Project Proposal for Hospitality & Retail Services at the University of Toronto Mississauga (UTM) Food Security Framework

> ENV 332 Final Report

TABLE OF CONTENTS

Executive Summary	3
ntroduction	4
Background information	8
Problem Statement	-12
Methods	13
-indings	16
Recommendations	-19
Conclusions	22
References	24
Appendix	25

EXECUTIVE SUMMARY

Food security is a global challenge that involves physical and financial constraints to the access to nutritious food for overall well being. In Mississauga, Food Security has resulted in food banks supplying over 200,000 meals per month to food-insecure families, individuals, and households. At the University of Toronto Mississauga (UTM), the challenge of Food Security is not collectively addressed. There are some efforts from the student union to provide a small-scale food bank and free breakfast initiatives. However, there is an overall lack of direction and acknowledgment of food insecurity on campus. We do not live in a social vacuum. As a result, the issues that exist in our surrounding city will exist on our campus. Our team has sought to provide tangible solutions for Hospitality and Retail Services (HRS) to mitigate food insecurity on campus by raising awareness on the current state of Food Security and improving the accessibility of UTM's food bank. We achieved these goals through launching a survey to students on Food Security and using the results to provide HRS with a foundation of information necessary to establish a Food Security framework on campus including a UTM centric definition of Food Security and recommendations on potential programs and services to aid HRS in mitigating Food Security. The results found that a majority of students found campus food to be overpriced. Additionally, 40% of respondents found the nutritious food was not accessible. The overwhelming majority of students were not aware of the campus food bank. Moreover, UTM students defined Food Security as reliable access to a sufficient quantity of affordable, nutritious food. Our recommendations outlined the need for regularly scheduled on-campus farmer's markets, late-night food services on campus, and a collaboration with the University of Mississauga Students' Union to raise awareness of the campus food bank.

INTRODUCTION

Food Insecurity has been a prevailing issue in Canada and has affected the livelihoods of many families and children. The issue of Food Security can be found in many settings, especially on university campuses. Food Insecurity can cause serious problems that negatively impact physical, mental and social health while also compromising the integrity of the public health system (PROOF, 2018). According to national statistics, the prevalence of food insecurity has increased by 1.1% from 2007 to 2012 (PROOF, 2018). The impacts of food insecurity are observable in educational institutions as well where students are paying huge amounts for tuition but do not have affordable access towards nutritious food (CFSO, 2013). In the survey conducted by the Canadian Federation of Students Ontario (CFSO), 63% of respondents agreed that campus food is not affordable. Therefore, it is evident that food insecurity is an issue that needs to be addressed.

By definition, Food Security is "the moment when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." (IFPRI, 2020). Eventually, this has become the universal definition of Food Security but there are a lot of variations in definitions as different regions have different circumstances that may require a different definition. For this project, we are given the task to investigate the current situation of Food Security here at the University of Toronto Mississauga, identify whether a problem exists and provide recommendations to solve any Food Security issues. To do so, we have collaborated with the Hospitality and Retail Services (HRS) to first understand what has been done, then we conducted surveys and research to provide them a report that can help them tackle the issue of Food Security.

During the beginning of the semester, we met up with our client from the HRS, Andrea and discussed with him about the issue of Food Security at the University of Toronto Mississauga. After the meeting, we realized that nothing has been done by the HRS and the Sustainability Office nor do they understand the current situation of Food Security at UTM. Initially, our plan to tackle the problem was to provide HRS with a detailed, full-scale framework that includes all resources, key stakeholders, policies and any related information to solve the problem of Food Security at UTM. But over time, we realized that we have very limited capabilities and time for this course and project, and we do not have enough resources to talk to all stakeholders, gather their input and create a report that will be agreed for all of them. As a result, we have adjusted the main deliverable from a full-scale Food Security framework into a foundational report that provides HRS useful information to implement a feasible, comprehensive Food Security framework in the future. Therefore, our goals and objectives for this Food Security project have been changed. We have 3 main goals and 4 objectives and are as follows:

Goals:

- 1. Raise awareness of current Food Security issues (local, national, and global)
- 2. Promote and improve the accessibility of the University's current food banks
- Provide options and ways to mitigate food insecurity issues by identifying potential events or programs for accessible food services

During our discussion with Andrea, one of the problems that we identified was the lack of awareness of current Food Security issues among staff members, as they do not understand the situation at UTM and do not have a framework nor any actions implemented to help them tackle those issues. The study conducted by PROOF has also shown that there is a huge discrepancy between food insecurity and the use of food banks (Figure 9 in the Appendix), where food insecurity continues to increase over the years but the use of food banks remained stagnant (PROOF, 2018). Therefore, we came up with these goals to lead us in a direction that will help them understand the situation better and suggest what can be done to mitigate food insecurity issues. In order to follow these goals, we have come up with 4 objectives that will put us in the right course.

Objectives:

- Provide a foundation (e.g. definitions, relevant information) for the Hospitality and Retail Services (HRS) to establish a feasible Food Security framework at UTM
- 2. Provide a clear definition of what "Food Security" means to the UTM community
- Suggest 3 potential programs/ events/ campaigns for HRS that can help mitigate the situation of Food Security. For example, HRS can hold Bi-weekly Community Kitchen workshops or collaborative projects with stakeholders
- 4. Understand the situation of Food Security in the UTM community through conducting online surveys on students

With these objectives, it should give HRS a good foundational understanding of the current situation at UTM and to assess whether food insecurity is severe. This report will also include the definition of Food Security at UTM and suggest programs that can help mitigate food insecurity issues. Moreover, this will act as a steppingstone for HRS to establish a larger scaled and feasible Food Security framework in the future.

Limitations:

Throughout the course of this project, we have encountered many challenges and limitations that have inhibited our ability to proceed effectively as a group or our capabilities to accomplish certain tasks. We have identified 2 main limitations and the first one is the negative impacts of the COVID-19 pandemic. Due to this pandemic outbreak, it has cancelled all in-person meetings and classes, where we cannot meet with each other. With this, all communications have been switched to online and it has reduced the quality of communication within the team or with the professor when we needed guidance for the project. By using online methods to interact, we often neglect non-verbal cues during the communication process thus some opinions or thoughts may not be effectively conveyed. Moreover, we are unable to meet up with Andrea from the HRS due to the virus, hence we cannot provide HRS with the most current update of our project and the survey results and receive proper feedback. As a result, we are unable to discuss with them effectively about

potential recommendations, the feasibility of it and cannot tailor those final recommendations to the needs of HRS.

The second limitation pertains to the limited capabilities and resources of the team. With our online survey, we have collected 32 responses from participants. Despite reaching our goal of 30 participants, a majority of respondents are students and it lacked representation from other community members such as faculty staff and professors. This is mainly due to the fact that our team members are also students, and that we have limited time to work on this project as we have other academic commitments as well. On the other hand, as a team consisting of 6 individuals, we do not have the ability to reach a large audience base with our online surveys. As a result, our survey's ability to represent the entire UTM community is relatively limited.

Recommendation and Findings:

For the findings of our survey, we have identified a clear definition of Food Security that is applicable to the context of UTM and the different categories that made up Food Security (Affordability, Accessibility, Quality and Availability). Moreover, the findings have shown the opinions and concerns UTM students have about the food services on campus and Food Security in general. In terms of recommendations, we have come up with three recommendations that HRS can consider that can help tackle the issue. These recommendations can either be a program, event or a service.

- 1. Event: Holding Weekly/ Monthly Farmers' Market on Campus
- 2. Service: Providing late-night food options on campus
- 3. Program: Collaboration with UTMSU to promote the Food Bank

With these findings and recommendations, we believe that it will compliment the objectives of this project and give HRS a foundation to set up a Food Security framework. However, these are not the only options available and we encourage HRS to proactively

seek for new opportunities as well. For example, HRS can consider collaborating with internal or external stakeholders to integrate resources. A more detailed breakdown of the findings and recommendations will be provided in later sections.

BACKGROUND INFORMATION

What is Food Security?

Since the World Food Conference in 1974, the concept of Food Security has advanced, diversified, and evolved throughout the years (Maxwell, 1996). As defined by the United Nations' Committee on World Food Security, Food Security exists when "all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (IFPRI, 2020). Food insecurity is measured by the state of an individual's financial ability to purchase edible materials such as household concerns of being able to afford a balanced meal, missing meals, or running out of food (Tarasuk and Mitchell, 2020). There are numerous constant growing issues toward food access such as climate change, declining food resources, natural disasters, overpopulation, pollution, and unequal distribution of wealth and resources. With these issues, flourishing individuals, committees or countries must provide Food Security for the underprivileged.

Food security is dependent on three supporting pillars of access, availability, and usage of food. Firstly, food access is the state of having a satisfiable amount of resources required to secure foods for a nutritious diet (CFSO, 2013). Secondly, food availability is having enough quantifiable amounts of food available on a regular basis (CFSO, 2013). Lastly, food usage is having access to healthy, balanced, and safe food preparation knowledge in food care and having a satisfactory amount of water and sanitation (CFSO, 2013). These three pillars of Food Security are present in everyday lives and can affect both an individual's and the community's state of quality.

In 1943, the Hot Spring Conference of Food and Agriculture presented the concept of a "secure, adequate, and suitable supply of food for everyone", where developed nations would deliver their agricultural surplus and excess goods overseas (Gross et al., 2000). In 1980, the green revolution effort was a great success that it was able to assist in the increase in food availability and production (Gross et al., 2000). The improvement of food generation was able to provide higher quality and quantity of both physical and economic food supply. In the 1990s, human rights regarding the right to have access to proper food and nutrition have been re-established through the numerous plans on reducing hunger and malnutrition (Gross et al., 2000).

Political Context

From the report generated by PROOF (Food Insecurity Policy Research), the authors refer to household food insecurity as the insufficient or insecure access to food resulting from financial restrictions (Tarasuk and Mitchell, 2020). Gathering from the data generated by Statistics Canada's Canadian Community Health Survey, it is concluded that between 2017 and 2018 there were 12.7% of the households in Canada that experienced some degree of food insecurity (Tarasuk and Mitchell, 2020). This shows that around 4.4 million people, including 1.2 million children under the age of 18, were experiencing food insecurity (Tarasuk and Mitchell, 2020). Most of the individuals that experienced food insecurity were of the group that experiences social and economic disadvantages. These groups are part of the lone-parent, low income, house renter, Black or Indigenous communities (Tarasuk and Mitchell, 2020).

Even though there have been multiple monitoring and solutions performed for household food insecurities since 2005, the issue is still continuing and growing (Tarasuk and Mitchell, 2020). Food uncertainty is a large public and social health issue that affects the whole country. By primarily generating and performing solutions at the smallest area such as a school, the prevalence of food insecurity around the world would slowly decrease.

Food Security in Post-Secondary Institutions

University tuition fees in Ontario are the highest out of all the other provinces with an average of \$7,200 a year for domestic students (CFSO, 2013). International and graduate students have higher tuition fees that would lead to some problems in attaining food access. One of the concepts that suggest the importance of Food Security is the usage of food banks on campus by the students. This is because food banks provide no cost consumables to students who cannot afford to get food on or off-campus. In March 2012, around 413,000 individuals accessed the food banks in Ontario (CFSO, 2013). For the year 2012, more than 1,123,500 people have used the food banks to attain food supplies for themselves and their families (CFSO, 2013). Reports have shown that there was a strong increase in the number of access to campus food banks, which can be linked to the rising post-secondary institution fees and expenditures (CFSO, 2013). Every year, there is an increase in food prices, living expenses, and tuition fees, causing food availability to be a major concern for students (CFSO, 2013). Through a survey report released by the Canadian Federation of Students in Ontario, the concerns of students regarding the access to cheap but nutritional foods are abundant (CFSO, 2013). Students have expressed that healthy items are sold at higher prices compared to unhealthy fast food options. The lack of fresh healthy food options has forced students to select less nutritional food choices such as pizza, muffins, fries, chips, and candies. Malnutrition is a part of food insecurity that can cause students to perform below average due to the lack of nutritional values, vitamins, and minerals consumed. With the insufficient consumption of proper nourishment, students would become depressed, passive, and would develop low immunity that would greatly affect their school performance (CFSO, 2013)

Food Security in Mississauga vs UTM

The food bank associated with the University of Toronto Mississauga Campus is the central food bank in Mississauga called The Mississauga Food Bank. The establishment claims that they have provided over 242,000 meals every month to individuals that could not afford proper meals due to financial issues since 1986 (The Mississauga Food Bank, 2020). They initiated a strategic four-year plan of providing assistance towards hunger in Mississauga by supplying and promoting access to healthy and nutritional foods for underprivileged people (The Mississauga Food Bank, 2020). As a community, the amount of individuals that access the food bank suggests that the circumstances happening to the residents are also present in the university. The university is not involved in a social vacuum that isolates itself from the surrounding communities. Communities and situations outside the institution involve and are able to influence the inside communities of the school. As of the moment, there is no definitive data gathered from the UTM campus regarding food insecurity. There are services provided by the UTM Student's Union to lessen food insecurity on the campus such as UTM Food Centre, formerly known as UTM Food Bank, and Free Breakfast Wednesdays. The UTM Food Center is a service provided by the UTMSU to provide accessible and healthy food to all the students that are food insecure (UTM Food Centre, 2020). The Free Breakfast Wednesdays provided by UTMSU has been providing free meals to students for the past 2 years to be able to reduce food insecurity on campus and to ensure the students' well-being (UTMSU, 2020). A lot of services are provided by the UTM Students' Union but the UTM campus itself does not have many solutions for food insecurity on the campus. As of the moment, the Sustainability Office and the HRS do not have any programs, events or solutions towards food insecurity in the UTM campus.

PROBLEM STATEMENT

Universities have high tuition costs which can limit student's ability to access other necessities essential for a healthy lifestyle. Food security for students is generally defined as having sufficient access to food at all times (Gross, et al., 2000). Through the investigation of food security on campus, our findings suggested that the students on campus experienced challenges with Food Security and staff found difficulty in identifying and dealing with the issue. This challenge was further reinforced when we reached out to UTM Hospitality and Retail Service and found out that they had no set direction or understanding of Food Security on campus. This limited our baseline understanding of this challenge and the direction necessary to move forward. Additionally, there were other stakeholders, like the Sustainability Office, that also lacked understanding and direction on challenging Food Security at the UTM Campus through our main stakeholder HRS.

METHODS

In order to investigate the current situation of Food Security at UTM, an online survey was created. It also determines if the students at the UTM campus are facing Food Insecurity challenges and establishes a definition of Food Security in the context of the UTM community. In order to conduct the survey, a randomized sample of 32 students of UTM population was selected to complete the survey. We were unable to provide any incentives or prizes for participants who completed the survey due to limited resources of the team.

The online survey was deployed via Google Forms, which is an online survey webbased app that is included in the Google Drive office along with Google Docs. Google Forms allow for easy access to collect data and students' input to create graphs and charts. Students who completed the survey can share it via a link that can be posted on social media such as a Facebook or send the link to a group chat. The responses of the survey remained anonymous to improve the honesty and accuracy of the feedback. The online survey was designed to be completed within 5 minutes (maximum 10 minutes) on a mobile device or a personal computer; and it consists of a total of 8 questions. Furthermore, the survey aimed to distinguish and establish a fundamental understanding of how students manage their daily meals and to investigate whether Food Security is an issue; and if so, what can be improved. As a result, we have come up with the following questions that tackle these concerns.

Question 1: "Which of the following best defines Food Security to you?"

This question was made to help us identify a clear definition of Food Security to UTM students. It is also to understand where the students of UTM stand in regards to Food Security and how much knowledge they have on this topic.

Question 2: "What are three words that describe Food Security to you here at UTM?"

This question was added to the survey to determine the criteria of Food Security at UTM. We grouped the given terms into specific categories such as Affordability and Accessibility to determine what specific aspects of Food Security are needed to mitigate Food Insecurity on campus.

Question 3: "Do you spend more time eating on-campus or off-campus?"

The purpose of this question was to get more insight on how much time is spent on eating at campus which can also help us understand how accessible food on campus is for the UTM community at all times.

Question 4: "How Easy is it for you to access food on campus?"

This question helps us understand the accessibility of food on campus for UTM students.

Question 5: "How nutritious do you find the food on utm campus?"

This question gives us insight on what the community of UTM finds the quality of the food to be on campus, in regards to nutritious value.

Question 6: "To what extent, do you think that food on Campus is overpriced?"

This question was added to the survey to help us determine if food on campus is affordable to the UTM community.

Question 7: "Do you use the food bank at UTM?"

This question gives us insight on the awareness and usage of the food bank, on campus, by the UTM community. It can help us determine if awareness of the food bank needs to be improved.

Question 8: "To what extent do you think that food options on campus are diverse?"

By asking this question, we are looking to see if the food on campus is diverse in terms of nutrition content, if it meets the requirements of various diets, and if various cuisines are present. The results will help us determine if diversity of food on campus needs to be improved.

Refer to appendix figure 10 for the complete survey that was published for the students. Most of the data analysis is provided by Google Forms as completed tables and figures (as shown in the Appendix). We also used Excel and Python to group the frequencies of each word shown in Question 2, then came up with the 4 Food Security categories that matter to UTM students. We then interpreted the findings and came with the corresponding recommendations.

Possible biases and limitations exist by using online surveys to collect data. A randomized sampling method was used to approach the participants, however the number of samples was not representative of the entire UTM community. Another factor is that students who completed the survey may have little to no understanding of what food insecurity concept means, hence decreasing the accuracy of findings.

FINDINGS

Purpose of Survey and Findings

The survey we created consisted of eight questions to be completed within 5 minutes on the participants' personal device and we had a total of 32 participants (n=32) take part. The purpose of the survey was to gather data about the knowledge of Food Security from UTM students, staff, and faculty. However, we only received input from student participants due to limited time and capabilities to work on this project and lacked the ability to increase the range of audiences that the surveys can reach. Furthermore, the data provided from this survey will allow us to see where UTM stands in regards to Food Security and how we can help HRS to help mitigate food insecurity and make food more accessible and affordable to everyone on campus by implementing campaigns or events. We have provided recommendations below.

Data Analyses of Survey

Question 1: "Which of the following best defines Food Security to you?"

This question had three definitions, taken from credible sources, such as WHO, and participants were asked to pick a definition. From figure 1, in the appendix below, it can be seen that 84.4% of the participants picked the definition "the state of having reliable access to a sufficient quantity of affordable, nutritious food". This definition can be used to provide a clear definition of Food Security for the UTM community.

Question 2: "What are three words that describe Food Security to you here at UTM?"

This question was an open-ended question and the results were grouped into four main categories, affordability, availability, accessibility, and quality/nutritious, as seen in figure 2 (see appendix). Our results show that the highest categories are affordability (24%) and quality/nutritious (22%). From this question, it can be concluded that the affordability of food and quality/nutritious food on campus is important to the UTM community and a greater focus of Food Security at UTM should be applied to those categories.

Question 3: "Do you spend more time eating on-campus or off-campus?"

In figure 3 (see appendix), the pie chart shows that a great majority of the participants (more than 70%) spend more time eating off-campus. Less than 30% of the participants eat on-campus. This offers some insight for HRS to discover the reasons why UTM students prefer to eat off-campus and to provide solutions that would encourage them to spend more time eating on-campus instead.

Question 4: "How Easy is it for you to access food on campus?"

This question also uses a Likert scale with options 1-5, where 1 is low/difficult accessibility and 5 is easy accessibility. In figure 5 (see appendix), 37.5% of the participants found that access to food is easy on campus (option 4). However, 34.4.% find that access to food is somewhat easy (option 3) and can be improved. Thus, it can be concluded that food accessibility at UTM is somewhat average and room for improvement is present.

Question 5: "How nutritious do you find the food on utm campus?"

From figure 6 (see appendix), it can be determined that many participants, over 40%, do not think that food on campus is nutritious. Only 12.5% of the participants agree that the food is nutritious. Thus, the nutrition content of food on campus has room for improvement to ensure that the quality of food is adequate.

Question 6: "To what extent, do you think that food on Campus is overpriced?"

Affordability of food is one of the main aspects that need to be focused on in Food Security for the UTM campus as shown in the results of question 2. Using a Likert scale, participants were asked to rate how overpriced food on campus is, with 1 being not overpriced and 5 being very overpriced. From figure 4 (see appendix), it can be seen that the majority of the participants (90.7%) agree that food on campus is overpriced. This helps us understand that food on campus may not be accessible to many as the prices are high making it hard for students to afford a necessity.

Question 7: "Do you use the food bank at UTM?"

From figure 7 (see in appendix), a great majority, 90.6%, of participants have not used the food bank on campus. Only 9.4% sometimes use the food bank and none of the participants chose the "yes" option. It can be concluded that there is a lack of awareness and lack of knowledge of the food bank at UTM. Therefore, promoting the food bank and raising awareness is important which can allow for more accessibility of the food bank to the community.

Question 8: "To what extent do you think that food options on campus are diverse?"

From figure 8 (see appendix), 37.5% find that food on campus is somewhat diverse and can be improved. However, 31.3% find that it is not adequately diverse. Therefore, improvement of food diversity is required that would fulfill the requirements of nutrition, various diets, and various cuisines.

Summary of Major Findings

- 1. The definition of Food Security at UTM is "the state of having reliable access to a sufficient quantity of affordable, nutritious food".
- 2. The two most important categories of Food Security is food quality (24%) and affordability (22%), followed by accessibility (9%)
- 3. A big majority of participants think that campus food is overpriced
- 4. Food quality, accessibility, and diversity at UTM have room for improvement
- 5. A majority of participants are not aware of the UTMSU food bank, nor have they used it

RECOMMENDATIONS

CAMPAIGN: UTM Tackles Food Insecurity

The purpose of this campaign is to mitigate Food Insecurity issues at the University of Toronto Mississauga (UTM) campus. From the survey results, our participants have aided us in developing a campus-specific definition of Food Security. At UTM, Food Security is "the state of having reliable access to a sufficient quantity of affordable, nutritious food". Furthermore, our findings have shown that the majority of UTM students agreed that food on campus was overpriced, students have low awareness of the food bank on campus, and that the quality, diversity, and access to food could be improved. Based on these findings, we have developed this campaign that includes services, programs, and events to tackle these findings. Within this campaign, we have suggested three potential actions and recommendations that the Hospitality and Retail Service can implement to address student's concerns about Food Security at UTM.

Recommendation 1 - Event: Holding Weekly/ Monthly Farmers' Market on Campus

For our first recommendation, we suggest HRS to hold weekly or monthly Farmers' Market on campus. It will be held in different locations on campus which provides students with greater access to more affordable and nutritious food options. Holding this in different locations can help reach more students and raise awareness about the event compared to holding it in just one location. Other academic institutions such as Ryerson University and McMaster University have also implemented regular farmer market events that allow students to buy fresh and organic food on campus (CSFO, 2013).

There are several reasons for this recommendation. Firstly, our findings suggest that over 90% of participants agreed that food on campus is overpriced (Figure 6 in the Appendix), thus the farmers' market can provide a cheaper alternative for students. Secondly, by holding the Farmers' Market in different locations on campus we aim to improve Food Accessibility at UTM, as 34.4% of participants think that food on campus is

only somewhat easy to access (Figure 4 in the Appendix) and hence can be improved. Thirdly, food from the farmers' market is organic and has higher nutritional value than typical food offered on campus thus it can help improve the overall food quality on campus. Only 12.5% of participants agreed that food on campus is nutritious (Figure 5 in the Appendix); not to mention that Quality and Affordability of food are the 2 most important criteria for UTM students (Figure 2 in the Appendix). Lastly, 37.5% of respondents agree that food on campus is only somewhat diverse (Figure 8 in the Appendix) and can be improved as well. As a result, Farmers' market can help increase food diversity on campus as the fresh food provides another option for students.

Recommendation 2 - Service: Providing late-night food options on campus

Our second recommendation is for the HRS to provide more late-night food options on campus as a service. For example, they can negotiate with Chartwell to extend hours of food services during exam periods or provide more snack machines in more campus locations. The findings from the CFSO survey found that students are forced to eat offcampus due to the short working hours of food services and when some of them have late classes, limited food options on campus leave students with no food at all (CFSO, 2013). Moreover, students living in dorms without a kitchen will have no food options at all once cafeterias close on weekends (CFSO, 2013). As expected, UTM students have also encountered the same difficulties.

Our findings have shown that more than 70% of students spent time eating offcampus than on-campus (Figure 3 in the Appendix). This is because students who have night classes or study till late night are forced to eat off-campus due to the lack of food options at night. As a result, we suggested this service to improve food accessibility on campus at night and to compliment the UTM definition of Food Security, where there is ready access to food at all times.

Recommendation 3 - Program: Collaboration with UTMSU to promote the Food Bank

For our last recommendation, we recommend Hospitality and Retail Services (HRS) to create a program in collaboration with the UTM Students' Union (UTMSU) to promote the Food Bank on campus. In 2012, there were more than 1,123,500 people that have accessed the food banks in the Greater Toronto Area; and in the University of Ottawa, more than 50,000 pounds of food are distributed to students (CFSO, 2013). This shows that there is a significant usage of food banks in Canada and academic institutions, and the effectiveness is evident. The UTMSU and HRS can promote the Food Bank on social media platforms e.g. Instagram and Twitter and with leaflets all around campus. For example, UTMSU can post on their Instagram account about the Food Bank and show how students can use it, while HRS This can help raise awareness for the Food Bank among the UTM community and encourage usage of it.

There are also several reasons behind the recommendation. Firstly, our survey findings have shown that more than 90% of participants did not use the Food Bank (Figure 7 in the Appendix), hence this program can help encourage students to use it more by raising awareness. Secondly, food banks allow students who cannot afford food on campus to access food at no cost on a bi-weekly or weekly basis (CFSO, 2013). This means that food banks can help enhance the affordability and accessibility of food on campus, as these categories are also important for UTM students. Lastly, this program can then fulfill the goal of promoting the University's current food bank. Moreover, the collaboration between UTMSU and HRS enables the opportunity to integrate resources thus making the Food Bank more accessible in more locations and improving the inventory of it.

CONCLUSION

In conclusion, Food Security is still a prevailing issue in Canada, and it should not be neglected. Food security is defined as "the moment when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (IFPRI, 2020). At UTM campus, food security continues to affect students and faculty members. For this project, we are given the task to investigate the current situation of food security here at the University of Toronto Mississauga, identify whether a problem exists and provide recommendations to solve any Food Security issues. To do so, we have collaborated with HRS. For this project we have three main goals which include raising awareness of current food security issues, promote and improve the accessibility of the university's food bank, and provide options to mitigate food insecurity. Furthermore, we have four objectives to fulfill the goals of the project which are to provide a foundation for HRS, provide a clear definition of food security, suggest three potential programs, and lastly, conducting surveys to understand the situation of food security at UTM.

Our survey was an online questionnaire consisting of 8 questions. In order to conduct the survey, a randomized sample of 32 students at UTM were selected and the survey was deployed via google forms. The major findings of the survey includes a definition of food security for the UTM community, food quality and affordability being the main focus of food security at UTM, many participants believe campus food is overpriced, food quality, accessibility and diversity at UTM have room for improvement, and finally, majority of the participants are not aware of the UTMSU food bank. These results have shown the opinions and concerns, among UTM students, about food security in general. From these results, we have come up with three recommendations that HRS can consider to tackle the issue. The first recommendation is an event where HRS can hold weekly or monthly farmers' markets to help provide students with greater access to more affordable and nutritious food options. The second recommendation is a service for the HRS to

provide more late-night food options on campus as a service to improve food accessibility on campus at night and to compliment the UTM definition of Food Security, where there is ready access to food at all times. The third recommendation is a program for HRS to collaborate with the UTMSU to promote the food bank on campus because the collaboration between UTMSU and HRS enables the opportunity to integrate resources thus making the Food Bank more accessible in more locations and improving the inventory of it.

Throughout the course of the project we have encountered two main limitations. The first limitation consists of the negative impacts of COVID-19 where all in-person meetings have been cancelled. With this, it has reduced the quality of communication within the team and also with the professor when we needed guidance for the project. By using online methods to interact, we will miss out on a lot of non-verbal cues during the communication process thus some opinions or thoughts may not be effectively conveyed. The second limitation consists of the limited capabilities and resources of the team. We have 32 participants from our survey and despite reaching our original goal of 30 respondents, a majority of respondents are students and lacked other community members such as faculty, staff, or other professors. This is because as students, we have limited time and capabilities to work on this project and lack the ability to increase the range of audiences that the surveys can reach. Therefore, our survey sample size is relatively small due to our small team size and limited time and capabilities.

Moving forward, this project should act as a steppingstone for HRS to create a fullscale Food Security framework at UTM. We encourage Hospitality and Retail Services to collaborate with other stakeholders more often and integrate resources to tackle Food Insecurity.

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APPENDICES

Results from Survey:

Which of the following BEST defines Food Security to you? 32 responses



Figure 1: A Pie chart shows results for question 1 of the survey - the definition of Food Security at UTM



Figure 2: A Pie chart shows the four main categories of the responses and results for question 2 of the survey - the categories of Food Security at UTM



Figure 3: A Pie chart shows results for question 3 of the survey - The proportion of students spending more time eating on-campus or off-campus



Figure 4: A Likert scale results for question 4 of the survey. Scale goes from 1-5, where 1 indicates "not accessible" and 5 indicates "very accessible". - Accessibility of Food on campus



Figure 5: A Likert scale results for question 5 of the survey. Scale goes from 1-5, where 1 indicates "not nutritious" and 5 indicates "very nutritious". - Nutritious value of Food on campus



Figure 6: A Likert scale results for question 6 of the survey. Scale goes from 1-5, where 1 indicates "not overpriced" and 5 indicates "very overpriced". - Affordability of Food on campus



Figure 7: A Pie chart shows the results for question 7 of the survey - The usage and Awareness of the UTMSU Food Bank



Figure 8: A Likert scale results for question 8 of the survey. Scale goes from 1-5, where 1 indicated "not diverse" and 5 indiciates "very diverse" - Diversity of Food on campus





Figure 9: A bar chart that shows the number of people who are have Food Insecurity compared to the number of people who uses a Food Bank in Canada

Food Security at UTM Hellol We are a group of students taking the ENV322 course to study Food Security at the community of UTM, and we would like you to help us with it. Below is a short survey with some questions about Food Security and it would be great if you can spend a couple of mins (it won't be long we promise!) and fill it in :) Any help will be highly appreciated and the end results of this survey may be beneficial to you in the near future as we plan to provide some suggestions to help solve Food Insecurity at UTM! It: *								
What are THREE words that describe FOOD SECURITY to you here at UTM? * Short answer text								
Do you spend more time eating On-campus or Off-campus? * On-campus On-campus Off-campus *								
How EASY is it for you to access food on campus? *								
1 Not Easy	2	<u>?</u>)	3	4	5	Super Easy		
How NUTRITIOUS do you find the food on UTM campus? *								
	1	2	3	4	5			
Not nutritious at all	0	0	0	0	0	Super nutritious		
To what extent, do you thi	nk that	food o	n campus	is OVER	PRICED?	*		
	1	2	3	4	5			
Strongly disagree	0	\bigcirc	\bigcirc	0	0	Strongly agree		
Do you use the Food Bank Ves No Sometimes	at UTM	1?				*		
To what extent do you think that Food Options on campus are diverse enough? (e.g. * Food provided contains sufficient nutritional value or includes cuisine from various cultures?)								
	1	2	3	4	5			
Strongly Disagree	0	0	0	0	0	Strongly Agree		

Figure 10: The Google Form survey given to students