

Packaging Practices of Selected Coffee Shops in Dasmariñas, Silang, and Tagaytay, Cavite; Basis for Enhanced Sustainable Packaging Guidelines

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Abstract: With the major concern on the effects of non-biodegradable packaging materials and individual use plastic cups used by coffee shops in the municipality of Silang and the cities of Dasmariñas, and Tagaytay, Cavite, the purpose of this study is to find and provide alternative ways on sustainable packaging that can be applied in the selected coffee shops. The researcher used Likert scale survey and was given the total of 191 respondents, 152 for the customers and 39 for the staff. The questionnaire/survey contains 2 sections: part 1-for the demographic profile, part 2-customer perception on coffee shops packages practices. Based on the results, the customers and staff strongly agreed that coffee shops in the three cities were following proper waste segregation. The researchers also found that coffee shops commonly use paper cups, paper bags, and paper straws as their packaging materials. Most of the coffee shops also show that they are not giving additional charge for customers who are using disposable cups and they do not offer discounts to customers who bring their own mug.

Keywords: Coffee Shops, Sustainable Packaging, Enhanced Guidelines, Coffee Cups, Dasmariñas City, Tagaytay City, Municipality of Silang.

I. INTRODUCTION

Coffee shops are establishments that serve a variety of coffee (like espresso, mochas, lattes, cappuccino, etc.) desserts, and cold beverages such as iced coffee, Frappuccino, iced teas, and many more. It is one of the fastest-growing businesses today because of the large demand for coffee consumers since coffee is a well-known beverage that has become essential to many people because not only is it healthy with its antioxidant properties, but it has also become a profitable business for farmers and business owners. The Philippines is an ideal place to grow high-quality coffee, and as the consumers of the coffee rise in the Philippines, coffee shop establishments also increase. However, coffee shops are one of the largest producers of garbage in the world, using billions of paper/disposable cups each year. Despite other coffee shops' efforts to incorporate environmentally friendly packaging, coffee shops have become a big concern when it comes to sustainability.

Two words that are commonly mixed up are coffee shops and cafés, and in certain cases they are used interchangeably. The differences between two terms are the coffee the products they serve, in a coffee shop, coffee is their main product, and this includes a variety of coffee with different brewing processes and other shops may offer tea or pastries, but some do not offer any pairings at all. On the other hand, cafes are often called restaurants because their products are focused on food such as rice meals, to pair with their coffee and drinks (Chun, 2020). This study focuses on Coffee Shops, because the focus is the packaging for the coffee. Coffee Shops focus more on the coffee itself while cafés lean more on the food, therefore coffee shops produce and use more coffee cups than cafés.

A criterion for sustainable packaging set by Green Blue for their project named Sustainable Packaging Coalition (SPC) are: it is safe and beneficial throughout its life cycle, market criteria is met (performance and cost), made using renewable energy and recycled materials, clean production technologies is used during manufacturing, and using biological or industrial closed loop cycle can be utilized (Green Blue, 2011).

Sustainability continues to be one of the most pressing issues worldwide especially in terms of packaging. The problem that is impeding long-term sustainable development is still present. Despite the efforts of numerous organizations and industries around the world to develop new strategies to reduce or eliminate waste generated by sources other than food, many plastics and non-recyclable packaging end up in landfills and marine environment.

According to Earth Organization Plastics, pollution is one of the biggest environmental problems in 2021. National Geographic found that 91 percent of plastic was not recycled and was considered a massive market failure. It will take the next generation to decompose plastics, which will take nearly 400 years or more for it to disappear (Earth Organization, 2021). Moreover, the Oceana Organization Philippines (2019) estimated 17.6 billion pounds of plastic garbage ends up in the marine environment. According to a study, out of a hundred cups, there is only one cup that has the possibility of being recycled, this resulted in disposable cups ending up more in landfills, rather than recycling facilities (Allegra Strategies, 2016).

While biodegradable cups appear to be an apparent solution, due to the customer misunderstanding about which cups can and cannot be composted and a lack of access to organic bins, only a small percentage of them would make it to the compost. Biodegradable cups may encourage more littering because they are perceived to be less destructive to the environment (Poortinga and Whitaker, 2018).

A form of waste that has increasingly garnered the attention of environmental groups and critics alike in recent years are coffee cups. During the year 2016, a television program “Hugh’s War on Waste” based in the United Kingdom was aired and their target audience were the local government and coffee shops. The purpose of the show was to raise awareness regarding the issue of disposable cups reaching landfills and to encourage viewers to be responsible in recycling (House of Commons, 2018).

The fundamental issue is that many people believe that because WDPCs (Waste Disposal Paper Cups) are usually made of paper, they can be recycled in the same way as other types of packaging trash. The truth is that WDPCs are extremely difficult to recycle. The adhesive that holds the cup's pieces together, as well as pollution, cannot be removed during the recycling process (Yuhui Ma, 2018).

With environmental concerns such as climate change, plastic pollution, water pollution, and many more, consumers started to become environmentally conscious. And now, coffee shops must attempt to develop sustainable packaging and practices to be able to respond to the trend and demand of environment-conscious consumers.

Because more people are aware of sustainability-related issues than ever before, the global environment has become a primary source of worry. The general population is finally beginning to understand the impact these challenges will have on their lives, reflecting an increase in public knowledge of environmental challenges over the last two decades (Yun and Kim, 2019). Consumers who prefer environmentally friendly packaging have more positive views and intentions. Researchers discovered that the store's eco-friendly procedures significantly benefited customers' views, attachment, and loyalty in a café context, a positive attitude, and a commitment to the store (Lee ,2020).

Nossa Familia Coffee, founded in 1890 in Brazil has different coffee shops located in Portland and Los Angeles and they also own coffee farms in Brazil, Guatemala, Nicaragua, Peru, and Ethiopia, where they source their own coffee. Sustainability is ingrained in every part of their business, from the sourcing of their coffee grounds to the serving of freshly brewed coffee to their customers. They seek to make specialized coffee that has a good impact on the environment and want sustainability to affect every aspect of their business.

In 2018, Nossa Familia Coffee committed their business into lowering the amount of waste generated by single-use coffee cups in our cafes. Reducing waste is an important part of their overall environmental footprint reduction strategy which is why their business implemented the “Zero Waste Initiative” to tackle the coffee cup waste problem (Nossa Coffee, 2018).

They opened their Seven Corners Café with the intention of being a zero-waste coffee business. Customers who ordered their coffee product that uses a single-use, disposable to-go cup was charged 25-cent more, while customers who brought

their own cup received a 25-cent discount. This resulted in the shift of customer behavior and an increase in customers who started to bring their own cup or used the mugs or cups the shop offered and it also reduced customers from buying or using disposable cups. Other guidelines Nossa Familia uses are delivering coffee in durable, reusable containers to their cafés and wholesale clients, using boxes made with recycled content that are 100% recyclable, purchasing coffee bags that are biodegradable and made of renewable materials, creatively reusing label backing as package stuffing, reusing boxes, and packing materials they receive, donating burlap sacks to their local community gardens, and lastly donating unsold coffee to local non-profits (Nossa Familia, 2018).

According to Elisa Aguirre of Dasmariñas City Solid Waste Management, the city hopes to reach a 55-percent waste diversion rate for solid garbage and within the city by 2020. There are 65 junk shops that recycle solid waste in the city, and it also has an eco-center that turns biodegradable trash into soil conditioners, but the conditioners are not effective and does not meet the legal standards enough to be considered fertilizer (PEMSEA Report, 2018).

For the Waste Management of Silang, Cavite, according to the Research, Statistics, Monitoring, and Evaluation Division Provincial Planning and Development Office of Cavite, they reported on their Cavite Ecological Profile 2019, that the municipality has two Special Wastes Treatment Companies which are Cleanway Environmental Management Solutions Incorporated and Solvtech Consultancy Resources, both located in Brgy. Maguyam, Silang that treats several types of special waste, miscellaneous waste, and many more.

And for the city of Tagaytay, according to the City Government of Tagaytay in their Tagaytay City Ecological Profile 2016, the city has a Materials Recovery Facility that treats mixed garbage, and the purpose of the facility is efficiently sorting, processing, and storing materials that are biodegradable and recyclable in accordance with RA (Republic Act) 9003, the Solid Waste Management Act.

The province of Cavite has become aware of the environmental concern with managing the solid waste of both residential and industrial waste of different establishments including coffee shops. Under Provincial Ordinance No. 43-S-2008, the municipal government of Cavite drafted the Environmental Code, which includes articles on waste, air, and noise emission management, as well as assessments on environmental impact, and many more.

The provincial government has also implemented “Provincial Ordinance No. 007-2012 that regulates the use of plastics and promotes the use of environmental friendly packaging and practices.” and “ Provincial Ordinance No. 2013-021, an ordinance amending certain provisions of the provincial ordinance no. 007-s-2012 otherwise known as an ordinance prohibiting, regulating and prescribing certain uses of plastics for goods and commodities the end up residual wastes and promoting the use of eco bags and other environment friendly practices as an alternative and providing penalties for violation thereof”(Cavite Ecological Profile, 2016).

Waste management is still an ongoing issue in both rural and urban areas of the Philippines. Despite the existence of environmental code and the said regulations, Waste Management in Cavite remains a big concern, and this includes the Municipality of Silang, Dasmariñas City, and Tagaytay City.

Within the hospitality industry, there are a lot of restaurants, cafes, hotels, all over the world that emphasize and incorporate sustainability into their products or businesses that researchers believe can be applied into the different coffee shops in Dasmariñas, Silang, and Tagaytay. The following foodservice institutions include Green Lancaster (United Kingdom), Re-cup (Germany), Nolla (Finland) and the Earth Kitchen Restaurant (Philippines).

Green Lancaster, which is a sustainability group found in Lancaster University, United Kingdom, introduced their “Cup of Life” scheme that provides their students an alternative reusable cup that is manufactured by ecoffee® and the main material of their product is bamboo. Students are provided the option to return the cup to any participating outlet in their campus and receive a fresh, clean cup (Wakefield, 2019).

Re-cup found in Munich, Wasserburg, Berlin, Olenburg, Ludwigsburg, Rosenheim, and Cologne are among the German cities that have adopted a similar coffee cup sharing plan or scheme. For €1 deposit, the customer will receive a cup made of 10% recyclable plastic that comes in a variety of sizes and may be returned to participating stores (Ferreira and Ferreira, 2020)

Nolla is the first zero-waste restaurant in Finland. The three co-owners of Nolla strictly follow specific protocols and their philosophy is “Refuse, reduce, reuse, and only as a last resource, recycle.” They only source their ingredients from local

farmers, reject ingredients that use single-use packaging, compost leftover food, and turn biowastes into a soil which is then given to the farmers they are partnered with. They also use technology to track their food waste and other data (Restaurant Nolla, 2018).

For local restaurants, the Earth Kitchen Restaurant found in Katipunan Avenue, Quezon City is called one of the forefronts of sustainable restaurants in the Philippines (Torres, 2020). They partner with local farmers and communities to get their ingredients because this will help the local farmers' livelihood which is more sustainable because the farms produce organic ingredients. The restaurant also adjusts their menu based on the ingredients that are in season (Earth Kitchen, 2017).

Using alternatives for single use-plastic cups and packaging materials to reduce waste which is implemented in other countries and different industries can be applied in the coffee shops in Dasmariñas, Silang, and Tagaytay. Consumers can use reusable cups and can choose from a variety of options and sizes, and numerous coffee shops even offer their own line of reusable cups. Reusable cups are recognized to be a more environmentally friendly alternative to disposable cups since they save energy that would otherwise be used to manufacture disposable cups. Likewise, environment-friendly packaging materials can replace single-use plastic food containers to eliminate pollution.

Coffee shops worldwide temporarily stopped the use of reusable containers as caused by the pandemic COVID-19, however, research shows that with proper hygiene makes reusable packaging viable even during the pandemic. According to Dr. John Nwangwu, Professor and Consultant to the World Health Organization, he stated that it is safe, but it is the responsibility of both consumers and staff to demonstrate proper hygienic procedures to reduce the spread of COVID-19.

Although there is not any official announcement regarding the ban on the usage of reusable containers from authorities, several coffee shops including Starbucks that has 30, 000 shops around the world, was forced to suspend the use of personalized reusable containers. But there are also several coffee shops that are making beverages in reusable containers brought by the customer even in this ongoing pandemic. The decision to ban reusable cups or containers will vary per shop.

“Waste is waste. The more we can limit waste, the better.”

“We all want a better world to live in.”

-Dr. John Nwangwu

Statement of the Problem

The main issue that this study wants to address is the problem of sustainability and waste production generated by coffee shops in terms of packaging, by identifying the problem areas in current practices of coffee shops located in Dasmariñas, Silang, and Tagaytay. The study sought answers to the following questions:

1. What is the demographic profile of the chosen respondents in terms of :
 - a. Age
 - b. Gender
 - c. Occupation
 - d. Location
2. What are the current practices that are observed in the selected coffee shops in Dasmariñas, Silang and Tagaytay?;
3. Is there a significant difference in the Consumer and Staff Perceptions on the packaging methods of the selected coffee Shops in Dasmariñas, Silang, and Tagaytay when grouped by profile?; and
4. Based on the results of the study, what sustainable packaging practices can be recommended to the selected coffee shops in Dasmariñas, Silang, and Tagaytay?

Statement of the Hypothesis:

There is no significant difference between the consumer and staff perceptions on the packaging methods of the selected coffee shops in Dasmariñas, Cavite when grouped by profile.

II. LITERATURE REVIEW

Studies showed that waste is one of the most significant global issues, and the increasing volumes of waste being generated continue to rise as global population and living standards rise. Massive amounts of waste are generated annually with only basic or very few treatments to mitigate the issue. Recycling and other methods to treat waste have been introduced, waste is still a cause for concern worldwide. Even if plastics have been the focus of most recycling efforts, the issue still remains. Some types of plastic cannot be conventionally recycled, and recycling programs continue to generate substantial amounts of waste due to the mixing of various plastics. (Pearl Global, 2021)

A study has also shown the number of cups that Britain gets yearly, which has been over 2.5 billion cups and it is still growing as of today. It is reported that only a minimum part of that amount is recycled and most ends up in landfills. Regardless of the movement where coffee shops try to create an alternative or try to make their cups and packaging more environment-friendly, critics believe that it does not change the fact that these cups are still single-use and are a waste of resources.

Another major issue is that these cups cannot be recycled in conventional ways, that even if they are advertised as compostable, these cups are required to undergo compost in high-temperature industrial processes but there are only limited facilities for it which makes it expensive. The Chief Executive of Frugalpac, Malcolm Waugh, stated that “The problem with conventional, coated and compostable cups is that they’re all made from virgin paper, and the laminated plastic coating is very hard to remove,” Creating a recyclable and sustainable coffee cup is still an ongoing issue for critics, restaurants, and coffee shops. The World Wildlife Fund predicts that by 2030 the UK will use 33% more cups than it does currently (Doward, 2020)

Studies have also shown that in the Philippines, plastics have severely endangered marine life over time. The increase of plastic waste generated threatens not just marine ecosystems but the population as well. With this, the Climate Change Commission (CCC) Commissioner urges to impose a ban on single-use plastics and properly deal with the pollution caused by these single-use plastics (Philippine News Agency, 2021).

Defined as items which can only be used once before discarded or recycled, these include plastic bags, coffee cups, bottled waters, straws, coffee stirrers, and food packaging or wrappers.

Citing the Philippines as one of the top 5 countries that generate half of the world’s plastic waste, the Ocean Conservancy and McKinsey Center has stated that the Philippines produces 7,000 tons of plastic daily which mostly ends up polluting bodies of water (McKinsey & Company, 2015).

The dependence of Filipinos for plastic as a core part of its daily activities is the reason plastic consumption and waste production continue to increase. The need to reduce usage of plastic, through proper garbage segregation and proper waste disposal by reusing, reducing, and recycling, while finding new alternatives for plastic are necessary (Philippine Information Agency, 2019)

III. METHODOLOGY

This chapter contains the research design which contains the step-by-step process of the study and the type of research method that is used. The research locale, participants of the study, and research sampling are also tackled to provide an overview about the process of choosing the respondents. The research paradigm and research instrument is also discussed along with the data gathering procedures, as well as the statistical treatment of data which explains the research process and overview of the data gathering and analysis of the study.

Research Design

The researchers used the quantitative research design, dealing with statistics, and data based on the online questionnaire instrument that was used during the data gathering procedure. The researchers used online platforms, specifically Google Forms to create surveys due to the restrictions of the pandemic. The online platforms provided multiple survey questions to the respondents, the researchers then gathered the data from the respondents’ answers and analyzed the data to generate unbiased numerical results.

Sampling Size

The researchers used the Sampling Size formula by Raosoft that calculates based on Normal Distribution, which identified the required number of samples to be included in the study. Below is the formula to be used in computing the sample size:

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$$

Figure 1: Raosoft Sampling Size Formula

The total number of participants for the study is 191 respondents. 152 respondents are from the customers of the selected coffee shops and 39 are staff or employees of the selected coffee shops.

Participants of the Study

The participants of the study are composed of three (3) groups: Coffee shop managers, baristas, and consumers of the selected coffee shops in Dasmariñas, Silang & Tagaytay, Cavite. The researchers used an online survey using Google Form among the respondents.

Research Sampling

Two sampling methods were used in the study, which are Simple Random Sampling Method and Quota Sampling. Random sampling is a procedure where a sample of units from a population are selected by chance, this is to facilitate and generalize the sample to the population. In this method, every individual in the population has an equivalent chance of being chosen for the sample.

Second is the quota sampling, a sampling method that looks for individuals with specific qualities, this sampling technique is prepared with a prescribed criteria that was followed by the researchers in choosing the respondents. This was used to select the coffee shops; the criteria are as follows:

- Within the Location of Dasmariñas, Silang, and Tagaytay
- Local Brand
- With Business Permit

Research Paradigm

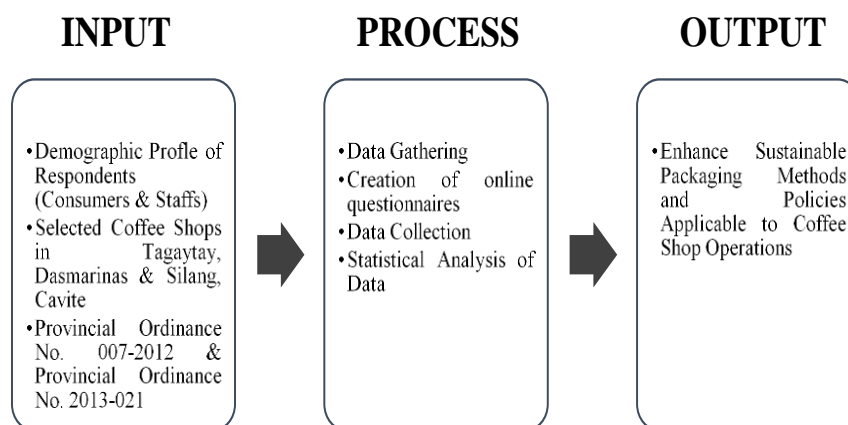


Figure 2: Theoretical Framework

The researchers used the Input Process Output Framework. The Input-Process Output Framework is based on science and society's systems theory which resulted from Bertalanffy's General System Theory. The theory states that any group of components working together produces a result and it also determines how each individual component works.

The input includes the variables of the study which is the Demographic Profile of the Respondents (Consumers and Staff) wherein the Demographic profile and data of the respondents are organized according to their Age, Gender, Location, and Occupation. The second variable is the selected coffee shops in Tagaytay, Dasmariñas, and Silang, Cavite. And the third

is the implemented Provincial Ordinances in the province of Cavite regarding environmental concerns. The next step is the process, the process shows the flow of the research process which includes gathering the data needed in the study like related literature, creating the online survey or questionnaires using google forms, collection of data, and lastly analyzing the data given to create accurate statistical results. The output shows the expected result of the study after the research process. It includes being able to successfully find sustainable alternatives for packaging methods and to enhance sustainable practices, policies, methods, and standards that can be applied to the selected coffee shops in Tagaytay, Silang, and Dasmariñas, Cavite.

Research Instruments

The research instrument that will be used by the researchers is called a survey. The researcher will create a survey questionnaire for the selected respondents, the questionnaire will be then distributed and may be accessed using Google forms.

The questionnaire/survey contains 2 sections: part 1- for the demographic profile, part 2 – for the coffee shop experience, part 3 - for customer and staff perception on coffee shops use of packaging materials, and part 4 – for coffee shop practices observed in the selected coffee shops. The purpose of the questionnaire/survey was to collect the demographic profile of the respondents as well as to determine the customer perception when it comes to packaging practices of coffee shops in Dasmariñas, Silang, and Tagaytay. The researcher will use the Likert scale to determine the data needed from the respondents.

The survey contains (25) questions, 5 of them are for the demographic profile of the respondents, another 5 is questions regarding the coffee shop experience of the respondents, and the remaining 15 question includes the perception, agreement, and disagreement of the customer. The survey questions were based on *Nossa Familia Coffee*. To determine the current practices of the selected coffee shops, the researchers will be using a 5-point scale to measure the survey responses (1: Strongly Agree – 5: Strongly Disagree).

Numbers	Mean Range	V.I Code	Verbal Interpretation
1	1.00-1.49	SA	Strongly Agree
2	1.50-2.49	A	Agree
3	2.50-3.49	N	Neutral
4	3.50-4.49	D	Disagree
5	4.50-5.00	SD	Strongly Disagree

Figure 3: Likert Scale Table

At this table, the researchers asked the respondents a series of questions about the observations of the current packing practices that they regularly see in coffee shops. This allowed the researchers to observe what practices were being done or not in the selected coffee shops.

Data Gathering Procedures

The researchers used an online survey questionnaire which was distributed to the respondents as an evaluation of the packaging method of coffee shops in Silang, and the cities of Dasmariñas and Tagaytay, Cavite, Philippines. The researchers analyzed the raw data and presented corresponding interpretations in the tables.

Data treatment and Analysis

Statistical treatment is the application of statistical methods or techniques to a data set to find patterns or explanations for the results gathered. The researchers used the following statistical methods for analysis:

Frequency Percentage – is used to analyze the demographic profile of the participants. This was used to organize and group the results in their appropriate categories in the demographic profile which includes Age, Gender, Occupation, Location.

Weighted Mean - The researchers used weighted mean to identify the average result of what was observed in the coffee shops, since the respondents are divided into 3 groups namely managers, baristas, and customers. Each answer from each group has different importance from one another, managers can have more accurate information as opposed to the customers.

t-test –The researchers used t-test to identify whether there is a difference in Consumer and Staff Perceptions on packaging methods of the selected Coffee Shops in Dasmariñas, Silang and Tagaytay when divided by gender.

ANOVA – ANOVA was used by the researchers to identify the difference between the Consumer and Staff Perceptions on packaging methods of the selected Coffee Shops in Dasmariñas, Silang, and Tagaytay, when divided into the 3 groups of the participants which are the managers, baristas, and customers.

IV. RESULTS AND DISCUSSION

This chapter contains the data the researchers have gathered from the online survey via Google Forms and their results. The researchers were able to gather a total of 191 responses (152 respondents for customers and 39 staff from the selected coffee shops) and were able to successfully reach the required number of respondents for the study. The chapter shows the results gathered about the demographic profile of the respondents, as well as the customer and staff perception about the packaging practices of the selected coffee shops.

Table 1: Profile of the Respondents According to Age

Respondent	Age	Frequency	Percent
Customer	18 - 25	108	71.053
	26 - 35	25	16.447
	36 - 45	7	4.605
	46 - 55	8	5.263
	56+	0	0
	Total	152	100
Staff	18 - 25	18	46.154
	26 - 35	18	46.154
	36 - 45	3	7.692
	46 - 55	0	0
	56+	0	0
	Total	39	100

Table 1. shows the demographic of the respondents based on their age. For customers, a total of 108 respondents were ages between 18 – 25 years old, which makes up 71.1% of the population. The age group with the least responses were ages 36 – 45 years old, which only had a total of 8 respondents, which makes up 4.6% of the population. For the staff, both the age group 18 – 25, and 26 - 35 years old had a total of 18 respondents, which makes up 46.15% of the population. The age group 36 – 45 years old had the least response with only a total of 3 respondents, which makes up 7.69% of the population.

Table 2: Profile of the Respondents According to Gender

Respondent	Gender	Frequency	Percent
Customer	Female	102	67.105
	Male	50	32.895
	Total	152	100
Staff	Female	17	43.59
	Male	22	56.41
	Total	39	100

Table 2. shows the demographic profile of the respondents based on their gender. For customers, a total of 102 respondents were Female, making up 67.10% of the population. Meanwhile, only a total of 50 respondents were Male, making up only 32.89% of the population. For staff, a total of 22 respondents were Male, making up 56.41% of the population. Meanwhile, only a total of 17 respondents were Female, making up only 43.59% of the population.

Table 3: Profile of the Respondents According to Occupation

Respondent	Occupation	Frequency	Percent
Customer	Government Employee	6	4.00
	Private Employee	27	18.00
	Unemployed	4	3.00
	Self-Employed	11	7.00
	Student	104	68.00
	Total	152	100
Staff	Barista	32	82.00
	Manager	7	18.00
	Total	39	100

Table 3. shows the demographic profile of the respondents based on their Occupation. For customers, the majority of the respondents were Students with a total of 104 respondents, which make up 68.42% of the population. For the least responses, the occupation Freelancer, OFW, Retired, had the least responses, with only 1 respondent each, making up 0.65% of the population. For staff, the majority of the respondents were Baristas with a total of 32 respondents, which makes up 82% of the population. Meanwhile, the Manager position only had a total of 7 respondents, which makes up only 18% of the population.

Table 4: Profile of the Respondents According to Coffee Shop Location

Respondent	Coffee Shop Location	Frequency	Percent
Customer	Dasmariñas	84	55.263
	Silang	16	10.526
	Tagaytay	52	34.211
	Total	152	100
Staff	Dasmariñas	12	30.769
	Silang	12	30.769
	Tagaytay	15	38.462
	Total	39	100

Table 4. shows the demographic profile of the respondents based on the location of their preferred Coffee Shop. For customers, majority of the respondents prefer to dine-in in coffee shops located in Dasmariñas, Cavite, with a total of 84 respondents, which makes up 55.26% of the population. The next area where customers prefer to dine-in is in Tagaytay, with a total of 52 respondents, which makes up 34.21% of the population. The area with the least respondents is Silang, Cavite, with only a total of 16 respondents, which makes up 10.52% of the population. For staff, the majority of the staff works in Tagaytay, with a total of 16 respondents, which make up 38.46% of the population. Both Dasmariñas and Silang, Cavite, only had a total of 12 respondents, which only makes up 30.76% of the population.

Mean	Verbal Interpretation
1.00-1.49	Strongly Agree/Very High
1.50-2.49	Agree/High
2.50-3.49	Neutral/Moderate
3.50-4.49	Disagree/Low
4.50-5.00	Strongly Disagree/Very Low

Table 5: Dasmariñas Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops

Table 5. Dasmariñas Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops				
Dasmariñas City	Customer		Staff	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1.) The shop uses paper cups for their packaging material.	2.95	Neutral	1.58	Agree
2.) The shop uses plastic cups for their packaging material.	2.50	Neutral	2.58	Neutral
3.) The shop uses styrofoam cups for their packaging materials.	3.89	Disagree	4.58	Strongly Disagree
4.) The shop uses plastic straws.	2.67	Neutral	2.75	Neutral
5.) The shop uses paper straws.	2.96	Neutral	2.58	Neutral
6.) The shop uses paper bags or paper containers to takeout and deliveries.	2.17	Agree	1.67	Agree
7.) The shop uses plastic bags or plastic containers for takeout and deliveries.	3.06	Neutral	2.58	Neutral
8.) The shop uses biodegradable cups and lids.	2.69	Neutral	1.83	Agree
9.) The shop uses boxes made with recycled content.	2.57	Neutral	2.00	Agree
10.) The shop uses coffee bags that are biodegradable and are made of renewable materials.	2.56	Neutral	2.00	Agree
11.) The shop uses glass container for their condiments (e.g. Sugar, syrup etc.)	2.37	Agree	1.42	Strongly Agree
12.) The shop additionally charges drinks that uses disposable materials (e.g. plastic straws, lid, sleeves etc.)	3.73	Disagree	4.58	Strongly Disagree
13.) The shop gives discounts for customers who bring their own cups / mugs.	3.12	Neutral	1.92	Disagree
14.) The shop gives additional charges for customers who buys a drink with disposable to-go cups.	3.70	Disagree	4.67	Strongly Disagree
15.) The shop provides proper waste bins (recyclable, plastic, and paper) in the shop.	1.76	Agree	1.25	Strongly Agree
Overall Perception	2.85	Moderate	2.53	Moderate

Table 5. shows the perception of both Dasmariñas customers' and staff on current practices observed in the selected coffee shops. For customers, results show that the statement that received the highest rank is statement 15, "The shop provides proper waste bins (recyclable, plastic, and paper) in the shop", which gathered a mean score of 1.76 which translates to Agree. On the other hand, the statement that acquired the lowest rank is statement 3, "The shop uses styrofoam cups for their packaging material", which gathered a mean score of 3.89, which translates to Disagree. Majority of the results gathered a mean score of 2.50 – 3.49, which translates to Neutral. The overall mean for the perception of the Dasmariñas customers is 2.85, which implies that the customers from Dasmariñas, Cavite only have a moderate amount of knowledge about the packaging practices observed in the Coffee Shops.

For staff, results show that the statement that received the highest rank is similar to the perception of the customers which is statement 15, "The shop provides proper waste bins (recyclable, plastic, and paper) in the shop", which gathered a mean score of 1.25 which translates to Strongly Agree. On the other hand, the statement that acquired the lowest rank is statement 14, "The shop gives additional charges for customers who buys a drink with disposable to-go cups", which gathered a mean score of 4.67, which translates to Strongly Disagree. The overall mean for the Dasmariñas staff is 2.53, which translates to moderate and is 0.32 higher than the customers. This implies that the staff from Dasmariñas, Cavite, has a higher perception about the packaging practices of the coffee shops compared to customers.

Table 6: Silang Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops

Table 6. Silang Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops				
Silang	Customer		Staff	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1.) The shop uses paper cups for their packaging material.	1.88	Agree	1.17	Strongly agree
2.) The shop uses plastic cups for their packaging material.	2.38	Agree	3.33	Neutral
3.) The shop uses styrofoam cups for their packaging materials.	3.94	Disagree	4.75	Strongly Disagree
4.) The shop uses plastic straws.	3.06	Neutral	4.08	Disagree
5.) The shop uses paper straws.	2.88	Neutral	2.00	Agree
6.) The shop uses paper bags or paper containers to takeout and deliveries.	2.00	Agree	1.25	Strongly Agree
7.) The shop uses plastic bags or plastic containers for takeout and deliveries.	2.75	Neutral	3.67	Disagree
8.) The shop uses biodegradable cups and lids.	1.56	Agree	1.33	Strongly Agree
9.) The shop uses boxes made with recycled content.	2.44	Agree	1.42	Strongly Agree
10.) The shop uses coffee bags that are biodegradable and are made of renewable materials.	2.25	Agree	1.58	Agree
11.) The shop uses glass container for their condiments (e.g. Sugar, syrup etc.)	2.56	Neutral	1.58	Agree
12.) The shop additionally charges drinks that uses disposable materials (e.g. plastic straws, lid, sleeves etc.)	4.44	Disagree	4.67	Strongly Disagree
13.) The shop gives discounts for customers who bring their own cups / mugs.	2.63	Neutral	1.75	Agree
14.) The shop gives additional charges for customers who buys a drink with disposable to-go cups.	4.13	Disagree	4.58	Strongly Disagree
15.) The shop provides proper waste bins (recyclable, plastic, and paper) in the shop.	1.44	Agree	1.33	Strongly Agree
Overall Perception	2.69	Moderate	2.57	Moderate

Table 6. shows the perception of both Silang customers' and staff on current practices observed in the selected coffee shops. For customers, results show that the statement that received the highest rank is statement 15, "The shop provides proper waste bins (recyclable, plastic, and paper) in the shop", which gathered a mean score of 1.44 which translates to Agree. On the other hand, the statement that acquired the lowest rank is statement 12, "The shop additionally charges drinks that use disposable materials (e.g. plastic straws, lid, sleeves etc.)", which gathered a mean score of 4.44, which translates to Disagree. The overall mean for the perception of the Silang customers is 2.69, which implies that the customers from Silang, Cavite only has a moderate amount of knowledge about the packaging practices observed in the Coffee Shops.

For staff, results show that the statement that received the highest rank is statement 1, "The shop uses paper cups for their packaging material", which gathered a mean score of 1.17 which translates to Strongly Agree. On the other hand, the statement that acquired the lowest rank is statement 2, "The shop uses styrofoam cups for their packaging materials", which gathered a mean score of 4.75, which translates to Strongly Disagree. The overall mean for the Silang staff is 2.57, which translates to moderate and is 0.12 higher than the customers. This implies that the staff from Silang, Cavite, has a higher perception about the packaging practices of the coffee shops compared to customers.

Table 7: Tagaytay Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops

Table 7. Tagaytay Customers' and Staff's Perception on Current Practices Observed in Selected Coffee Shops				
Tagaytay	Customer		Staff	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1.) The shop uses paper cups for their packaging material.	2.71	Neutral	1.93	Agree
2.) The shop uses plastic cups for their packaging material.	2.25	Agree	2.47	Agree
3.) The shop uses styrofoam cups for their packaging materials.	3.92	Disagree	4.47	Strongly Disagree
4.) The shop uses plastic straws.	3.06	Neutral	4.20	Agree
5.) The shop uses paper straws.	2.60	Neutral	1.93	Agree
6.) The shop uses paper bags or paper containers to takeout and deliveries.	1.90	Agree	1.67	Agree
7.) The shop uses plastic bags or plastic containers for takeout and deliveries.	3.06	Neutral	2.60	Neutral
8.) The shop uses biodegradable cups and lids.	2.38	Agree	1.73	Agree
9.) The shop uses boxes made with recycled content.	2.75	Neutral	1.87	Agree
10.) The shop uses coffee bags that are biodegradable and are made of renewable materials.	2.62	Neutral	1.87	Agree
11.) The shop uses glass container for their condiments (e.g. Sugar, syrup etc.)	2.15	Agree	1.53	Agree
12.) The shop additionally charges drinks that uses disposable materials (e.g. plastic straws, lid, sleeves etc.)	3.52	Disagree	4.53	Strongly Disagree
13.) The shop gives discounts for customers who bring their own cups / mugs.	3.08	Neutral	2.13	Agree
14.) The shop gives additional charges for customers who buys a drink with disposable to-go cups.	3.69	Disagree	4.47	Strongly Disagree
15.) The shop provides proper waste bins (recyclable, plastic, and paper) in the shop.	1.60	Agree	1.33	Strongly Agree
Overall Perception	2.75	Moderate	2.58	Moderate

Table 7. shows the perception of both Tagaytay customers' and staff on current practices observed in the selected coffee shops. For customers, results show that the statement that received the highest rank is statement 15, "The shop provides proper waste bins (recyclable, plastic, and paper) in the shop", which gathered a mean score of 1.60 which translates to Agree. On the other hand, the statement that acquired the lowest rank is statement 3, "The shop uses styrofoam cups for their packaging materials", which gathered a mean score of 3.69, which translates to Disagree. The overall mean for the perception of the Tagaytay customers is 2.75, which implies that the customers from Tagaytay only have a moderate amount of knowledge about the packaging practices observed in the Coffee Shops.

For staff, results show that the statement that received the highest rank is statement 15, "The shop provides proper waste bins (recyclable, plastic, and paper) in the shop.", which is similar to the perception of the customers. This gathered a mean score of 1.33 which translates to Strongly Agree. On the other hand, the statement that acquired the lowest rank is statement 12, "The shop additionally charges drinks that uses disposable materials (e.g. plastic straws, lid, sleeves etc.)", which gathered a mean score of 4.53, which translates to Strongly Disagree. The overall mean for the Tagaytay staff is 2.58, which translates to moderate and is 0.17 higher than the customers. This implies that the staff from Tagaytay has a higher perception about the packaging practices of the coffee shops compared to customers.

Table 8: Significant difference in the Customer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Dasmariñas, Silang, and Tagaytay when grouped by Age

Age	Mean	F-value	p-value	Interpretation
18 - 25	2.777	1.46	0.216	Not significant
26 - 35	2.667			
36 - 45	2.533			
46 - 55	3.092			
56+	2.65			

Interpretation:

Table 8 shows that there is no significant difference in the perception of the respondents when grouped by age on the packaging methods of the selected coffee Shops since the F-value of 1.46 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the perception of the respondents is the same across all age groups.

Table 9: Significant difference in the Customer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Dasmariñas, Silang, and Tagaytay when grouped by Gender

Gender	Mean	t-value	p-value	Interpretation
Female	2.762	0.383	0.702	Not significant
Male	2.73			

Interpretation:

Table 9 shows that there is no significant difference in the perception of the respondents when grouped by gender on the packaging methods of the selected coffee Shops since the T-value of 0.383 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the perception of the male and female respondents are the same.

Table 10: Significant difference in the Customer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Dasmariñas, Silang, and Tagaytay when grouped by Coffee Shop Location

Shop Location	Mean	F-value	p-value	Interpretation
Dasmariñas, Cavite	2.808	1.217	0.298	Not Significant
Silang, Cavite	2.636			
Tagaytay	2.714			

Interpretation:

Table 10 shows that there is no significant difference in the perception of the respondents when grouped by shop location on the packaging methods of the selected coffee Shops since the F-value of 1.217 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the perception of the respondents is the same across all shop location.

Table 11: Comparison of the Consumer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Dasmariñas, Silang, and Tagaytay

Overall	Mean	t-value	p-value	Interpretation
Staff	2.56	1.8	0.058	Not significant
Customer	2.80			

Interpretation:

Table 11 shows that there is no significant difference in the perception of the customer and staff on the packaging methods of the selected coffee Shops in Dasmariñas, Silang, and Tagaytay since the t-value of 1.80 has a p-value less than 0.05. The null hypothesis of no significant difference is rejected. This result also indicated that the staff have higher perception than the customer respondents.

Table 12: Comparison of the Consumer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Dasmariñas, Cavite

Dasmariñas	Mean	t-value	p-value	Interpretation
Staff	2.54	1.67	0.098	Not significant
Customer	2.85			

Interpretation:

Table 12 shows that there is no significant difference in the perception of the customer and staff on the packaging methods of the selected coffee Shops in Dasmariñas since the t-value of 1.67 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the customers have the same perception with the staff respondents.

Table 13: Comparison of the Consumer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Silang, Cavite

Silang	Mean	t-value	p-value	Interpretation
Staff	2.57	0.62	0.535	Not significant
Customer	2.69			

Interpretation:

Table 13 shows that there is no significant difference in the perception of the customer and staff on the packaging methods of the selected coffee Shops in Silang since the t-value of 0.62 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the customers have the same perception with the staff respondents.

Table 14: Comparison of the Consumer and Staff Perceptions on the Packaging Methods of the Selected Coffee Shops in Tagaytay

Tagaytay	Mean	t-value	p-value	Interpretation
Staff	2.58	1.23	0.224	Not significant
Customer	2.75			

Interpretation:

Table 14 shows that there is no significant difference in the perception of the customer and staff on the packaging methods of the selected coffee Shops in Tagaytay since the t-value of 1.23 has a p-value greater than 0.05. The null hypothesis of no significant difference is not rejected. This result also indicated that the customers have the same perception with the staff respondents.

V. CONCLUSION

The following conclusions were made based on the finding of the study:

Study shows that there is no significant difference between the perception of customers and staff on packaging materials when grouped by profile. The researchers were able to know the practices and guidelines that coffee shops are practicing in the Municipality of Silang, the city of Dasmariñas, and Tagaytay, Cavite, Philippines, based on the results, the customers and staff strongly agreed that coffee shops in the three cities were following proper waste segregation. The researchers also found that coffee shops commonly use paper cups, paper bags, and paper straws as their packaging materials. Most of the coffee shops also show that they are not giving additional charge for customers who are using disposable cups and they do not offer discounts to customers who bring their own mug. The study also revealed that customers' and employees' overall perceptions of the packaging method of coffee shops in the Municipality of Silang, and the cities of Dasmariñas and Tagaytay were all moderate.

VI. RECOMMENDATION

Based on the conclusions stated above, the researchers would like to make the following recommendations:

For coffee shops, the researchers would like to recommend coffee shops to use environmental-friendly packaging that are made of biodegradable materials rather than packaging materials that are made or lined with plastic. Packaging made out of paper is a great alternative, but coffee shops must check that the paper packaging they are using is not lined with plastic which is not biodegradable. The shops may also provide reusable mugs, cups, plates, and cutlery for dine-in customers rather than single-use packaging to lessen the amount of plastic the coffee shop is producing and using. The researchers would also recommend that coffee shops encourage their customers by giving them discounts when they bring their own reusable packaging (such as personal tumblers, personal cutlery, metal or bamboo straws, and tote bags as alternatives for take-out bags). If the shop does not have the budget to invest in biodegradable packaging, the researchers recommend that they partner with their Local Special Waste Treatment Company or Materials Recovery Facility that will be able to treat and recycle their non-biodegradable packaging materials and waste properly.

For future researchers, the researchers recommend widening the scope of the study and include the variables not included in the paper. The researchers also recommend increasing their respondents and personally visiting the coffee shops to better observe the packaging and practices, to increase the validity of the study.

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