

**ACCEPTANCE OF BIODEGRADABLE PACKAGING
AMONG FOOD OPERATORS IN KUALA LUMPUR
AND SELANGOR**

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Bachelor of Applied Science (Food Security) (Hons)

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**A report submitted in fulfillments of the requirements for the
degree of Bachelor of Applied Science (Food Security) with
Honours**

**Faculty of Agro Based Industry
Universiti Malaysia Kelantan**

2022

DECLARATION

I hereby declare that the work embodied in this report is the result of the original research except the excerpts and summaries that I have made clear of the sources.



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Acceptance of Biodegradable Packaging among Food Operators in Kuala Lumpur and Selangor

ABSTRACT

As a result of the increasing global consciousness of the danger of environmental pollution, there is a growing global awareness among humans to pursue environmentally sustainable alternatives for the sake of future generations. The product's market demand of food packaging has risen as customers in some regions become more conscious of the negative effects. Manufacturers are now moving to environmentally friendly food packaging in response to government legislation prohibiting the usage of single-use plastics. According to Ali, & Abdullah (2017), Klang Valley, including Kuala Lumpur, Cyberjaya, Petaling Jaya and others, is said to be Malaysia's most urbanized destination, which has resulted to highest number of restaurants in Malaysia. The objectives of this study are to measure operators' knowledge about biodegradable packaging and to identify the significant factors of food operators' acceptance towards biodegradable packaging in Kuala Lumpur and Selangor. A KAP model theory was used to perceive the acceptance of food operators towards biodegradable packaging. This study contributes to identify associated factors as a potential motivation for food operators to use biodegradable products. A number of factors determine their acceptance to apply biodegradable packaging as alternative to reduce plastic pollution. The main data will be gathered through a designed questionnaire of food operators in Kuala Lumpur and Selangor. A total number of the 30 participants will be participated and aged from 20 to 60 years old that runs food and beverage business. The data will be gathered using purposive sampling method and the data will be analyzed using the Statistic Package for the Social Science (SPSS).

Keywords: biodegradable packaging, sustainable, environmental hazards, plastic waste, Malaysia..

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Penerimaan Pembungkusan Terbiodegradasi di Kalangan Pengendali Makanan di Kuala Lumpur dan Selangor

ABSTRAK

Hasil daripada kesedaran global yang semakin meningkat tentang bahaya pencemaran alam sekitar, terdapat kesedaran global yang semakin meningkat dalam kalangan manusia untuk mengejar alternatif alam sekitar yang mampan demi generasi akan datang. Permintaan pasaran produk untuk pembungkusan makanan telah meningkat apabila pelanggan di beberapa wilayah menjadi lebih sedar tentang kesan negatif. Pengilang kini beralih kepada pembungkusan makanan mesra alam sebagai tindak balas kepada undang-undang kerajaan yang melarang penggunaan plastik sekali guna. Menurut Ali, & Abdullah (2017), Lembah Klang, termasuk Kuala Lumpur, Cyberjaya, Petaling Jaya dan lain-lain, dikatakan sebagai destinasi paling urban di Malaysia, yang telah menghasilkan bilangan restoran tertinggi di Malaysia. Objektif kajian ini adalah untuk mengukur pengetahuan pengendali tentang pembungkusan terbiodegradasi dan untuk mengenal pasti faktor penting penerimaan pengusaha makanan terhadap pembungkusan terbiodegradasi di Kuala Lumpur dan Selangor. Teori model KAP digunakan untuk melihat penerimaan pengendali makanan terhadap pembungkusan terbiodegradasi. Kajian ini menyumbang untuk mengenal pasti faktor-faktor yang berkaitan sebagai motivasi yang berpotensi untuk pengusaha makanan menggunakan produk terbiodegradasi. Beberapa faktor menentukan penerimaan mereka untuk menggunakan pembungkusan biodegradasi sebagai alternatif untuk mengurangkan pencemaran plastik. Data utama akan dikumpul melalui soal selidik yang direka bentuk oleh pengusaha makanan di Kuala Lumpur dan Selangor. Seramai 30 peserta akan disertai dan berumur dari 20 hingga 60 tahun yang menjalankan perniagaan makanan dan minuman. Data akan dikumpul menggunakan kaedah persampelan bertujuan dan data akan dianalisis menggunakan Statistic Package for the Social Science (SPSS).

Kata kunci: pembungkusan biodegradasi, mampan, bahaya alam sekitar, sisa plastik, Malaysia.

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LIST OF ABBREVIATIONS AND SYMBOLS

EFA	Exploratory Factor Analysis
KAP	Knowledge, Attitudes, Practices
KMO	Keiser-Meyer-Olkin
PBAT	Polybutyrate Adipate Terephthalate
PBS	Polybutylene Succinate
PCL	Polycaprolactone
PE	Polyethylene
PVOH/PVA	Polyvinyl Alcohol
KMO	Keiser-Meyer-Olkin
R&D	Research & Development
SPC	Sustainable Packaging Coalition
SPSS	Statistical Package for Social Science
&	And
%	Percent

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter consists of introduction, problem statement, objectives of study, hypothesis, significance and the organizational of study. This chapter is discussing the background of study by focusing on the food operators' acceptance towards biodegradable packaging in Kuala Lumpur and Selangor.

1.2 Research Background

1.2.1 Plastic Pollution

Each day, about five trillion approximately plastic bags are being used globally (Ocean Watch Australia, 2017). Though the usage is not plastic bags is common and has been practiced since decades ago, significant amounts of plastic bags are dumped and

improperly disposed, resulting in a variety of environmental and public health issues. Around 96% of the regular produced plastic bags waste go directly to landfills or dumpsites and a significant amount of it is disposed of illegally (United Nations Environment Programme, 2005). When food is discarded, the packaging material in which it was consisted is also disposed. These fossil fuel polymers linger in the environment for a long time and take a long time to decompose. They break down into microplastics, which may simply enter the food chain and cause bio accumulation when swallowed fish. They usually last hundreds of years in landfills and will only photo degrade, but not entirely, even after hundreds of years. The high mobility of microplastics causes widespread water contamination, thus endangering the health of human and animal. The majority of plastic wastes end up in the ocean, then affecting aquatic animals, or are buried under the earth, causing environmental disasters. Furthermore, plastic waste problems, as such "White Pollution," and landfill depletion has occurred (Ren, 2003). As a result, collection and disposal of plastic bags waste has become a worldwide issue. If current development and usage patterns remain, there will be more plastic in the ocean than fish by 2050 (Zhu, Yao, & Liu, 2006). Recent increase of environment issues has drawn attention to packaging, which is a persistent source of large volumes of plastic waste, necessitating significant research into renewable sources. (Guillard, et al., 2018).

1.2.2 Food Packaging

Food packaging's primary purpose is to protect food product from harm caused by the environment or during distribution while retaining quality of the product. Secondary functionalities such as traceability, accessibility, and integrity protection are becoming crucially influential. Food packaging was developed to keep food in a cost-effective manner that meets industry regulations and exceeds customer expectations while ensuring food safety and reducing impact to the environment. The design and structure of a packaging can have a major impact on the shelf life of a food product. Product quality and freshness may be maintained during distribution and storage by employing the appropriate packaging materials and techniques. Glass, metals (aluminium, foils and laminates, tinfoil, and tin-free steel), paper and paperboards, and polymers have all been applied in food packaging in the past. Plastic is the chosen material because it is cheap and simple to handle. Current food packaging are commonly integrates different materials to leverage each material's functional or aesthetic features, with plastic being the preferred material because it is inexpensive and convenient for customers.

1.2.3 Biodegradable Packaging

Polymers that can be decomposed by microorganisms such as bacteria, fungus, and algae are used to make biodegradable packaging materials. Natural degradation components such as carbon dioxide, water, methane, and biomass will be produced throughout the composting process (Nur Hanani, Roos, & Kerry, 2014). All-natural

organic resources such as maize oil, orange peels, and starch are commonly preferred to make biodegradable polymers. Some of the most common biodegradable polymers are polybutyrate adipate terephthalate (PBAT), polybutylene succinate (PBS), polyvinyl alcohol (PVOH/PVA), and polycaprolactone (PCL). There are three requirements for the fast degradation process viz. temperature, humidity and type of microbes.

The modern lifestyle of working population has risen consumption of convenience food, which has driven the development of environmentally friendly food packaging in many regions. Also, huge corporations in the packaged products, retailer, and food service industries have also taken the first step to substantially increase the consumption of biodegradable plastic, which due to biodegradable packaging's demand for fresh produce, food cutlery, and compostable bags. In 2017, the demand for biodegradable bag demand was 72,000 tons and is expected to rise by 9% by 2022 (Xie & Zhang, 2020).

This alternative food packaging offers to protect food quality and ensure that it is suitable for human consumption (Guillard, et al., 2018). These packaging options also help to conserve natural resources. To put it in another word, biodegradable plastic is just an approach of handling littering and waste management issues. Biodegradable plastics are constantly being developed, and they have a great opportunity to gain significant market growth over the coming decade.

1.2.4 Malaysia's Road Map towards Zero Single use Plastic

In October 2018, the Malaysian government announced the 'Roadmap Towards Zero-Single Use Plastics 2018–2030', which was launched by Minister Yeo Bee Yin. Malaysia strives to enhance research and development (R&D) and commercialization of green packaging and other single-use plastic alternatives (Aziz, 2018). The Road Map urges the plastics industry to move to more environmentally friendly materials to protect the climate. It commenced with a "No Plastic Bag on Saturday" in on both Saturday and Sunday, then decided to extend to weekdays. A related movement has been initiated in the states of Selangor, Penang, Sabah, and Sarawak. By 2030, buyers are required to bring their own reusable bags and containers to retail shops as substitution of plastic bags in order to achieve the 'zero single-use plastic' status. By that means, the usage of single-use plastics including plastic straws, wrappers and cutlery are being banned and buyers must pay a penalty of 20 sen for each plastic bags usage in retail shops. Based on reports, a total of RM1.87 million was obtained from consumers five months after the implementation of the "No Plastic Bags Day", with the majority of the money coming from supermarkets (63.98%) and food shops (Mohamed Radhi, 2019) in Selangor. This effort intended to raise public awareness in Malaysia about environmental harm caused by plastic waste and the impacts of improperly discarded plastic bags, as well as to advise customers to strictly adhere to this act. Lately, the government pressure towards biodegradable packaging material has slowed down, associating the need to combat the Covid-19 pandemic as a priority, and the continuous use of conventional plastic.

1.2.5 Food service industry in Kuala Lumpur and Selangor

According to Ali, & Abdullah (2017), Klang Valley, including Kuala Lumpur, Cyberjaya, Petaling Jaya and others, is said to be Malaysia's most urbanized destination. The food service business has been substantially influenced by the urbanization of Klang Valley, which has increased the population's desire to eat out on a regular basis (Fatimah, Boo, Sambasivan, & Salleh, 2011). Over years, Kuala Lumpur has growing numbers of aesthetic cafes and restaurants that attract both locals and tourists to explore around there. Due to their location in busy streets and heavily urbanized centres, many local food businesses are crowded during weekdays and weekends, especially on meal time. Acceptance of innovation in urban areas is notably higher due to population density, and higher sophisticated consumers (Asheim & Isaksen, 2002). In consideration of that, many café, bakery and cafeteria services are seen nearby hospitals, offices, school, while restaurants and stall are operating at the centres of city, other than shopping malls and residential units (Ali & Ali, Food security Among the Urban Population in Malaysia. Issues of changing life). Local cafés, restaurants or bakery in Malaysia are not constrained in their decision-making since the owner has entire authority, unlike franchises. They also function as gathering places and for consumers to meet friends, relax, and work alone, and as a result, they are becoming preferred for social gatherings due to nice ambience, interior decoration and food.

The existence of social media platforms has also driven the local and trendy cafes, restaurants and bakery businesses in Kuala Lumpur and Selangor crowded with long queue, as early as 8 a.m. This is due to people are promoting and influencing all the food

businesses that have good food with unique ambience on Tiktok and Twitter. This current marketing strategy has assisted restaurants achieve more brand recognition and attract new customers in a short period. Not only that, social media also is an efficient approach as restaurants can easily communicate with consumers if they have any queries about menu items, operating hours, and so on. By having more communication possibilities, an establishment may reach out to a wider audience than just the town or city where they are located.

1.3 Problem statement

It is important to note that the cost of biodegradable packaging is one of the problems restraining the broad consumption in consumers' product (Poirier, Nawrath, & Somerville, 1995). Biodegradable packaging is generally more expensive than fossil-based plastics which can cost up to ten times more than commodity plastics. Hence, that is why food operators refused to use this alternative as it will cost them more than conventional plastic bags. However, the reason these biologically based packaging is expensive is because it includes the usage of green resources, cost efficiency, as luxury products, powered by a variety of factors including efficiency and cost increases, rising oil prices, and related regulations. According to Lerner (2008), the raw materials used to make a genuinely compostable bag which the one that biodegrades in compost, are two to three times higher than those used to make a polyethylene bag (PE).

Since Malaysia has shied away from enforcing the use of green material, the acceptance of biodegradable material will be solely based on food operators. Since the cost associated with uptake biodegradable packaging will largely depends on the social and economic ability of operators to accept the use of such products in their operation, very limited information is available of the motivational factor leading to the use of greener products within the food industry.

1.4 Research Question

1. What is the knowledge of food operators towards biodegradable packaging?
2. What is the most significant factor that associated with the acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor?

1.5 Hypothesis

H0: There is no significant relationship between factors associated with acceptance of biodegradable food packaging

H1: There is a significant relationship between factors associated with acceptance of biodegradable food packaging

1.6 Scope of Study

This study was aiming on the food operators towards the acceptance of biodegradable packaging. A number of factors determine their acceptance to apply biodegradable packaging as alternative to reduce plastic pollution. This research also was conducted in Kuala Lumpur and Selangor where the respondents will be chosen in these both regions. The participants will be aged from 20 to 50 years old that runs food and beverage business.

The study engages food operators from urban area, namely Kuala Lumpur and Selangor to understand acceptance on the use of biodegradable food products. Since there is unclear directive from the government in pushing for the acceptance of biodegradable products, individual initiative is expected to play a bigger role. Due to the higher cost associated with biodegradable food packaging, knowledge factors are expected to be the leading motivational support for acceptance of such technology.

1.7 Significant of Study

This study aims to identify associated factors as a potential motivation for food operators to use biodegradable products. Without government or municipal push, the acceptance to use biodegradable products by end consumer will not be sustainable. The ability to have access to biodegradable products by food operator are very critical. By

evaluating the acceptance of biodegradable products by food operators, the underlying motivation to utilize these environmentally friendly product can help develop insights for legislators to promote green products.

1.8 Objectives

1. To measure knowledge about biodegradable among food operators
2. To identify the most significant factors of food operators' acceptance towards biodegradable food packaging

1.9 Organization of Study

This thesis is categorised in five chapters. The organization of the study is as follows:

Chapter 1: This chapter consists of the background of the study, problems statement, research question, objective, hypothesis, and significance of the study.

Chapter 2: This chapter discussed on related literature. It covers on the factors associated with acceptance of food operators towards biodegradable packaging including knowledge, attitudes, practice and acceptance of food operators in Kuala Lumpur and Selangor.

Chapter 3: This chapter presents conceptual model, the research methodology, which covers sampling techniques, research design, pilot test and the process of data collection.

Chapter 4: This chapter presents the results from data analysis which covers the acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor and finding statistical methods and summary.

Chapter 5: This chapter focuses on summaries of the results, conclusions, limitation of study, and recommendation the study for future research in this area.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of this study is to evaluate the acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor. This chapter discusses the review of related studies, of knowledge, attitudes and practices of biodegradable packaging in order to achieve the objectives of this study. It is also to discover more about how food operators perceive about biodegradable packaging.

2.2 Knowledge of Food Operators towards Biodegradable Packaging

Knowledge about biodegradable packaging is undoubtedly is one of the most important aspects of the acceptance towards individual. This is because with knowledge and awareness about environmental issue, people are acknowledging the importance of it. Along with it, awareness about environmental issues is also significant as food operators will understand biodegradable packaging better, as alternatives to conventional

plastic bags. Environmental awareness has been identified as a potential driver of green practices. More environmental awareness is expected to encourage people to crave for sustainable products. A manager's understanding and motivation to environmental sustainability is connected to company success (Battisti & Perry, 2011). Not only that, establishments may also promote and encourage the advantages and awareness of biodegradable packaging among other food owners and customers. Those who are aware and concern about environmental issues more likely to inclined to implement efforts to lessen the impacts of their business operations.

The lack of knowledge and awareness about biodegradable packaging led to the unacceptability because individual do not understand about its mechanism and advantages to the environment. Knowledge may help to clear up some of the misconceptions about the possible advantages of implementing environmental policies as many small businesses are unaware of the importance of furthering environmental improvements. Support services, policymakers, and stakeholders have an ability to promote awareness of environmental concerns as they correspond to companies, providing financial advantages, and encouraging enterprises to become more sustainable.

2.3 Attitudes on Biodegradable Packaging

Knowledge of the relationship between owners' attitudes toward the acceptance of sustainable packaging is crucial for understanding regulatory and public-sector initiatives. Many internal and external factors, such as enterprise size, available resources,

competitive attitude, sector, and geographic location, have impacted attitudes toward environmental management (Redmond, Walker, & Wang , 2008). This is further explained with the comparison to bigger enterprises, SMEs' management may face resource limits and a lack of experience with environmental practises, including compliance (Maniu, Costache, & Dumitrascu, 2021). An approach of encouraging customers with discount initiatives when they bring their own reusable cups also has been introduced widely in cafes and coffee shops to prevent packaging waste.

However, there are some companies that believe sustainable packaging is not important and ineffective as their business have limited environmental impact and that environmental concerns have no influence on their company strategy. Not only that, as local and small establishments in Malaysia is independent and not connected to big or international or franchise, they are unconvinced of the economic advantages of environmental improvement and only use initiatives that minimize their expenses (Maniu, Costache, & Dumitrascu, 2021). In addition to that, operators tend to conclude that the costs of implementing biodegradable packaging cannot be added to the price paid by their customers, which reduces their profit or raising product pricing to support the implementation of environmental policies in future would be risky.

2.4 Practice on Biodegradable Packaging

Consumer demand for sustainability efforts based on fulfilling of a desired shared value has pushed companies and politicians to react positively. The Sustainable Packaging Coalition developed a goals database that outlined the sustainability ambitions of several firms in the packaging industry (SPC). For instance, McDonald's, Unilever, Nestlé, Kraft-Heinz, PepsiCo, and Coca-Cola have make plans in implementation plan for ensuring the sustainability of their packaging by 2025 that includes increased composting and recyclable materials while minimising virgin material composition, sustainable sourcing, reduced weight, packaging design for enhanced recovering, and so on. Design and selection of packaging components may lead to increasing customer and market satisfaction. De Koeijer, De Lange (2017), studied at the trade-offs between sustainability and marketing and packaging development departments, material suppliers, and experts.

Food service companies play a vital role in the economy and society, irrespective of their size, location, and they have unique characteristics that must be taken into account when it comes to environmental development because it has potential to growing in a short time. As mentioned by (Raab, Baloglu, & Chen, 2018), sustainable practices are not seen widely in restaurants in Malaysia. If look into deeply, companies in Malaysia have just started introducing sustainable packaging in the business. The use of plastic cups and bags are still implemented and used widely than biodegradable food packaging. However, there are many challenges of implementing green practices in restaurants such as, top management, cost-efficiency, employees, customers and community, laws and

regulations, green supply chains, and competitive pressures. When it comes to greenhouse gas emissions, the foodservice industry is considered one of the least sustainable businesses. As a consequence, the restaurant industry is expected to play a vital role in the adoption of environmentally friendly business practises. Other than reducing the environmental issues, the advantages of implementing sustainable practices in a company, is not just reducing the environmental issues, but also increasing competitive advantage, create customer trust and loyalty. Despite their marketing of their sustainability aspirations, firms are likely lack of financial to adopt more sustainable packaging unless it is proved to generate sales or save costs. This leads to a gap with what companies believe and do actually can be done. After all, focusing on the usage of a packing material and then adding components to preserve the food is a poor strategy. Food waste is often the outcome of the latter strategy, which leads in greater prices and/or a less protected product. Consumer dissatisfaction with food packaging is rising in the lack of clear communication. If packaging organisations and companies refuse to effectively convey the exact functions and aim of food packaging in the value chain, customers may receive incorrect knowledge and misconception of both packaging and sustainable packaging, which contributes to product preferences that consumers believe are sustainable (Steenis, Van der Lans, van Herpen, & van Trijp, 2017). A deeper knowledge of the present consumer motivations linked with environmentally aware purchasing decisions will assist stakeholders in designing strategies to encourage sustainable consumer behaviours and explain the use of more sustainable packaging.

CHAPTER 3

MATERIALS AND METHODS

3.1 Introduction

The purpose of this study is to acknowledge environmental awareness among food operators, together with to identify the factors that associated with acceptance of biodegradable food packaging among food operators.

This chapter will present the proposed research methodology, including conceptual framework, research design, settings and participants, data sources, sampling techniques, and data analysis.

3.2 Conceptual Framework

A Knowledge, Attitudes, and Practices (KAP) survey model was used in this study. KAP studies are highly focused evaluations that evaluate knowledge, practice and

attitudes. For knowledge, it explains about how people understand about the certain issue. The attitude relates to how people believe about the issue as well as any previous opinions they may have about it. While for practice, it displays on regards of individuals' knowledge and attitude by their actions. Commonly, KAP survey is a quantitative approach for gathering quantitative and qualitative data. Misconceptions or misunderstandings revealed by KAP surveys may provide challenges to the actions that wanted to conduct, and possible problems to behaviour change.

3.3 Research Design

The main data were gathered through a designed questionnaire of food operators in Kuala Lumpur and Selangor. Quantitative research is convenient than other approaches as it is easy to complete and helps respondents to answer more quickly.

3.4 Setting and Participants

The target population is about the 30 food operators in Kuala Lumpur and Selangor. The vendor owners are selected. As mentioned, the suggested method is online survey using Google Form that is easy and time saving to answer by the food operators.

3.5 Sampling Technique

Purposive sampling is applied as a sample approach in this study. A number of non-probability sampling approaches are referred to as purposeful sampling. Purposive sampling, also known as judgmental, selective, or subjective sampling, is a method of selecting the items to be assessed that relies on the researcher's judgement. For this research, it includes type of establishments, states, year of business. The objective of purposive sampling objective is to focus on particular characteristics of a population that are of interest.

This study targeted the food operators who have food service establishments. It is the technique where the sample was chosen according to a judgment that only food operators from Kuala Lumpur and Selangor had chosen. A survey method that provides questionnaire was used for data collection and the sample size are 30 respondents.

Table 3.1: Sample number chosen for questionnaire distribution

State	Population	Percentage (%)
Kuala Lumpur	15	50
Selangor	15	50
Total	30	100

3.6 Data Sources

The conducted research data was collected from both primary and secondary sources. The primary data is obtained directly from the online survey of questionnaire that completed by respondents that was distributed through emails. The best way to collect primary data is by questionnaires as they are convenient, and simple to collect significant amounts of data from directly from the respondents. It is possible to control the duration of the questionnaire, and the type of questions on it. This survey also used closed ended questions that contained nominal, rating scales and 'yes' or 'no' types of questions. This method is preferable as it takes less time for respondents and obtain exact answers.

While for secondary data, they can be accessed and retrieved from existing information which already being studied by other researchers and it can be found and accessed from book, journal, newspaper.

3.7 Pilot Test

The questionnaire was tested first prior using it in this study. Pre -tests were carried out by distributing them to food operators that have been chosen. This method aims to ensure that the outcomes from the questionnaire is concrete and understandable by respondents. A sample size of 15 respondents was used to measure the viability of the

study whether the given questionnaire was acceptable and clear, or otherwise. Statistical Package for Social Science Software (SPSS) was applied to analyzed the obtained data.

3.8 Data Analysis

3.8.1 Descriptive test

A descriptive test is referred to the description and presentation of results relating to a data collection obtained from a survey or whole population. Even though it can provide details about a data set, they cannot be used to draw conclusions based on the research data (Chetty & Datt , 2015). For instance, this analysis is functions to review data on the demographic of the respondent, factors affecting the acceptance of biodegradable packaging and knowledge about environmental awareness.

3.8.2 Reliability Test

Cronbach Alpha is a reliability test used in SPSS to determine the measuring instrument's internal accuracy, or reliability of questionnaire. It is frequently seen when a questionnaire has several likert scale statements, and it is commonly used to decide whether or not the scale is accurate. A reliability value of 6 is deemed adequate but if the scales questionnaire's overall reliability is greater than 6, it is found "reliable".

The result of the reliability analysis is shown in Table 3.2 which includes the knowledge, attitude, practice and acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor. The table indicates that all variables were reliable for this study as the reading of each statement are above 0.8. However, if Values below 0.7 are still acceptable but it would be better for the study if they are above 0.8. It can be concluded that KAP is suited for this study as the result shows that there is a consistency among variables of the KAP and its relevant.

Table 3.2: Reliability statistics

Variables	Cronbach's Alpha	Items
Knowledge of food operators towards biodegradable packaging.	0.961	5
Attitudes of food operators towards biodegradable packaging.	0.944	5
Practice of food operators towards biodegradable packaging.	0.862	4
Acceptance of food operators towards biodegradable packaging.	0.875	7

3.8.3 Factor analysis

Factor analysis is a data reduction technique. It is done by finding main factors within observed variables so that the variables with common characteristics will group together. As a result of factor analysis, a small number of factors may be derived from a large set of variables. This method was used to calculate KAP models and acceptance of operators towards biodegradable packaging in Kuala Lumpur and Selangor.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

This chapter focuses on the result and discussion of the study. The purposive sampling method was completed involving a number of 30 food operators in Kuala Lumpur and Selangor who run their own restaurant, café, and bakery and pastry. The analysis discusses the objectives of the study, which is regarding knowledge, attitudes, practice, and acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor.

4.2 Descriptive Analysis

Descriptive analysis is obtained from data collected through questionnaire survey. It contains respondents' demographic information including percentage and frequency. This analysis was also used on the Likert Scale questionnaire for knowledge, attitude,

practices and factors of affecting acceptance of food operators towards biodegradable packaging by showing the percentage and mean of each question and statements.

4.2.1 Demographic Profile of Respondents

In descriptive analysis, the demographic information that includes are gender, age, education level, location and type of establishments, and duration in food or food service industry. Table 4.1 illustrates the socio-demographic profile of the respondents. In this study, most of the respondents are male, which 26 respondents (86.7%) while the rest is female by 4 respondents (13.3%). The food operators are mostly at 31–40 years by 11 respondents (36.70%). Following by 9 entrepreneurs (30%) of 26-30 years and 5 entrepreneurs (16.7%) at 20-25 years while at 41-50 years, there are 3 entrepreneurs at (10%), and the least of them all is the group of 35-40 years which has only 2 respondents at (6.7%) respectively.

From the data collected, 13 of the participants are Bachelor's degree holder (43.3%), while 8 of them are diploma holder (26.7%), followed by 5 (16.7%) have SPM, and the rest are 13.3% of postgraduate for only 4 respondents as their education background. Most of the respondents start up their business after finishing their university or college studies. The next analysis was done on the respondents for their demographic is type of establishment in food industry. A number of 10 food operators stated that their establishment is café (33.3%), while restaurants and bakery or pastry are both 9

respondents (30%). Not only that, the remaining 2 food operators stated as others (kiosk/service station).

Furthermore, 15 food operators stated the location of the establishments in Kuala Lumpur (50%), while the rest 15 food operators are in Selangor (50%). For the duration of involvement in the business, 9 (30%) of them have involved both 1-2 years and 3-5 years, followed by 7 respondents at (23.3%) in less than 1 year. While the rest 5 respondents at (16.7%) was involved in 6 -10 years.

Table 4.1: Demographic Profile of the Food Operators

Variables	Frequency	Percentages (%)
Gender		
Male	26	86.6
Female	4	13.3
Age		
20-25 years	5	16.6
26-30 years	9	30.0
31-40 years	11	36.6
41-50 years	3	10.0
51-60 years	2	6.66
Education level		
SPM	5	16.6
Diploma	8	26.6
Bachelor's Degree	13	43.3
Postgraduate	4	13.3
Type of establishment		
Bakery/Pastry	9	30.0
Cafe	10	33.3
Restaurant	9	30.0
Others – kiosk/service station	2	6.66
Location of establishment		
Kuala Lumpur	15	50.0
Selangor	15	50.0

Duration of Involvement in Business

1 -2 year(s)	9	30.0
3 -5 years	9	30.0
6 -10 years	5	16.6
Less than 1 year	7	23.3

4.2.2 Knowledge of Food Operators towards Biodegradable Packaging

The descriptive analysis was used in this study to evaluate the knowledge of the food operators towards biodegradable food packaging. These findings imply that knowledge was an important determinant of acceptance towards biodegradable packaging. The result of knowledge was analysed in Table 4.2. For the statement “I am aware of the importance of using biodegradable packaging)”, most of the respondents strongly agree with it which resulted 80.0% with a number of 24 participants. The same thing goes to the second statement of “I am familiar with a few types of biodegradable materials that used for food packaging” as 22 (77.3%) of them strongly agree.

Other than that, majority of the respondents (80%) indicated that they are strongly agree with both “I am concerned about environmental problems related to plastic material and improper disposal of plastic bag” and “I am aware that most waste globally is from food industry” statements. In addition to that, 73.3% of respondents strongly agreed to the statement of “I know better packaging materials and design may result in less waste and release fewer harmful chemicals. In conclusion, based on the mean in the results it shows that majority of the food operators in Kuala Lumpur and Selangor have a positive attitude towards knowledge in biodegradable packaging.

Table 4.2: Descriptive analysis for knowledge of food operators

Statement	Percentage (%)					Mean
	1*	2*	3*	4*	5*	
1. I am aware of the importance of using biodegradable packaging	3.3	0	0	16.7	80.0	4.70
2. I am familiar with a few types of biodegradable materials that used for food packaging	0	6.7	6.7	13.3	73.3	4.53
3. I am concerned about environmental problems related to plastic material and improper disposal of plastic bag	3.3	0	6.7	10.0	80.0	4.63
4. I am aware that most waste globally is from food industry	0	10	0	10.0	80.0	4.60
5. I know better packaging materials and design may result in less waste and release fewer harmful chemicals	0	3.3	10.0	13.3	73.3	4.56
Total Average Mean						4.60

*Indicator: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

Based on Table 4.3, majority of the respondents (90%) indicated that they know what is biodegradable packaging. Meanwhile, about 93.3% of the food operators agreed that biodegradable is expensive. 60% of respondents stated that it is not easy to purchase biodegradable packaging.

Table 4.3: Knowledge of Biodegradable Packaging

Questions	Yes (%)	No (%)
Do you know what is biodegradable packaging?	90	10
Is biodegradable packaging expensive?	93.3	6.7
Can you easily purchase biodegradable packaging?	40	60

Based on the first statement regarding the single use plastic, 63.3% of respondents agreed that single use plastic packaging are only made from plastic. Majority of the respondents (76.7%) stated that single use plastic are thrown away after being used. Meanwhile, about 16.7% food operators stated that it can be reused. Then, for the last statement “Single use plastic can be made from any material”, only 6% of the respondents agree with it.

Meanwhile, for the statement regarding biodegradable packaging, about 33.3% stated that biodegradable packaging are polymers produced from renewable sources. The majority of the respondents (83.3%) defined that biodegradable packaging is made from materials that can be decomposed by microorganisms such as bacteria, fungi and algae. Lastly, only (6.7%) of respondents agreed that it is made of fossil feedstocks like petroleum and natural gas.

Table 4.4: Understanding of Biodegradable Packaging

Variables	Frequency	Percentages (%)
Knowledge towards single use plastic		
Single use packaging are only made from plastic	19	63.3
Single use packaging are thrown away after being used	23	76.7
Single use packaging can be reused	5	16.7
Single use plastic can be made from any material	6	20
Knowledge towards biodegradable packaging		
Biodegradable are polymers produced from renewable sources	10	33.3

Biodegradable packaging is made from materials that can be decomposed by microorganisms such as bacteria, fungi and algae	25	83.3
Biodegradable packaging is made of fossil feedstocks like petroleum and natural gas	2	6.7

4.2.3 Attitudes of Food Operators towards Biodegradable Packaging

The descriptive analysis was used to describe the attitudes of food operators towards biodegradable packaging. The analysis result of attitude was presented in the Table 4.5. Initially, majority of the respondents strongly agree with the statement of “I believe that improper waste disposal is a threat to our environment”, which resulted with a number of 26 (86.7%) of respondents. Same goes to the statement “I realized how important it is for us to minimize the usage of plastic bag as much as we can”, it led to 86.7.0% of the respondents strongly agree with it. Along with it, for about 76.7% of the respondents are agreed with the statement of “I understand how important it is to raise public's awareness about environmental issues” while for the statement of “Promoting an environmentally friendly lifestyle is a good idea” resulted in most of the respondent which 24 (80%) of them are strongly agree with it.

Last but not least, 73.3% of the respondents are agree with the statement of “I believe biodegradable packaging is just an alternative of plastic bag”. Based on the mean in the result, most of the respondents have positive attitude towards acceptance of biodegradable packaging in Kuala Lumpur and Selangor.

Table 4.5: Descriptive analysis for attitudes of food operators

Statement	Percentage (%)					Mean
	1*	2*	3*	4*	5*	
1. I believe that improper waste disposal is a threat to our environment	3.3	0	0	10.0	86.7	4.76
2. I realized how important it is for us to minimize the usage of plastic bag as much as we can	3.3	0	6.7	3.3	86.7	4.70
3. I understand how important it is to raise public's awareness about environmental issues	3.3	0	3.3	16.7	76.7	4.63
4. Promoting an environmentally friendly lifestyle is a good idea	3.3	0	3.3	13.3	80.0	4.66
5. I believe biodegradable packaging is just an alternative of plastic bag	0	3.3	10.0	13.3	73.3	4.56
Total Average Mean						4.66

*Indicator: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

4.2.4 Practice of Food Operators towards Biodegradable Packaging

The descriptive analysis was also used to describe the practice of food operators towards biodegradable packaging in Kuala Lumpur and Selangor. The analysis result of practice was presented in the Table 4.6. The statement “I’m responsible for reminding my costumers to practice using biodegradable packaging”, only 40% agree and other 10% strongly agree of the respondent agree with it while for the statement “I only buy biodegradable packaging from trusted source and suppliers”, 66.7% of the respondents are strongly agree with it.

For the next statement, only 6 (20%) respondents strongly agree with “I encourage my customers to bring their own cups or container” statement. Then, for the next statement which is “I recommend and educate other food owners to apply biodegradable packaging”, 85.0% of them are agree with it. Based on the mean in the result, most of the respondents have positive practice in acceptance of biodegradable packaging.

Table 4.6: Descriptive analysis for practice of food operators

Statement	Percentage (%)					Mean
	1*	2*	3*	4*	5*	
1. I'm responsible for reminding my costumers to practice using biodegradable packaging.	3.3	16.7	30.0	40.0	10.0	3.37
2. I only buy biodegradable packaging from trusted source and suppliers.	6.7	3.3	13.3	10.0	66.7	4.26
3. I encourage my customers to bring their own cups or container.	6.7	6.7	16.7	50.0	20.0	3.7
4. I recommend and educate other food owners to apply biodegradable packaging.	3.3	13.3	40.0	23.3	20.0	3.43
Total Average Mean						3.69

*Indicator: 1 Strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree, 5 Strongly Agree

The descriptive analysis was also used to identify the practice of food operators towards biodegradable packaging in Kuala Lumpur and Selangor. The analysis result of practice was presented in the Table 4.7.

The majority of the respondents (66.7%) declared that their establishment are currently implementing biodegradable packaging. Meanwhile, for respondents whom stated they are not using it, 46.3% decided that they will use it in future, while 53.8%

stated that maybe they will start apply biodegradable packaging in their business. About 90% of the respondents stated that their restaurant does not offer discounts if the customers bring their own cup or food containers. In a study, both customers and cafe owners stated that monetary incentives were ineffective in promoting the use of sustainable packaging (Sandhu, Lodhia, Potts, & Crocker, 2021). This is because customers are willing to pay regardless of the prices, as they have environmental awareness and acknowledge the advantage of biodegradable packaging for environment.

Table 4.7: Practice about Biodegradable Packaging

Questions	Yes (%)	No (%)	Maybe (%)
Does your business currently use biodegradable packaging, either for dine-in or take out?	66.7	33.3	-
If no, are you planning to do it in future?	46.2	0	53.8
Does your restaurant offer discounts if the customers bring their own cups/food containers?	10	90	-

Based on Table 4.8, paper bag is the most used biodegradable packaging in food service establishment, followed by cups and glasses for hot and cold, cardboard container, drinking straws, cutlery, cup holder, paper wraps, bowl, pizza box, and plate. Meanwhile, 7 respondents stated none as they are not using biodegradable packaging in their business. This shows that majority of the respondents are implementing biodegradable packaging in their establishments.

Table 4.8: Types of packaging used in establishment

Variables	Frequency	Percentages (%)
Cups and glasses for hot and cold drinks with lids	17	56.7
Cup holder	8	26.7
Bowl	7	23.3
Paper bag	19	63.3
Plate	1	3.3
Cardboard container	12	40
Pizza box	5	16.7
Paper food wraps	8	26.7
Cutlery	9	30
Drinking straws	11	36.7
None	7	23.3
Others	0	0

4.2.5 Acceptance of Biodegradable Among Food Operators

The descriptive analysis was used to describe acceptance of biodegradable among food operators in Kuala Lumpur and Selangor. The analysis result of acceptance was presented in the Table 4.9. Majority of the respondents with 20 (66.7%) of the respondents strongly agreed that with “I practice the use of biodegradable packaging because I am aware and have knowledge about it”. Meanwhile, for the statement “I practice the use of biodegradable packaging because the price is affordable”, only 20% of the respondents strongly agree with it.

For the statement, “I practice the use of biodegradable packaging because of customer demands” about 50% of respondents strongly agreed with it. As mentioned by Wandosell , Parra-Meroño, Alcayde, & Baños (2021), companies are being pushed to adopting sustainable packaging practises as a result of public pressure caused by

environmental awareness, as well as consumers' attitudes and willingness to pay. Hence, people are more interested to purchase and willingly paying from a food business that use biodegradable packaging to support the environmentally friendly approach, which caused great impact to food operators.

Following that, for about 23.3% of the respondents strongly agreed that “I practice the use of biodegradable packaging because it can find and purchase easily from suppliers”. 53.3% of the respondents strongly agreed with the statement of “I practice the use of biodegradable packaging due to the regulatory requirements”. And then, for the statement “I practice the use of biodegradable packaging due to competitive pressure”, about 40% of the respondents strongly agreed with it. According to Ecer (2020), in order to achieve a competitive advantage around the world, many managers and business owners pay extra attention to green supplier selection. Sustainability help businesses to achieve a competitive edge, improve environmental performance, and enhance corporate image.

For the last statement, majority of the respondents strongly agreed with “I practice the use of biodegradable packaging for the better environment” statement which resulted in 73.3%. The overall mean for waste practice elements was 3.85. The findings imply that factors were important determinants of acceptance of biodegradable packaging (Table 4.15). The findings are consistent with those of Booi Chen Tan, Teck Chai Lau, Gun Fie Yong, Nasreen Khan and Thi Phuong Lan Nguyen (2019) who mentioned by enforcing environmentally friendly measures, restaurants may directly reduce the environmental

impact of their daily operations while also indirectly influencing the environmental behaviour of their suppliers and consumers through upstream and downstream channels.

Table 4.9: Descriptive analysis for Acceptance of Biodegradable Among Food Operators

Statement	Percentage (%)					Mean
	1*	2*	3*	4*	5*	
1. I practice the use of biodegradable packaging because I am aware and have knowledge about it	0	6.7	23.3	3.3	66.7	4.30
2. I practice the use of biodegradable packaging because the price is affordable	10.0	36.7	33.3	0	20.0	2.83
3. I practice the use of biodegradable packaging because of customer demands	3.3	10.0	30.0	6.7	50.0	3.90
4. I practice the use of biodegradable packaging because it can find and purchase easily from suppliers	3.3	23.3	30.0	20.0	23.3	3.36
5. I practice the use of biodegradable packaging due to the regulatory requirements	0	6.7	16.7	23.3	53.3	4.23
6. I practice the use of biodegradable packaging due to competitive pressure	3.3	6.7	30.0	20.0	40.0	3.86
7. I practice the use of biodegradable packaging for the better environment	0	6.7	13.3	6.7	73.3g	4.46
Total Average Mean						3.85

*Indicator: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

4.3 Most Significant Factor that associated with acceptance of biodegradable food packaging

4.3.1 KMO and Bartlett's Test

To identify the most significant factor of food operators' acceptance towards biodegradable packaging in Kuala Lumpur and Selangor, KMO and Bartlett's Test was used. Table 4.8 shows that the results of Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of knowledge, attitude, practice and acceptance of biodegradable packaging the in Kuala Lumpur and Selangor. All the KMO test and Bartlett's Test of Sphericity displayed significant results. As claimed by Tabachnick (2007), the KMO and Bartlett tests show that values for all the variables are above 0.5 which are in an appropriate level to perform factor analysis. For The Bartlett's Test of Shpericity, value at 0.0 level is significant.

Table 4.10: KMO and Bartlett's Test of Knowledge, Attitudes, Practice and Acceptance

		Knowledge	Attitudes	Practice	Acceptance
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.780	0.859	0.816	0.763
Bartlett's Test of Sphericity	Approx . Chi-Square	199.596	144.536	51.612	139.621
	df	10	10	6	21
	Sig.	0.000	0.000	0.000	0.000

4.3.2 Variance Explained

The variance explained is used to measure the total variance was explained by the factors. Table 4.9 shows the result of variance explained. The result of variance explained are considered satisfactory for this study as the results are higher than 50%. Since, the knowledge is the highest variance, which is 86.795%, it is proven that the knowledge is the most influence factor towards acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor. Second factor influenced was the attitude at 82.829% followed by practices at 71.475%. Therefore, the most significant factor among food operators towards acceptance of food operators towards biodegradable packaging in Kuala Lumpur and Selangor is the knowledge factor.

Table 4.11: Result of variance explained

Variables	Variance (percent of explained)
Knowledge of Food Operators towards Biodegradable Packaging	86.795
Attitude of Food Operators towards Biodegradable Packaging	82.829
Practice of Food Operators towards Biodegradable Packaging	71.475

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The study was performed on 30 food operators who owns restaurants, café and, bakery and pastry in Kuala Lumpur and Selangor. This study also consists of two objectives where the first objective is to measure knowledge of biodegradable packaging among food operators in Kuala Lumpur and Selangor. The second, is to identify the significant factors of food operators' acceptance towards biodegradable packaging. The study had succeeded in achieving the two objectives of the study which can be seen on the results. Not only that, the survey for this study was reliable because the entire variables achieved more than 0.6 of Cronbach's alpha value.

The data analysis in this study comprises descriptive analysis, reliability analysis, and factor analysis. Firstly, the descriptive analysis was implemented to analyze the results of demographic information of the food operators, the knowledge, attitudes, practice and acceptance of the food operators towards biodegradable packaging in Kuala Lumpur and Selangor. Other than that, reliability analysis was used to measure of likert

scale reliability. It is an important analysis to ensure whether the statements for likert scale are reliable or otherwise. Furthermore, the exploratory factor analysis used for analysis the most significant factor of food operators' acceptance towards biodegradable packaging in Kuala Lumpur and Selangor.

Based on the indicated result, the study was able to obtain the two objectives of the study. The first objective is to measure knowledge of biodegradable packaging among food operators in Kuala Lumpur and Selangor. The result was analyzed using descriptive analysis and the obtained mean score is 4.60. Based on the mean score, this result is regarded as high.

On top of that, the second objective also was achieved which the objective is to identify the significant factors of food operators' acceptance towards biodegradable packaging in Kuala Lumpur and Selangor. Based on the result obtained, the total variance explained for knowledge, attitude, and practice are 86.795%, 82.829% and 71.475% respectively. As a consequence of the highest total variance explained was knowledge, it is clear that knowledge the was the most significant factor towards acceptance of food operators towards biodegradable packaging in Selangor and Kuala Lumpur. Therefore, the null hypothesis is rejected and concluded that there is a relationship between factors associated with acceptance of food operators toward biodegradable packaging.

5.2 Limitation of Study

The major limitation of the study is there is limited research in Malaysia on food owners' perspectives on the considering environmental practices into their operations. There is insufficient information, statistics and data from previous studies that can be referred to. Therefore, more research should be done to recognise and discuss the problems pertaining biodegradable packaging in Malaysia widely. Moreover, the number of respondents that completed this study is only 30 participants. This is due to the fact that this study did not include fast food, chain restaurants, hotels, general and grocery stores, as it only involving local food service and business in Kuala Lumpur and Selangor. Hence, a bigger sample size would be necessary to achieve an accurate representation of the population. Otherwise, the data appear to be biased.

5.3 Recommendations

In relation to the findings, some recommendations that can be look into and done. To get bigger sample size, future search can also include other urbanized states like Pulau Pinang and Melaka. Most importantly, in order to get better interpretation and accurate results, questions and statements could be asked in greater depth regarding biodegradable packaging and its application in food industry among food operators. Not only there is a lack of understanding of sustainable packaging, but there is also a lack of understanding about how biodegradable packaging materials are perceived within individual. In addition to that, hypotheses can also be obtained in order to acquire a better

understanding of the relationships between factors associated with the acceptance towards biodegradable packaging.

Another recommendation is to look into the role of policy rather than just emphasizing on producers and food operators. There may be a lack of incentives for businesses interested in making the switch to sustainable packaging in food service. For future research, specific approaches on how policymakers can encourage businesses to engage in sustainable packaging improvements may provide. In doing so, the limited supply of existing market can be increased towards sustainable materials, together with encouragement to the new and inventive alternatives. All market players' including policymakers, retailers, producers, customers and media requirements must be addressed to succeed in this process.

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APPENDICES

APPENDIX A Questionnaire



Dear respondent,

I am doing an academic project entitled:

Acceptance of Biodegradable Packaging among Food Operators in Kuala Lumpur and Selangor

I am contacting you today because you have been selected as a respondent for my final year project. Your sincere cooperation is crucial in determining the success of this research. In this study, I would like to assess your acceptance regarding biodegradable packaging. Please read carefully all the instructions pertaining to every section and answer every question sincerely.

Please note that all data collected will be treated in strict confidence and used only for purpose of this study.

Thank you very much for your time and cooperation in completing this survey.

Sincerely,

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SECTION A: DEMOGRAPHIC INFORMATION OF FOOD OPERATORS

Please tick (/) in the appropriated box to indicate your answer.

1	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
2	Age	<input type="checkbox"/> 20-25 years <input type="checkbox"/> 26-30 years <input type="checkbox"/> 31-40 years <input type="checkbox"/> 41-50 years <input type="checkbox"/> 51-60 years
3	Education Level Type of establishments	<input type="checkbox"/> SPM <input type="checkbox"/> Diploma <input type="checkbox"/> Bachelor's Degree <input type="checkbox"/> Postgraduate
4	Type of establishments	<input type="checkbox"/> Cafe <input type="checkbox"/> Restaurant <input type="checkbox"/> Others – kiosk/service station
6	Location of establishment	<input type="checkbox"/> Kuala Lumpur <input type="checkbox"/> Selangor
7	Duration of Involvement in Business	<input type="checkbox"/> Less than 1 year <input type="checkbox"/> 1 -2 year(s) <input type="checkbox"/> 3 -5 years <input type="checkbox"/> 6 -10 years

SECTION B: KNOWLEDGE ON BIODEGRADABLE PACKAGING

Please tick (/) in the box which best describes the extent to which you believe and agree with each of the following statements towards biodegradable packaging.

1=Strongly disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly agree

NO	ITEMS	1	2	3	4	5
1.	I am aware of the importance of using biodegradable packaging.					
2.	I am familiar with a few types of biodegradable materials that used for food packaging.					
3.	I am concerned about environmental problems related to plastic material and improper disposal of plastic bag.					
4.	I am aware that most waste globally is from food industry.					
5.	I know better packaging materials and design may result in less waste and release fewer harmful chemicals.					

6. Please tick (/) in the box which you agree from the following statements. You can choose **more** than one.

Single use packaging are only made from plastic.

Single use packaging are thrown away after being used.

Single use packaging can be reused.

Single use plastic can be made from any material.

7. Do you know what is biodegradable packaging?

Yes

No

8. From your opinion, what is biodegradable packaging? You can choose **more** than one.

Biodegradable are polymers produced from renewable sources.

Biodegradable packaging is made from materials that can be decomposed by microorganisms such as bacteria, fungi and algae.

Biodegradable packaging is made of fossil feedstocks like petroleum and natural gas.

9. Is biodegradable expensive?

Yes

No

10. Can you easily purchase biodegradable packaging?

Yes

No



SECTION C: ATTITUDES ON BIODEGRADABLE PACKAGING

Please tick (/) in the box which best describes the extent to which you believe and agree with each of the following statements towards biodegradable packaging.

1=Strongly disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly agree

In my opinion:		1	2	3	4	5
1	I believe that improper waste disposal is a threat to our environment.					
2	I realized how important it is for us to minimize the usage of plastic bag as much as we can.					
3	I understand how important it is to raise public's awareness about environmental issues.					
4	Promoting an environmentally friendly lifestyle is a good idea.					
5	I believe biodegradable packaging is just an alternative of plastic bag.					

SECTION D: PRACTICES ON BIODEGRADABLE PACKAGING

Please tick (/) in the box which best describes the extent to which you believe and agree with each of the following statements towards biodegradable packaging.

1=Strongly disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly agree

In my opinion:		1	2	3	4	5
1	I am responsible for reminding my costumers to practice using biodegradable packaging.					
2	I only buy biodegradable packaging from trusted source and suppliers.					
3	I encourage my customers to bring their own cups or container.					
4	I recommend and educate other food owners to apply biodegradable packaging.					

5. Does your business currently use biodegradable packaging, either for dine-in or take out?

Yes

No

6. If no, are you planning to do it in future?

Yes

No

Maybe

7. Does your restaurant offer discounts if the customers bring their own cups/food containers?

Yes

No

8. From following packaging, please tick the ones that you used in your business. You can choose **more** than one packaging. *If you're not using them in your business, please tick NONE.

Cups and glasses for hot and cold drinks with lids

Cup holder

Bowl

Paper bag

Plate

Cardboard container

Pizza box

Paper food wraps

Cutlery

Drinking straws

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>



SECTION E: ACCEPTANCE ON BIODEGRADABLE PACKAGING

Please tick (/) in the box which best describes the extent to which you believe and agree with each of the following statements towards biodegradable packaging.

1=Strongly disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly agree

In my opinion:		1	2	3	4	5
1	I practice the use of biodegradable packaging because I am aware and have knowledge about it.					
2	I practice the use of biodegradable packaging because the price is affordable.					
3	I practice the use of biodegradable packaging because of customer demands.					
4	I practice the use of biodegradable packaging because it can find and purchase easily from suppliers.					
5	I practice the use of biodegradable packaging due to the regulatory requirements.					
6	I practice the use of biodegradable packaging due to competitive pressure.					
7	I practice the use of biodegradable packaging for the better environment.					