Chapter 45

Nature Your Cup


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ABSTRACT
These past couple of years, our country has been overwhelmed with famous beverages originating from Taiwan, the ice shake – milk tea with boba – chewy tapioca ‘pearls’ mostly made from starch. Most company uses plastic cups to sell this drink. However, the usage of plastic cups towards this trend has been worrying when the world is towards minimizing plastic usage. Everyone is affected by this. There have been some attempts to engage this problem but they are all not as effective as everyone expected it to be. Most companies use plastic cups that were made from polypropylene, polyethylene terephthalate, and polystyrene which are recyclable in Malaysia. Therefore, we innovate our ideas towards this concern to encourage these beverage companies to recycle the plastic cups that have been regularly used by the customers in an easier way. Recycle companies reject dirty plastic cups which makes the beverage companies will have to make sure that all the cups are clean before proceeding to do so or otherwise the batch will be rejected. Prone to that, we would like to introduce a machine that will cleanse and dry the cups before recycling them. The machine is called Nature Your Cup. Nature Your Cup machine will make recycling easier by cleaning all the stains in the cups and dry them before they are qualified to be recycled. At the same time, the customers get money from just putting the cups in the machine and the companies earn money from recycling activities. If the companies involved do not take this opportunity to help the nature, it is such a loss and the plastic usage in our country could get worse. This innovation aims to make recycling easier for related companies to save our planet by minimizing the new production of plastic cups. Statistical methods will be used to obtain better understanding and provide evidence on the relevance of Nature Your Cup machine towards the related companies. According to market analysis firm Straits Research, the market of bubble tea was valued at US$49.8 million in 2018 and is expected to grow more towards the upcoming years. From these numbers, we can see that this
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...market is booming and the related companies have to be responsible for selling the products from the phase of generating the ideas of bubble tea to the end consumer. Therefore, this innovative idea has the potential to help decrease the usage of plastics cups, both sellers and buyers.

**Key Words:** Plastic usage, recycle, cups.

1. **INTRODUCTION**

Our main purpose is to cut bubble tea companies’ cost in their recycle expenditure because the recyclable things specifically plastics cannot be thrown directly to recycling centre if they contain too much liquid. Therefore, we also want to increase awareness with this new solution on plastic cups usage towards sellers and buyers. Last but not least, we want to minimize plastic cups usage among bubble tea sellers and buyers.

Nature Your Cup is directly targeting bubble tea companies to make it easier for them to recycle. We also indirectly are targeting customers who enjoy their bubble tea drinks and at the same time be responsible toward their plastic usage.

As our main purpose is to cut cost, we want to encourage bubble tea companies to recycle because we have paved the way for them. We want to help the world by reduce the excess littering problem among buyers and sellers. We also aim to promote new solution to increase everyone’s awareness on recycling especially on plastics.

The components used in Nature Your Cup machine would be water and fans blade. We use water to rinse 100 cups at a time and fan blades to dry them.

2. **LITERATURE REVIEW**

The issue of plastic pollution is still emerging as a top threat to ocean ecosystem. Over the next ten years, there could be 1 ton of plastic over 3 tons of fish in the ocean. This literature review will be focusing on addressing the development and new solution for the plastic cups wastage.

Renushara (2019) discussed about a large industrial rubbish bin located in SS15, Kuala Lumpur that are overflowing with empty plastic bubble tea cups which are clearly a hazard to the environment. This is due to the heavy use of plastic to keep up with the demand for ever milky goodness. National Geographic in 2018, states that you cannot recycle dirty plastic. In order for the plastic to be transformed into recycled goods, they must be in decent quality. Therefore, any plastic with food residue, it cannot be recycled. David Biddle (1993) examined that recycling is not just a matter of recovering recyclable material but it involved a total economic system. Companies can turn building demand for recycled products into a competitive advantage. Top managers of companies like American Airlines, and Coca-Cola have made buying recycled products and investing in green R&D part of their overall business strategies. They have cut down on waste, increased profit margins, and truly closed the recycling loop.
This study will further explore on a machine that can be used by Bubble Tea vendors as their sales having rapid growth rate, they also facing Bubble Tea plastic cups crisis. Nature Your Cup is eco-friendly electronics and energy-efficient that will help the stores to clean the recyclable cups and make everyone responsible in reducing plastic waste.

3. METHODOLOGY

Our group used two research methods namely quantitative method and qualitative method to collect data needed for this innovation. The mix of both methods allows us to gain a better understanding on the phenomenon and issues faced.

Firstly, we conducted an online survey using Google Form from two perspectives. We have respondents among the buyers and respondents among the sellers. Secondly, in order to gain a better insight from the view of a seller, we also conducted an interview with Mr Firdaus; the owner of 2 Tea live stores located in Selangor. The interview was held in early October 2019 through face to face.

The purpose of using online survey as our research methodology is to categorize data from buyers and sellers’ perspectives. This approach provides us a wide view in general knowledge and understanding on the opinion of plastic usage and recycle issues in Malaysia that helps to improve our innovation. Also, the interview that was conducted helps us to get in-depth insight of plastic usage and recycle issues among sellers.

First and foremost, the plastic cups will be stacked by the boba drinks consumers after they finish drinking. Each cup stacked, user will receive RM0.10 cents from the machine and once it reaches 50 cups, they will go to the first stage of process in the machine where the cups will be scattered on top of a tray.

Next, the lid will automatically cover the top of the tray before the rinsing process occurs. Water with a specific temperature will come out from every angle while the cups will keep rolling so they would be rinse thoroughly. These processes only take 3 minutes. After that, the blades of the fans will move to dry the water and it takes about 5 minutes for this process to end. Once the cups have been dried, they will be put into a plastic bag that will are provided by the stores’ owner. The end result of this process would be a clean batch of plastic cups.

4. RESULTS & DISCUSSION

We divided the survey conducted by 2 sections. The first section is among the seller, and the second one among the buyer.
Section 1 (seller)

Figure 1: Destination of Plastics after Selling Them

Figure 2: Opinion on Plastic Usage
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Section 2 (buyer)

Figure 3: Number of cups bought in a month

Figure 4: How to Minimize Plastic Usage

Figure 5: Percentage of People whom are Interested in Nature Your Cup Machine
From the short review above, we can see that major of 45 respondents agreed that plastic cups will go to recycling centre after we use them with 57.8% in figure 1. 46.7% respondents also agreed that plastic usage in Malaysia is at bad level. Most of the consumer drank bubble tea once or twice per month stated as 71.1% in figure 3. However, that also recognise that they need to help the environment and 51.1% of respondents chose to lessen the amount of bubble tea consummation. Last but not least, 90.9% of respondents are interested to use Nature Your Cup machine as a way to help our environment.

5. CONCLUSION AND RECOMMENDATION

With Nature Your Cup machine, we hope that we will be able to give benefits to bubble tea companies by reducing the cost of their recycle expenditure. We are also hoping that we could educate the society through our innovation by increasing awareness on the usage of plastic cups as our machine makes recycle activities easier. Lastly, minimizing the usage of plastic cups among bubble tea sellers is also our main goal for the creation of this innovation.

Based on the research that has been conducted, there are several recommendations that we can make for Nature Your Cup machine. Firstly, we are planning to increase the size of our machine so that it could fit 100 cups per usage which will be less time consuming in the recycling process. Secondly, we hope that this machine can be used universally by enlarging our target market as we want every place to have this machine and not just in bubble tea stores. Thirdly, we plan to create the same machine but for other recyclable materials which does not just focus on plastics. Lastly, we plan to upgrade the features of this machine in terms of the tools and materials used to fasten the cleaning process, make it more affordable for everyone, light and removable.

REFERENCES