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Here is my report, Determining the Feasibility of Switching to More Environmentally Friendly Take-Out Food Containers at Shota Sushi. In preparing this report, relevant information and insights from survey participants, interviews from a restaurant supplies supplier, and research from reputable websites were gathered. The information in this report should help improve the choices of Shota Sushi's food take-out containers that will be better for the environment and the business. Thank you for your support throughout this process.

Pollution from Styrofoam wastes have been impacting the environment. This report investigates environmentally friendlier food take-out containers to determine if it is a good alternative to the existing Styrofoam based products being used.

Businesses can do their part in helping preserve and improve the environment. Alternative environmentally friendlier take-out food containers have been effective in reducing the consumption of Styrofoam products. Utilizing environmentally friendlier take-out food containers do not only benefit the environment and our health but may also increase company sales. Thank you for taking the time to read this report. If you have any questions, please contact me at joannayu9710@gmail.com.

Sincerely,

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**Determining the Feasibility of Switching to  
More Environmentally Friendly Take-Out  
Food Containers at Shota Sushi**

for

Mr. Dan Han

General Manager

Shota Sushi

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by

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## **I. Abstract**

The purpose of this study was to assess the feasibility of switching to more environmentally friendly take-out food containers at Shota Sushi. Additionally, this report also assessed the possible effects on the company's business by implementing environmentally sustainable practices.

Data collection included interviews, secondary sources from reliable websites, and a consumer survey. Through observations conducted at Shota Sushi and an interview with the restaurant manager, Mr. Dan Han, room for improvement in the existing choices of take-out food containers was evident. The use of environmentally friendlier take-out food containers does not only decrease the pollution it contributes to the environment but can also prove to be cost effective for the business. Additionally, evidence suggests that being an environmentally responsible business can help attract more customers and increase company sales.

To start improving the company's existing choices of take-out food containers, Shota Sushi can choose from a wide range of environmentally friendlier products that are readily available in the market which will suit each food item to be packed. Additionally, the company can educate restaurant staff on proper use of environmentally friendly take-out food containers to ensure that goals on cost control and food quality are met. Lastly, Shota Sushi can eventually pass the full cost of the environmentally friendly take-out food containers to customers to maintain the company's target profit.

## **II. Introduction**

### **A. Background and Problem Statement**

According to Statistics Canada, businesses in BC produced about 1.7 million tonnes of wastes in 2016 (Statistics Canada: Canada's National Statistical Agency / Statistique Canada : Organisme Statistique National Du Canada). It is estimated that there are about 11,000 restaurants operating in BC (Foodservice Industry Research. (2019). Restaurants make up one of the biggest industries in the business sector. Shota Sushi is a popular Japanese restaurant for dine-in and take-out. Most of their take-out orders are packaged in Styrofoam take-out containers. Styrofoam is made from polystyrene, which typically insulates better, keeps food fresher and cost efficient (What is Polystyrene?: Uses, Benefits, and Safety Facts, 2020). Since Shota Sushi serves an average of forty-eight take-out orders per day, this translates to about 120 containers daily which equals to 43,800 containers annually that weigh about 1200 pounds. These wastes eventually end up in landfills which can have a quite significant effect on the environment.

Styrofoam is not biodegradable. When disposed in landfills, it causes harm to our health and the environment. Removing Styrofoam from landfills and exposure to sunlight can benefit our health and the ozone layer. Improving the existing use of Styrofoam take-out food containers at Shota Sushi will not only contribute to a better environment and health, it may also potentially attract environmentally conscious customers and increase business, especially during this unprecedented time of the pandemic where take-out orders are thriving.

### **B. Purpose of the Report and Intended Audience**

The purpose of this report is to assess the feasibility of switching to more environmentally friendly take-out food containers at Shota Sushi which reduces the amount of Styrofoam that end up in landfills. Improving the choice of take-out food containers at Shota Sushi will not only reduce harmful toxins that

are environmentally degrading and hazardous to people's health but also help Shota Sushi's business retain and attract environmentally conscious consumers.

The intended audience of this report are:

- Mr. Dan Han, general manager of Shota Sushi.
- Staff at Shota Sushi responsible for fulfilling take-out orders.

### **C. Scope of Inquiry**

To assess the feasibility of the proposed solutions for switching to more environmentally friendly take-out food containers at Shota Sushi, I plan to pursue five areas of inquiry:

1. What benefits, if any, can a business realize in switching to more environmentally friendly food take-out containers from Styrofoam based containers?
2. What are the types of Styrofoam food container substitutes available in the market which are environmentally friendlier?
3. What are the costs of such environmentally friendly food container products?
4. What is the minimum order required by suppliers for environmentally friendly food containers?
5. Are environmentally friendly food containers readily available from suppliers?

### **D. Methods**

An interview was conducted with Mr. Dan Han, the general manager of Shota Sushi to better understand the company's current food take-out business and guidelines. Additionally, observations

were made at the Shota Sushi to gain insight of the current take-out business and procedures. Moreover, an interview was conducted with a sales representative at Eco-Packaging regarding the choices, availability, minimum order quantity and prices of packaging products that are environmentally friendlier than Styrofoam. Customers of Shota Sushi were also randomly surveyed to gather information regarding consumer preference and behaviour towards environmentally responsible companies. Finally, information from secondary sources such as websites were used to support the information gathered.

### III. Data Section

#### A. Food Items Packed in Styrofoam Take-Out Food Containers

Figure 1 shows which food items for take-out use the most Styrofoam based containers at Shota Sushi.

1. Noodle Soup	4. Main Dishes
2. Set Meals	5. Sashimi
3. Sushi	6. Appetizers

Figure 1: Food Items Packed in Styrofoam Containers

#### B. The Effects of Styrofoam on the Environment

Styrofoam is made from polystyrene, a non-sustainable material which has long term impact on the environment. Further complicating the problem is when Styrofoam ends up in landfills and waterways, which causes further environmental and health issues.

- Styrofoam’s basic raw material is derived from petroleum, a non-sustainable and non-biodegradable resource.
- When Styrofoam ends up as trash, it is typically sent to landfills. Styrofoam could also end up in our seas. In either case, it causes environmental and health problems.
- Humans can be harmed when consuming fish and seafood. Since Styrofoam can end up being eaten by fish where it absorbs collects its toxins and chemicals.

- Styrofoam takes about 500 years to decompose which creates harmful air pollutants that deplete the ozone layer (Little).
- Styrofoam makes up one of the main components of debris in our seas because it floats and accumulates along the earth's bodies of water.
- The longer Styrofoam stays in our waters, it breaks into small pieces and ingested by aquatic animals. This leads to the death of their death because their stomachs get clogged which causes them to stop eating (The Environmental Impact of Food Packaging, 2020).

### **C. Alternative Environmentally Friendlier Food Take-Out Containers**

One possible strategy to lower Styrofoam waste by Shota Sushi is to use alternative take-out food containers that are environmentally friendlier. According to Eco-Packaging, one of the biggest suppliers of food compostable wares in BC, items such as compostable paper, clear, and sugarcane containers can be used for packaging of take-out food orders instead of Styrofoam.

Paper containers are ideal for food items that are warm and/or with liquid such as noodle soup. Paper is derived from trees that are harvested and re-planted, which already makes it a more renewable option than Styrofoam. Additionally, paper is endlessly recyclable. It won't degrade despite being recycled a dozen times and it can safely rot in a landfill. Figure 2 and 3 show an example of a take-out container made from paper and its price respectively.





Figure 2: Paper Bowl (PFC12 - 12 oz)

Size	Price
12 oz	\$141/1000 pcs

Figure 3: Dimensions and Price of Paper Bowl

Another packaging alternative to Styrofoam take-out food containers are paper based food boxes. Paper food boxes are specifically designed to store and protect food from being exposed to harmful substances in the environment. It has a secure folding and locking tab, leakproof and comes in various sizes. The food stored in eco-friendly packaging boxes can retain its freshness by absorbing the temperature contents. Figure 4 and 5 show an example of a paper box take-out container and its price respectively.



Figure 4: Paper Box (EP#-N3)

Size	Price
7 3/4 x 5 1/2 x 2 1/2 inches	\$77/200 pcs

Figure 5: Dimensions and Price of Paper Box

Another alternative are compostable clamshell containers which are ideal for displaying food that are visually attractive like sushi and sashimi. Compostable clamshell containers are also lined with a thin sheet of polylactic acid (PLA) material that prevents moisture and grease from reaching the shell. The lining gives the container superior grease and moisture resistance and ensures it retains its original shape and rigidity when in contact with hot, wet foods. This product addresses the issue of bio-based containers softening and losing their structural integrity when serving hot and moist food. Figure 6 and 7 show an example of a clamshell take-out container and its price respectively.



Figure 6: Compostable Clamshell Container (EP-KHC951)

Size	Price
8 x 8 x 3 inches	\$108/172 pcs

Figure 7: Dimensions of Compostable Clamshell Container

Another option would be sugar cane food containers. Sugar cane is a very versatile plant. It is not only used as a source of sugar and biofuel for vehicles but also to produce take-out food containers. The material has plenty of benefits, ranging from high temperature tolerance, biodegradable and high durability. Also, the material is fully-recyclable, allowing companies to reuse the material multiple times. Figure 8 and 9 show an example of a clamshell take-out container and its price respectively.



Figure 8: Sugarcane Container (EP-A9632)

Size	Price
9 x 6x 3 inches	\$132/200 pcs

Figure 9: Dimensions of Sugarcane Container

#### **D. Challenges in Switching to More Environmentally Friendly Take-Out Food Containers at Shota Sushi**

In improving Shota Sushi's choice of take-out food containers, Mr. Dan Han, anticipates three main challenges. First, Styrofoam alternatives have to be able to maintain the food temperature and freshness for a reasonable time, especially during colder months. Second, environmentally friendlier take-out food containers may have higher costs than Styrofoam based containers. Last, the stability of prices and supply of environmentally friendly take-out food containers.

## **E. Research and Analysis**

### **1.) Research Methods**

Fifty customers at Shota Sushi participated in a short random survey designed to analyze the current trends on consumer preference and behaviour towards environmentally responsible companies.

Interviews with Mr. Dan Han, staff of Shota Sushi, and a sales representative of Eco-Packaging were conducted to determine background information on Shota Sushi's food take-out business and procedures and alternative packaging products to Styrofoam respectively. Finally, research from credible websites were conducted.

### **2.) Survey Background**

The survey was conducted randomly in two days among customers of Shota Sushi. Due to the unprecedented coronavirus situation, only fifty respondents were surveyed. This may not be fully representative of consumers' different behaviours towards environmentally responsible companies. Therefore, a certain degree of discrepancy may occur in the data gathered.

### **3.) Current Trends and Behaviour**

Figure 10 below shows thirty-four out of the fifty respondents said that a company's commitment to environmental sustainability influences their decision whether to patronize a restaurant. Additionally, the bar graph in Figure 11 shows eighteen out of the fifty respondents are likely to not to buy a product from less environmentally committed. Moreover, Butler argues that, 87% of consumers would consider buying a product with an environmental benefit(s) given the opportunity.

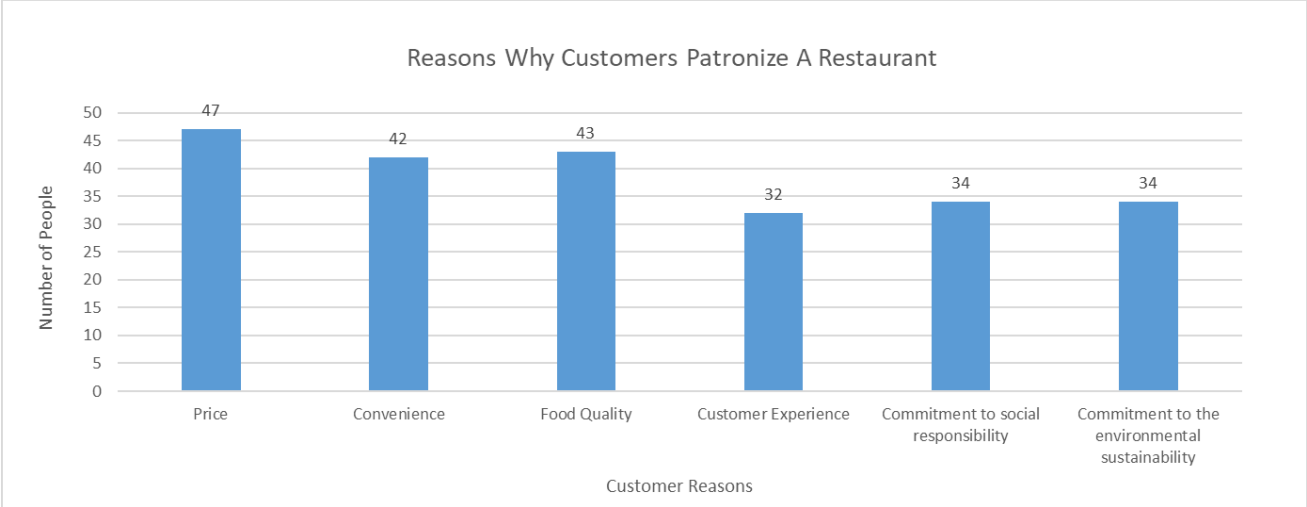


Figure 10: Factors Affecting Customer Purchasing Decision



Figure 11: Effect of Companies' Environmental Commitment to Consumers

## **IV. Conclusion**

### **A. Summary of Findings**

Shota Sushi serves an average of forty-eight take-out orders a day using close to 120 Styrofoam take-out food containers in the process. These orders make up a good portion of Shota Sushi's business but also produce a significant amount of Styrofoam waste that pollute the environment and harm our health.

Food packaging suppliers like Eco-Packaging offer a wide range of environmentally friendly take-out food containers. These alternative environmentally friendlier products to Styrofoam are designed to maintain the freshness of food, cost effective, and readily available in the market.

Finally, most of the survey respondents' decision whether to purchase a product can be influenced by a company's environmental commitment. Furthermore, research from secondary sources is consistent with respondents' survey results.

### **B. Analysis of Findings**

The present packaging being used for take-out food containers at Shota Sushi has room for improvement to curb environmental pollution. Replacing Styrofoam take-out food containers at Shota Sushi will help eliminate 43,800 containers that weigh about 1200 pounds from ending up in landfills annually, which can have a quite significant effect on the environment. The move to more environmentally friendlier take-out food containers will cost the restaurant about twenty cents for each container. However, many consumers do not mind paying more for products that are committed to environmental sustainability and many would likely not purchase a product that harms the environment. Being an environmentally committed company can lead to an increase in business by maintaining and attracting environmentally conscious customers.

## **C. Recommendations**

The purpose of this report was to determine the feasibility of switching to more environmentally friendly take-out food containers at Shota Sushi. Based on the findings of this report, there are three recommendations for Shota Sushi to consider.

1. There are several environmentally friendly take-out food containers that are readily available in the market to choose from. Choosing the most suitable container for each type of food item will help control costs and ensure that the freshness of food is maintained.
2. Educating restaurant staff on which environmentally friendly take-out food container to appropriately use will ensure that company goals on cost control and food quality are met.
3. Passing half of the additional packaging costs to customers for the first three months and the full costs after will help cover the higher costs of environmentally friendly take-out food containers and maintain the company's target profit.



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