FACTORS INFLUENCING CONSUMERS' BEHAVIORAL INTENTION TO WASTE REDUCTION IN RESTAURANT

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APRIL 2022

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BY

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A final year project submitted in partial fulfilment of the requirement for the degree of

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DECLARATION

I hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is _____10323_____.

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Date: 29 April 2022

ACKNOWLEDGEMENTS

I would like to acknowledge the existence of the UKMZ3016 Research Project which allow us to do a research study on a business-related topic. This unit provided us a wealth of information and intellectual abilities that will benefit us all in the future.

First of all, I would like to thank my respected supervisor Mr. Har who has constantly guided me throughout the project with his patience and outstanding ideas. Mr. Har has unquestionably given up a significant amount of his time to lead and supervise the progress of my research project. His dedication, tolerance, professionalism, goal-oriented approach, and pleasant attitude has made the process and enabled me to complete my research project on time.

Furthermore, the effort would not be as motivating if it were not for the support of my families and friends. My parents understanding allowed me to conduct the research in a less stressful environment. As a result, I have more time to devote to finding information for my research. I would also like to thank my friends for their excellent advice on how to better my research study.

Last but not least, I would like to convey my gratitude to the 260 respondents who took the time to fill out my questionnaires. I won't be able to perform such surveys in a timely and effective manner without their cooperation and valuable comments.

DEDICATION

I like to dedicate this research to our parents, who have always been supportive, encouraging, motivating, and understanding during the duration of our study. I am grateful for everything they have done for us and for being a source of strength and inspiration.

In addition, I would like to dedicate my research study to Mr. Har, our beloved and respected supervisor, who provided me with invaluable direction and assistance throughout the completion of this research project.

Finally, I dedicate this research study to all of my good friends for their unending assistance, support, encouragement, and invaluable input in ensuring the success of my research.

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LIST OF ABBREVIATIONS

BI	Behavioral Intention
SN	Subjective Norms
A	Attitude
PBC	Perceived Behavioral Control
R 2	R Square
SPSS	Statistical Package for Social
UTAR	University Tunku Abdul Rahman

PREFACE

The topic of this research is "Factors influencing consumers' behavioural intention to waste reduction in restaurant. The reason of chosen this topic is because the amount of waste is keep increasing from day to day. It is important for consumers to understand the importance of behavioral intention to reduce waste in restaurant to protect environment.

In this research, the factors affect consumers' behavioural intention to waste reduction in restaurant is conducted among consumers who dining out in restaurant. I have identified various factors such as subjective norms, attitude, and perceived behavioural control. By conducting this research, I found that these factors are vital in affecting consumers' behavioural intention to waste reduction in restaurant.

I have decided on the most acceptable methodology for conducting the study. I have also determined on the research design, data collection method, and other specifics like the target population, sample size, sampling technique, and research instruments.

Last but not least, the methods for analysing market survey results are discussed in the research study's final chapter. The data and statistical analysis are divided into descriptive and inferential categories, and statistical software is used to conduct them. After evaluating all of the data, the results is able to allow consumers to have a better understanding of the factors of consumers' behavioural intention to reduce waste and yet provide them the best opinions.

ABSTRACT

This research mainly is to focus on the factors influencing consumers' behavioral intention to waste reduction in restaurant. This research provides an overview of the study and includes sections on the research overview, literature review, methodology, data analysis and discussion, conclusion, and implications. In addition, this paper mainly discuss the factors that will influence consumers' behavioural intention to reduce waste in restaurant.

In this research, a total 260 questionnaires been distributed and all the 260 questionnaires are collected. The data processing and analysis were done with SPSS version 23.

The results showed that subjective norms, attitude, and perceived behavioral control proposed significant relationship with consumers' behavioral intention.

The managerial implications also listed in the research to provide insight for the consumers to understand what can be done to influence them to reduce waste when dining out in restaurant. The limitations of the study and the recommendations are provided for the researchers to conduct future research.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Waste reduction at the consuming stage has a significant sustainability function in the foodservice business, encompassing environmental protection as well as human health and happiness. A billion tonnes of food is thrown away every year. Households responsible for 61% of garbage, followed by food service (26%), and retail (11%) following closely behind (13%). Food waste is a serious concern in the development of low-impact, healthy, and resilient food systems, especially as food insecurity affects hundreds of millions of people worldwide. Individuals, the environment, and the economy all benefit from reducing food waste in different ways. It boosts food security while also addressing global issues like climate change, biodiversity loss, and pollution, as well as easing the burden on waste management systems (Trovato, 2021). Globally, there are 17 Sustainable Development Goals (SDGs). One of the important goals in this research is Goal 12: Responsible Consumption and Production. It is all about doing more with less when it comes to sustainable consumption and production. It must also discern between economic success and environmental destruction, improve resource efficiency, and encourage people to live more environmentally friendly lifestyles. To reach the goal of We must successfully manage our common natural resources and dispose of hazardous waste and pollutants appropriately in order to use and create responsibly within the Sustainable Development Goals (SDGs). We must encourage companies, enterprises, and consumers to recycle and minimize trash assist rising countries in making the shift to more sustainable consumption habits by 2030. The most important goal of this study paper is to investigate the factor influencing consumers' behavioral intention to reduce waste in the restaurant. This survey was

carried out to investigate the relationship between subjective norms, attitude, perceived behavioral control, and consumers' behavioral intention to reduce waste in a restaurant.

1.1 Research Background

1.1.1 Behavioral Intention

Intention can simply be described as how much effort and determination someone is willing to put into carrying out an activity. "A person's perceived likelihood of completing a behavior" is how behavioral intention is defined. The motivational variables that drive a specific activity are also- referred to as behavioral intention, with the stronger the desire to engage in the behavior, the more likely it will be carried out (LaMorte, 2019). For instance, the acceptance or approval of family, friends, and peers, confirming his desire to complete the specified action, is likely to impact a person's construction of a good attitude about conduct. Furthermore, consumer attitude, subjective norms, and perceived behavioral control are all significant antecedents influence behavioral intention. In addition, behavioral intentions are motivating elements that describe how much effort a person is willing to put in to carry out an activity. Therefore, behavioral intention plays an important role for the consumer to reduce waste when dining out in restaurants.

1.1.2 Waste Reduction

Waste reduction is anything that minimizes waste by utilizing less material in the first place. There are some simple ways to reduce waste by using ceramic mugs instead of plastic or paper cups, purchasing things in bulk rather than purchasing individual packaging, and using two sides of a piece of paper (Twain, 2020). As a result, reducing waste is saving money, saving resources, reducing pollution, and saving landfill space. Waste reduction during the consuming stage has a long-term impact implications for the restaurant business, including human health, environmental conservation, and welfare (Ellison, et al., 2019). Consumers who receive information on the negative effects of food waste in landfills waste significantly less food than those who do not receive the information (Qi, 2017). At the retail and consumer levels, it aims to cut per capita food waste in half. Effective solutions include reducing dishes and servings, as well as modifying menus and menu content (Reynolds, et al., 2019).

Waste reduction in the food service sector has been shown to offer a variety of environmental and socioeconomic benefits. Foodservice is one of the most wasteful businesses in terms of food inputs, and sustainable approaches have the potential to minimize waste and increase efficiency while lowering costs (Muller, 2014). Attitudes and behavior about food waste in the food service business have a considerable impact on the quantity of food waste produced in restaurants (Sakaguchi, 2018). Customers are so concerned about the environment that some go out of their way to choose restaurants that follow sustainable principles including food safety, increased energy efficiency, low-carbon meals, trash reduction, and recycling. Thus, consumers' waste reduction behavior in a restaurant for sustainability involves reusing, reducing, and recycling the resources renewable resources when dine-in in restaurants.

1.2 Problem Statement

The amount of waste produced on a global scale has been increasing, resulting in a considerable amount of litter and posing a threat to the ecosystem. This amount could feed three million people three times per day (Zainal, 2021). The reasons for this growing amount of food waste are the changes in eating patterns as people's living situations have improved through time, allowing them to buy more food goods, as well as rapid population growth and urbanization (Jalil, 2010). This will hinder the achievement of Goal 12: Responsible Consumption and Production unless waste management is addressed as a priority. The country's growing population has contributed to the massive increase in food waste. However, living standard changes in people's eating habits and population growth are the key factors that increase food waste. Consequently, the rate of food waste recycling and reuse is low is 5% compared to paper which is 60%, and plastic which is 15%. Food waste does not have a specific disposal technique in the country unlike paper and plastic waste (Manaf, et al., 2013).

Food waste created daily in Kuala Lumpur averaged 2.1 tonnes in March, including the time before MCO was implemented on March 18, and dropped to 1.7 tonnes in April, showing a 0.3-tonne reduction in daily food waste. The reason for the decrease is that most restaurants provide take-out and door-to-door services, and their business hours are shortened. Most individuals stayed at home at that time and either cooked or ate packaged food from outside, but they ate everything because they were confined to their homes. Therefore, after the movement restrictions were lifted and most commercial sectors reopened, food waste data in Kuala Lumpur began to rise again in June and July, averaging 2.2 to 2.3 tonnes per day. According to a restaurant owner contacted by The Star Online reporter, Malaysians waste 10% to 30% of their meals on a daily basis, and most consumers are unaware of or unconcerned about the amount of food they waste. According to the studies, when they asked the consumer why they did not finish the food, the majority of them will respond that they cannot eat it but who cares because the food was paid for (Jereme, 2017).

From the previous study conducted by Huang and Tseng, (2020), consumers do not care about their intentions and attitudes toward food waste in restaurants. To make the consumers care about food waste is necessary but policymakers must first understand the factors influencing consumers' behavioral intention to waste reduction to apply suitable and effective strategies. Understanding the behavioral intention and attitude are a good behavioral to rising the trend of waste reduction when dining out in the restaurant. Therefore, in this study, we will go deep into understanding the behavioral intention that inspires consumers to reduce waste when dining out in a restaurant.

1.3 Research Question

i. Is there any relationship between subjective norm (SN) and consumers' behavioral intention to waste reduction in restaurants?

ii. Is there any relationship between attitude (A) and consumers' behavioral intention to waste reduction in restaurants?

iii. Is there any relationship between perceived behavioral control (PBC) and consumers' behavioral intention to waste reduction in restaurants?

1.4 Research Objectives

1.4.1 General Objective

The primary objective of this research is to investigate the factors influencing consumers' behavioral intention to waste reduction in restaurants.

1.4.2 Specific Objectives

i. To investigate the relationship between subjective norm (SN) and consumers' behavioral intention to waste reduction in restaurants?

ii. To investigate the relationship between attitude (A) and consumers' behavioral intention to waste reduction in restaurants?

iii. To investigate the relationship between perceived behavioral control (PBC) and consumers' behavioral intention to waste reduction in restaurants?

1.5 Significance of study

Nowadays, food waste has increased dramatically. The increase in food waste is most likely because of the changes in living standards (Jereme, et al., 2017). Larger households or households with higher incomes will produce more food waste. For instance, consumers order the food quantities over their demand when dining in a restaurant (Violeta, 2016). The majority of consumers dine out 15-16 times per month on average (Oppotus, 2020). The purpose for the consumer to restaurants for special occasions such as birthday party, wedding anniversary, family and friends gathering, and so on (Chua, 2020). The consumer also always uses disposable tableware when dining in a restaurant. Undeniably, the higher the income rate has also caused higher food waste. Furthermore, for long-term growth and economic prosperity, the

Sustainable Growth Goals (SDGs) emphasize the importance of changing the way we produce and consume things. Poverty reduction and the transition to a low-carbon and green economy are aided by sustainable consumption and production. Hence, this research provides better insight for the readers regarding behavioral intention to waste reduction and encourages them to reduce waste to protect the environment.

The findings of this study will be useful to future researchers who are interested in this topic and want to learn more about it. This research will provide more knowledge and information to them regarding consumers' behavioral intention to waste reduction. Through this study, consumers can understand more about behavioral intention to waste reduction when dining in a restaurant.

Lastly, the elaboration in future chapters will provide a clearer picture to the customers, regulators, service providers, and environmental agencies to understand the behavior and attitude that the consumers waste food in a restaurant and the effective behavioral intention for a consumer to reduce waste.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The literature review for the dependent variable and independent variables will be covered in this chapter. This research includes a theoretical framework that is relevant to the topic, as well as a proposed conceptual framework. A hypothesis development will be studied in addition to that to discuss the relationship between the independent and dependent variables. Lastly, there has a summary of the researcher's supporting research variables.

2.1 Review of the Literature

2.1.1 Dependent Variable: Behavioral Intention (BI)

Behavioral intention is supposed to capture the motivational aspects that influence an individual's or organization's conduct. It relates to how far people are willing to go to accomplish the activity, as well as how much work they intend to put in. According to Ajzen, et al., (2012), stated that behavioral intentions are motivating elements that describe how much effort a person is willing to put in to carry out an activity. Strydom, et al., (2018), behavioral intention is the belief that a specific behavior will produce the

expected result, the value attributable to the perception of the result, the perception that a specific behavior will contribute to the result, the perception of the correctness of conduct, and the degree to which given behavior is perceived. In other words, people's intention to comply with what they believe is the desired activity, what they feel is required of them, and "what they think they are supposed to do" is based on their motivation. In the study, behavioral intention is the motivation and behavior of the consumer to reduce waste when dining out in a restaurant.

The Theory of Planned Behavior predicts behavior by looking at behavioral intention. This may be due to predicting the waste reduction when dine-in in restaurants depending on the intention of the behavior of the consumers. Besides, people with strong behavioral intentions are more likely to follow through on their plans. (Wang et al., 2021).

Yu and Lu, (2018) mention that the Theory of Planned Behavior (TPB) is used to explain behavioral intention. From their research, citizens' intention has a significant role in behavioral intention to affect the waste separation in China. Furthermore, according to another study, the behavioral intention has a significant impact on food and vegetable waste management behavior (Abadi, et al., 2020). Nguyen, et al., (2018) research to investigate the important factors influencing residents' behavioral intention to recycle e-waste in Danang, Vietnam. They claimed that independent variables in TPB Model tend to have a relationship with behavioral intention. According to the study conducted by Linh and Cam (2019) to identify the factors that motivate the consumer's behavioral intention to decrease plastic waste claimed that behavioral intention is important for a consumer to decrease plastic waste pollution. As a result, the researchers recommend that in order to reduce plastic waste in society, individual consumers must improve their behavioral intention.

2.1.2 Independent variable: Subjective Norms (SN)

As cited by Huda, et al., (2012), subjective norms are someone's opinions or views about whether or not they will or will not follow certain behaviors. Subjective norms also refer to the perceived societal influences or pressures to engage or not engage in given conduct (Al-Swidi, et al., 2014). In this research, subjective norms are defined as a social impact that influences someone's decision to follow or not follow a certain activity.

Subjective norms play an important role in consumers' behavioral intention to waste reduction in a restaurant. Subjective norms are generated by consumers' desire to emulate others' ideas, and they are reinforced by perceived social pressures from others to act in a certain way. Subjective norms moderate the consumer's perceptions as well as affect their actual conduct (Ham, et al., 2015). Subjective norms significant as it will affect whether that individual is motivated to have a behavioral intention to waste reduction.

Graham-Rowe, Jessop, and Sparks, (2015) claimed that subjective norms perform a relationship to food waste reduction based on the research conducted on 204 respondents. Subjective norms have a relationship with Iran families' conduct regarding food waste reduction, according to research on food waste reduction in residential homes (Heidari, et al., 2019).

Furthermore, Li, Zuo, and Cai, (2018) indicate that subjective norms are considered as a significant factor and have a positive relationship with construction waste reduction behavior. Besides, there is a study conducted by distributing the questionnaire to 455 respondents has mentioned that subjective norms play a vital role in waste minimization behavior intentions (Ertz, et al., 2021). Han, Yu, and Kim, (2018) also pointed out subjective norms have a positive relationship toward the waste reduction behaviors based on their research to investigate the factors that encourage waste-reduction behavior while visiting tourist attractions

2.1.3 Independent variable: Attitude (A)

Personal experience and education influence attitudes, which have a considerable impact on behavior. In addition, attitude determines consumers' behavioral intention which indicates they like and dislike to do. Generally, attitudes also determines what they are willing to do and reject what they dislike to do (Huang, et al., 2020). Attitudes can be communicated in a variety of ways, including through public and logical debate. Explicit attitudes are those that we are conscious of and that have a direct impact on our actions and beliefs. Even if we aren't aware of it, our implicit attitudes influence our thoughts and actions (Cherry, 2021). In this research paper, attitude is considered as behavior that affects somebody toward waste reduction.

Attitude displays an essential role in behavioral intention to waste reduction. A citizen's sense of responsibility has a big influence on their attitudes. The public is expected to prioritize their environmental duties in order to improve their own and their family's well-being. When people have a positive attitude toward conduct, others want them to engage in it if they believe it is vital and they believe they have enough control to do so (Russell, et al., 2017). In other words, when it comes to food waste, it is a question of whether people believe it is a serious problem that merits attention (Werf, et al., 2019).

According to the study implemented to examine the attitude of the Kermanshahi women towards reducing solid waste. The research claimed to be researched in order to determine the level of public participation as well as people's attitudes and knowledge towards waste reduction (Almasi, et al., 2019). According to another study, a person's behavioral intention to decrease food waste should be higher if they have a good attitude toward food waste reduction. A stronger behavioral desire to decrease food waste is connected to a higher likelihood of engaging in food waste reduction

behavior (Neubig, et al., 2020). Furthermore, there is a study proved to indicate that attitude is an excellent predictor of behavioral intention toward food waste in early adulthood. The result of the study is attitude perform a positive relationship to behavioral intention to reduce waste (Tsai, et al., 2020). Moreover, Filimonau, et al., (2020) stated that there is a positive impact on consumer attitude regarding the need to reduce food waste and their behavioral intention to participate in this reduction when dining out.

2.1.4 Independent variable: Perceived Behavioral Control (PBC)

Perceived behavioral control referred to people's judgments of their skills to manage and finish specific tasks. As cited by Fanning, et al., (2017), the availability of appropriate resources and the ability to manage behavioral barriers have an impact on behavior performance. The more resources and fewer constraints they perceive, the higher their perceived behavioral control and the stronger their inclination to engage in behaviors. In this study, perceived behavior control is personal perceptions of the difficulty or ease with which a person accomplishes an action.

Perceived behavioral control is important when the higher their sense of self-efficacy and the more likely they are to minimize restaurant waste, the more power they have over their understanding of waste reduction and environmental behavior (Muniandy, et al., 2021). The more resources and fewer constraints they perceive, the higher their perceived behavioral control and the stronger their inclination to engage in behaviors. Perceived behavioral control is significant because it affects whether consumers have behavioral control that intends to reduce waste (Fanning, et al., 2017).

According to the research having with the students from Universiti Tun Hussein Onn Malaysia, perceived behavioral control has a relationship of influence or changing the behaviors of an individual (Van, et al., 2021). Neubig, et al., (2020) higher perceived

behavioral control over food-wasting behaviors was said to be responsible for changes in behavioral intentions in the behavior-related information group. If they have adequate comprehension of food waste, they will reduce food waste behaviors and strive to eat their meal even if it is not pleasant. In addition, a study was done with 343 respondents in the Greater Accra region to determine how household behavioral intentions are influenced by perceived behavioral control and waste disposal habits (Tweneboah-Koduah, et al., 2019). According to the findings, people's perceptions of behavioral control have no bearing on their actual trash disposal patterns.

Apart from that, there is research conducted to examine the factors influencing waste minimization behavior. Individuals will perceive greater control over their conduct if they believe they have more opportunities, resources, and fewer impediments. According to the study, perceived behavioral control has a positive impact on the motivation to eliminate waste (Ertz, et al., 2021).

2.2 Review of Relevant Theoretical Framework

2.2.1 Theory of Planned Behavior (TPB) Model

Figure 2.1: Conceptual Framework of Factors Influencing Young People's Intention toward Municipal Solid Waste Sorting: A Theory of Planned Behavior

Adapted from Shen, et al., (2019). Factors Influencing Young People's Intention toward Municipal Solid Waste Sorting: A Theory of Planned Behavior. Environmental and Public Health.

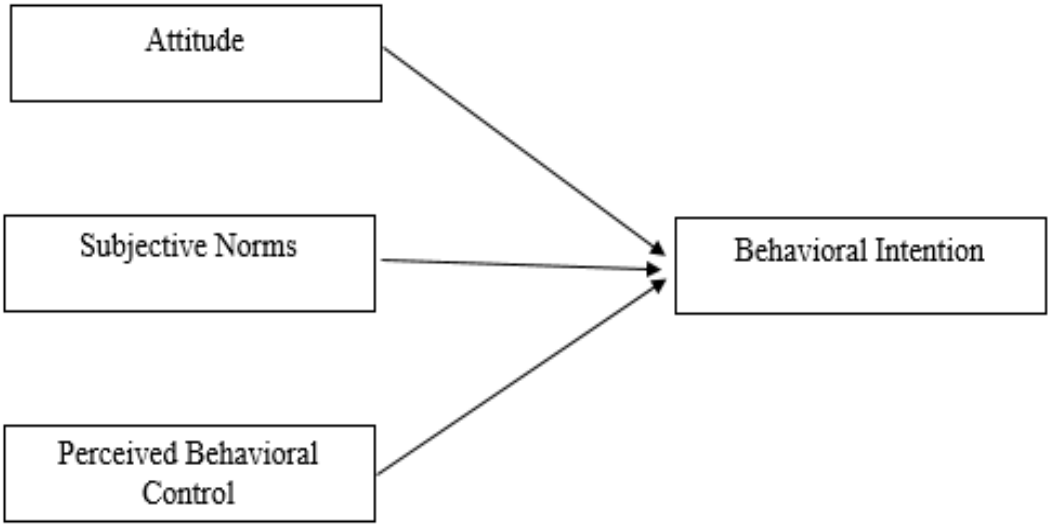


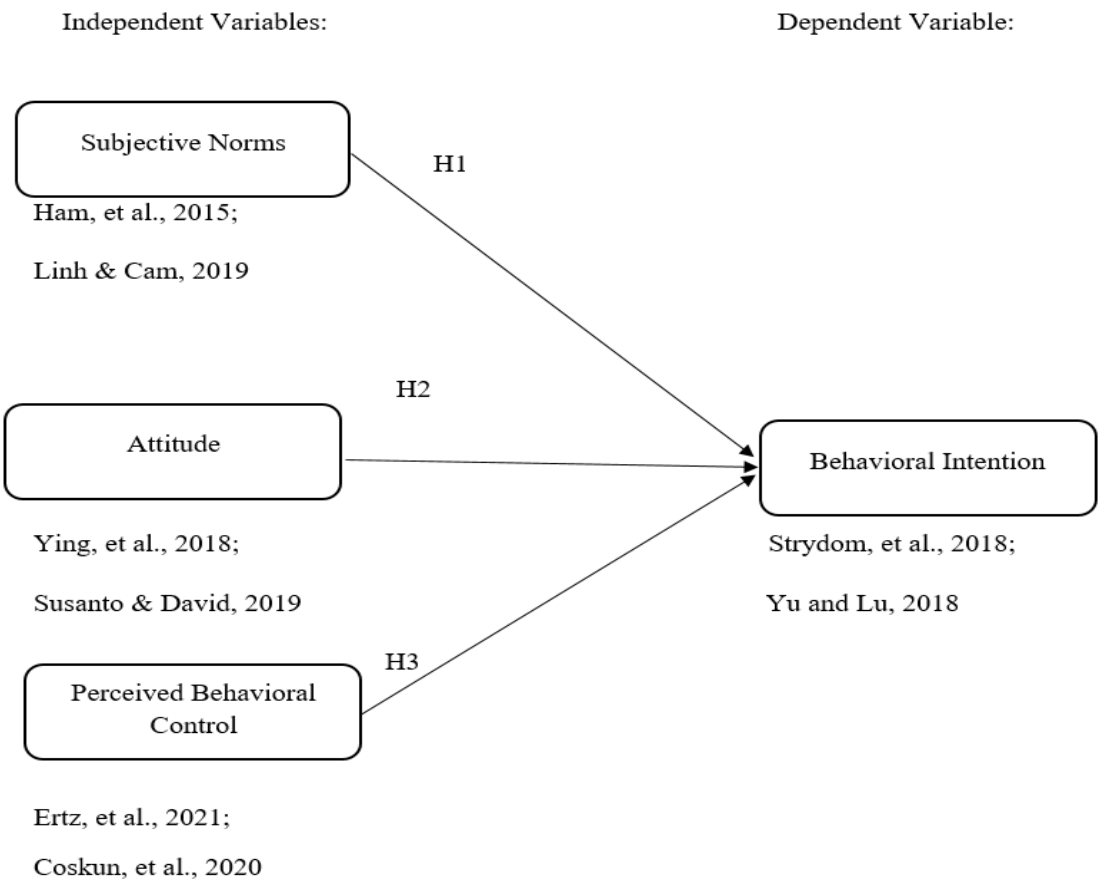
Figure 2.1 is the research framework adapted from the research by Shen, et al., (2019) to investigate the ways TPB factors affecting behavioral intention.

TPB model is developed by Icek Ajzen to predict and explain a person has a positive attitude toward a behavior, believes that significant individuals want him or her to perform the behavior, and also believes that he or she is capable of acting, he or she will be more likely to adopt it (Ajzen, 1983). The theory on the subject of behavioral intention is outlining the key psychological causes of these behaviors, as this understanding will provide useful information that can be utilized for forecasting and affecting behaviors such as changing attitudes or making waste sorting easier. The goal of the TPB model is to be able to predict and explain a wide range of behaviors. A multitude of factors, including attitudes toward the activity, subjective norms, and perceived behavioral control, influence behavioral intentions (Kan, 2017). The past research was used in previous study to reduce waste at home, at work, and on vacation. Thus, the research applied this theory to environmentally friendly behaviors (Lorraine

E. Whitmarsh, 2018). In short, the purpose of using this theory is that it can assist researchers in developing interventions aimed at modifying lifestyle behaviors.

2.3 Conceptual Framework

Figure 2.2: Proposed Conceptual Framework for Factors Influencing Consumers' Behavioral Intention to Reduce Waste in Restaurant



2.4 Hypothesis development

2.4.1 Relationship between subjective norms (SN) and the consumers' behavioral intention to waste reduction in restaurant?

The research from Linh and Cam (2019), claimed that subjective norms perform a relationship with behavioral intention to reduce plastic waste. Besides, according to a study conducted in Malaysia, in a restaurant, there is a favorable relationship between subjective norms and behavioral intention to reduce waste, according to 482 respondents aged 20 and older who had eaten out at restaurants (Kim and Hall, et al., 2019). Furthermore, Gusti and Isyandi (2015) pointed out that the research proved that subjective norms will positively influence the behavioral intention to sustainable waste management. Moreover, the research with the students from Universiti Putra Malaysia (UPM) proved that subjective norms will positively influence the behavioral intention to reduce plastic consumption in daily life (Hasan, et al., 2015). Based on the study conducted by Yuan, Wu, and Zuo (2018) shows that subjective norms act as a significant factor that has a positive impact on behavioral intention to reduce waste in construction projects. In contrast, according to Susanto and Davidesyta's (2019) research, subjective norms have a negative relationship with behavioral intentions in waste reduction efforts.

Therefore, we hypothesize that:

H1: There is a relationship between subjective norms and the behavioral intention to waste reduction.

2.4.2 Relationship between attitude (A) and the consumers' behavioral intention to waste reduction in restaurant?

Ying, et al., (2018), a study was done to determine what factors influence people's willingness to sort rubbish in China. The research was conducted on 211 respondents through an online survey. The results reveal that there is a strong relationship between attitude and behavioral intention. According to research conducted in Indonesia, Susanto and Davidesyta (2019) revealed a relationship between attitude and behavioral intention. There is research conducted on 400 students of Padang, Indonesia. The study is to examine the behavioral intention of sustainable waste management behavior. Lastly, the result showed that attitude will affect behavioral intention significantly (Gusti, et al., 2016).

There is research conducted by Huang and Tseng, et al., (2020) to identify the factors affecting consumers' behavioral intention toward food waste and plate waste behaviors. The research is conducted on 464 restaurant customers from Taiwan. The outcome of the study is attitude influencing the behavioral intention of the customer. Besides that, the research conducted by Chen, et al., (2018) shows that there is a relationship between attitude and behavioral intention.

Hence, this research proposed that:

H2: There is a relationship between attitude and the behavioral intention to waste reduction.

2.4.3 Relationship between perceived behavioral control (PBC) and the consumers' behavioral intention to waste reduction in restaurant?

Kim and Hall, et al., (2019) pointed out that there is a relationship between perceived behavioral control and behavioral intention based on data acquired from people aged 20 or above who had dined in a restaurant. Other than that, there is research conducted to identify the factors of single-use plastic reduction behavioral intention. The study's results show that there is a relationship between perceived behavioral control and behavioral intention (Van, et al., 2021).

There is a research conducted by Ertz, et al., (2021) to identify customers' behavioral intention of minimization waste behavior. The research is conducted to 455 consumers from North America, there is a relationship between perceived behavioral control and behavioral intention to minimize waste. Furthermore, there is another study conducted in Indonesia claimed that perceived behavioral control proposed the most significant relationship to behavioral intention Gusti and Isyandi, et al., (2015). According to the study conducted by Coskun, et al., (2020) to determine the factors that influence consumers' behavioral intention on food waste behavior. The study involved 329 people who took part in an online survey. The result showed that there is a relationship between perceived behavioral control and behavioral intention.

H3: There is a relationship between perceived behavioral control and the behavioral intention to waste reduction.

2.5 Summary of Research Variables

Factor / Variable	Authors
Subjective Norms (SN)	Huda, et al., 2012; Al-Swidi, et al., 2014; Ham, et al., 2015; Graham-Rowe, Jessop, & Sparks, 2015; Heidari, et al., 2019; Li, Zuo, & Cai, 2018; Ertz, et al., 2021; Han, Yu, & Kim, 2018; Linh & Cam, 2019; Kim & Hall, et al., 2019; Gusti & Isyandi, 2015; Hasan, et al., 2015; Yuan, Wu, & Zuo, 2018; Susanto & Davidesyta, 2019
Attitude (A)	Huang, et al., 2020; Cherry, 2020; Russell, et al., 2017; Werf, et al., 2019; Almasi, et al., 2019; Neubig, et al., 2020; Tsai, et al., 2020; Filimonau, et al., 2020; Ying, et al., 2018; Susanto & David, 2019; Gusti, et al., 2016; Huang & Tseng, et al., 2020; Chen, et al., 2018

Perceived Behavioral Control (PBC)	Fanning, et al., 2017; Muniandy, et al., 2021; Van, et al., 2021; Neubig, et al., 2020; Tsai, et al., 2020; Tweneboah-Koduah, et al., 2019; Ertz, et al., 2021; Kim & Hall, et al., 2019; Gusti & Isyandi, et al., 2015; Coskun, et al., 2020
Behavioral Intention (BI)	Ajzen, et al., 2012; Strydom, et al., 2018; Wang et al., 2021; Yu and Lu, 2018; Abadi, et al., 2020; Nguyen, et al., 2018; Linh & Cam, 2019

CHAPTER 3: METHODOLOGY

3.0 Introduction

Different methods will be used in this chapter to acquire relevant and correct data for the current research. The research design, data collection method, sample design, research instrument, construct measurement, data processing, and data analysis will all be covered in greater depth in this chapter.

3.1 Research Design

A research design is a strategy for gathering, evaluating, and analyzing data in response to research questions (Sekaran & Bougie, 2019). As cited by Bell, Bryman, and Harley (2011), research design provides blueprint data collection, data measurement, and data interpretation.

The validity of all factors in relation to behavioral intention is investigated through quantitative analysis study. The quantitative approach is common in research since all of the data can be clearly interpreted using tables or graphs (Bhandari, 2021). Quantity is used to identify the impact of subjective norms, attitudes, and perceived behavioral control on consumers' behavioral intention to waste reduction. As a result, quantitative research is able to provide enough information to determine which independent variable has the greatest significant impact by displaying numerically tabulated data.

3.1.1 Quantitative research

As cited by Muijs (2011), quantitative research is defined as acquiring quantifiable research data and analyzing it using mathematical methods, and it was one of the research methodologies used in education. Quantitative research also refers to the numerical representation and manipulation of data in order to express and understand the phenomena revealed by the data (Sukamolson, 2007). In other words, empirical procedures and empirical claims are used in social research to describe quantitative research (Cohen, et al., 2007).

3.2 Data Collection Method

Data collection is critical for a research project since all of the information gathered must be examined and understood in order to reach the best results. My data is considered primary because I collected it through the distribution of a questionnaire. The report should not contain any secondary data.

3.2.1 Primary Data

In this survey, the only primary data collection method used is a survey questionnaire. A questionnaire is a set of questions posed to a respondent in modern English, to which

the respondent must respond by choosing one of several options (Surbhi, 2020). The survey questionnaire is being utilized for this study since it is a cost-effective method to collect data (Beiske, 2003). Furthermore, distributing the survey questionnaire is simple and reliable.

3.3 Sampling Design

3.3.1 Target population

The whole population from whom a sample can be taken is referred to as the target population (Stephanie, 2019). The people who eat at restaurants, regardless of gender, age, or education are the target population in this study.

3.3.2 Sampling Frame and Sampling Location

On the other hand, a sampling location is a location chosen for inquiry, as well as the location of the targeted population. Due to the Covid-19 pandemic, there is no sampling location in this research study. However, the questionnaire will be created in Google Form and distributed and collected online and via the internet to Malaysian respondents who have experienced dine-in within one month from the survey point of time.

3.3.3 Sampling Element

The unit of analysis or case examined in the population for research purposes is represented by the sampling element. It might be an individual, a group, an organization, or anything else that can be measured. The target population for this study's sampling element will be Malaysians and all of them will be able to participate in this questionnaire survey.

3.3.4 Sampling Technique

For this study, convenience sample from non-probability sampling was used. The researcher can collect data from respondents utilizing the most easily accessible sample components via convenience sampling (Etikan, Musa, Alkassim, 2016). The use of convenience sampling during the data collection process saves time and costs for researchers. This method is most suitable given various Covid-19 related restrictions still enforced legally or voluntarily and extremely limited budget for data collection.

3.3.5 Sampling Size

According to Roscoe (1975), the study proposed that a sample size range of 30 to 500 is adequate in practically every study. Therefore, 260 online survey questionnaires were distributed to the targeted samples throughout this research.

3.4 Research Instrument

3.4.1 Questionnaire Design

The questionnaire for this study was created using Google Form and is divided into three sections. All of the questions were written as closed-ended questions so that we could readily compare the responses patterns. The responders will be directed to the section of the questionnaire that shows the study's introduction and follow by the personal data protection statement at the start. In section A and section B, eight questions regarding the demographic data and general information were asked. The demographic data and general information are intended to obtain fundamental information on respondents, which are gender, age, education level, employment status, income level, family size, dine-in frequency, and purpose of dining out. On the other hand, the questions in section C are linked to the study's dependent and independent variables.

3.4.2 Pilot test

A pilot test was conducted on 30 respondents in order to uncover any potential errors in the questions. In general, the obtained result is free of errors and ambiguous statements. The pilot test and official survey will approximately five weeks to complete.

Table 3.1 Pilot Test Result

Variable	Items	Cronbach's Alpha	Outcome
Behavioral Intention (BI)	4	0.821	Excellent
Subjective norm (SN)	7	0.916	Excellent
Attitude (A)	6	0.768	Good
Perceived Behavioral Control (PBC)	5	0.813	Excellent

Source: Developed from research

Table 3.1 indicates the reliability test result from 30 respondents. SN has the highest value of 0.916 that indicate excellent in the variables. BI and PBC have the medium value of 0.821 and 0.813 respectively that indicate excellent as well in the variables. The lowest Cronbach's Alpha in pilot test is Attitude which has the value of 0.768. However, it is in the good level.

3.5 Construct Measurement

3.5.1 Origin and Measure of the Construct

Table 3.2: Table of Construct Origin

Construct	Measurement Item	Sources
Behavioral Intention	1. I am willing to participate in pro-environmental practices at restaurants. 2. I try to participate in almost all pro-environmental practices at restaurants to reduce waste. 3. I participate in reducing waste practices at restaurants. 4. I am willing to participate in environmental programs hold by the government.	Kim, M. J., & Hall, C.M. (2019)
Subjective Norms	1. Most people who are important to me think I should practice waste reduction activities while dining out. 2. Most people who are important to me would want me to practice recycling activities while dining out. 3. Most people who are important to me support my participation in waste reduction at a restaurant. 4. My friends think my efforts towards reducing food waste are necessary. 5. My family thinks my efforts towards reducing food waste are necessary.	Kim, M. J., & Hall, C.M. (2019) Aktas. E., Sahin. H., &Topaloglu. Z (2018)
	6. My friends thinks my efforts towards preparing food from leftovers are necessary. 7. My family thinks my efforts towards preparing food from leftovers are necessary.	

Attitude	1. Reducing waste during dining out is an affirmative behavior. 2. Reducing food waste during dining out is a beneficial behavior. 3. Reducing water waste is an essential behavior at restaurants. 4. Reducing natural resource waste is a legitimate behavior at restaurants. 5. I feel bad when uneaten food is thrown away. 6. I was raised to believe that food should not be waste.	Kim, M. J., & Hall, C.M. (2019) Aktas. E., Sahin. H., &Topaloglu. Z (2018)
Perceived Behavioral Control	1. Whether or not I engage in waste reduction behaviors while dining at a restaurant is completely up to me. 2. I feel capable of not throwing food away. 3. I am confident that if I want, I can reduce waste while dining at a restaurant. 4. I have enough opportunities to reduce waste while dining at a restaurant. 5. I do not apply for plastic spoons, straws and forks while take-out any food.	Kim, M. J., & Hall, C.M. (2019) Amato. M., Verneau. F., Coppola. A., & Barbera. F. L. (2021) Van. L., Hamid. N. A., & Ahmad. M. F. (2021)

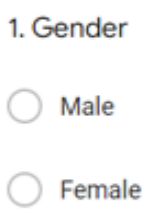
3.5.2 Scale Measurement

The nominal scale, ordinal scale, interval scale, and ratio scale are the four types of scale measurement in this sub-section. Only nominal and ordinal scales were employed in this study.

3.5.2.1 Nominal Scale

Nominal measurements are used in Section A. Nominal scale is used for classification purposes and consists of description characteristics. In this study, nominal scale classifies the personal information of the respondents into different groups based on their gender.

Figure 3.1: Example of Nominal Scale

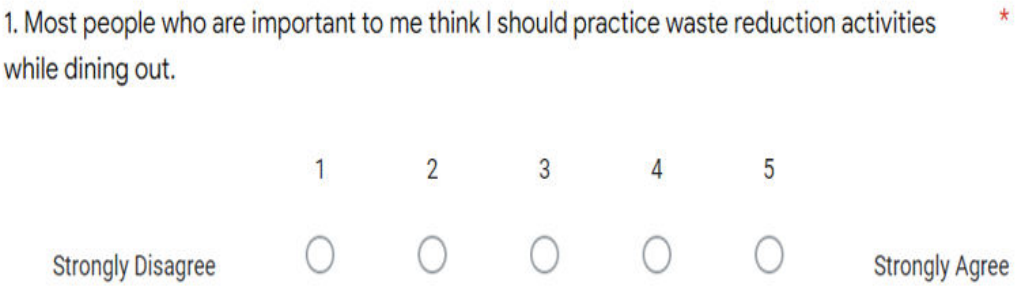


3.5.2.2 Ordinal Scale

According to Sekaran and Bougie (2013), ordinal scales are non-numerical measurement objects that are arranged into a ranking order. As a result, the order of the values is crucial, despite the fact that it does not clearly highlight the differences between each group. Ordinal numbers were utilized to categorize respondents into different income levels in this study. An example of an ordinal scale is shown in diagram below.

Figure 3.2: Example of Ordinal Scale

Figure 3.3: Example of 5-point Likert Scale



For Section C are also assessed on a 5-point Likert Scale. Respondents can utilize a Likert Scale to define their level of agreement, according to Sullivan & Artino (2013), which goes from 1 to 5, with 1 representing strongly disagree and 5 representing strongly agree. This may make it easier for the researcher to get trustworthy data from the scales.

3.6 Data Processing

Before moving on to the next stage of analysis, all survey questions must be submitted for data processing after data collecting is complete. A few processes will be carried out to guarantee that the information contained in the questionnaires is useful.

3.6.1 Questionnaire Checking

The initial stage in data processing is to check for any errors in the surveys and filter out all the biased responses.

3.6.2 Data Editing

Data editing is required any inaccuracies in the questionnaire are uncovered. When faults are discovered, they must be corrected right away. Data editing is crucial for researchers to consider since it allows them to reduce errors while retaining the research's quality.

3.6.3 Data coding

The process of converting data into numerical form in order to identify outcomes is known as data coding. Data coding is essential because SPSS will be utilized in this study. SPSS is a data analysis method that requires numerical data as input in order to interpret the results. As a result, various numbers represent different responses. For example, in session A, the gender of the respondents are classified as 1 which is "Female" and 2 which is "Male". In session C, "strongly disagree" to "strongly agree" will be denoted by the numbers 1 to 5. To summarize, data coding is necessary to avoid confusion generated by a big amount of information.

3.6.4 Data Transcribing

Data transcribing is the process of transferring data into SPSS software. The goal of data transcription is to run the data through SPSS software, which will assist the researcher in obtaining a valid and reliable outcome.

3.6.5 Data Cleaning

Data cleaning is the process of verifying data using computer data analysis software to find any inconsistent or inaccurate data in each response (Malhotra, 2010). As a result, in order to undertake an in-depth and comprehensive evaluation of the collected data, this study must use SPSS to identify errors in each response, and the researcher must return to the edited and coded questionnaire to discover errors such as missing values.

3.7 Data Analysis

As cited by Agresti and Kateri (2011), data analysis is used to determine the techniques for acquiring data and variables. In addition, data transformation and management are required to investigate the link between variables. Furthermore, according to Shephard (2002), the goal of this approach is to avoid readers from misinterpreting the study findings or information. SPSS will be used in this study for reliability analysis, descriptive analysis, and other metrics. Also, Riazi (2016) stated that adopting SPSS can help researchers reduce necessary workload and improve data analysis reliability.

3.7.1 Descriptive Analysis

According to Sekaran & Bougie (2013), descriptive analysis is a graphic and digital technique for describing or interpreting data (Sekaran, 2019). The act of turning raw

data into a format that is easier to study and evaluate is known as descriptive analysis. It is the simplest approach to evaluate data in graphic and numeric form by using charts, graphs, tables, graphs, and so on. It can also be useful when the researcher is allowed to summarize a huge amount of data (Munoz & Civille, 1992). In this research, the data from Section A and Section B is including in the form of tables and pie charts are expressed as a percentage and frequency of occurrence.

3.7.2 Scale Measurement

3.7.2.1 Reliability Test

The reliability test can be used by the researchers to verify the data's validity and dependability (Bougie, 2016). Cronbach's alpha is a crucial measurement used in reliability tests to determine the result's validity and dependability. According to Hinton, Brownlow, McMurray, and Cozens (2004). An alpha value of 0.5 to 0.75 is generally thought to represent a reasonably dependable scale. The strength of the variable in Table 3.3 is determined by Cronbach's alpha value.

Table 3.3: Range of Cronbach's Alpha Value

Cronbach's alpha (α)	Indication
α value < 0.6	Poor
α value between 0.6 and 0.7	Fair
α value between 0.7 and 0.8	Good
α value between 0.8 and 0.9	Excellent

Source: Zikmund, W.G., Babin, B.J., Carr, J.C., & Griffin, M. (2013). Business Research Methods, 9th International Edition. South-Western Cengage Learning, Canada.

3.7.3 Multiple Linear Regressions Analysis

According to Zikmund (2003), multiple linear regression is used to analyze hypotheses and linkages as well as their consequences in a study when there are two or more dependent and independent variables, according to Zikmund (2003). Furthermore, according to Sykes (1993), multiple regression analysis is an approach that leads to the independent evaluation of factors so that each influence may be predicted. The goal of this study is to figure out how the independent and dependent variables are related. As cited by DeFries and Fulker (1985), Correlation analysis is less sophisticated and exact than multiple regression analysis. The relationship between subjective norms, attitude, perceived behavioral control, and behavioral intention purpose is investigated using multiple regression analysis. In addition, the results of the ANOVA test and the coefficient value will be calculated.

The formula of the Multiple Regression analysis:

$y = \beta_0 + \beta_1\chi_1 + \beta_2\chi_2 + \beta_3\chi_3 + \varepsilon$

y = Dependent variable, which is the "Behavioral Intention"

β_0 = Intercept

β_1, β_2, β_3 = Regression Coefficient of the independent variables

χ_1, χ_2, χ_3 = Independent variables, namely "Subjective Norms", "Attitude" and "Perceived Behavioral Control" respectively

ε = Random error

3.8 Conclusion

In conclusion, this chapter covered the entire study strategy that the researchers will use during the exam. To contact the target respondents, 260 sets of questionnaires will be distributed via the online. The target population in this study will be the people who dine in restaurants regardless of their gender, age, and education. For further analysis and interpretation, all of the collected data will be loaded into SPSS software version 23. The statistical findings of the data collected will be discussed in further detail in the following chapter.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter is used to evaluate and clarify the data acquired in greater depth. The SPSS programme is used to analyze all of the data and come to a conclusion about the findings. Tables and graphs with percentages will be used to illustrate the results for each respondent's demographic profile and general information. In addition, the results of the reliability test will be examined by the researcher. Finally, the researcher will use multiple regression analysis to determine a relationship between the variables.

4.1 Descriptive Analysis

4.1.1 Respondents' Demographic Profile and General Information of the Respondents

In this section, there are eight questions regarding the demographic profile and general information of respondents which include gender, age, highest education level, employment status, income level, the number of family members, frequency dine out a week, and purpose of dining out in the restaurant.

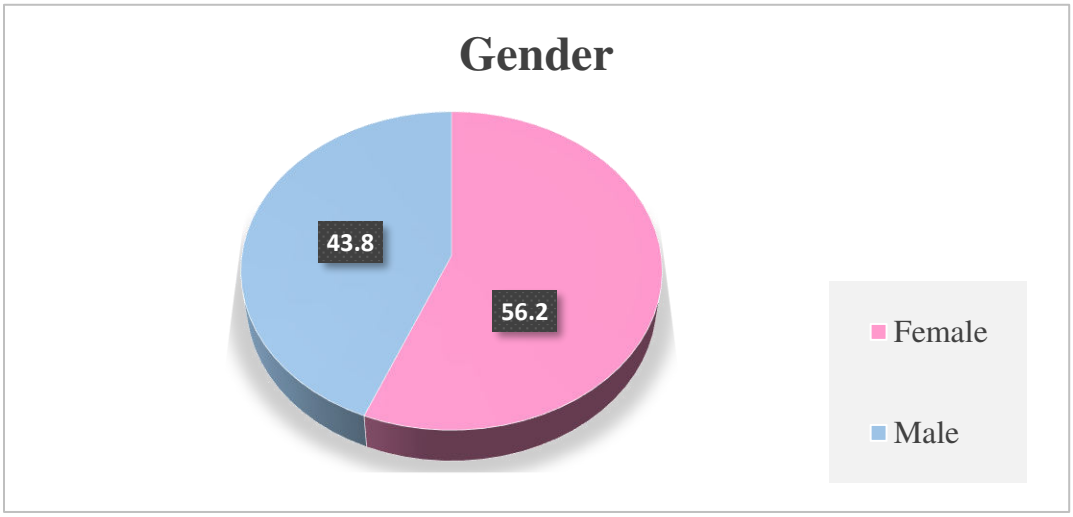
4.1.1.1 Gender

Table 4.1: Gender of Respondents

Gender	Frequency	Percentage (%)
Female	146	56.2
Male	114	43.8
Total	260	100

Source: Developed from the research.

Figure 4.1: Gender of Respondents



Source: Developed from the research.

Table 4.1 and Chart 4.1 show that the gender distribution for males and females is unequal. There are 146 out of 260 respondents or 56.2% are female. However, 43.8% of the respondents are male, which occupied 114 respondents.

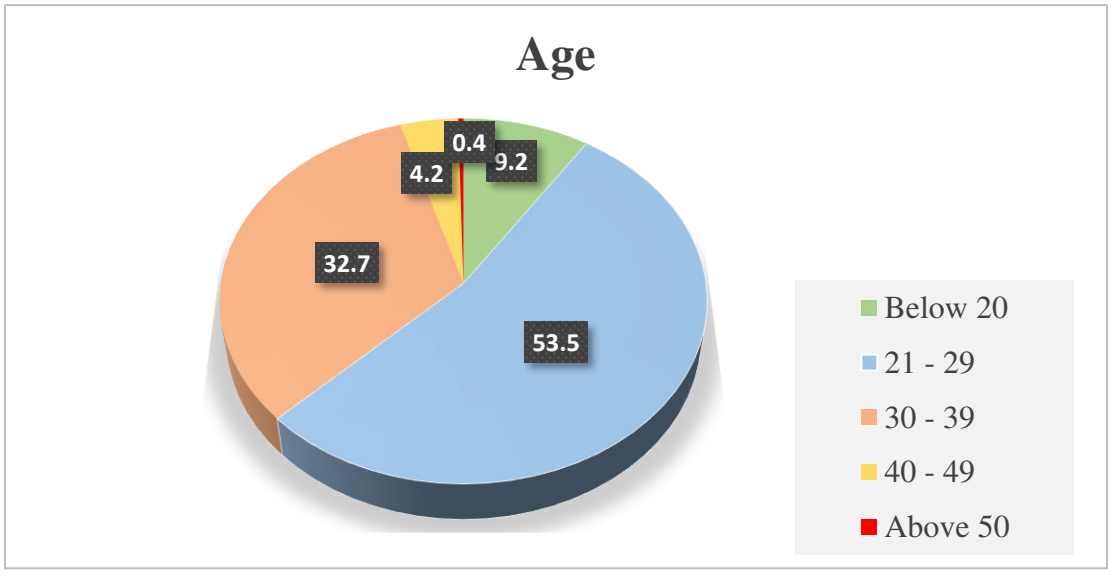
4.1.1.2 Age

Table 4.2: Age of Respondents

Age	Frequency	Percentage (%)
Below 20	24	9.2
21 - 29	139	53.5
30 - 39	85	32.7
40 - 49	11	4.2
Above 50	1	0.4
Total	260	100

Source: Developed from the research.

Figure 4.2: Age of Respondents



Source: Develop from the research.

The above table and figure 4.2 have shown a largest group of respondents are aged 21-29 years old which contributed 53.5% or 139 respondents. The second-largest age group among the respondents is 30-39 years old, which is 85 respondents or 32.7%. After that, the age group below 20 is 9.2%, or 24 respondents. In addition, the age group of 40-49 is 11 respondents or 4.2%. The remaining respondent falls at the option of above 50 years old, which is 0.4% or 1 respondent.

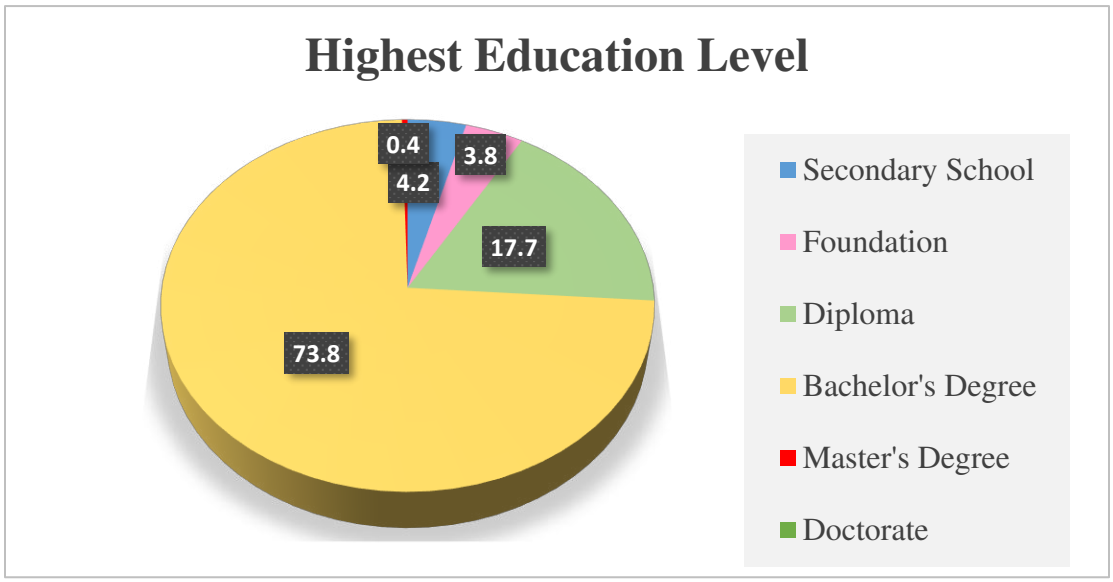
4.1.1.3 Highest Education Level

Table 4.3: Highest Education Level

Highest Education Level	Frequency	Percentage (%)
Secondary School	11	4.2
Foundation	10	3.8
Diploma	46	17.7
Bachelor's Degree	192	73.8
Master's Degree	1	0.4
Doctorate	0	0
Total	260	100

Source: Developed from the research.

Figure 4.3: Highest Education Level



Source: Developed from the research.

The table and figure 4.3 have shown the highest education level of the respondents. There are 73.8% or 192 respondents are having their highest education level in Bachelor's Degree. Besides, there are 17.7% or 46 respondents are having their highest education level in Diploma. Next, there are 11 respondents who are in the secondary school level which occupied 4.2% of the respondents and followed by 10 respondents that had the highest education level in the foundation. Lastly, there are only 0.4% of the respondents at the master's level and no respondents at the Doctorate level.

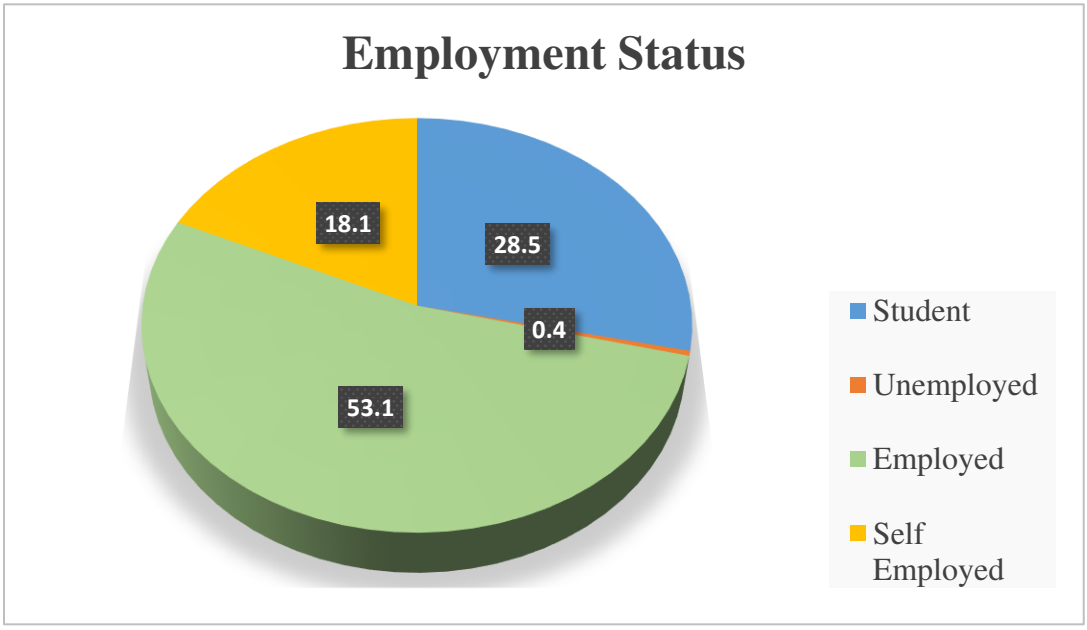
4.1.1.4 Employment Status

Table 4.4: Employment Status

Employment Status	Frequency	Percentage (%)
Student	74	28.5
Unemployed	1	0.4
Employed	138	53.1
Self Employed	47	18.1
Total	260	100

Source: Developed from the research.

Figure 4.4: Employment Status



Source: Developed from the research.

Table 4.4 and Figure 4.4 consists of the employment status of the respondents. Out of 138 or 53.1% of the total respondents are employed. There are 74 or 28.5% of the total respondents are students, 47 or 18.1% of the respondents are self-employed while the last category is unemployed, with a total of 1 or 0.4% of the total respondents.

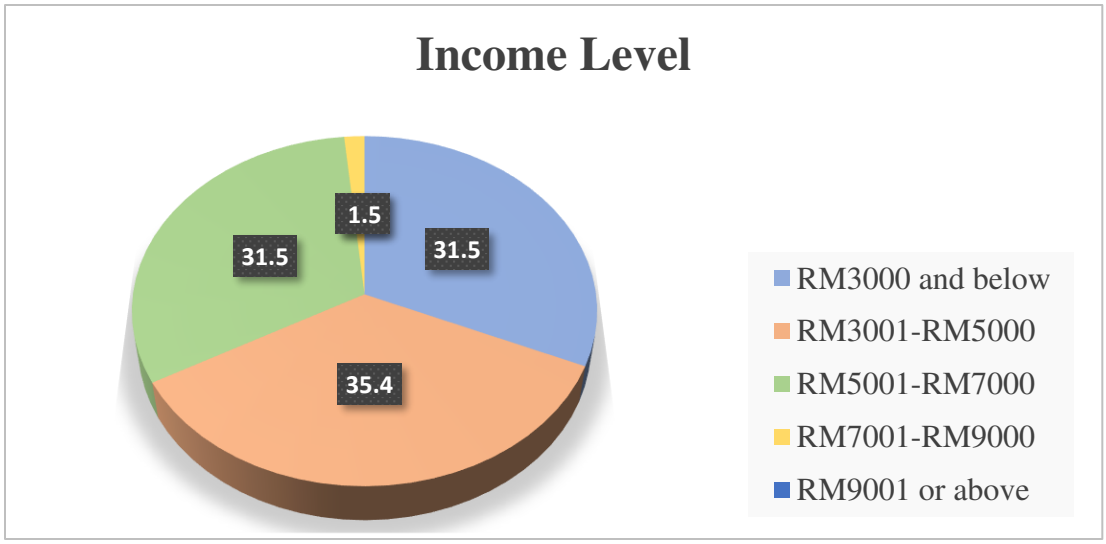
4.1.1.5 Income Level

Table 4.5 Income Level

Income Level	Frequency	Percentage (%)
RM3000 and below	82	31.5
RM3001-RM5000	92	35.4
RM5001-RM7000	82	31.5
RM7001-RM9000	4	1.5
RM9001 or above	0	0.0
Total	260	100

Source: Developed from the research.

Figure 4.5 Income level



Source: Developed from the research.

In 260 respondents, 92 out of 260 which is 35.4% respondents have chosen RM3001-RM5000 as their income level. There are two categories of income level which is income level below RM3000 and income level between RM5001-RM7000 consists 82

or 31.5% of respondents respectively. Also, there are 4 or 1.5% of the respondents hold RM7001-RM9000 income level.

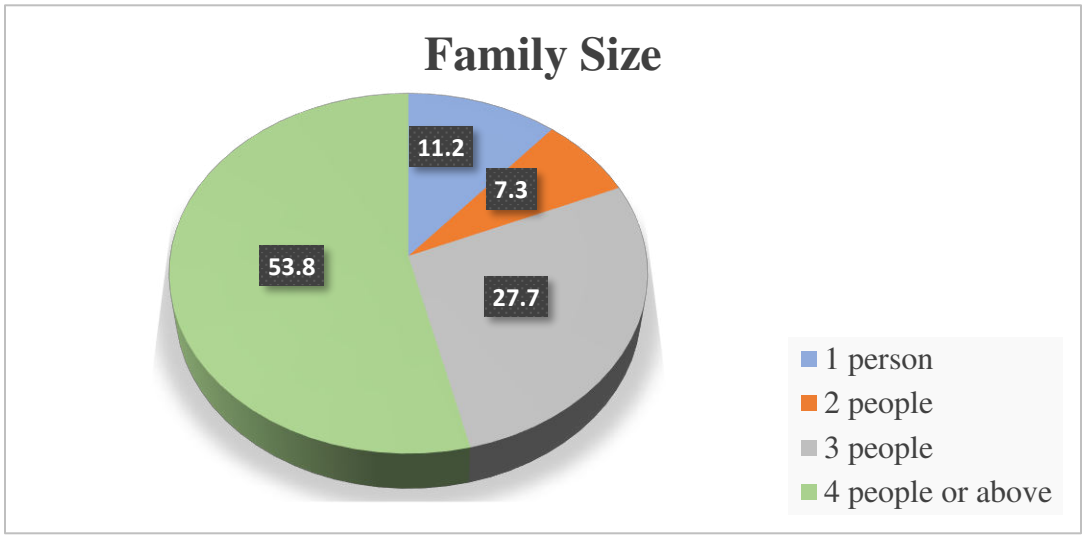
4.1.1.6 Family Size

Table 4.6 Family Size

Family Members	Frequency	Percentage (%)
1 person	29	11.2
2 people	19	7.3
3 people	72	27.7
4 people or above	140	53.8
Total	260	100

Source: Developed from the research.

Figure 4.6 Family Size



Source: Developed from the research.

The family size is shown in Table and Figure 4.6. The majority of those who responded have 4 people or above family members which is the 53.8% among other options. The second higher quantity of family members of the respondents is 3 people which consists of 72 respondents. After that, 11.2% of the respondents have 1 family member and 19 respondents have 2 people of family members.

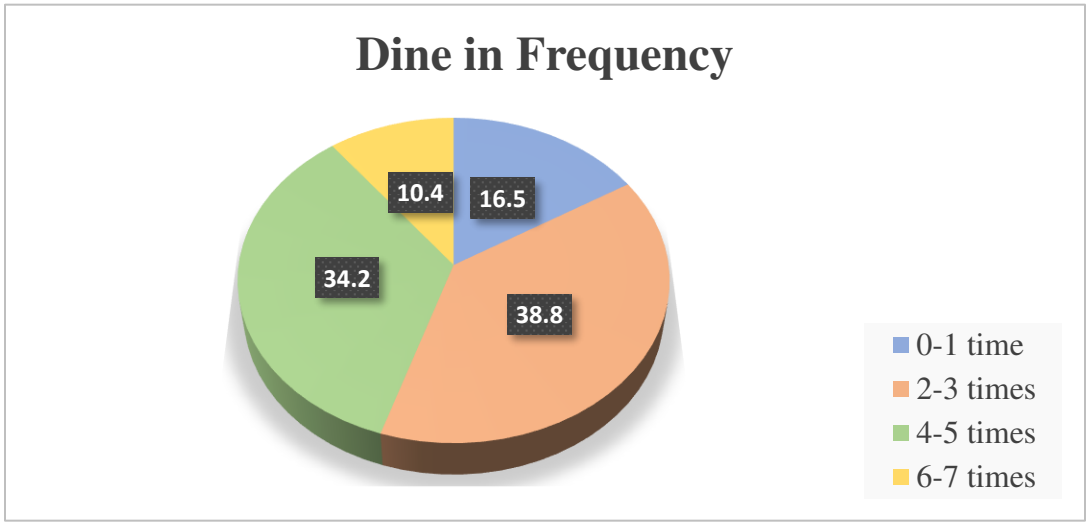
4.1.1.7 Dine in Frequency

Table 4.7 Dine in Frequency

Times	Frequency	Percentage (%)
0-1 time	43	16.5
2-3 times	101	38.8
4-5 times	89	34.2
6-7 times	27	10.4
Total	260	100

Source: Developed from the research.

Figure 4.7 Dine in Frequency



Source: Developed from the research.

According to Table and Figure 4.7, 38.8% of the respondents with a total of 101 respondents dine out 2-3 times a week. Meanwhile, there are 89 respondents or 34.2% out of 260 respondents dine out 4-5 times a week. Next, 16.5% of the respondents will dine out 0-1time a week. The rest 10.4% which is 27 respondents dine out 6-7 times a week.

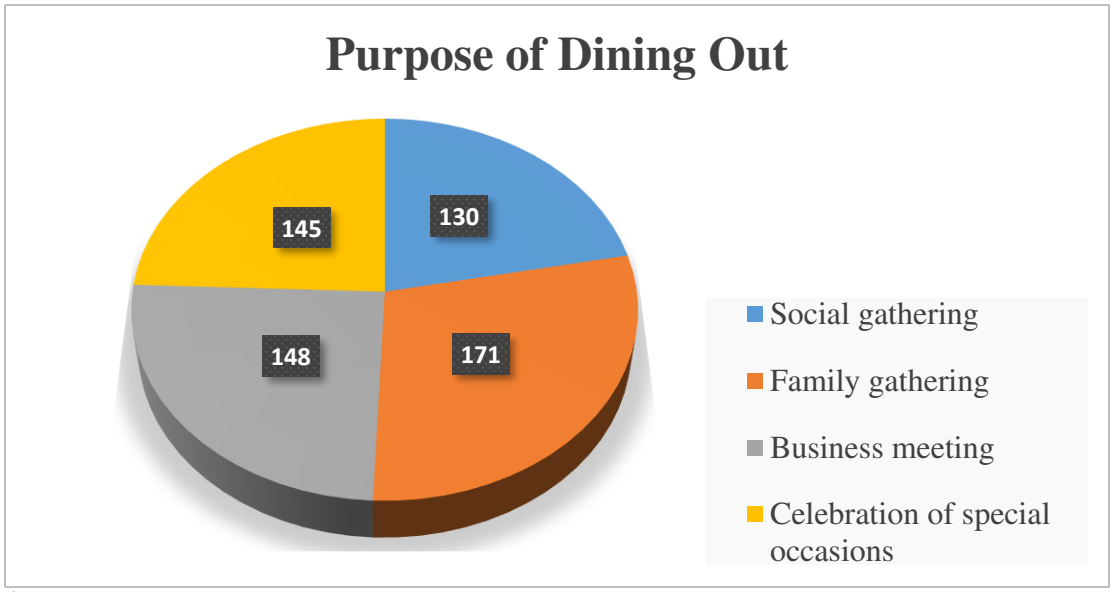
4.1.1.8 Purpose of Dining Out

Table 4.8 Purpose of Dining Out

Purpose of Dining Out	Frequency
Social Gathering	130
Family Gathering	171
Business Meeting	148
Celebration of Special Occasions	145

Source: Developed from the research.

Figure 4.8 Purpose of dining out



Source: Developed from the research.

From Table 4.8 and Figure 4.8, respondents dine out for many purposes, and they can choose more than one option in this question. There are 171 respondents who said that their purpose for dining out is for family gatherings. Besides, 148 respondents dine out for business meetings. After that, for the celebration of special occasions, it consists of 145 respondents and followed by 130 respondents who dine out for social gatherings.

4.1.2 Central Tendencies Measurement of Construct

4.1.2.1 Behavioral Intention (BI)

Table 4.9: Descriptive Statistics of Behavioral Intention

Rating Statement	(1) (%)	(2) (%)	(3) (%)	(4) (%)	(5) (%)	Mean
I am willing to participate in pro-environment practices at restaurants.	0	0.8	5.0	36.2	58.1	4.52
I try to participate in almost all pro-environmental practices at restaurants to reduce waste.	0	1.9	6.2	45.4	46.5	4.37
I participate in reducing waste practices at restaurants.	0	1.9	7.7	33.8	56.5	4.45
I am willing to participate in environmental programs hold by the government.	0	1.2	7.3	47.3	44.2	4.35

Note: Ratings are (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Source: Developed from the research.

Table 4.9 shows the percentage score and mean score of BI. "I am willing to participate in pro-environment practices at restaurants" has the highest mean score of 4.52, the smallest mean score is 4.35 belongs to "I am willing to participate in environmental programs hold by the government".

There are 58.1% of respondents strongly agree that they willing to participate in pro-environment practices at restaurants. However, there is no respondent who strongly disagrees with the statement. Besides, 56.5% of respondents strongly agree with "I participate in reducing waste practices at restaurants" and no respondent again strongly disagrees with this. The statement "I try to participate in almost all pro-environmental practices at restaurants to reduce waste", there are 46.5% of respondents strongly agreed with this, and also no respondent strongly disagreed. Furthermore, there are

44.2% of respondents prefer strongly agree that "I am willing to participate in environmental programs hold by the government" and no respondent strongly disagreedth this statement.

4.1.2.2 Subjective Norms (SN)

Table 4.10: Descriptive Statistics of Subjective Norms

Rating Statement	(1) (%)	(2) (%)	(3) (%)	(4) (%)	(5) (%)	Mean
Most people who are important to me think I should practice waste reduction activities while dining out.	0	1.9	7.7	28.5	61.9	4.50
Most people who are important to me would want me to practice recycling activities while dining out.	0	3.1	6.5	50.4	40.0	4.27
Most people who are important to me support my participation in waste reduction at a restaurant.	0	0.4	8.1	35.0	56.5	4.48
My friends think my efforts towards reducing food waste are necessary.	0	0.4	7.7	46.9	45.0	4.37

My family thinks my efforts towards reducing food waste are necessary.	0.4	0.4	4.6	42.7	51.9	4.45
My friends thinks my efforts towards preparing food from leftovers are necessary.	0	1.2	8.8	41.9	48.1	4.37
My family thinks my efforts towards preparing food from leftovers are necessary.	0	1.2	6.5	42.3	50.0	4.41

Note: Ratings are (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Source: Developed from the research.

Table 4.10 displayed the percentage score and mean score of SN. The highest mean score, 4.50 belongs to "Most people who are important to me think I should practice waste reduction activities while dining out". However, the lowest score, 4.27 is "Most people who are important to me would want me to practice recycling activities while dining out".

There are 61.9% of respondents strongly agree with the statement "Most people who are important to me think I should practice waste reduction activities while dining out" and no respondent is strongly disagree. Next, 56.5% of respondents strongly agree with the question that "Most people who are important to me support my participation in waste reduction at a restaurant" and no respondent strongly disagrees. Besides, the third-highest mean score statement is strongly agreed by 51.9% of respondents and strongly disagree by 0.4% of respondents. Another 50.0% of respondents strongly

agree that "My family thinks my efforts towards preparing food from leftovers are necessary" and no respondent strongly disagrees. There are two statements with a mean score of 4.37. 45.0% of respondents strongly agree that "My friends think my efforts towards reducing food waste are necessary" and no respondent strongly disagrees. Another statement is strongly agreed by 48.1% of respondents and no respondent is strongly disagreed. Lastly, 40.0% of respondents strongly agree with the question "Most people who are important to me would want me to practice recycling activities while dining out".

4.1.2.3 Attitude (A)

Table 4.11: Descriptive Statistics of Attitude

Reducing natural resource waste is a legitimate behavior at restaurants.	0	0.8	2.7	48.1	48.5	4.44
I feel bad when uneaten food is thrown away.	0.4	0.4	1.5	36.2	61.5	4.58
I was raised to believe that food should not be waste.	0.4	0	2.3	40.8	56.5	4.53

Note: Ratings are (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Source: Developed from the research.

Table 4.11have interpreted the mean score and percent score among the measurement items under the variable of A. From that, question 5 has the highest mean score of 4.58. While question 4 has the lowest mean score of 4.44.

Among the answer to question 5, 61.5% of respondents strongly agree and only 0.4% of respondents strongly disagree. Next, there have two questions with a mean score of 4.53. 58.1% of respondents strongly agree that "Reducing water waste is an essential behavior at restaurants" but still have 0.4% of respondents strongly disagree with this. Another question is strongly agreed by 56.5% of respondents and 0.4% of respondents strongly disagree with it. The question with third highest mean score is strongly agree by 61.2% of respondents but 0.4% of respondents strongly disagree. There are 50.0% of respondents strongly agree with the fourth-highest mean score questions and yet strongly disagree by 0.4% of respondents. The question with the lowest mean score that is "Reducing natural resource waste is a legitimate behavior at restaurants" is strongly agreed by 48.5% of respondents and 0% of respondents strongly disagreed.

4.1.2.4 Perceived Behavioral Control

Table 4.12 Descriptive Statistics of Perceived Behavioral Control

Rating Statement	(1) (%)	(2) (%)	(3) (%)	(4) (%)	(5) (%)	Mean
Whether or not I engage in waste reduction behaviors while dining at a restaurant is completely up to me.	0	0.8	4.2	33.8	61.2	4.55
I feel capable of not throwing food away.	0.4	1.2	3.1	43.8	51.5	4.45

I am confident that if I want, I can reduce waste while dining at a restaurant.	0	0.8	3.8	33.5	61.9	4.57
I have enough opportunities to reduce waste while dining at a restaurant.	0	1.2	4.6	39.2	55.0	4.48
I do not apply for plastic spoons, straws and forks while take-out any food.	0	1.5	8.5	31.5	58.5	4.47

Note: Ratings are (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Source: Developed from the research.

Table 4.12 has interpreted the mean score and percent score among the measurement items under the variable of PBC. For that, question 3 has the highest mean score of 4.57. While question 2 has the lowest mean score of 4.45.

Among the answer to question 3 which is "I am confident that if I want, I can reduce waste while dining at a restaurant", 61.9% of respondents strongly agreed and no respondents strongly disagree. Next, for the second-highest mean score question which is "Whether or not I engage in waste reduction behaviors while dining at a restaurant is completely up to me", there are 61.2% of respondents strongly agreed and no respondent strongly disagree. The third highest mean score question which is "I have enough opportunities to reduce waste while dining at a restaurant" is strongly agreed by 55.0% of respondents and no respondent strongly disagrees. There are 58.5% of respondents strongly agree with the fourth-highest mean score question which is "I do not apply for plastic spoons, straws and forks while take-out any food" and no respondent strongly disagree. Lastly, the lowest mean score question which is "I feel

capable of not throwing food away" is strongly agreed by 51.5% of respondents and 0.4% strongly disagree.

4.2 Scale Measurement

4.2.1 Reliability Analysis Test

Table 4.13: Summary of Reliability Test

Variable	Item	Cronbach's Alpha	Outcome
Behavioral Intention (BI)	4	0.668	Fair
Subjective Norms (SN)	7	0.800	Good
Attitude (A)	6	0.667	Fair
Perceived Behavioral Control (PBC)	5	0.588	Poor

Source: Developed from the research.

In this research, Cronbach's Alpha was used to assess the validity and reliability of the variables. As shown in Table 4.13, there are 22 items from four different variables and had run the reliability test. According to Zikmund, Babin, Carr, and Griffin (2013), a result of less than 0.60 is regarded poor, 0.61-0.70 is considered fair, 0.71-0.80 is considered good, and 0.81 to 0.95 is considered excellent. From the table, the result for behavioral intention and attitude are 0.668 and 0.667 which mean that the results are in fair level. However, Cronbach's Alpha for subjective norms is 0.800 that falls in good level and the lowest Cronbach's alpha is perceived behavioral control which is 0.588 that falls in poor level. The Cronbach's Alpha result suggested that the variables'

validity and reliability are poor, fair, and good. However, the Cronbach's Alpha for perceived behavioral control is that 0.588 is close to 0.600, according to Hinton, Brownlow, McMurray & Cozens (2004), they state that an alpha score of 0.5 to 0.75 is typically considered as suggesting a reasonably reliable scale, whereas the figure suggests a low-reliability scale.

4.3 Inferential Analysis

Multiple regression analysis will be examined using individual variables and their relationships with other variables.

4.3.1 Multiple Regression Analysis

Table 4.14: Model Summary of Multiple Linear Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733[a]	.537	.532	.32775

a. Predictors: (Constant), MEAN_PBC, MEAN_A, MEAN_SN

Source: Develop from the research.

In Table 4.14, the adjusted R Square for multiple regression of behavioral intention is 0.532. This meaning that IVs (subjective norms, attitude, and perceived behavioral control) can explain 53.2% of DV (behavioral intention).

Table 4.15: Anova

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	31.929	3	10.643	99.075	.000[b]
	Residual	27.500	256	.107		
	Total	59.429	259			

a. Dependent Variable: MEAN_BI

b. Predictors: (Constant), MEAN_PBC, MEAN_A, MEAN_SN

Source: Developed from the research.

Based on Table 4.15, the F-value is 99.075 and the significant value is 0.000. This shows that the three variables (subjective norms, attitude, and perceived behavioral control) in this research proved effective in explaining the differences in behavioral intentions to reduce trash in restaurants.

Table 4.16: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.293	.277		1.057	.291
	MEAN_SN	.571	.059	.545	9.647	.000
	MEAN_A	.150	.065	.117	2.302	.022
	MEAN_PBC	.207	.074	.172	2.806	.005

a. Dependent Variable: MEAN_BI

Source: Developed from the research.

The coefficient Table 4.16 looks at each predictor individually. SN, A, and PBC are predictors of BI.

Regression equation:

Behavioral Intention = 0.293 + 0.517SN + 0.150A + 0.207PBC
(0.277) (0.059)*** (0.065)** (0.074)***

The value of unstandardized Beta coefficients in this equation showed the gradient of the line between an IV and a DV. When one unit of SN is increased, BI is increased by 0.571 units. PBC (0.207) ranked second, and A (0.150) ranked the third factor to influence BI. The greater the influence on the dependent variable, the higher the beta coefficient. The standardized Beta Coefficient will be used to determine which factors have the most or least impact on BI. From Table 4.17, SN has the greatest Beta value of 0.571 among all the IVs. This indicates that SN has the largest impact on BI. However, the smallest Beta value belongs to A which is only 0.150. This means that the consumers does not feel that reducing waste while eating out as a beneficial behavior due to their attitude.

4.3.2 Hypothesis Testing

Table 4.17: Summary of Hypothesis Testing

Hypothesis	**Multiple Regression Analysis (Significant Value)**	**Rejection of rule**
H1: There is a significant relationship between subjective norms and behavioral intention.	P value (0.000) ≤ 0.05	Supported
H2: There is a significant relationship between attitude and behavioral intention.	P value (0.022) ≤ 0.05	Supported
H3: There is a significant relationship between perceived behavioral intention and behavioral intention.	P value (0.005) ≤ 0.05	Supported

Source: Developed from the research.

4.4 Conclusion

The demographic profile and general information of the respondents are presented in descriptive analysis through tables and pie charts. In addition, a reliability test was performed to guarantee the variables' validity and reliability. Different forms of inferential analysis are also developed to analyze the acquired data. In the following chapter, the findings will be discussed in further depth.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATION

5.0 Introduction

Based on the findings in Chapter 4, this chapter will provide a summary. In addition, the researcher's implications, limitations, and recommendations for future research will be examined.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive Analysis

5.1.1.1 Respondents' Demographic Profile and General Information

According to the research, researcher collected 260 sets of responses using questionnaires for this study and all of these questionnaires are valid for this study.

Based on the demographic profile of the respondents in Chapter 4, there are 114 of male respondents and another 146 are female respondents in the research survey.

Out of 260 respondents, 24 of them are all below 20 years old, 139 respondents are within the range of 21-29 years old, 85 respondents are within the range of 30-39, 11 respondents are within 40-49 and only 1 respondent is above 50 years old.

Besides, there are majority of the respondents which is 192 are having their highest education level in bachelor's degree 46 respondents in Diploma, 11 respondents in secondary school, 10 respondents in foundation and only 1 respondent in Master.

Other than that, there are 138 respondents are in employed status, 74 respondents are in student status, 47 respondents are in self-employed status and 1 respondent is in unemployed status.

In addition, there are majority of the respondents' income level are within RM3001-RM5000, 82 respondents' income level within RM5001-RM7000, 82 respondents' income level below RM3000 and only 4 respondents' income level are RM9001 and above.

In general information, in terms of the quantity of family members, majority of respondents have 4 people or above of family members, 72 of respondents have 3 people of family members, 29 of respondents have 1 person of family members and only 19 of respondents have 2 people of family members.

There are 101 respondents who dine out 2-3 times per week, 89 respondents who dine out 4-5 times per week, 43 respondents who dine out 0-1 time per week, and 27 respondents who dine out 6-7 times per week.

Lastly, for purpose of dining out in restaurant, majority of the respondents said that they dine out for family gathering, 148 respondents dining out for business meeting, 145 respondents dining out for celebration of special occasions and 130 respondents for social gathering,

5.1.1.2 Central Tendencies Measurement of Construct

The central tendencies of BI, SN, A, and PBC are discussed in this section. Under BI, the highest mean score belongs to "I am willing to participate in pro-environment practices at restaurants." For SN, the first ranked goes to "Most people who are important to me think I should practice waste reduction activities while dining out." Next, the first ranked for A is "I feel bad when uneaten food is thrown away." Lastly, "I am confident that if I want, I can reduce waste while dining at a restaurant" is having the highest mean score under PBC which is 4.57.

5.1.2 Scale Measurement

5.1.2.1 Reliability Analysis Test

Among the total 22 items from four variables that gone through the reliability test, the largest scored Cronbach's Alpha is SN with the value of 0.800. After that, followed by BI with the value of 0.668, and A having the Cronbach's Alpha of 0.667. Lastly, the lowest Cronbach Alpha scored is 0.588 which belongs to PBC. In overall, all the variables are positioned within the range of Poor, Fair, and Good.

5.1.3 Inferential Analysis

5.1.3.1 Multiple Regression Analysis

For Multiple Regression Analysis, all the independent variables have positive relationship towards BI as P-value is lower than 0.05. According to Table 4.17, SN has the highest impact on BI with a beta of 0.545. However, the A with lowest Beta value, 0.117, has the lowest effect on BI.

5.2 Discussion on Major Findings

The main objective of this study is to investigate the relationship between subjective norms, attitude and perceived behavioral control towards the consumers' behavioral intention to reduce waste in a restaurant.

5.2.1 Subjective Norms (SN)

H1: There is a relationship between subjective norms and the consumers' behavioral intention to reduce waste in a restaurant.

According to final result, there is a relationship exist between SN and BI at a significant level of 0.000 (lower than 0.05). Hoai Linh, Thai Cam, and Hai Chi (2019) backed up this finding by claiming that SN is linked to customers' behavioral intentions to minimize plastic waste. Next, result from Wajon and Richter (2019) (Richter, 2019)also consistent with the result as they claimed that subjective norms will influence the consumers' behavioral intention as the people will be affected to have greater influence on their behavior.

5.2.2 Attitude (A)

H2: There is a relationship between attitude and the consumers' behavioral intention to reduce waste in a restaurant.

The outcome indicate that there is a relationship exist between A and BI at a significant level of 0.022 (lower than 0.05). The result is aligned with the study conducted by Huang & Tseng (2020). Their finding stated that attitude will affect consumers' reactions to restaurant food waste. Besides, the result is also consistent with Russell, Young, Unsworth, and Robinson (2017) where the consumers' behavioral intention increase when individuals have a positive attitude about a behavior and they are more likely to engage it.

5.2.3 Perceived Behavioral Control (PBC)

H3: There is a relationship between perceived behavioral control and the consumers' behavioral intention to reduce waste in a restaurant.

The result shows that there is a relationship between PBC and BI at the significant level of 0.005 (smaller than 0.05). A study by Hoai Linh, Thai Cam, and Hai Chi (2019) show that PBC is having a relationship with consumers' behavioral intention to reduce plastic waste. Besides, result from Seng, Masdek, Sharifuddin, and Teng (2021) is aligned with this research as the more the behavioral intention to self-manage their self-action to reduce waste in restaurants, the higher the perceived behavioral control.

5.3 Implication of the Study

The primary goal of this study is to determine the factors that influence restaurant patrons' behavioral intentions to reduce waste. All these significant information will assist the consumers such as children, adults and even the elderly to have a better understanding on the factors that will influence them to reduce waste in restaurant. Consumers' behavioral intentions to minimize waste are significantly impacted by subjective standards, attitudes, and perceived behavioral control, according to the study.

Subjective norms is refer to the perceived societal influences or pressures to engage or not engage in given conduct (Al-Swidi, et al., 2014). The result of subjective norms is there has a positive relationship with behavioral intention. Hence, a social impact can influence someone's decision to follow or not follow a certain activity. Subjective norms will influence a respondent to reduce waste in restaurant, therefore important people on individual such as families, relatives, friends, colleagues, and so on are encouraged to develop or instill a stronger subjective norms to reduce waste when dining out in restaurant. The recommendation is government can mandatory restaurants

put the poster regarding SDG to remind and encourage consumers about the importance of SDG. In addition, parents should bring their children to attend some talks about the importance of SDG to waste reduction together, hence this will give them a better understanding of the environmental impact of reducing food waste. Therefore, individuals will hold a positive subjective norms toward certain behaviors.

Next, the result also display that attitude will affect the consumers' behavioral intention to reduce waste in restaurant. Individuals who have positive and negative attitude and yet will affect them to perform their behaviors. Attitude can be considered as behavior that affects somebody towards waste reduction. The recommendation is the Malaysian Waste Management Association has the ability to develop sustainable community activities. They can organize a variety of relevant awareness-raising programs and inculcate in individuals a sense of responsibility to protect the environment's beauty. In addition, the school or parents can convey environmental awareness knowledge to students or their children, therefore, they will gain knowledge as consumers and strengthen their ability to safeguard the environment on their own. Therefore, individuals with a positive attitude and knowledge are more likely and willing to reduce waste when dining out in restaurant.

Lastly, the result of the study indicate that perceived behavioral control has a relationship with behavioral intention. Perceived behavior control can control personal perceptions of the difficulty or ease with which a person accomplishes an action. Perceived behavioral control is vital for individuals to change their behavior to reduce waste when dining out. Besides, individuals lowering perceived barriers to food waste reduction has a positive impact. The fewer the barriers to reducing food waste, the more behavioral control people think they have. To put it another way, assuring people's confidence in their ability to waste less food has a big impact on their motivation to reduce food waste. Individuals should be motivated because they have the skills, opportunity, and abilities to engage in waste reduction efforts in a good way. As a result, individuals will have no problem or inconvenience completing the optimal conduct that is anticipated to occur. Individuals should be placed on removing potential

barriers and ensuring that they have faith in their capacity to reduce food waste. For instance, the government might enact legislation that requires every special food offer to include a "sustainable and moderate consumption declaration". Gambling and alcohol consumption have both been practiced in other countries. Therefore, individual would having a greater perceived behavioral control to reduce waste.

5.4 Limitation of the Study

Even though this research was conducted successfully, nevertheless, it had limitations and shortfalls along the process of completion. Firstly, the researcher believes that when participants are asked direct questions, social desirability bias may influence the responses.

Besides, the theory of planned behavior and environmental concerns were used to develop a research model in this study. However, the model's explanatory power is still insufficient, and there may be more undiscovered aspects not addressed in this work.

5.5 Recommendations for Future Research

There are some recommendations are suggested to overcome the research's limitations. It is recommend that researchers may use interviews and other approaches by subsequent studies to explicitly check the real ideas of consumers. Researchers not only can collect data through surveys, but they can also ask consumers more questions than surveys, thus, researchers will have a better understanding of consumers about waste reduction.

Researchers will be able to introduce new theories for investigation in the future. For the follow-up study, we might examine the internal influence elements, such as early adulthood consumers' feelings and thoughts, and add new dimensions based on this research, such as second-order dimensions and intermediary variables, to increase the model's explanatory power and perfection.

5.6 Conclusion

In conclusion, food waste is a significant issue because the majority of food is thrown away at the conclusion of the food supply chain in developed countries. Throwing food away at this point is a waste of both the food and the resources that were used to produce it. This waste has a complicated set of economic, social, and environmental effects. Food waste avoidance is seen to be the most effective way to mitigate its consequences. Most importantly, every individual should have ways to reducing the waste in order to protect themselves and families as well as the environment, and to contribute to the commune's increased awareness in order to achieve sustainable development goals.

The research objective of investigating the consumer's behavioral intention to reduce waste in restaurant has been fulfilled. However, all of the independents variables which are subjective norms, attitude, and perceived behavioral control have relationship with dependent variables.

This study recommends that enhancing perceived behavioral control is the effective way to encourage future generations to reduce food waste. This can be accomplished through removing barriers and boosting people's self-confidence. In addition, family and friends also play an important role to influence people around them to instill stronger subjective norm to reduce waste. Furthermore, the limitations in this chapter were identified, and future research recommendations were made as a result of this

study. The findings of this study could lead to a variety of approaches to decreasing food waste.

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Appendix A: Survey Questionnaire

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BACHELOR OF INTERNATIONAL BUSINESS (HONS)

FACTORS INFLUENCING CONSUMERS' BEHAVIORAL INTENTION TO WASTE REDUCTION IN RESTAURANT

Dear respondents,

I am Tan Kat Ni, a final year undergraduate student pursuing Bachelor of International Business (Hons) degree from the Faculty of Accountancy & Management (FAM) at Universiti Tunku Abdul Rahman (UTAR). Currently I am conducting my final year project (FYP) on "**Factors Influencing Consumers' Behavioral Intention to Waste Reduction in Restaurant"**.

This questionnaire consists of three sections including Section A, Section B and Section C. Kindly answer ALL questions in ALL sections. Completion of this form will only take you approximately 5 - 10 minutes. Your acceptance to participate in this survey is sincerely appreciated. Thank you for your time and effort.

Your responses are important for me to complete the research. I assure that all information you provided will be kept private and confidential, and used solely for academic purpose. If you have any question about the survey questionnaire, please contact me through email at joantkn2000@1utar.my. Thank you for your participation and cooperation in this study.

SECTION A: DEMOGRAPHIC PROFILE

Kindly need your help to fill in some of your personal information. Your answer will be kept strictly confidential.

1. **Gender**

   Male ☐

   Female ☐

2. **What is your age?**_____

3. **Highest Education Level**

   Secondary school ☐ Master ☐

   Foundation ☐ Doctorate ☐

   Diploma ☐ Others: _____

   Degree ☐

4. **Employment Status**

   Student ☐

   Unemployed ☐

   Employed ☐

   Self Employed ☐

5. **Income level**

   Below RM3000 ☐

   RM3001 – RM5000 ☐

   RM5001 – RM7000 ☐

   RM7001 – RM9000 ☐

   RM9001 or above ☐

SECTION B: GENERAL INFORMATION

Please select only one option.

1. **How many family members do you have?**

   1 person ☐

   2 people ☐

   3 people ☐

   4 people or above ☐

2. **How often do you dine out a week?**

   0 – 1 time ☐

   2 – 3 times ☐

   4 – 5 times ☐

   6 – 7 times ☐

3. **What is (are) the purpose(s) of dining out in restaurant? (You can select more than one options)**

   Social gathering ☐

   Family gathering ☐

   Business meeting ☐

   Celebration of special occasions ☐

SECTION C: FACTORS INFLUENCING CONSUMERS' BEHAVIORAL INTENTION TO WASTE REDUCTION IN RESTAURANT

The following lists are the measurement elements about your behavioral intention to waste reduction in restaurant. Kindly select the answer that indicate your opinion for each of the following statements.

(1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree

Dependent Variable - Behavioral Intention (BI)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am willing to participate in pro-environmental practices at restaurants.	1	2	3	4	5
2. I try to participate in almost all pro-environmental practices at restaurants to reduce waste.	1	2	3	4	5
3. I participate in reducing waste practices at restaurants.	1	2	3	4	5
4. I am willing to participate in environmental programs hold by the government.	1	2	3	4	5

Independent Variable - Subjective Norms (SN)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Most people who are important to me think I should practice waste reduction activities while dining out.	1	2	3	4	5
2. Most people who are important to me would want me to practice recycling activities while dining out.	1	2	3	4	5

3. Most people who are important to me support my participation in waste reduction at a restaurant.	1	2	3	4	5
4. My friends think my efforts towards reducing food waste are necessary.	1	2	3	4	5
5. My family thinks my efforts towards reducing food waste are necessary.	1	2	3	4	5
6. My friends thinks my efforts towards preparing food from leftovers are necessary.	1	2	3	4	5
7. My family thinks my efforts towards preparing food from leftovers are necessary.	1	2	3	4	5

Independent Variable – Attitude (A)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Reducing waste during dining out is an affirmative behaviour.	1	2	3	4	5
2. Reducing food waste during dining out is a beneficial behaviour.	1	2	3	4	5
3. Reducing water waste is an essential behaviour at restaurants.	1	2	3	4	5
4. Reducing natural resource waste is a legitimate behaviour at restaurants.	1	2	3	4	5
5. I feel bad when uneaten food is thrown away.	1	2	3	4	5
6. I was raised to believe that food should not be waste.	1	2	3	4	5

Independent Variable - Perceived Behavioral Control (PBC)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Whether or not I engage in waste reduction behaviours while dining at a restaurant is completely up to me.	1	2	3	4	5
2. I feel capable of not throwing food away.	1	2	3	4	5
3. I am confident that if I want, I can reduce waste while dining at a restaurant.	1	2	3	4	5
4. I have enough opportunities to reduce waste while dining at a restaurant.	1	2	3	4	5
5. I do not apply for plastic spoons, straws and forks while take-out any food.	1	2	3	4	5

Thank you for your participation.

All the responses will be kept private and confidential.