Executive Summary

In 2019, 1.8 billion tonnes of greenhouse gasses were emitted because of plastic (Ritchie, 2023). These plastics are detrimental to our health and the environment as they damage ecosystems, poison groundwater, and enter our bodies in the form of microplastics (UN Environment Programme, 2023). As a result, Canada has taken significant steps in reducing plastic waste, but has failed to implement effective policies that will reduce single-use item waste as a whole (Dillon Consulting Limited, 2023).

Single-Use Items (SUIs) are defined as "... a product that can be used once and is then thrown away." (Cambridge Dictionary, 2024). This includes items such as coffee cups, take-away cutlery, and straws. Single-use items are usually not recycled or composted, fill up landfills and have significant impacts on our environment (City of Vancouver, 2024). As a leading university in sustainability, the University of British Columbia (UBC) can set a precedent in minimizing all single-use Items on campus. Potentially, this could encourage other universities around the world to follow suit. Several UBC wide policies and plans such as the Alma Mater Society (AMS) Sustainable Action Plan 2026 and Zero Waste Action Plan 2030: Towards a Circular Economy are aligned to apply a circular economy lens to business operations to reduce emissions and waste and more specifically emphasize the desire to reduce or eliminate single-use items.

Our project's main aim was to identify the prevalence of single-use items (SUI) in 6 AMS-owned food vendors in the AMS Nest to propose actions in reducing waste, conserving resources, and mitigating emissions. The intended outcomes of the project are to foster a culture of sustainability, community engagement, and policy change. Moreover, this project seeks to influence stakeholders to support sustainability goals within the UBC community, namely, to adopt initiatives that allow for more efficient material circulation within the UBC food system. Our project adds to the current body of knowledge about SUI use in the AMS Nest by providing an understanding on the practices of students and vendors involved with the AMS-owned food services, identifying potential reductions in SUI inventory and use by understanding the decision-making process of both the consumers and vendors, and providing a baseline for future research regarding SUIs on the UBC campus.

Following the Community Based Action Research (CBAR) methodology, we conducted several data collection methods.

- 1. Conducted surveys with patrons buying food from the AMS-owned food outlets.
- 2. Conducted semi-structured interviews with a food service manager.
- 3. Observed general SUI practices of both students and employees in the Nest
- 4. Observed compliance of the ZWFW strategy by food vendors.
- 5. Conducted an audit of all single-use-items used by food vendors.

Our research has a few key takeaways: (1) there is low compliance of the Zero Waste Food Ware Strategy among food vendors in the AMS Nest (2) the most prevalent single-use items by quantity were paper sandwich bags, cups and sushi trays (3) cost and benefits of reusables are an important factor for vendors (4) although it appears patrons are open to using reusables, there is a lack of availability of dine-in options or reusables (5) there is overall good support for a reusables pilot program but there was more support for dine-in options. (6) overall ZWFWS offers passive support for vendors but most of the implementation is by the food vendor manager, and it appears that there is some uncertainty on expectations of compliance and/or lack of enforcement.

Our recommendations include realistic goals that could be implemented by the AMS and Campus + Community Planning. Recommendations for action include the launch of a reusables pilot program and to revisit the implementation strategy of the Zero Waste Food Ware Strategy through consultation sessions. Recommendations for research include the in-depth analysis of the current MugShare program at UBC to understand why awareness of the program is so low.

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List of Abbreviations

SU: single use, F&B: food and beverage

UBC: University of British Columbia

AMS: Alma Mater Society

ZWFWS: Zero Waste Food Ware Strategy

Introduction

Research Relevance

In 2019, 1.8 billion tonnes of greenhouse gasses were emitted because of plastic – most of which came from production (Ritchie, 2023). In the same year, 6.2 million tonnes of plastic were produced for Canadian consumption (Statistics Canada, 2023). According to the UN, globally we produce 300 million tonnes of plastic every year, half of which are single-use items (Lindwall, 2020). Plastic waste has been shown to be detrimental to our health and the environment. In a study, researchers found that, on average, we may be consuming a credit card's worth of plastic each week (Garw, 2019). The consumption of plastic has been linked to several adverse health effects such as endocrine disruption, insulin resistance and cancer (UN Development Programme, 2023). Plastic negatively impacts ecosystems, reduces food production capabilities, and poisons groundwater (UN Environment Programme, 2023). Additionally, by 2050, it is expected that there will be more plastic in the ocean than fish unless urgent action is taken (Ellen MacArthur Foundation and McKinsey & Company, 2016).

With the Canadian government taking steps to reduce the use of single-use plastics, there has been a reduction in specific plastic usage such as plastic retail bags and straws (Dillon Consulting Limited, 2023). However, this has also caused an increase in other single-use materials (Dillon Consulting Limited, 2023). In Metro Vancouver, wooden cutlery use has almost doubled since 2020 and single-use cup use has almost tripled (Dillon Consulting Limited, 2023). Similarly, bioplastics, plastics made from biological materials, are on the rise and global production is projected to increase to 5.5 million tonnes in 2024 (European Bioplastics, 2023). Although this switch in materials seems to be a step in the right direction, it will not solve the numerous issues that come with the usage of single-use-items. Bioplastics have been shown to be just as toxic as their plastic counterparts (Zimmermann et al., 2020). Additionally, most bioplastics still end up in landfills and slowly decompose to produce methane, a greenhouse gas (Atiwesh et al., 2021). Wooden cutlery also comes with environmental impacts as, for example, at least 20 million trees are cut down each year in China alone to produce chopsticks (Dewey, 2021). By following SUI's linear movement from resource extraction to waste

disposal it becomes clear that the reduction of all single-use-items would be beneficial. Moving towards a circular economy, which retains and recovers as much value as possible from resources, will help alleviate pressure on our ecosystems and health (Government of Canada, 2022). Additionally, fifteen of the top Canadian universities have agreed to collective sustainable development goals including implementing zero waste policies (International Relations Professional Learning Community, 2020). As a leading university in sustainability, UBC has the opportunity to become a trailblazer in the minimization of single-use items on campus. This large shift can significantly reduce global SUI usage in universities and reduce the detrimental effects of single-use items.

Community Benefits

Our research has helped provide a baseline understanding of the prevalence of single-use food and beverage items and motivations for usage. Specifically, our findings on motivations for SUI usage and acceptance of reusable alternatives among students can be used to guide future decisions on implementing reusable alternatives which can significantly reduce UBC's reliance on SUIs. Our identification of compliance with the Zero Waste Food Ware Strategy can be used to inform future adaptations of the policy to increase feasibility and compliance. Overall, our research creates a general understanding of SUI usage and compliance and opens many doors for future research and decisions for policy.

University of British Columbia (UBC) Sustainability Issues, Plans, Policies & Practices

UBC's declaration of a climate emergency in 2019 followed by the publication of the UBC Climate Emergency Engagement Final Report and Recommendations document (CEEFR) commits the university to local, regional, and international climate leadership (UBC Sustainability, 2024). In addition, the UBC Climate Action Plan 2030 (CAP 2030) aims to apply the circular economy lens to target a 50% waste reduction by 2030 relative to 2019 and move the campus towards a zero-waste community (UBC Campus and Community Planning, 2021). The Zero Waste Action Plan 2030:

Towards a Circular Economy (ZWAP) and AMS Sustainable Action Plan 2026 (ASAP) include targets for SUI reduction (UBC Sustainability, 2023). ASAP specifically targets SUI in the Nest (AMS, 2023), with short term actions for 2024 to analyze efficacy of existing zero-waste initiatives, long term actions to reduce or eliminate single-use containers being purchased or sold at outlets and exploring the feasibility of implementing a reusable cutlery program (AMS, 2023).

Our research focuses on the Zero Waste Food Ware Strategy (ZWFWS) which encourages the use of reusable food and beverage containers with the implementation of mandatory fees, procurement guidelines and operational regulations (which include specifications on types of materials, what items are allowed to be self-serve and communication requirements) (UBC, n.d.).

Project Context

We wanted to better understand what work has already been done by UBC to understand SUI usage in the Nest. Previous work was used to identify gaps and opportunities and guided our own research. The publicly available 2018 Single-Use Items Consultation report (UBC Campus and Community Planning, 2018) informed us of the input from various stakeholders that helped craft the ZWFWS, and we acknowledged that a surveyed was launched in September 2022 to collect input on the planned changes to be effective January 2023, which has not yet been published in a report. There has not been a comprehensive audit or analysis examining compliance of the ZWFWS, effectiveness of other zero waste initiatives in the AMS Nest, or published reports of stakeholder perspectives since the effective date. Our research serves as a progress report and baseline to help inform the continued revision of strategy around the reduction of single use food and beverage items.

Purpose

Our project aims to inform the reduction efforts of Single-Use (SU) Food and Beverage (F&B) items to help support the Alma Mater Society (AMS) owned food vendors in their transition towards a circular economy at UBC.

Goals

- 1. Create a baseline understanding of the prevalence of SU F&B items in the AMS Nest
- 2. Understand the contributing factors that lead to the use of SU F&B items in the AMS Nest

Objectives

- 1) Conduct a SU F&B item audit to identify common items by type, and examine procurement data to determine current prevalence
- 2) Identify motivations for SU F&B items usage: for food vendor managers through semistructured interviews; for their patrons through a short Qualtrics survey
- 3) Assess the degree to which principles in UBC's Zero Waste Food Ware Strategy (ZWFWS) have been adhered to and implemented by AMS food vendors through observations and develop recommendations for increasing ZWFWS compliance
- 4) Conduct a preliminary assessment to gauge interest in participating in a pilot reusable cutlery program through a short Qualtrics survey

Research Methodology and Methods

Research Methodology

Community-based Action Research (CBAR) can be defined as "situating research within a geographically bounded community to investigate an issue or problem, develop interventions, and assess outcomes" (Guillon & Tilton, 2020). This type of research places community members as equal partners that are involved in the research from start to finish. CBAR can also lead to increases in collaboration among community partners, researchers, and organizations (Salimi et al., 2012). This community-based approach can ultimately lead to the co-creation of knowledge that will benefit all parties. In the context of our research, community members are UBC students, food service staff, food service managers and our clients at the AMS, SEEDS Sustainability Program and Sustainability and Engineering, Campus and Community Planning. Throughout our research, we have collaborated with partners to gain a better understanding of the current usage of single-use items in the AMS Nest at UBC. Multiple consultations with our clients helped us focus our research on areas that hold the most benefit to the UBC community. The input from surveys have helped us to not only understand current motivations for SUI usage, but also gain insight into factors we did not consider beforehand. such as the need for SUI usage for people with allergies. Food service managers provided a different perspective that greatly contributed to our understanding of why current systems are the way they are. Additionally, we incorporated co-learning with the community members by clearly communicating progress and offering to send the completed report to everyone who helped with our research.

Feedback received throughout our research was incorporated and guided decisions we made. Our research will also be used to provide a more comprehensive understanding of the current implementation of the Zero Waste Food Ware Strategy. This can help shape future policies and initiatives that will benefit the UBC community as we continue to address single-use-item usage and work to create a more sustainable UBC.

Research Methods

Our research used a mixed-methods approach, and included both primary and secondary data collection. The development and adaptation of the research process iteratively took place in consultation and collaboration with our team's SEEDS Sustainability Program Representative through email and in person meetings during a 3-month period between February 2024 and April 2024. From February 29, 2024, and forward, all contact with our primary and secondary clients (i.e., AMS and Sustainability & Engineering, Campus & Community planning) was liaised through our SEEDS representative, with the goal of streamlining email communications.

Secondary Data Collection Research Methods

Our team used key words such as UBC, sustainability, zero waste, single use item, single use food ware, and AMS to find relevant literature, policies, and goals published by UBC and UBC associated organizations. Our initial meeting with our clients and SEEDS representatives identified specific goals to be explored through our primary research methods (e.g. to include questions on our survey to inform the ASAP goal of exploring the feasibility of implementing a reusable cutlery program). As a result, the secondary data analysis and consultation with our clients and SEEDS representatives evolved the project scope from the initial proposal.

Primary Data Collection Research Methods

Primary data collection began after feedback was received and incorporated in early March.

Please see Table 1 (below) for a description of our primary methods which include physical sampling, semi-structured interviews, surveys and observation.

Table 1: Primary Data Collection						
Sample	Sample Size (n)*	Percentage of target sample achieved	Sampling technique	Intended outcomes	Rationale for participant selection	
A: Type of SUI	6	100% N = 6	Physical collection of SUI with photo documentation	Create a baseline of the prevalence of SUI with reference to type in the 6 AMS-owned food outlets: Blue Chip Cafe Flavour Lab Grand Noodle Emporium Honour Roll Porch The Gallery	Establish an understanding of SUI adherence to policies outlined in the Zero Waste Food Ware Strategy for the 2024 academic year	
B: Food vendor managers	1	16.7% N=1	Semi- structured interviews	Produce a rich amount of data behind supplying and implementing guidelines around SUI	Gain an understanding of the contributing factors behind procuring and supplying SUI	
C: Patrons (e.g. students, staff, visitors)	>30	216.7% N=65	Short Qualtrics Survey	Produce data representative of the perspective, knowledge, and practices of patrons who visit AMS-operated food outlets	Gain an understanding of consumer awareness and perception of the zero-waste initiatives, and preliminary examination of the feasibility of a reusable cutlery program Gain an understanding behind behaviour around using SUI and reusables	
	>30	X	Observation		Gain an understanding of patron SUI and reusables usage	

^{*}Sample size was chosen in consultation with SEEDS Sustainability Program Representative

Methods of Administration

Sample A:

On March 8, 2024, we visited 5 vendors (Blue Chip Cafe, Flavour Lab, Grand Noodle Emporium, Porch, and Honour Roll), and informed the store front staff (i.e., at the cash register) of our research project. All store front staff directed us to the manager on duty, from which we requested a sample of each type of single-use food and drink ware item provided at the location. We immediately received samples from all locations except Honour Roll, which requested us to email to coordinate a future pick up time. The first email was sent on March 13, with a follow up email on March 19, and pick up accomplished on March 20. An email was sent on March 14 to The Gallery due to their dine in setting and our uncertainty if they had single use items and pick up was accomplished on March 15.

Note: Porch and The Gallery charged us for the single-use items.

Sample B:

Feedback from our SEEDS representative on the food vendor management semi-structured interview questions was incorporated by early March. Recruitment of food vendor managers began with our SEEDS Representative. We sent them our finalized Qualtrics sign up forms (which noted a \$10 AMS-Food Services Gift Card as compensation) for the managerial interviews which was forwarded to the AVP Sustainability to make an introduction on our behalf. Our team chose to recruit through the AVP Sustainability, an AMS representative, with the intention of achieving a higher response and participation rate as the AMS-owned food vendor managers are likely more familiar with them. We successfully recruited the Blue-Chip Cafe manager and conducted an interview on March 18. However, on March 20 we were still awaiting responses from the other five managers and therefore requested our SEEDS Representative to reach out to the AVP Sustainability to follow up with the managers.

Note: During pick up of SUI from Honour Roll, a team member approached the manager in person about their participation in the interview. The manager responded by asking "Is it a requirement?" and when they found out it wasn't they said, "Then I am not interested".

Sample C and D Observations:

On-location observation of the location, vendor staff (i.e., cashiers), and patrons of Flavour Lab, Grand Noodle Emporium, Porch, Honour Roll, and The Gallery were done on March 20, 2024 (10 minutes for each location, between 3:00-4:00pm). Two on-location observation sessions of vendor staff (i.e., cashiers) and patrons of Blue-chip Cafe were done on March 11, 2024 (10 minutes, 6:15-6:25pm), and March 13, 2024 (3:25-3:35pm). Observations of vendor staff and patron behaviour around using single-use items were recorded. Operational and physical observations such as SUI placement, SUI related signage (e.g. fees), and other zero waste sustainability initiatives were noted and photographed.

Sample D Short Qualtrics Survey:

The Qualtrics survey (refer to Appendix F) was created with revision from our SEEDS representative. Physical posters (refer to Appendix E), which advertised a chance to win a \$50 AMS-Food Services gift card, were placed on all levels of the AMS Nest as well as poster boards outside. The survey was openned on March 10 and closed on March 24.

Results

Most of the available single-use items from the six AMS-owned food vendors adhered to the ZWFWS guidelines of allowed plastic types. Honour Roll however, provides customers with a Bento Box container (Refer to Image 4 – the container with designs instead of plain) that appears to have been lined with different material that gives it a glossier look compared to the other plain containers.



Images 1-6. SU F&B Item Audit to Identify Common Items by Type: All SU F&B items received from various AMSowned food vendors. Note: Did not receive bowls and lids which Honour Roll offers.

We identified Paper Sandwich Bags (240,300 items) to be the most prevalent SU F&B item (in Misc.), followed by hot and cold plastic cups (154,400 items), and plastic sushi trays and lids (85,000 items). Overall, between September 1st, 2023, and March 15th, 2024, a total of 582,800 items were procured for the six AMS-owned vendors (see Figure 1). Although this is not a direct indicator of usage, it provides a good sense of the current level of need.

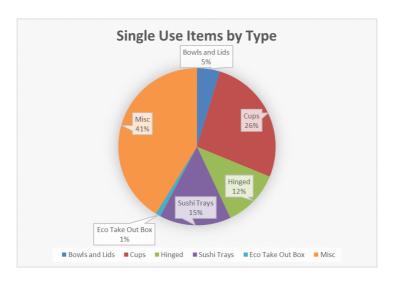


Figure 1. Procurement data (September 1, 2023 - March 15, 2024) for all 6 vendors: Distribution of Single-Use Items by type. Refer to Appendix A for raw procurement data.

Quote	Theme
"Single-use-items have always been the norm"	Business standard
"Saves on labor and reduced potential loss in inventory"	Convenience of SUIs vs
	implementation costs of reusables
"I tried to make it by-requests only but with the amount of	Extra labour costs
volume we get it interrupts the operational flow"	
"The fees are not that big of a barrier (for patrons to make	Influence on consumer decision-
purchases)"	making
"Because of how busy it is, it's almost impossible to repeat it	Extra labour costs
(communicating fees) every time"	

Table 2. Reasons for SU F&B items usage for food vendor manager (extracted from semi-structured interviews). Refer to Appendix B, C, and D for semi-structured manager interview script, manager interview questions and interview transcript.

Most of the SUI requirements were not met by five out of the six food vendors, excluding Flavour Lab. Flavour Lab checked off 5 out of 6 SUI requirements that were applicable for the vendor. None

of the vendors were compliant with the requirement of staff communicating SUI fees clearly to each customer. "No self-serve condiment packets" was the requirement that had the highest level of compliance, with only Blue-Chip Cafe and Honour Roll showing non-compliance. Aside from Blue-Chip Cafe and The Gallery, the other food vendors served sodas and other drinks in cans or bottles, and thus the requirement regarding straws, stir sticks, cups, lids, sleeves, or trays were not applicable.

SUI Requirements (Policies)	Bluechip	The Gallery	Flavor lab	Grand Noodle Emporium	Honour roll	Porch	
Fees charged separately from product							
Clearly communicate fees through signage							
Clearly communicate fees through staff							Non-
No self-serve cutlery							compliant
Cutlery only provided on-request							Compliant
No self-serve condiment packets							Somewhat compliant
No self-serve straws							Not
No self-serve stir sticks							applicable
No self-serve cups							
No self-serve lids							
No self-serve sleeves							
No self-serve trays							

Table 3. Degree which principles in the ZWFWS have been adhered to and implemented by AMS food vendors: Observations of AMS vendor location and staff. Refer to Appendix H-L for photos of vendor observations

The following figures (Figures 1-7) present the results of the short Qualtrics survey which garnered a sample size of 102 respondents. After accounting for bots, duplicates, and incomplete responses flagged by the Qualtrics system, the cleaned sample size came up to 65 respondents from a wide demographic (Refer to Appendix G (a, b, c)).

Most respondents indicated that they purchase and/or consume food and drinks at the Nest, as well as make use of the Single-Use Items provided by the vendors only a couple of times a month (30.7%). Surprisingly, there were more respondents who never partake in these activities (19.3%) compared to those who do a couple of times a week (16.5%). Only a small portion of respondents

frequently partake in all listed activities – 5.7% answered every day or almost every day and 3.8% answered multiple times a day.

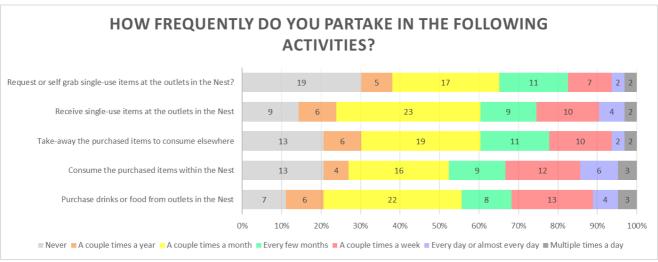


Figure 1. Distribution of responses regarding the frequency of respondents' purchase, consumption, and/or takeout behaviours in The Nest.

More than a quarter (28.3%) of respondents indicated that they never use any of the Single-Use Items and takeaway beverage items. Very few respondents said that they make use of these items once a day or multiple times a day (8.5%). Notably, stir sticks, straws, and salt/pepper/sauce packets were items that more than half of the respondents never use. On the other hand, napkins, cutlery, food wrappers, and food containers are used by most respondents when they do purchase food or drinks at the Nest.

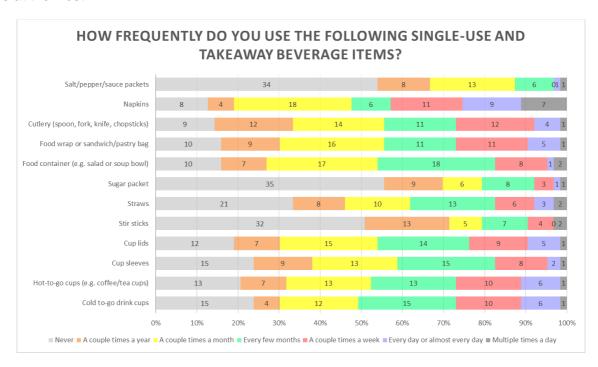


Figure 2. Distribution of responses regarding how frequent patrons use various Single-Use Items and Takeaway Beverage Items.

More than half of the respondents (52%) were not aware of any of the indicated initiatives and efforts towards Single-Use Item reduction. The Zero Waste Food Ware Strategy was not known by an overwhelming majority (72%), and only 2 respondents were fully aware of it. The requirement on establishments to communicate fees to customers was also unknown to most respondents (64%). Compared to the other initiatives, the \$0.25 fee for single-use hot drink cups and bags was the most well-known by respondents, with 72% of respondents stating at least some level of awareness of the initiative.

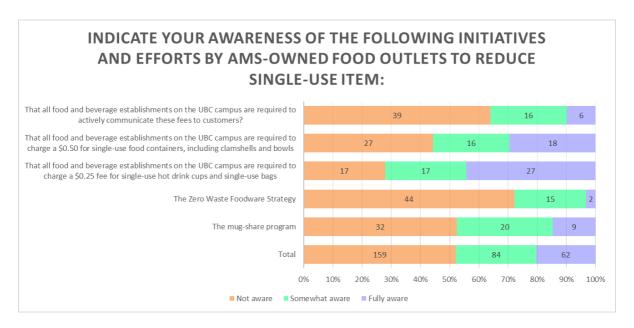


Figure 3. Distribution of responses regarding patrons' level of awareness about various AMS-owned food outlet initiatives and efforts to reduce SUI waste.

The two decisions that the participants stated a low likelihood of being influenced by the single use fees were the mug-share program (57.3%) and being deterred from purchasing food items (55.7%). Being encouraged to bring their own reusable bags was the decision respondents stated to be most likely influenced by the fees (73.8%). More than half (55.7%) of the respondents stated that they were likely to be influenced by the single-use fee across all the listed options.

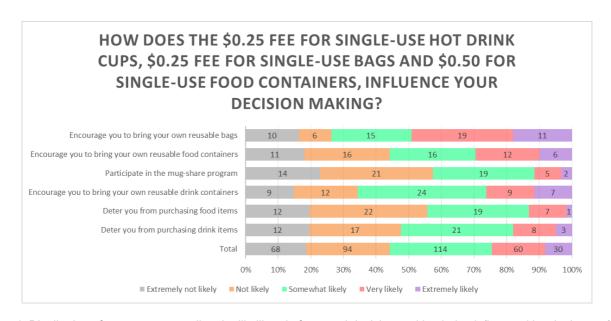


Figure 4. Distribution of responses regarding the likelihood of patrons' decision-making being influenced by single-use fees. A large portion of respondents (31%) indicated that they would likely not use reusable straws over disposable options. An overwhelming majority (85.5%) also indicated that they would be likely to use either reusable food or beverage containers provided by the vendors. In total, 69% of respondents

are likely to use the alternative items available at The Nest over their disposable counterparts.

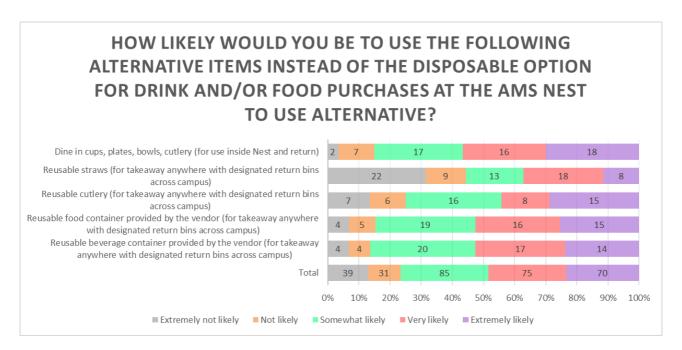


Figure 5. Distribution of responses regarding patrons' likelihood of using various reusable alternatives for food and drink purchases at the Nest.

Compared to the other options, the idea of returning cutlery to various locations on campus received the most support, with 80% of participants responding positively. On the other hand, 36.6% of

participants were not in favor of implementing a deposit system to prevent theft and loss of all reusables. In general, however most respondents (70.4%) indicated that they would likely support all the listed potential pilot programs characteristics.

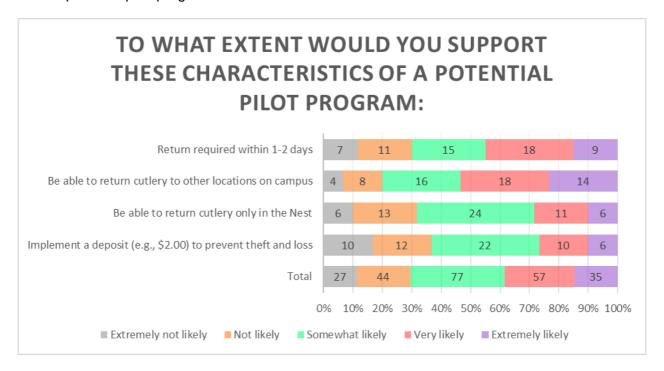


Figure 6. Distribution of responses regarding the extent of patrons' willingness to support various characteristics of a potential reusable cutlery pilot program

According to the metric explained in the caption for Figure 7, the top 3 most common reasons for using Single-Use Items in the Nest were: "The vendor gives them to me without asking" (93 pts.), "There are no reusable takeaway options provided to me by the vendor" (73 pts.), and "I make unexpected purchases" (51 pts.), respectively.

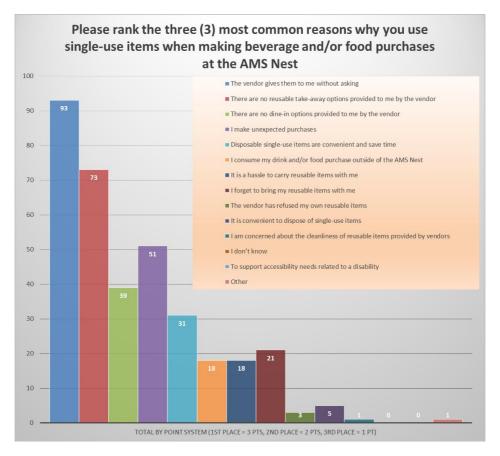


Figure 7. Most common reasons for SUI usage when purchasing food or drinks at the AMS Nest Each respondent's top 3 choices were noted and scored as follows – 1st place = 3 points, 2nd place = 2 points, 3rd place = 1 point.

Discussion

OBJECTIVE 2: Determine the Contributing Factors that Lead to the Use of Single-Use F&B Items in the AMS Nest, as well as Compliance with the ZWFWS

A) Motivations for SUI F&B items for food vendor managers and barriers to implementing reusables: Effective business operations

Our semi-structured interview with the manager of Blue-Chip Cafe found that standard business operations, convenience and labour costs were three consistent themes around why they supply single-use F&B items. For example, when asked the question, "What are the primary motivations behind using single-use items at Blue Chip (Cafe)?" the first statement was, "Well, I think that has always been the norm." Convenience was associated with financial savings on costs related to labour (i.e. of washing dishes, requiring staff to explain reusable programs to the customers) and loss in inventory (i.e., associated with reusable programs). Overall, associated costs and benefits of

operations play a significant role for vendors decisions to continue to use SU F&B items and hinder a shift to reusables (see Table 1).

This is in alignment with the findings from the 2018 Single-Use Item Consultation Report conducted by Campus and Community Planning which informed the creation of the ZWFWS. Specifically, the proposed action to implement F&B share/exchange programs received the least support from the food service stakeholders (i.e., participants primarily with managerial, administrative, and procurement roles) due to concerns regarding logistics and loss of materials (UBC Campus and Community Planning, 2018). Evidence of challenges associated with deployment with the reusable takeaway food container (RTFC) business model are also reflected in literature which examined the economic costs and benefits from various stakeholder perspectives. A cost-benefit analysis of a pilot RTFC project at a university in China found that while there was a net benefit to consumers, there was a net loss for the RTFC platform company, the university, and the restaurants relative to the reference of the single-use takeaway food container model (Li et al., 2023). Although an implementation of a RTFC with the current operation situation at UBC would be quite different (e.g. considering costs associated with equipment, renting, collection, delivery, cleaning, etc), a similar holistic cost and benefit analysis framework from various stakeholder perspectives should be considered to determine the sustainable development of this model at the AMS Nest.

B) Motivations for SU F&B items for patrons and opportunities/barriers to implementing reusables:

Our patron survey found that customers are generally willing to use alternative items such as reusables and dine-in options over their single-use disposable counterparts. A majority 76% of respondents indicated that they would be at least somewhat likely to use reusables over single-use items. They are also generally willing to promote potential initiatives such as deposit and return programs in support of reusables, with around 70% of respondents echoing this sentiment (see Figure 5). However, the barrier comes in the form of a lack of awareness of past, current, and potential initiatives regarding reducing SUI prevalence and promoting reusable items, with more than half (52%) of the patrons being unaware of things such as single-use fees, the ZWFWS, mug-share, etc. This is consistent with the findings in a study done by Moussaoui et al. (2023) that people are

willing to switch from single use to reusables but are either unaware of how to go about it or are gated by their environment which might not be conducive to this switch, with reusable options not being reasonably accessible. Only about 9.5% of patrons stated that they purchase and consume food or drinks from The Nest daily or multiple times a day. Patrons' perception of The Nest might also be a part of this issue, as it is not a dedicated cafeteria like Orchard Commons, where reusable items are already widely used. We also found that while the ZWFWS requires vendors to inform customers about single-use fees and to only provide customers with certain single-use items upon request, in most cases patrons were given these items by default along with their order, even without request. This, along with vendors having no reusable take-away options and patrons making unexpected purchases, were the three most common reasons for people using single-use items at The Nest. In a separate study, availability and physical ease of access to reusable items along with verbal reinforcement to choose reusables over single-use items proved effective in increasing prevalence of reusable dinnerware in cafeterias (Manuel et al., 2007). Unfortunately, single-use items are still seen as the norm across the food vendors in The Nest, and implementation of efforts to reinforce reusables and lessen single-use are inconsistent at best, as was displayed by our semi-structured interview with one of the vendor managers.

OBJECTIVE 3: Gauge preliminary interest in participation in a pilot reusable cutlery program In general, there is good reception to the proposed pilot reusable cutlery program with most respondents (70.4%) indicating that they would be at least somewhat likely to support all the listed aspects. However more respondents support the ability to return cutlery to other locations on campus (26.6% of respondents somewhat likely, 30% very likely, 23.3% extremely likely) compared to just being able to return cutlery to only in the Nest (40% somewhat likely, 18.3% very likely, 10% extremely likely). Interesting to note, there is a stronger support for dine in options for use inside the Nest and return, which include cutlery (30% extremely likely, 26.6% very likely, and 28.3% somewhat likely), compared to reusable cutlery for takeaway anywhere with designated return bins across campus (25% extremely likely, 13.3% very likely, 26.6% somewhat likely).

OBJECTIVE 4: Food Vendor Compliance with the ZWFWS

SU F&B Item Type: Based on the audit and procurement data, all vendors appear to be in compliance with the ZWFWS guidelines for acceptable types of items. Based on appearance, most non plastic items (e.g. food containers, plates, bowls, cutlery), seem to be made of plant fibre (e.g. paper and cardboard) and are uncoated. However, most items are unlabelled which presented difficulty for more specific identification. The procurement data offered some more insight, as some items are identified as compostable, paper, and sugarcane, however in general, the provided documentation lacks specificity for the type of material. Luckily, all plastics were labelled by the manufacture. All plastics follow the preferred plastic type of #1 Polyethylene Terephthalate (PET/PETE) and #5 Polypropylene (PP). However, the larger clear round container lid at Honour Roll is #4 Low Density Polyethylene (LDPE) which is not outlined in the ZWFWS. From our semistructured interview with the Blue-Chip Cafe manager, we learned that there is a single procurement manager role, who holds the responsibility for all procurement for the six vendors, from which vendors request their items. Literature examining central and decentralized procurement in the context of government procurement of goods and services similarly supports the idea that centralized organizational procurement policy aids in compliance (Petersen et al., 2020). We believe this centralized procurement structure is the reason for this high level of SU F&B item compliance.

Communication of Fees: In contrast, from our observations, compliance with the requirement to clearly communicate SU F&B item fees to customers via signage (on menus and at point of sale) and through staff appeared to be quite inconsistent. Porch has several distinctly visible signs notifying the patron of fees near the point of sale, and Flavour Lab showcasing examples of the SU F&B item with the fees clearly labelled on sticky notes at the point of sale. Blue-chip café, on the other hand, has a small description on one menu board that is less visible. Although Blue-chip Cafe and Honour Roll do have Bring Your Own Container and Save signs which indicate that the patrons can get \$0.25 off, they are away from the menu and point of sale, which make it difficult to notice. No staff communicated the fees during our set observation times or during several personal visits to purchase food or drink. From our semi-structured interview, the manager of Blue-Chip Cafe indicated

that there is staff training to communicate the fees, but due to how busy it gets, it is almost impossible to repeat it every time, and thus they rarely mention that there is the charge. Overall, clear communication of fees appears to be a low priority compared to operations.

Request-only: From our observations, although all vendors except Blue Chip Cafe and Honour Roll do not provide self-serve cutlery, they do automatically provide it when food is ordered. Blue Chip Cafe and Honour Roll provide multiple SU F&B items at multiple locations (e.g. pick up counter, self-serve stations). From our semi-structured interview with the Blue-Chip Cafe manager, we learned that they had attempted to make it by request only, even implementing it during the slower summer months, however the volume of customers and orders during the fall and winter semester would cause disruptions to the operational flow. There appears to be a disconnect between the ZWFWS guidelines for request only SU F&B items and feasibility of everyday operations.

Overall: While the ZWFWS passively offers many resources to support vendors, such as providing UBC signage and posters, and being available to answer questions and offering assessments, the active responsibility of implementation appears to solely depend on the manager and their willingness to engage in reaching out for support. Our research suggests that although managers may be fully aware and attempt to implement strategies, their effort does not extend beyond there. This may be due to uncertainty around the expectation of compliance and/or lack of enforcement, as well as a focus on efficient daily operations.

Research limitations

Sample size:

Due to our low response rate from vendor managers, we were not able to gain a comprehensive understanding of the motivations of vendors supplying SU F&B items. Semi-structured interview data from the other 5 food vendors could drastically change the findings and proposed reasons for the prevalence of SU F&B items. The other 5 vendors primarily serve food, rather than a mix of food and

prepared drinks, and may have very different reasons for using SU F&B items. This could present different challenges with complying with the ZWFWS due to their operational differences.

For our survey, although we received more than our desired sample of responses (which was recommended due to our constraints on time and resource), to draw statistically significant conclusions, we would need to undertake a larger survey with a representative sample related to the number of patrons who visited the Nest.

Recommendations

Recommendations for Action

Improving Compliance of ZWFWS:

Immediate: More than one year has passed since UBC set the goal of having all businesses, including the 6 AMS-owned food vendors, fully align with the ZWFWS guidelines (January 2023). Our research indicates that immediate leadership action should be taken to help vendors transition towards zero waste food and drink ware practices. Like the 2018 consultation report that informed the ZWFWS and the 2020 survey launched to collect input on the planned changes, UBC Campus + Community Planning should take action to host another consultation session with stakeholders (e.g. vendor managers, vendor staff, the procurement manager, zero waste coordinator), to revisit the strategy altogether. The goal of this "check-in" consultation should be to gain information to revise the implementation, monitoring and enforcement of the strategy so it is more effective, and compatible with operational needs. We have identified three main objectives: identify reasons of noncompliance or successful compliance since January 2023, identify expectations of compliance, identify roles and responsibilities of monitoring and enforcement. Overall, we believe that each stakeholder holds unique and valuable knowledge and deserves the opportunity to continuously inform the policies which they are subject to. We hope that clarification of expectations and identifying a role for enforcement will improve compliance. We also hope that the opportunity for managers to see what other vendors are doing may provide inspiration and enhance accountability.

Reusables Pilot Program:

In exploring effective strategies to reduce single-use item consumption on university campuses, the success of Simon Fraser University's partnership with Reusables.com provides a compelling case for implementing similar reusable programs at the University of British Columbia. Reusables.com is a Vancouver-based company that provides reusables as a service. How it works is by providing stainless steel cups and containers instead of single-use items and providing drop-off locations to return them to. Starting September 2023, Simon Fraser University has partnered up with Reusables.com to make reusables the standard item in their Mackenzie café. In this system, students are given these stainless-steel reusable items by default for free and have three days to return them to a drop-off location before being charged for a refundable \$20 fee. Students who want to use single-use items have to opt out of this service and pay an additional fee. As of April 3, 2024, they have diverted 369 kilograms of waste, avoided 732 kilograms of greenhouse gases, used 7,389 containers and had an extremely high return rate of 97.5%. This shows that this is an effective alternative in a university environment with provable metrics. We believe that a pilot of a similar reusable program where reusables are the default as opposed to opt-in programs such as MugShare where a deposit is required is a logical next step to test the viability of such a program in UBC.

Recommendations for Future Research

Examining the MugShare Program:

Currently in UBC, there are two initiatives aiming to reduce the prevalence of single-use coffee cups – MugShare and ShareWares. Although not the focus of our research, MugShare has been identified as point of interest in our data and thus will be the focus of this recommendation. According to our results, the willingness to use reusable beverage containers instead of the disposable option for drink purchases is high, with ~86% being at least somewhat likely to give support. However, when asked about their awareness about the MugShare program, more than half of respondents stated that they did not know about this initiative. In the interest of making this initiative more widely known, we would like to recommend an in-depth analysis of the program's implementation and marketing strategies.

Signage or posters, as well as social media posts relating to MugShare, should be assessed on their effectiveness in reaching potential users of this service.

We also suspect that MugShare may not be seen as a perfect substitute to single-use drink containers as patrons stated that majority were not likely to participate in the program even after being told about the various single-use item fees incorporated into the cost of their usual orders. Surveys or focus group interviews with customers who make use of MugShare could provide insight into what made them aware of the program and their review of the services. We believe it would be interesting to examine data about patron return rates (e.g. how many people that try out the program use it again after the first try) and the reasons hindering campus wide adoption if the data suggests that it is low.

Conclusion

Over the period of four months, we iteratively developed and revised our research project with our SEEDS representative to conduct primary data collection. Through emails and in person discussions, we implemented helpful suggestions for our primary research in designing our short Qualtrics survey, semi-structured interview, and observations and received important information such as the procurement data. From our research, we determined that there is overall low compliance of the ZWFWS from the 6 AMS owned food vendors, likely due to interruptions to operational flow, uncertainty around expectations of adherence and seemingly a lack of monitoring and enforcement. We also believe that although multiple stakeholders' express interest in participating in zero waste reduction efforts, such as reusable container and cutlery programs, this may not exactly be reflected in their actions which may reflect a lack of awareness or low compatibility of current operations with patron needs.

We believe our findings support the research and conversation about the effectiveness of zero waste policies and initiatives at UBC and the AMS Nest. Acting as a baseline, we hope our work can be a reference point for future audits and annual reports. We want to thank the UBC community for being participants of our research, our SEEDS representative for your patient and kind guidance, as well as

the teaching team for providing us with the resources we needed to take on this project. Together, we can contribute to the reduction of single use food and beverage item usage in the AMS Nest.

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Appendices

Appendix A: Raw Procurement Data

	CASE	Cases	
VELOCITY SEP 1st,2023-MAR 15th,2024	SIZE	purchased	Total/each
	+		
BOWLS & LIDS			
8oz bowl compostable	1000	4	4,00
12oz bowl compostable	500	5	2,50
Bowl 520ml paper	1000	6	6,000
Bowl 32oz white paper	600	10	6,00
32oz Sugarcane bowl	300	30	9,00
CUPS	+		
12oz Hot cup	1000	45	45,00
16oz Hot cup	1000	53	53,00
20oz Hot cup	600	24	14,40
12/14oz Cold cup	1000	9	9,00
16oz Cold cup	1000	23	23,00
20oz Cold cup	1000	10	10,000
HINGED	+		
ECO 9"x6" Kraft hinged container	200	162	32,40
6x6x3 clamshell	500	5	2,000
Hinged Cont 3 comp 8x8	200	172	34,40
SUSHI TRAYS	\perp		
Sushi tray #4 and lid	600	29	17.40
sushi tray #6 and lid	600	101	17,40
Sushi tray #8 and lid	600	4	60,600 2,400
Sushi tray #8 and IId	600	7	4,20
Sushi tray#10 and lid	600	2	1,20
ECO TAKE OUT BOX			
Eco #3 Kraft	300	6	1,80
Eco #8 Kraft	300	27	4,20
MISC	+		
9" Plate	500	25	12,50
Bag Paper Sandwich	1000	200	200,00
Bento box	200	29	5,80
Cup 2oz portion	2400	5	12,00
Food Tray Savaday	500	20	10,00

Appendix B: Semi-structured Interview Script

Date: March 18, 2024 **Time:** 3:00-3:30pm

Location: IKB Learning Centre Space 193

Interviewer: Team member 1
Interviewee: Bluechip manager
Observer: Team member 2 and 3

Audio Recorder: Phone

Introduction:

Hi,

We would like to thank you for doing this semi-structured interview with us. My name is ____and I will be the main interviewer today. We are joined by ___ and ___ who will sit in to help observe and record our conversation. The recording will be transcribed later to help our team analyze the contents. Is this okay with you? At any point if you have any questions or concerns, please do not hesitate to interrupt me and let me know.

Purpose to the study and interview:

- Identify the motivations and prevalence of SUIs within the AMS nest.
- This interview is part of a SEEDS Sustainability research project in conjunction with the AMS Sustainability

- The results of this research will be used to create a baseline understanding of the current usage of SUIs in the nest and inform future research, policy and guidelines. There will be a final report that will be shared on the SEEDS website, and we will be giving a presentation about it to students, professors and stakeholders.
- Our intention of speaking to you today is to gain a little bit of your insight, perspective and experience working with SUIs as a manager of one of the 6 AMS-Owned Food Vendors in the Nest.

In terms of privacy, all responses will be kept confidential and anonymous. Your personal information will not be disclosed. Any data from today will be secured and reported in aggregate. It will not be used for any other purposes without your explicit consent.

Any questions before we get started?

As I mentioned at the start, this will be a semi-structured interview, so we have around 10 loosely structured questions pre-prepared, however if you have any ideas or thoughts we don't directly ask about or mention, please feel free to bring them up.

Appendix C: Manager Interview Questions

- 1. What are the primary motivations behind using single-use items from the food service side?
- 2. What role do customer preferences and demands play in the decision to use single-use items?
- 3. Are there any specific challenges or benefits associated with using single-use items in your food service operations?
- 4. What SUI items do you think are used the most? (e.g. most frequently restocked or most purchased?)
- 5. Have you observed any changes in the prevalence of single-use items over time? If so, what factors do you attribute these changes to? (e.g. after implementation of fees)
- 6. Do you think the fees associated with single-use-items have made a difference in reducing their prevalence?
- 7. Have you encountered any resistance or challenges from stakeholders (e.g., customers, staff, suppliers) regarding efforts to reduce single-use items?
- 8. Are there any alternative solutions you are exploring to reduce reliance on single-use items other than the single-use fee?
- 9. How do you measure the success or effectiveness of initiatives aimed at reducing single-use items?
- 10. What kind of training do food service staff undergo to ensure they follow the sustainability initiatives set by UBC? (eg. asking patrons if they would like to purchase a cup for \$0.25)
- 11. Would you be comfortable sharing this poster with your staff for a focus group?

Appendix D: Semi-structured Interview Transcript

Interviewer: Knowing that we're just a typing, if that's fine with you. So it will be transcribed later. But anything from this interview will be kept confidential and anonymous. So none of your personal information or data will be disclosed. And anything we extract from our conversation today will be reported, like, together with our other interviews and surveys. And we can send you the final report, if you're interested, just let us know. And as you probably know, what the study is about, but just to give us another review, so we're gonna identify the motivations and prevalence of single use items in the nest. So this interview is part of a, a whole SEEDS sustainability research project with AMS sustainability, to try to create like a baseline understanding of where we're at with current usage to inform future research and policy and guidelines, things like that. So today, we really want to get a bit of your insight as a manager, and your perspective and experience working there will really help us

and the AMS know what to do. So it's great for managers, staff, and workers, or and people coming to Bucha. Yeah. Do you have any questions before we get started?

Interviewee: So far, so good.

Interviewer: Okay, so yeah, as I said, semi structured, so we have a list of pre prepared questions, but if any specific topic you're really interested about, or if we didn't bring up anything, you want to talk about it, feel free to just interrupt us.

Interviewee: Okay

Interviewer: Cool. Okay. So the first question is, from your perspective, what is the primary motivation behind that, you know, using and supplying single use items at Blue Chip?

Interviewee: Well, I think has always been the norm. Right. It's convenient. And ultimately, I think all businesses find it cheaper. Yeah, like, I remember we just over the weekend is going to another restaurant, and they were using single use item, which I thought was interesting for a restaurant, like a sit down restaurant. But I figured, you know, probably saves on labor, like having a dishwasher or like potential loss in inventory. Because it's usually more expensive. Yeah. So I would say like, the norm of it. And if not single use something reusable can be done as well. But that itself, you have to explain to the Customer "Oh, like this is the program, this is how it works." And that takes away time. Because people usually want to come in and go right. So like efficiency. But yeah, I guess the norm has always been single use. So because the norm is always like, profit margin cost and whatnot.

Interviewer: Right, efficiency, things like that. So with all the benefits associated with single use, has there been any challenges around it, like procurement or supplying offering like anything like that thing,

Interviewee: I think, as with anything, there's always going to be challenges, it should (be unchain). But with single use item, it would be, maybe sometimes the supplier might not have the same item we've been using, and then we'll go for another supplier. And they're just slightly different as an example, like specific cold item cups. Some of them are designed to be slightly larger, or within a range. Whereas others is like very specifically, 12 ounce. Others like 12 to 16. Because the idea is like you know, you add ice. So just like a, like a range of like sizes. Yeah, I think that's about it, like the availability and if you switch.

Interviewer: And you're the person procuring all the...

Interviewee: I am not there is, like store manager that buys all the items for the entirety of the other outlets. But you know, we check in but I am the one who orders for blue chip. So I am aware of what we've been getting. And if there's any changes I check in with like the procuring manager, purchasing manager.

Interviewer: I see I see that makes sense for you like centralized? Yeah. So do you notice any specific single use items that you find like restocking more frequently or like you needing to order more compared to others?

Interviewee: I mean, I definitely like those cups very like. The one I find personally frustrating is like straws. I don't use straws personally, but I understand people use it. I'll just drink it off. But it's always different. Yeah, straws, the big one for me.

Interviewer: That's interesting. You say that because when I was like ordering there, I noticed a lot of people having cold drinks. So even though there's like a sip, yeah, they get a straw too. And I get it. It's like kind of like an enjoyment aspect for some people.

Interviewee: Yeah, I personally don't use straw so I'm like, "Oh, I don't get it." But at the same time, well, you know, everyone's different. Yeah, but I wouldn't say there's anything specifically that's like, being used too much. Like, it's mostly like, hot and cold drinks cups.

Interviewer: Yeah. Okay, gotcha. And then do you guys have a supply of those plastic straws for like accessibility means like, in the back, or...

Interviewee: They're all all of our straws right now are like paper. So like, it's always readily available. I tried to, like make it by requests only, but by the amount of volume we get. It's sort of interrupts the operational flow. Yeah. And then, even I got like, because, you know, we want to keep going. It can be difficult sometimes when you're like, being interrupted. So eventually, we gave it to, like, just grab if you need

Interviewer: Operationally that made the most sense, right?

Interviewee: Yeah, just Yeah. Like, yeah. Because then you know, you gotta like, give it to them. And as well you don't want to touch it as well. So you use like a tong.

Interviewer: So what period of time were you trying to do like that? Like, give on request.

Interviewee: it was during the summer, when it's usually slower. That's where could because it's slower, I tend to be able to have time to like, just, you know, revisit certain aspects of the operation and be like, Oh, maybe let's do this. And then when it got busier, like in August, September, it was like, just not feasible.

Interviewer: I can imagine, like, I already, like, people are already running around busy enough. Yeah. That makes sense. So have you observed any changes in the prevalence of single use items, like over time, like, for example, we know there was like fees implemented?

Interviewee: I don't think it's really changed that much for us. Especially because we made a decision to also mention that it's included in the price already. But even like, with the City of Vancouver, like implementing it, and then now I know, it's like removed, if I'm not mistaken, I don't think there's been much of a change.

Interviewer: So people have been just, like, used to it. Like it just,

Interviewee: Yeah, they're like, it's not that big of a barrier - continuing.

Interviewer: And what about, have you noticed, changes with people bring like reusables or anything?

Interviewee: I think it's slowly coming back again. I don't have any hard data, but I remember like, it might used to be more like before COVID. And then you know, COVID, sanitation, hygiene. But it's like, slowly getting back up again.

Interviewer: Okay, so like their own personal like, reusables.

Interviewee: Yeah, but no, yeah still majority single use. Yeah.

Interviewer: And for the staff, is there a way for them to like measure the drinks without using like another single use item. Like, for example, Starbucks, you guys have like reusable measuring things, and then they report in their reusable.

Interviewee: At this time, there's no, like, measurement. But most of the time, what I've observed is that it's usually more or less the same size that the customer want. And I just encourage giving more within less. If it's like, if it's a very big cup, and they want like a medium. Most of my staff I used to like know the portion already. Yeah. And I don't think I've ever had much of a negative feedback of having too much or too little. And also encouragement, just like ambiguity, just checking in with the customers as well.

Interviewer: So they make it directly in their reusable.

Interviewee: Yeah, like we like we might mix it in like another pitcher or like another container and just pour it all in.

Interviewer: Maybe another cup sometimes?

Interviewee: Yeah, yeah. Yeah, yeah. Yeah.

Interviewer: So would it like be beneficial if there were like, reusable measurement cups, from your perspective? Like, how do you explain it?

Interviewee: Like something to pour it and, yeah, I will say that it would be beneficial. Yes.

Interviewer: Is that something that the AMS would need to provide or something that like, who would be able to help with that?

Interviewee: I think operationally might be hard to find specifically. Well, I haven't really looked into it, because there was really no need for it. But if I'm being honest, but yeah, it would help but like, depending on who we scout out, it might take a while to see if it's like something we might want recurring or not, like a one time thing.

Interviewer: Would a barrier be like needing to wash that container?

Interviewee: I wouldn't think it would be a barrier.

Interviewer: Are there any resistance or challenges from like customers or staff or suppliers in regards to reducing single use items?

Interviewee: I wouldn't really say resistance, maybe. I guess as an example, like, in the cafe, we provide like free drinks at the end of the shift. I think ultimately, people still use the single use cup, even though I encouraged them to like bring your own. I think it's like a matter of, you know, bringing your own cup in the first place. But if you forget, and if you don't actively make the choice to it's hard to remember.

Interviewer: Yeah, right.

Interviewer: This is staff. Talking about staff. Yeah, free drinks? Yeah. Maybe follow up like, have you gotten complaints about the 25 cents, or like the fact that you don't give lids anymore? Because I know like I work at a coffee shop to a lot of customers, we would go "What is this?"

Interviewer: At Blue Chip, the lids are self-serve. Yeah.

Interviewee: Yeah, I guess no, like? No. I haven't heard anything.

Interviewer: So I noticed like on the sign, do you guys have the 25 cents? No. Under? Are there, is there any other signage or our staff like for example tool to tell, like people that are buying drinks about it.

Interviewee: It's only I guess, when you bring your own cup to discount is provided, like it takes it away instead of charging it? Because like having to add a button. Sometimes it's just like a lot of drinks and might be easier to just include it.

Interviewer: Include it. Gotcha. So I guess during staff training, is there anything around the single use like the topic?

Interviewee: What do you mean by that?

Interviewer: For example? Well, like when you're offering cups, please tell the customer there's a fee included or something like - oh, the customer wants a cup. You know how some people just like kind of have? Like, are they told that they have to charge for it like training like that?

Interviewee: Yeah, there is like there was a charge for it. But because of how busy it is, it's almost impossible to like, repeat it every time. Yeah. So so we don't really mention that there's a charge. Unless they're not getting a drink in the first place. Yeah.

Interviewer: Is it displayed on the? What is it called? The cash?

Interviewee: Oh the POS? POS?

Interviewer: Yeah. Is it on the receipt at all?

Interviewee: I think at one point, it did, like at the very bottom of the message, but I don't think it's there anymore.

Interviewer: So that was that just a system change. Like that wasn't like in your guys's hands. Gotcha. Okay. From your perspective, are there any alternative solutions to reducing the lines on single use items other than the fee?

Interviewee: Well, like providing the program like mug share, and I don't know, there's something in the works right now. But I'm not sure how far along but like I know, UBCs was trying to do the same of like, because like having a campus wide thing rather than each specific cafe or location having its own program. If everyone's on the same page, then it's a lot easier to implement, like, rather than going back to this one specific cafe to return the reusable. If there's like multiple drop off point people can be more like aware of it. Yeah, so I think that's the main one.

Interviewer: Okay, and I guess, I'm not sure. Do you receive the Imugs back clean? Or do the customer directly return it to

Interviewee: I think 5050 some people, it's 30. Some people, I guess, more, more and more so dirty than clean.

Interviewer: So blue chip isn't responsible for cleaning. Like there's no other people that are providing clean mugs to Blue Chip.

Interviewee: I mean, if we've run low and then I can reach out and call them back. But hey, like we need to call MugShare I, we I know they have a change in like, team and like leadership. So I haven't really thought about that. Because I'm just waiting for that UBC one, the program instead. But usually, like we use, like in direct contact with email, go, Hey, like, we're running low and then they're pretty quick on it.

Interviewer: So have you noticed like how do people get into the program do that? Have they spoken to staff directly or do they scan like the QR code?

Interviewee: For the MugShare here I remember like if signage is on like the TV, and then every now and then I also encourage my staff to like ask them about it. So maybe not all of it like, once every few customers just like, "Hey, do you know what this is?"

Interviewer: Okay any follow up questions? Anything else you can think off the top of your head that would help us understand like, single use items at your location, specifically, maybe in comparison to other vendors. And that is like your needs compared to other.

Interviewee: I guess one thing that will be relevant is like different cafes going to have different cup sizes. Like, Blue Chip small is like a 12 ounce, a lot of cafes are like 8 ounces. So just like size, comparison.

Interviewer: Size comparison? Okay. I guess one thing I noticed is that blue chip specifically has the receipt, like system where it's like get your receipt with the number and then you go wait for it. Was that system in place? Like since you've been here? Or was it done differently before?

Interviewee: Well, before, before it got really busy. I don't think there was ever need for a number like it was slow enough to have people know all of their orders. And now we've got busy 10 people are picking up each other's orders.

Interviewer: Gotcha.

Interviewee: And then I discovered like to POS printed it and it matched our order system. And because the name doesn't work, it's a very noisy place. Takes time to spell names. And yeah, like because I thought about like a little whenever you do like Starbucks and printed out. But it's hard to like implement a machine if the space is not designed for it as well. It does take a lot of restructuring and like just like upper management and other people to like go through for like financial needs and purchasing items and whatnot. But from what I've been told, we might have a different numbering system when we move to the new place. Yeah, location. Yeah, I don't know, much until I actually move in there. Because there's always going to be like technical issues and whatever goes through or not.

Interviewer: Okay, that makes sense. It just makes like, it makes it easier for the customer to get the right drink. Yeah. Is there any way for the number just to be printed out? I know, it prints out like the whole receipt without the number.

Interviewee: Yeah. So that itself is something I learned as well. Because like the POS like the brand, it's something every other outlet has programmed together. You know, I do see like, it prints out a lot. And I'm like, Oh, can we just like shut down or like prints out only specifically when we need it. But that will affect other outlets in AMS as well. And then it really depends if like, the software people can actually do it. Because once you change one thing, there's multitudes of changes that follow, and other things gets disturbed. And also because there's different software working together, it's very likely for like, one thing affecting another.

Interviewer: It's all connected. Yeah, so it makes sense for it to be more of like overall change rather than individual vendor change. That makes sense.

Interviewee: So basically make the most of what we have a situation

Interviewer: Are there any, like dining options? Like for example, I know there's the best has like the seating blue chip for people that want to like just have their drinks there that option or...

Interviewee: There used to be and then COVID happened and, and it's something we didn't really visit back because like the capacity we're going through, it's really a lot to keep up without this SEEDS infrastructure because it's like service, but a cleanup, and then storing and cleaning of the actual hardware. Otherwise, yeah, because if there's no sitting it's still a single use cup.

Interviewer: Yeah. Okay, would you say like the Single Use Item usage has increased since before COVID. So like, in terms of like, either student numbers, people not bringing their cups. It's hard to say for sure. But I would say yes, this year. Yeah.

Interviewer: We have to do this student population to me. Yeah.

Interviewee: I mean, it has been busier in general anyway. Yeah. But I don't know. I mean, I personally, I like to think of the commentary of like, just how fast paced the world has become. And we're all so busy trying to like, keep up with our lives and other challenges, it's really hard to enjoy time for ourselves because everyone's busy. So we don't really have much time to really ponder on like, you know, the weight of the environment, single use items.

Interviewer: Makes sense, especially if you like, as a cafe, like your priority is to get like, for example, the coffee their students, so they can go like study and like, do their like, they don't want to spend so much time like waiting. So it makes sense. Yeah. Are you still operating? Like I know, the outside? Yeah.

Interviewee: No. The POS was moved in. I know, it was very helpful. But yeah, it was not. Because I originally was going to like, we thought we were transitioning to the new place. But there were like delays in construction and whatnot.

Interviewer: Okay, so the shutdown because of the POS system. Okay. Okay. But when it was functioning, was it do you think it saw a lot of foot traffic? Or were people still mainly going in store for just a single drink?

Interviewee: I would say 50 5050. Well, not really. 5050. Like, it got considerable amount of like the people who knew of it. Yeah. Okay.

Interviewer: Any questions from you Ardy?

Interviewer: Yeah, I was wondering, like, what if you put some for the seating question that you had, imagine standing seats, but the goal would be to help, you know, efficient use of space. And people would spend less time they're just kind of in and out. Maybe they can do some quick work. You. You guys have never really thought of that either. Right?

Interviewee: It does. I do think it comes down to the limitation on the space we currently have. Yeah. The new place is designed to have more seating. But you know, that might change when we actually move and we see how it is.

Interviewer: When do you think that would happen?

Interviewee: Honestly, we don't know. I'm pushing for it to be in like the summer but it's like, oh, life construction.

Interviewer: Might be another semester.

Interviewee: I've been told in the summer. Fingers crossed. You know how constructions can.

Interviewer: Yeah, you never know. Yeah, you know, you never know. Okay, that's cool.

Interviewer: I remember seeing it somewhere. 20 times. I was like, woah, a new location. Yeah, that's that's exciting, though. Yeah. I don't have any

Interviewer: Oh, yes. So I don't know if Emily's email that she's got if you've got.

Interviewee: Jessica?

Interviewer: No idea who Jessica is. But Emily, she's the AMS sustainability.

Interviewee: How could I get your email? Through Emily?

Interviewer: Yes

Interviewee: Oh right. Yes. Emily sent it. Yeah. Okay. No, I got confused because I, I think that is like, sustainability is doing like reusable as well. multiple things. But yeah, yes, Emily sent it to everyone. Yeah. Perfect. Okay, thank you.

Interviewer: Yeah. So is it possible if you could put up like a physical poster and like the staff like back in this staff room? For them to try?

Interviewer: Yes. Like a focus group. Yeah. And they get a gift card if they win.

Interviewee: Yeah, I'll do that. Yeah. I think honestly, I sent out emails like, especially like for like long weekends I'm like "Hey, like, different schedule." I get 30% response rate for myself. So it's a struggle. I get it you know, they're busy.

Interviewer: Yeah, well, thank you for coming. I know you're busy. So you were our first interview so thanks for being patient. First time ever doing an interview so I'm sorry for the...

Interviewee: Not at all. I wouldn't even notice. Yeah. Thank you.

Appendix E: Survey Poster

LFS 450 x SEEDS Sustainability Program x AMS-Nest

Want a chance to win a



\$50 AMS Food Services Gift Card?



Complete this short survey on the prevalence of single-use-items in the AMS-Nest

(closes March 22, 2024)

About the study: This survey is being conducted as part of an LFS 450 student research project investigating the prevalence and reduction of single-use items (e.g. utensils, containers, cups, straws, bags, etc.) at the AMS-Nest. Your valuable insights will help inform future research and the development of sustainability strategies and policies at UBC.

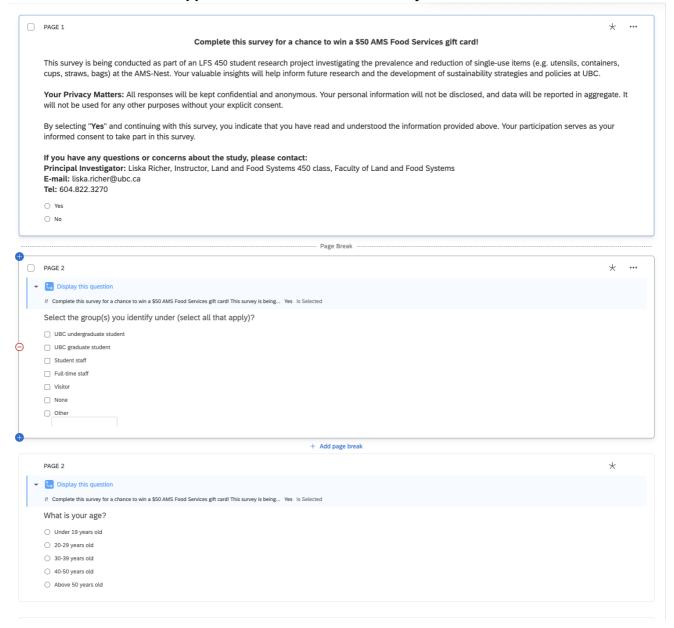
Your privacy matters: All responses will be kept confidential and anonymous. Your personal information will not be disclosed, and data will be reported in aggregate. It will not be used for any other purposes without your explicit consent.

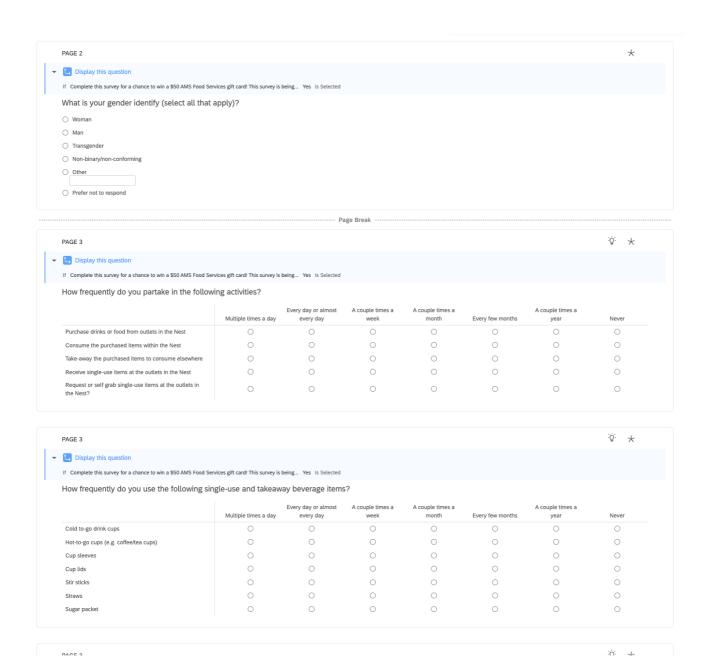
If you have any questions or concerns about the study:

Please contact the Principal Investigator:

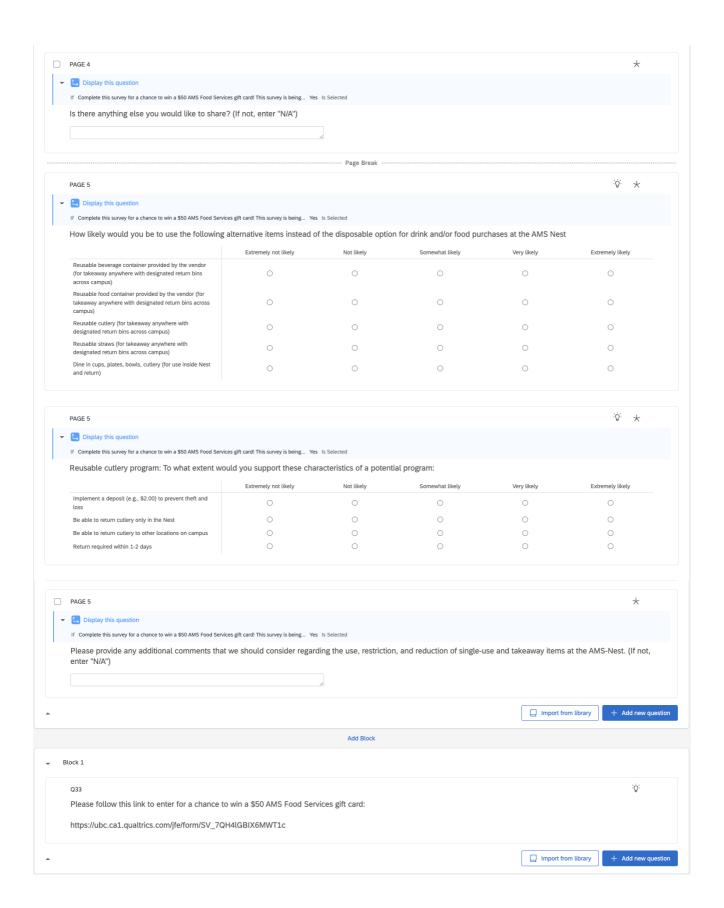
Liska Richer, Instructor, Land and Food Systems 450 class, Faculty of Land and Food Systems E-mail: liska.richer@ubc.ca Tel: 604.822.3270

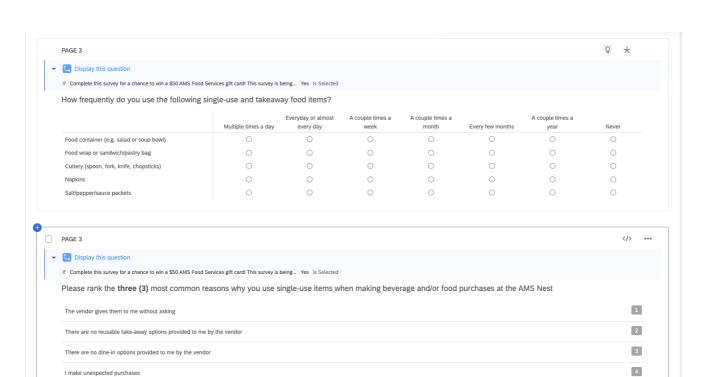
Appendix F: Short Qualtrics Survey Questions





PAGE 3					*
Cisplay this question					
If Complete this survey for a chance to win a \$50 AMS Food Service	s gift card! This survey is being Yes	Is Selected			
Is there anything else you would like to share?	(If not, enter "N/A")				
		Page Break			
PAGE 4					.Ö. ⊁
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Display this question	e gift cord! This survey is bair -	la Calastad			
If Complete this survey for a chance to win a \$50 AMS Food Service			and the size of a size of	-4-	
indicate your awareness of the following initiat	atives and efforts by AMS-owned food outlets to reduce single-use item waste				
The same above assessment	Not aware		Somewhat aware		Fully aware
The mug-share program	0		0		0
The Zero Waste Foodware Strategy That all food and beverage establishments on the UBC	O		O		0
campus are required to charge a \$0.25 fee for single- use hot drink cups and single-use bags	0		0		0
That all food and beverage establishments on the UBC campus are required to charge a \$0.50 for single-use food containers, including clamshells and bowls	0		0		0
That all food and beverage establishments on the UBC campus are required to actively communicate these fees to customers?	0		0		0
PAGE 4					∵ÿ· ★
C Display this question					
If Complete this survey for a chance to win a \$50 AMS Food Service	s gift card! This survey is being Yes	Is Selected			
How does the \$0.25 fee for single-use hot drin	k cups, \$0.25 fee for sing	le-use bags and \$0.5	0 for single-use food contai	ners, influence your	decision making?
	Extremely not likely	Not likely	Somewhat likely	Very likely	Extremely likely
Deter you from purchasing drink items	0	0	0	0	0
Deter you from purchasing food items	0	0	0	0	0
Encourage you to bring your own reusable drink containers	0	0	0	0	0
Participate in the mug-share program	0	0	0	0	0
Encourage you to bring your own reusable food containers	0	0	0	0	0
Encourage you to bring your own reusable bags	0	0	0	0	0





Disposable single-use items are convenient and save time

It is a hassle to carry reusable items with me

I forget to bring my reusable items with me

The vendor has refused my own reusable items

It is convenient to dispose of single-use items

To support accessibility needs related to a disability

Other

I don't know

Θ

5 I consume my drink and/or food purchase outside of the AMS Nest 6 7 8 9 10 11 I am concerned about the cleanliness of reusable items provided by vendors 12 13 14 + Add page break

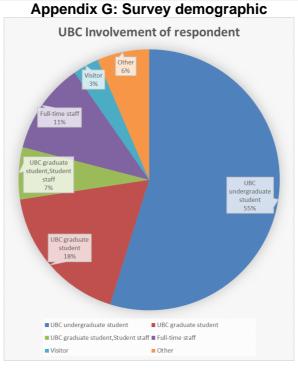


Figure a. Distribution of respondents according to their position/involvement within UBC (and the AMS)

The majority of survey respondents were unsurprisingly UBC students, with 55% being undergraduates and 18% being graduate students. There were also respondents who were both graduate students and working as staff part-time, however there were no respondents who were both undergraduate students and working as staff part-time. There were also respondents who identified as 'Visitor', likely being friends or family members of UBC students and staff.

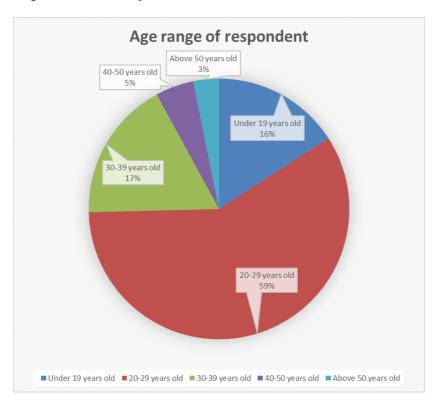


Figure b. Distribution of respondents according to the age range they fall into A majority of respondents fell into the 20–29-year-old category (59%). This corresponds well to the previous graph regarding UBC involvement, as most undergraduate students would typically be around the 20-29-year-old age range. There was a very small minority of older respondents aged 40-50 years old (5%) and above 50 years old (3%).

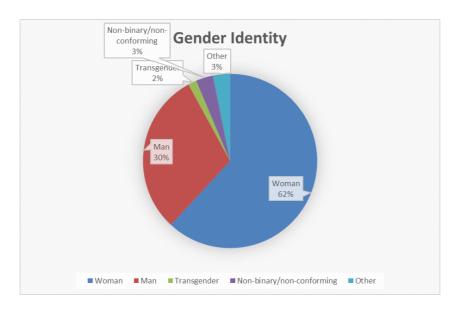
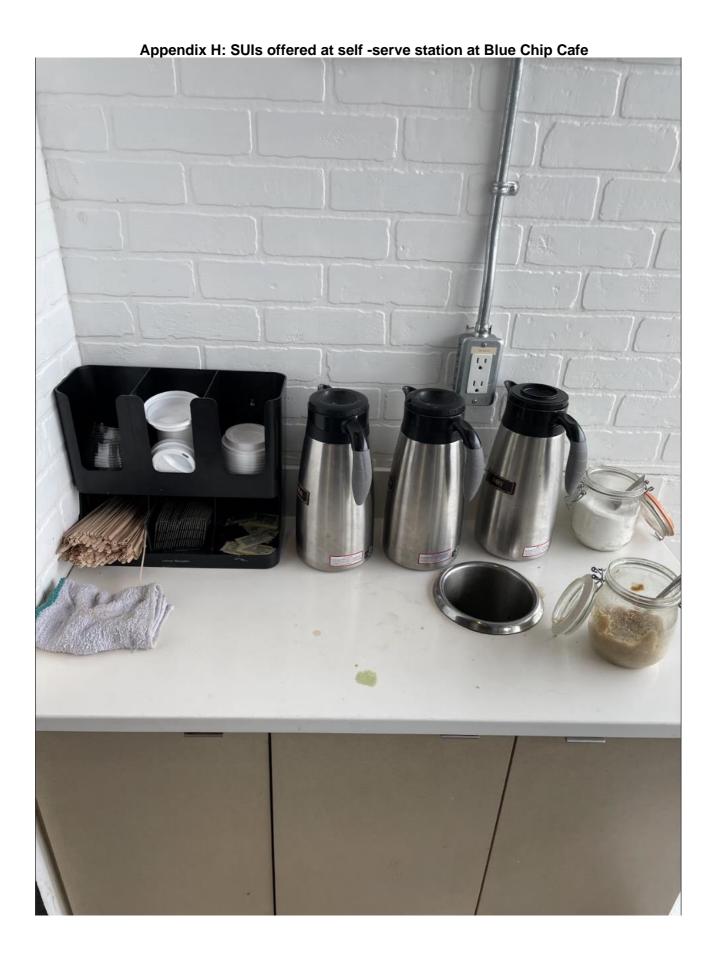
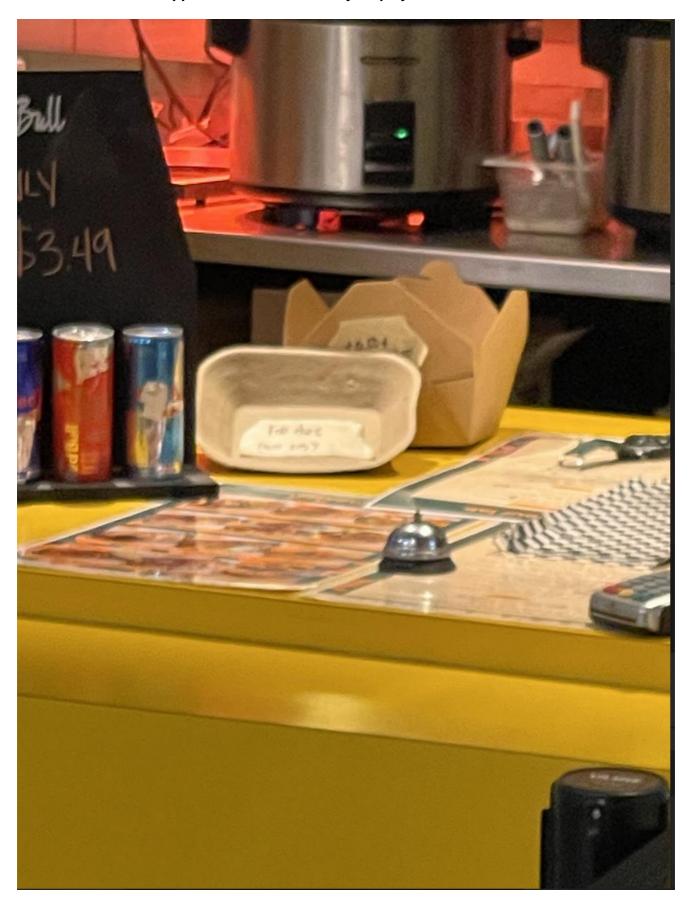


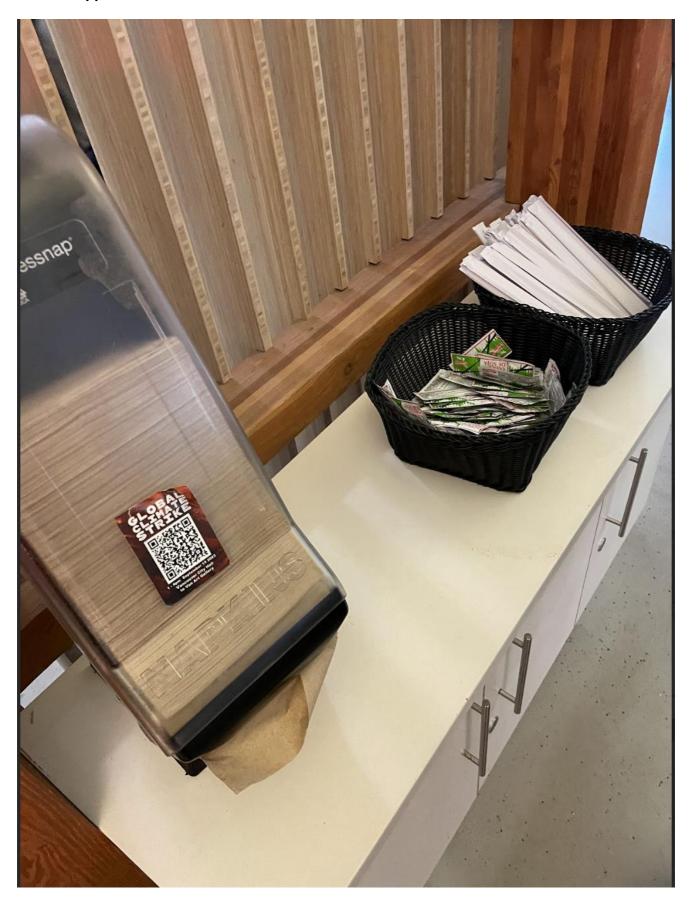
Figure c. Distribution of respondents according to the gender they identify as An overwhelming majority of the respondents identified as a Woman (62%), more than twice as many as those who identified as a Man (30%). A very small minority identified as non-binary/non-conforming (3%), Transgender (2%), and others (3%). This skewed distribution indicates a lack of representation.



Appendix I: SUI fees clearly displayed at Flavour Lab



Appendix J: SUIs and condiments offered at self -serve station at Honour Roll



Appendix K: SUI fees clearly displayed at Porch



Appendix L: Self-serve straws at The Gallery

