

**CONSUMER PERCEPTIONS TOWARD SINGLE-USE PLASTIC
AND BIODEGRADABLE STRAWS IN BANGKOK**

The image shows a large, faint watermark of the Mahidol University logo in the background. The logo is circular, featuring a central emblem with a crown and two lions, surrounded by Thai text. The text around the emblem reads "มหาวิทยาลัยมหิดล" (Mahidol University) at the top and "วิทยาลัยการจัดการ" (College of Management) at the bottom.

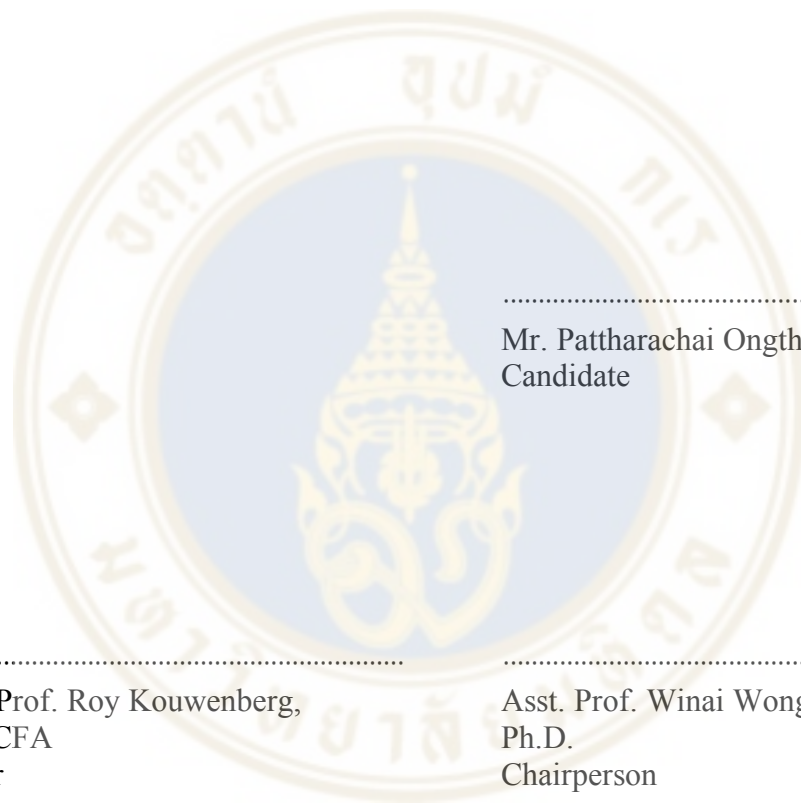
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FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF MANAGEMENT
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Entitled
**CONSUMER PERCEPTIONS TOWARD SINGLE-USE PLASTIC
AND BIODEGRADABLE STRAWS IN BANGKOK**

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ABSTRACT

The purpose of this research is to understand the respondents' perception toward the single-use plastic straws and observe people's willingness to change to using biodegradable straws. The researcher collects information on the factors that can change people's behavior with an online survey. This paper uses a quantitative approach, with short survey questions and multiple choices, to gain specific answers to find the way to influence people to use more biodegradable straws for reducing single-use plastic waste. The result of this study shows pros and cons on respondents' perceptions and the possibility to change people's behavior for not providing and accepting plastic straws in Bangkok. Additionally, the researcher provides recommendations for the way to influence people in Bangkok to change their behavior and use less plastic items.

KEY WORDS: Single-use plastic straws / Plastic items / Biodegradable straws

42 pages

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CONSUMER PERCEPTIONS TOWARD SINGLE-USE PLASTIC AND BIODEGRADABLE STRAWS IN BANGKOK

Introduction

*“Only when the last Tree has Died
and the last River has been Poisoned
And the last Fish been Caught
will We realize we cannot eat Money”*

-Indian Proverbs-

CHAPTER I INTRODUCTION

1.1 Problem Statement

The research topic of this thematic paper is about the consumer perception toward single-use plastic and biodegradable straws in Bangkok and how to influence Thai people to change their behavior and use less single-use plastics straws. Presently, we cannot ignore that single-use plastics such as plastic bags, straws, water bottles, food packaging, and coffee stirrers are the items that people commonly use in their daily life in Thailand. These items become more convenient to use widespread and globally as it is easy to carry or transport the product, endure for a long time usage, protect the product from damage and contamination, and cheap to produce. In fact, plastic can give some benefits for people to use for specific purposes, but it should not use as a daily or common item for single use only like we are using currently. It has adverse impacts on the environment and animals. For example, there is a increasing of plastic waste such as water bottle for 20% by 2021 because every second 20000 water bottles has been bought according to the higher demand of people. Additionally, it has been stated that “one millions of sea birds are killed from the plastic pollution each year.” (The story

of, 2019). Finally, apart from being part of the plastic pollution problem, the production of plastics is also contributing to the global warming crisis because when plastics exposed to the sunlight and degrade, it will totally emit the greenhouse methane gas and ethylene to the surrounding area (Plastics contribute to, 2018).

Nowadays, plastic pollution is one of the most serious environmental issues in the world since it plastic was established in 1907 which became the beginning of global plastic industry (Ritchie and Roser, 2018). Over 100 years, the plastic waste has increased nearly to 381 million tones causing the negative impacts to the ocean and wildlife. For instance, the coastal area is concerned as one of the riskiest area that causes the plastic waste to enter the ocean (Ritchie and Roser, 2018). Besides, the developed countries seems to create more plastic pollution per person as people have more purchasing power. Another factor that causes plastic pollution in general is the plastic waste management in undeveloped countries because there is a higher chance of plastic waste not being collected or recycled, and eventually entering the ocean. It definitely causes a huge negative effect to the ocean wildlife as we can see from the news in the past decade. In fact, the way to get rid of the plastic waste is to bury in a landfill or burn it, which is not the best way to deal with it because it leads to environment issues. In general, it create the carbon emission that harm people's health and damage the surrounding atmosphere (Harrabin, 2018).

Moreover, consumers need to start thinking on how to rely less on single-use plastics and switch to more durable alternatives, and to build it in to a routine to become common practice before it is too late to solve this global plastic problem. Not only the environment or animals that will get affect from plastic pollution but also the next generation people will get affect as well. Most of the plastic that has been produces widely is not used sustainably, because almost of the plastic pollution is caused by single-use plastic items. Unfortunately, this waste will may also have a negative impact back on human's health due to the "Nano plastic effect". As mentioned above, most single-use plastic like straws will be get rid of by burying in a landfill or ends up dumped into the ocean. Consequently, plastic waste in the ocean will become part of the food for fishes unexpectedly. Subsequently, people caught fishes to be a food and those fishes already contained toxic effect of Nano plastic inside their body. In the consequence, human will get affect from those food resources, potentially causing health problems

(M. R. Gregory, Philos., 2009). However, Nano plastic effect from plastic waste is not become well-known throughout the public generally. This make people still not concern about this effect much. Therefore, it will definitely impact to human's health because of the cycle of the food chain.

In the past few decades, there are many firms try to innovate the biodegradable products to replace and reduce the single-used plastics in some countries such as Korean (Ibiroga, 2019). Some companies innovate the biodegradable products that has similar texture to plastic items called "PLA". All of these efforts help to reduce plastic waste as it made from natural ingredients. However, it is not effective in every countries because people need more time to be educated on this impact issue and also need more time to get used the biodegradable or composable products. Thus, it seems that to establish a sustainable plastic trend requires more consumer awareness. Businesses will be encouraged to focus more on the environmental issues. This will build a good example toward this issue in the near future.

1.2 Research Objectives

Therefore, the objective of this study is to study how social influence can change Thai people's behavior to use less single-use plastic straws in Bangkok. The reader will notice that social influence can become a major role of changing Thai people's behavior and also can raise people's awareness to be more concerned on this issue. This is because the younger generation will get be most affected environment problems in the future. Additionally, how to influence Thai people to change and use biodegradable products instead of single-use plastics in Bangkok is an objective. People need be aware to change the product from single-use plastics to biodegradable products by changing their consumption behavior for a sustainable future.

1.3 Research Questions

Main question: How to change Thai people's behavior to use less single-use plastic straws in Bangkok?

Sub-question: How to influence Thai people to change and use biodegradable products (straws) in Bangkok, and what is the role of social influence?

1.4 Research Scope

This research scope will mainly focus on

1. Analyze the behavior of Thai people in Bangkok who still use plastic straws in their daily life.
2. Analyze on how to convince them to change their behavior to use less plastic straws or to change to use biodegradable straws.
3. The factors that encourage them to change and use the biodegradable straws.

This paper will conduct by using the quantitative research. The data will collect by conducting from survey 100 people who still use plastic straws in their daily life and willing to change their behavior to use biodegradable straws instead of using plastic straws. Therefore, this study will obtain the understanding on factors behind consumers' perception on single-use plastics and biodegradable products. For the quantitative research, I will focus on people in the age of 20-45 as the main target to gather all the data together in order to make the recommendations for this problem.

1.5 Expected Benefits

From this study case, readers will learn about people's perception and awareness of plastic straws and the factors of influencing Thai people in Bangkok to use less plastic straw and change to use more biodegradable straws. Additionally, readers will also learn about the market opportunities for new biodegradable products such as straws in Bangkok, which can also be a guideline for the firms to understand consumer behavior. The result will provide information to better understand consumer behavior in Bangkok related to the use of biodegradable products for sustainability.

CHAPTER II

LITERATURE REVIEW

2.1 Definition of single-use plastics

Plastic items such as straws have been used globally for a long time since they were established in the past. It is described as single-use plastics because of its functionality. Single-use plastics are designed to be used only once, which will definitely create a huge impact to the environment because it is not produced for recycling use. Most single-use plastics include “among other items, grocery bags, food packaging, bottles, straws, containers, cups and cutlery” (UNEP, 2018). Moreover, there are lists of waste from single-use plastics that create the pollution in environment which identify by the UNEP as follows: “cigarette butts, plastic drinking bottles, plastic bottle caps, food wrappers, plastic grocery bags, plastic lids, straws and stirrers, other types of plastic bags, and foam take-away containers”. These products give the benefits to the users such as convenience, but it also affects to the factor of sustainability.

2.1.1 Definition of biodegradable products

The term biodegradable products mean “a product that can be broke down by naturally occurring microorganism and turned into compounds found in nature” (Bieri, 2016). In other word, biodegradable product will not leave any toxic residues that cause any harm to the nature after it has been disposed by the users. The effect of plastic wastes has made people more aware of the term “Biodegradable products”, which potentially can completely replace single-use plastic items.

2.1.2 Definition of social influence

Social influence is the impact of others’ thoughts which can be with intentional and unintentional efforts to change others’ beliefs, attitudes, or behavior. Social influence is not like to persuade others because that is the action of doing

something with intentional. Besides, social influence is kind of accidental persuasion without awareness of the influence attempt (Robert H. Gass, 2015).

2.2 Single-use plastics and trend of new businesses in Bangkok

In Bangkok, the number of plastic items has been used increasingly every day, as the new plastic product are being innovated to serve customers' need. For example, bubble milk tea, this drink trend seems to become more popular each year. This create a big impact to the environment in Thailand because all of the packages that use to contain the drink product are single-use plastic such as cups, straws, and plastic caps. Thailand's market for this industry is around at 2.5 billion baht and it growing to serve customers' demand. In fact, this product shows a new trend of popularity of sustainable packaging (Jitpleecheep, 2019).

Another trend of business in Bangkok, it is a service trend business which gain popularity among customers. For instance, Lineman, one of the popular food service providers in Bangkok gain the proportion of the online food delivery service of 4.9%, in just a short time. According to Mr. Ariya, "There is therefore tremendous business potential for personal assistant services to give Thai consumers easier access to everyday products and services, while helping to leverage the retail and restaurant industries to spur traffic and sales offline" (Tortermvasana, 2017). This service business does not produce the single-use plastic items directly but they obviously create more demand of people for taking foods away rather than eating their meal in the restaurant. This definitely causes the increasing use of plastic packaging for packing the food away.

Apparently, this trend of service businesses generates more single-use plastic wastes which impact the environment negatively, as the food package must use these basic items such as plastic bags, plastic spoons, and foam containers. Thus, it can be concluded that these two trends in Bangkok contributed to increased use of single-use plastics to serve their customers. Unfortunately, it creates a negative impact on the environment, without any concern from both most customers and manufacturers. This is also related to the mindset of Thai people to use single-use plastics unconsciously and it is an ongoing problem (Marks, 2018).

2.3 Mentalities regarding single-use plastics (Thai consumers' behavior)

Thai people can be described as being addicted to single-use plastics. According to the research, in 2010, Bangkok people used more than 600,000 pieces of single-use plastic per day (Corporal, 2010). The number of single-use plastic items is rising rapidly over the decade because “one person uses approximately eight plastic bags per day, or 500 million plastic bags per day” (The Thaiger & The Nation, 2019). Furthermore, there was the statement from Penchom Saetang, the director of Thai-based Ecological Alert and Recovery Thailand (EARTH). He also mentioned about the issue of reducing single-use plastics consumption in Thai society is, “very difficult because the Thai people are very familiar with the easy-going way [and] easy to use plastics” (Corben, 2017).

In fact, plastic straws are one of the main plastic items that generate waste and pollution to the environment and society because straw is the single-use plastic for a short period of usage with a take-away beverage and then thrown away. Due to the YouGov survey found that 24 percent of Thais use plastic straws multiple times a day and 29 percent using one a day. Furthermore, 59 percent of women seems to use plastic straws at least once a day which is more than men with 47 percent. The survey by YouGov was conducted in February 2019 and they selected over 1016 respondents out of 165,000. This is the comment from the survey, “Some are concerned about whether the cups they're drinking from at some shops are clean, and some people who wear lipstick don't want to leave a mark on the glass,” Pichmol said of possible reasons for the gender disparity (Thaitrakulpanich, 2019). It can be implied that many Thai people still trusting on using single-use plastic straw and prefer to use it in their daily lives without any concern about the environment issues due to some factors such as lack of education on this topic and low social influence (or pressure).

The unawareness of using single-use plastic impact on peoples' mindsets as well because they already feel familiar to continue using plastics as their routine and become normal habit for everyone in the society (Knussen & Yule, 2008). Therefore, it can be implied that individuals do not have enough conscious on plastic waste issue leading to a permanent problem.

2.4 Social influence regarding single-use plastics in Bangkok

Nowadays, social influence can impact people's mindset easily because the world is changing very fast with the Internet and social media. Consequently, the message of concerning topics will be transferred to others rapidly once it is posted in the social media channel. Obviously, it is the most effective way to transfer any message to people in order to raise awareness nowadays. Thailand may not rank high among of countries that are conscious on plastic wastes issues, but there are some actions of social influence that can lead the society to be more aware and to change the perception and behavior of people to use less plastic items. Furthermore, Thailand government seems to concern on this issue as well because they agree to control on using foam packaging and plastic items on the World environment day. Social influence absolutely can help to create the attention to the whole society (Charoonsak, 2018).

It is the right time for Thai people to change their mindsets toward plastic items before it is too late. Even though plastics make our life easier but it also causes the negative effect. Actually, plastics are good to use but its functionality can give more usefulness than using only once and throw away. On the other hand, there are some groups of people who disagree on continuing using plastic items. Consequently, they try to make some change to people's behavior as they are concerned about the sustainability future which will effect on human, wildlife, and environment.

For instance, a girl named "Lily" who is passionate and fights for reducing plastic items to create a greener society in Bangkok, Thailand. She tries hard to communicate with the Thai government to raise their awareness about plastic issue. Moreover, she also speaks on the Greenpeace Rainbow Warrior event with her stand point. This way is attractive to raise awareness to the Thai society. "I didn't start with protesting because I was afraid. I'm more comfortable talking to people. Touching people's hearts is better than yelling at them with signs. I want to communicate so they realize," Lilly said. As a solution, her message lead to the start of no-bag campaigns by many firms such as Tesco Lotus, Big-C, and 7-Eleven. This is a good small step with big action toward the problem to reduce single-use plastics in Bangkok (Thairakulpanich, 2019). This is one of the examples from social influence in Bangkok that may lead Thai society to green mindsets and change their perception about the single-use plastics issue.

2.5 The impacts of single-use plastics to human health and wildlife

Single-use plastic creates a negative impact to the lifecycle, not only impact to humans but also wildlife and the environment because single-use plastics waste has been managed in the wrong way. Unfortunately, this causes a spread of diseases from plastic waste which create the negative impact to human health. Besides, plastics and its particle can leak into the water source when they are mixed in the clean water. It definitely harms to human health because water is the main source for humans in order to live. The harmfulness are infertility, breast and prostate cancer, and polycystic ovary syndrome causing when people breath or absorb contaminated water though their mouth (Lister & Schierow, 2010; Konieczna et al., 2015). As a result, people need to find way to manage single-use plastics as soon as possible because it absolutely can lead to health problems.



Figure 2.1 Bird consumption of plastic waste (Isak, 2009).

The impact of single-use plastics to wildlife is also a tragedy because plastic cause death to the animals as they eat it without noticing. In addition, since the number of plastic wastes has increased tremendously over 60% or 6.3 billion metric ton in the natural environment which accumulated from 1950 (Musa & Hayes 2013).

All of these impacts also occur from careless waste management in Thailand. All related departments still use the method of dumping the plastic waste in an open dump site, such as a landfill. This is the cheapest and most common way to dispose waste in Thailand. “65% of total waste generated in Thailand goes to open

dumping sites” (Kaosol, 2009). This creates a chance of flowing plastic waste into the marine environment and cause the wildlife harm as they consume it.

2.6 Framework: Theory of Planned Behavior

The most suitable framework for this topic is the theory of planned behavior. It can lead to the understanding of what can lead or change the Thai people’s behavior to become more concerned about the single-use plastics waste problem. So far, Thai people have changed their perception toward this problem slowly and ineffectively. Thus, this framework might be applied for adapting to Thai people’s behavior, and in general to understand more about the issue.

Theory of planned behavior or TPB was created by Ajzen in 1985. It is the process of social psychology which had been developed from theory of reasoned action from Ajzen and Fishbein in 1975. TPB will stated how people’s intentions and behaviors form and follow from these three components: Behavior beliefs, Normative beliefs, and Control Beliefs. Each component will have an effect on the impact of individual’s behavior in different ways, depending on what experience they have and situation they are in (Ajzen, 1991). In my opinion, I believe that this theory can help to understand how to change Thai people’s mindset but it may take time to develop people’s behavior.

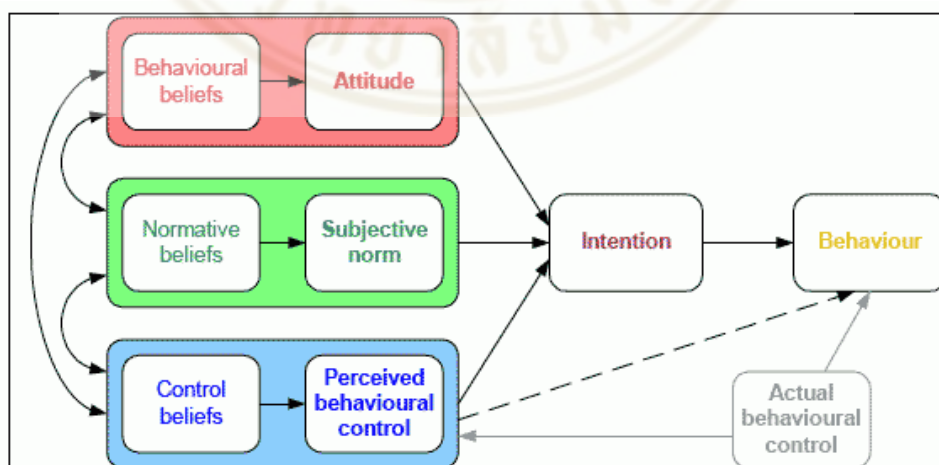


Figure 2.2 Source: Ajzen, 1991

Theory of Planned Behavior

In order to adapt this theory to reduce single-use plastics in Bangkok, the individual's mindset or beliefs should change toward the issue first. Behavioral beliefs depend on the individual thinking toward the issue which mostly will take time to adapt. Furthermore, individual's thoughts can change if they want to do it due to the recurring of those actions. For example, people might not be aware on the single-use plastics issue but if they see the poster or billboard of plastics pollution harm the environment, or cause wildlife to death because of plastic wastes. Definitely, there will be more and more people concern on the issue because they notice the problem every day. This can lead to the change of people's attitude and mindset efficiently.

For subjective norms, it is the person's beliefs which are influenced by others or social influence. This impacts the personal's beliefs because if the subjective norms get support from the society, surely many people will follow, such as the influencer. For instance, there are some people concern about the environment issue and try to make a change. He recycled the plastic caps and change them into plant pots and bowls for households which is one way to reduce plastic items and turn it to something more useful. "We want to change people's perceptions of plastic waste, and show that it can be more than trash that lies on the street or enters rivers. It's actually an incredibly valuable resource," Dominic says (Thaitrakulpanich, 2019). Action always is louder than words. Therefore, the trend of reducing plastic items creates more awareness toward Thai society which is a good start for other people to follow.

Perceived behavioral control is the impact of factors that can lead to the action of people behavior in order to control and focus on the performance of how it will go. The example on this is obviously related to the action in the present day which is the change on law and regulation from the government in many countries including Thailand. The regulation change by control people to use less plastic items which control people to be aware on this problem and encourage them to concern on the impact. For instance, Bangkok people need to adapt their life style on using plastic bags and straws. Besides, many organizations launch the new policy to create change on people's behavior of using less plastic items. "This cooperation will help Thailand leave the list of major generators of waste and sea garbage" the environment ministry said (The Thaiger, 2019). When people perceive the behavioral control, for example noticing that biodegradable straws are just as good and easy to use as plastic straws, they can

make change. Therefore, this is a challenge for Bangkok people to be moved out of their usual convenient lifestyle that involves single-use plastics, towards multi-use, recycled or biodegradable plastics.

2.7 Strategies for reducing plastics consumption in Bangkok

As it has been mentioned above, Thai people have use plastics without any concerns for many decades. People have become addicted to the habit of using this kind of items in their daily life because it is functionable and easy to use. There are many ways to reduce or change Thai people behavior in Bangkok to use less plastics and become more concern about this issue.

First of all, bans and increase tax on single-use plastics is a strategy on the national scale to reduce the plastic consumption. For example, Rwanda and India aim on banning plastics completely, which can be a good example and practitioner for other countries to follow the law and regulation.

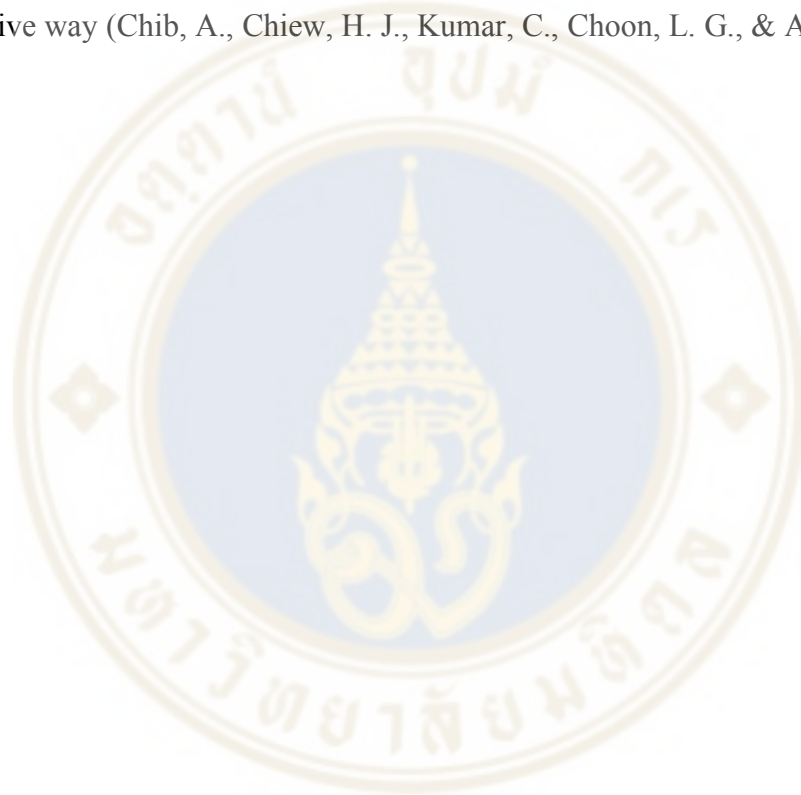
Secondly, the strategy that can used to reduce plastic pollution is the incentive programs by creating opportunities to persuade society to make more environmentally friendly adoptions in their routine. Logically, this strategy will become more effective in term of developing individual habit, if the person notice that it will bring back of their personal benefits (Maibach, 1993). It might help to reduce on plastic waste pollution and motivate people to adapt their habit.

Thirdly, it is the method that people try to do many decades but it still creates the problem to the environment in overall which is waste management and recycling. Even though there is a trash design to separate the waste, sometime those waste still separate to the wrong categories which impact to all of the recycling process. In fact, the point of proper disposal and separation of waste into categories is for the material to be recovered and also to minimize the waste in the landfill as much as possible (Capel, 2008). Therefore, this method should be concerned to create less impact to the environment and easy to do as well before it will occur in the future.

Another method that can reduce plastic waste is using alternative plastic. Bioplastic seems to be the good choice which its functionality is similar to plastic product but it can be composed of biodegradable, compostable material (McKenna,

2015). This can be related to plastic waste reduction, generate a new business, and create sustainable future.

Lastly, this method can definitely help on reducing the plastic pollution in long term. It is education awareness because this strategy will provide the advantages and disadvantages information of the use of plastic which can lead to its impact in general. Moreover, it also can change the next generation perspective toward the plastic items in the long run which will lead to their everlasting behavior. There is no guarantee of this method but, at least, it will create awareness to the next generation people in the alternative way (Chib, A., Chiew, H. J., Kumar, C., Choon, L. G., & Ale, K., 2009).



CHAPTER III

RESEARCH METHODOLOGY

This research paper aims to focus on how to influence Thai people's behavior to use less plastic straws or change to use biodegradable products instead of continue on using plastic straws. A process that can help this study to collect the data in order to examine and show the relevant information from the target group is quantitative research method by doing Internet questionnaire and survey. The target number of respondents will be up to 100 people of various genders and ages in order to make this survey become more reliable and can also be the recommendation toward the problem for the readers to gather the information.

This chapter will separate into four sections which are sample selection, research instruments, data collection, and data analysis.

3.1 Sample Selection

In this study, the researcher uses an online questionnaire with a target sample of up to 100 respondents, from a variety of backgrounds. Both male and female consumers with the age between 20 and 45 years old in Bangkok who still buy beverage that come with plastic straws in their daily life will be included, and those willing to change their behavior to use biodegradable straws.

3.2 Research Instrument

The Internet questionnaire and survey approach will be used for this research paper. This method will help on gaining the direct data in terms of analyzing all the information together to get the best solution to reduce or change the existing perception toward the problem.

The online survey is one of the most popular methods to collect data which can access many consumers' information effectively. Furthermore, the online questionnaire is aimed on the target sample. The answers from the respondents will be used to analyze the data and make recommendations. The results from an online survey will help the researcher to acknowledge the things that consumers lack, or increase their understanding. Accordingly, the research will get the benefits from the online survey in terms of gaining insights and feedback to develop the data into the new marketing strategies (Bhat, n.d.).

In this study, the researcher will conduct online survey expected to take five minutes on average for each respondent. There will be a mix of various styles of questions such as multiple choice questions, checkboxes choice question, and short answer question in order to help on gathering information more accurately.

3.3 Data Collection

In terms of collecting data, the researcher will use the Internet questionnaire and online survey approach. The questionnaire that will be used to ask the participants will be focused on the following key questions:

1. What is your age group? (Multiple choice)
 - 18-25
 - 26-30
 - 31-35
 - 35-40
 - 41-45
2. What is your gender? (Multiple choice)
 - Female
 - Male
3. What is your occupation? (Multiple choice)
 - Business owner
 - Government officer
 - State enterprise officer

- Employees
 - Students
 - Unemployed
4. What is your monthly income? (Multiple choice)
- No income
 - Below 20,000 Baht
 - 25,000-50,000 Baht
 - 50,000-75,000 Baht
 - 75,000-100,000 Baht
 - Above 100,000 Baht
5. How often do you purchase beverage that includes a straw? (Multiple choice)
- Never
 - Rarely
 - Sometimes
 - Often
 - Always
6. How often do you use plastic straws? (Multiple choice)
- Everyday
 - Once a week
 - 1-2 times per week
 - 2 times per month
 - Once a month
 - Never
7. Have you ever used biodegradable straws? (Multiple choice)
- Yes
 - No
- If yes: How often do you use biodegradable straws? (Multiple choice)
- Never
 - Rarely
 - Sometimes
 - Often

Always

If no: Do you agree to change to using a biodegradable straw? (Multiple choice)

Strongly Disagree

Somewhat Disagree

Neutral

Somewhat Agree

Strongly agree

8. Do you agree with the following statement: in general I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because it is convenient. (Multiple choice)

Strongly Disagree

Somewhat Disagree

Neutral

Somewhat Agree

Strongly agree

9. Do you agree with the following statement: in general I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because no good alternatives are available. (Multiple choice)

Strongly Disagree

Somewhat Disagree

Neutral

Somewhat Agree

Strongly agree

10. Is it easy to avoid using plastic straws? (Multiple choice)

Definitely hard

Probably hard

Not sure

Probably easy

Definitely easy

11. Do you agree with the following statement: in real life I never accept a plastic straw that comes with a beverage, because it is not good for the environment.
- Strongly Disagree
 - Somewhat Disagree
 - Neutral
 - Somewhat Agree
 - Strongly agree
12. Are biodegradable straws available at places where you buy beverages?
(Multiple choices)
- Yes
 - No
 - Maybe
13. Are you willing to pay more for a beverage that uses a biodegradable straw? (Multiple choice)
- Definitely Pay
 - Probably Pay
 - Not sure
 - Probably Not Pay
 - Definitely Not Pay
14. Which factors are you concerned with when using a biodegradable straw? (Checkboxes)
- Smell of the straw
 - Texture of the straw
 - Duration of the straw
 - Hardness of the straw
 - Bendiness of the straw
15. What is your opinion on current alternative choice of straws? E.g. Stainless straw, Paper straw, or Bamboo straw. (Short Answer)

All of these questions will generate the idea and benefits for both respondents and researcher to gather information and gain new experience at the same

time. Furthermore, the research will analyze the problem to get the solution from the receiving data. The survey question design to get the straight forward answer from the respondents in order to get the right and exact answer to develop this case study in the future.

3.4 Data Analysis

As, the researcher will use an online survey to approach and collect all data for this research. Besides, the last question of the questionnaire will be an opened-end question which will let the participants give short answers. Moreover, those answer from open-ended question will be used to write to support on the other question to state the evidence and prove that the results are related to the real answer of the respondents. By this way, participants can generate their perceptions and ideas toward single-use plastic and biodegradable straws. Afterwards, all descriptive statistic that the researcher gains from finding results from online questionnaire will be changed to graph chart and analyze the data for this research. Thus, the chart results will be useful for this study because the researcher can develop the information though the data gained from the survey.

CHAPTER IV

RESEARCH FINDING

This chapter will state all the data and information about the results gained from the survey for all respondents. The results will inform the readers about Thai people's consumer, behavior and the factors in order to change to use biodegradable straw in order to reduce the consumption of plastic items. The data that is collected are from many age groups and a wide variety of occupations. Besides, the result will show the different perspective of the end-users which will give benefit to this research, the readers and straw producers. The research will notice the factors to motivate the change of end users' behavior in term of external factors and the perception toward alternative biodegradable straws available in the Thai market.

The data was collected from the questionnaire that was sent to a convenience sample of participants in order to gain the result in the wider scope. Moreover, the result that the researcher find will be interpreted with the planned behavior theory of Ajzen, to try to give the reasonable solution of way to solve the problem of plastic consumption in Bangkok and create some change toward the attitude of consumer that use plastic straws to change the perception.

The total sample of participants for this research is 120 respondents and it turn out to have female respondents more than male which is 64.2% of female and 35.8% of male. In fact, the result also shows that the age of people who did the survey is in the age group of 26-30 years old with 45.4%, 18-25 years old with 28.6%, 31-35 years old with 11.8%, 41-45 years old with 8.4%, and 35-40 years old with 5.9%. To sum up, the results of the survey are mostly come from the majority group of 26-30 years old, generation Y people. It meaning that this sample is informative about the ideas and perceptions of young adult people in Bangkok.

What is your gender? (เพศของคุณคือเพศอะไร)

120 responses

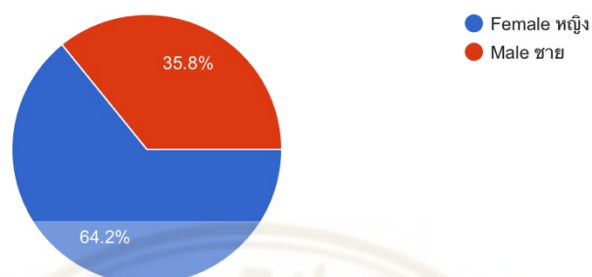


Figure 4.2 Gender of the Sample group

The research of this study reveals so many factors and perception of customers' thinking in order to know whether they are willing to change or adapt their behavior toward the environment issue or not. In addition, planned behavior of Ajzen will definitely help on analyzing the understanding of the way people's act currently and the possibility of changing behavior in the future. The researcher will notice the significant factors of changing end users' attitude from the results of the survey together with a planned behavior theory. Therefore, the findings will be separated into 3 parts to analyze the results which are Plastic straws consumption using a planned behavior theory, Attitude component toward plastic straw and alternative biodegradable straws, and Alternative biodegradable straws towards people's perception. Consequently, each category will be stated the reason behind of people behavior toward to use of plastic straws and the factors that can change their perception to use alternative biodegradable straws.

4.1 Plastic straws consumption using a planned behavior theory

In order to get into customers' perception deeply and understand their behavior toward the use of single-use plastic in Bangkok we apply the planned behavior

theory of Ajzen (1991). Additionally, the data collected from the survey will be used to analyze and combine with planned behavior theory and separated into these three categories which are Attitude towards behavior, Related subjective norms, and Perceived behavior control.

4.1.1 Attitude towards behavior

These are the attitude that lead to the behavior of the end users toward the plastic consumption issue in Bangkok, which can be emphasized into three major concepts, including;

4.1.1.1 Willingness to change

Going green trend has become more popular which create the impact on people's perception and mindset in the long term. The willingness to change or agreement on using a new product is extremely difficult to do and take time because people tend to get used to with the old attitude. Therefore, they need enough information of the benefit for changing. According to the survey results, more than 52.9% strongly agree to change to use biodegradable straws instead of continuing to use plastic straws. Moreover, there is a 27.5% of somewhat agree to this change as well which can be stated that more than 80% of 100 respondents willing to change their attitude toward behavior. Only 2.9% of respondents that willing not to change from plastic which one of the useful and understandable comments had mentioned that the respondents feel inconvenience to use alternative straws.

For example, *“the stainless straws are concerned as one of the most useful choices for end users but the users need to be careful in terms of using it because it is quite dangerous. There is some news that the users accidentally got injured by the stainless straw stuck inside of users’ neck. This creates the awareness to me to change and use alternative straw like stainless straw Furthermore, I try to use paper straws but it had a problem with duration factor. Besides, if the paper straws get wax by chemical ingredients, it is also dangerous for the users’ health as well when they use to consume the beverage. Last but not least, I use to think of buying bamboo straws to use but I am still afraid of bacteria causing by bamboo and also the bamboo smell that might change the taste of the beverage. In my opinion, among these three straws that I*

have mentioned above I prefer bamboo straws the most but the best way for me, I think just not use any straws”.

Another example from the comment, “Even though I own one of those alternatives, I sometimes tend to forget to bring it with me. Moreover, one of the problems of alternatives that I find it quite irritating is once you use it in the morning, it is hard to clean and reuse it the whole day”.

If no: Do you agree to change to use a biodegradable straws? (ถ้าไม่เคยคุณเห็นด้วยกับการเปลี่ยนมาใช้หลอดดูดน้ำย่อยสลายได้แทนหลอดดูดน้ำพลาสติกหรือไม่)

102 responses

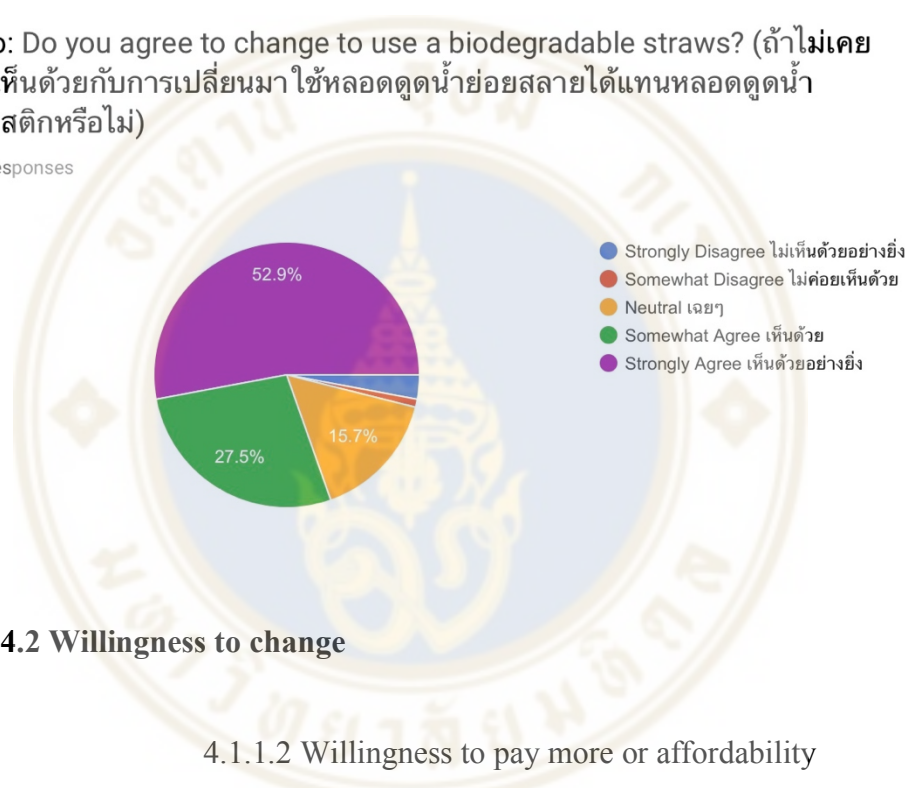


Figure 4.2 Willingness to change

4.1.1.2 Willingness to pay more or affordability

Definitely, the price of organic and biodegradable product is more expensive than plastic product due to the higher price of ingredients and production process. The customers need to understand and willing to pay more in order to buy this type of products. In addition, Thailand government still not concern on the environment issue enough. This lead to the inefficient on controlling the consumer’s behavior or pushing them to change and use biodegradable because the customers need to pay more in terms of their cost. However, the results from the survey show that the end users willing to pay more for the price of the beverage which is the positive sign generally. In fact, there is 52.5% of 100 respondents that will definitely pay and probably pay for a beverage that uses biodegradable straws. This is a good start for Thai

people to consider on this issue because Thailand still need more effort from Thai people if we want to get rid of plastic items. It can be stated that the retailers can consider changing to use biodegradable products more because if the end users willing to pay more, the retailers will not lose their margin. On the other hand, it can help to reduce plastic items such as plastic straws and also create a better image for the retailers as well.

One of the respondents commented on the price of the biodegradable as well in order to change Thai people's behavior in the long term which is very useful. *“Alternative straws are a good start to reduce global plastic usage. It would require the price to be the same or lower to attract consumers. If this goal cannot be reached, it would prove to be difficult to change consumer behavior”*. And also *“cost for customers should not be more than 1-3 Baht paying extra”*.

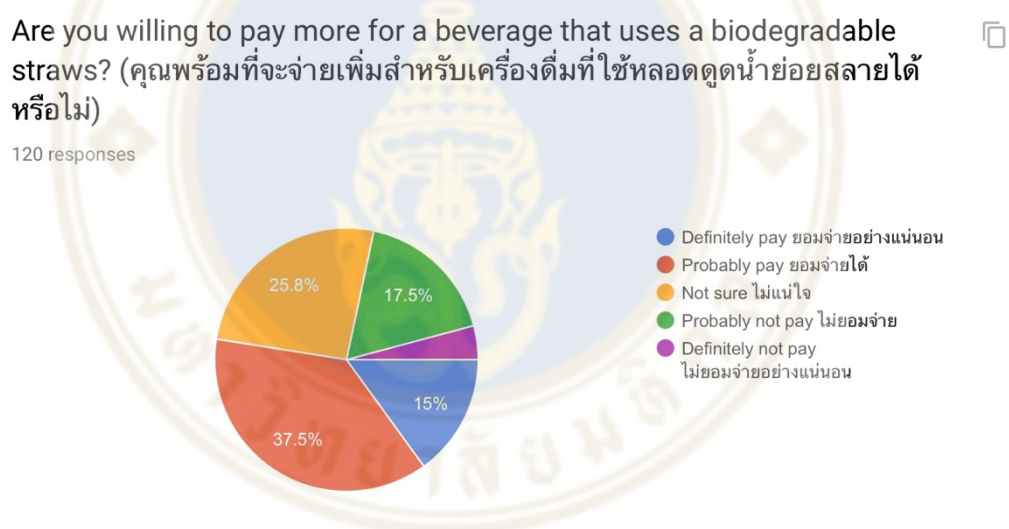


Figure 4.3 Willingness to pay

4.1.1.3 Ineffectiveness from other related sectors

The biodegradable straws are the item that come with the beverage that you buy to drink immediately. The end user is the person who uses this product but the real customers who will buy this product is the retailer such as cafes, coffee shops, hotels, restaurants, and bars. Therefore, Thai government, the best sector to start with, needs to be considered on changing policy on using plastic straws to

biodegradable straws first in order to create a change for the end users to use because if there are no rules and regulations toward this issue by forcing retailers or even normal people to change behavior, plastic straws will still exist and harm the environment. In fact, the result from survey can be proved that the retailer is still not willing to change and use biodegradable straws due to the higher price comparing with plastic straws. The results show more than 70% of respondents think that the biodegradable straws is not available at many places commonly in Bangkok where you buy beverages.

There are many useful opinions and feedback from the respondents. For instance, *“retailers and other related faculties are still not supported by provides more alternative biodegradable straws enough or even the campaign that help to reduce plastic items consumption such as bringing your own cup. I also feel like it is for a short term trend and not sustainable enough”*.

Another good comment, *“if it is possible to choose between plastic straws or biodegradable straws, I prefer to choose biodegradable straws instead of plastic one. Moreover, if any coffee shops or cafes change to use biodegradable straws, surely I will support that retailers”*.

This finding had underlined on many aspects such as the supportive attitude of end users and unsupportive attitude by other related sectors caused by many external factors by Thai people of the changing behavior toward to the overuse of plastic consumption.

Are biodegradable straws available at many places commonly in bangkok where you buy beverages? (ร้านขายเครื่องดื่ม/กาแฟ/คาเฟ่ในกรุงเทพได้มีการให้บริการหลอดดูดน้ำย่อยสลายได้กับผู้บริโภคอย่างแพร่หลายหรือไม่)

120 responses

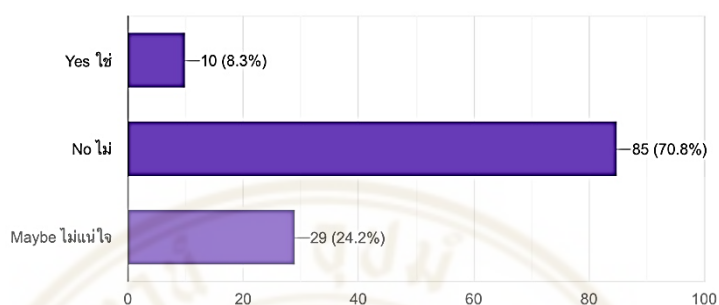


Figure 4.4 Ineffectiveness from other related sectors

4.1.2 Related subjective norms

In order to create a great impact in overall, Thai government needs to change the law regarding single-use plastics to change people's behavior directly. This method will influence all retailers such as cafes, coffee shops, restaurants, and hotels to change their perception of using plastic items. This cycle will also impact on the end users in the end because they have to use it according to the policy. Nevertheless, the survey results show that 78.3% of 120 respondents had been experience with biodegradable straws in some retailers. Generally, it still rarely to find the use of biodegradable straws in every area in Bangkok. However, it is a good sign because it means that some retailers who provide the beverages concerned on the environment impact which definitely will raise people's awareness of this problem. Though, it still cannot compare with the overall consumption of plastic items for the whole population of citizen in Bangkok. As, it is pretty hard for the end users to avoid using plastic straws completely because retailers still provide single-use plastic straws. Consequently, not every retailer uses eco-friendly straws due to the first stage for changing which means that there are still 45% of 120 respondents who still use single-use plastic straws in their daily life. In

contrast, biodegradable straws are getting to be known more from the end users' side but some retailers still have not made a decision on changing to use biodegradable straws due to the higher cost and not been forced enough from government.

This is one of the most supportive comments that refer to the related subjective norms by the end users *“Good and should be practiced by all sellers. Consumer needs straw and majority only cares as long as it is safe to use, because they are aware that plastic is bad for the environment”*. The survey results show that if anyone start to use the biodegradable straws which considering the benefit and good impact, it will definitely change people's behavior and influence them to follow.

Have you ever used biodegradable straws? E.g. Stainless straws, Paper straws, or Bamboo straws. (คุณเคยได้มีโอกาสใช้หลอดดูดน้ำย่อยสลายได้หรือไม่ เช่น หลอดแอสแตนเลส, หลอดกระดาษ, หลอดไม้ไผ่)

120 responses

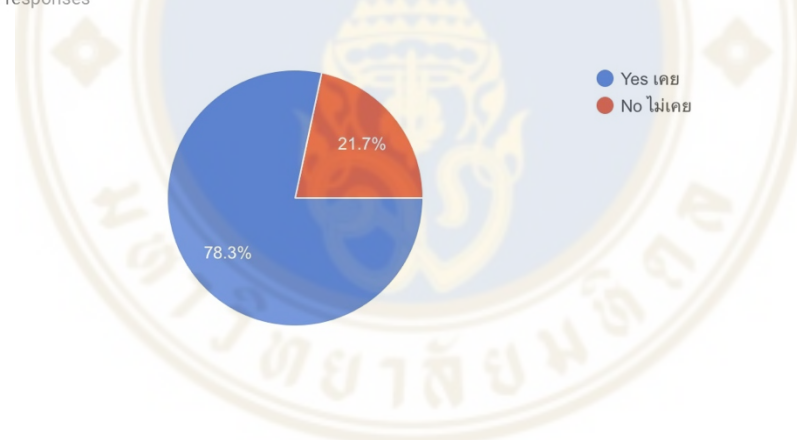


Figure 4.5 Related Subjective Norms

4.1.3 Perceived behavioral control

For this section, it is considered by the willingness to do something personally which can lead to the personal attitude. It depends on personal believe that they have the ability to contribute that attitude and can control in order to seek the goal or not (Chanvit, 2015). There are three questions that lead to acknowledge the end users' attitude toward the goal of this case study.

The first question has mentioned about the awareness of end users toward the impact of plastic straws even though they know that it damages the environment: In general, I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because it is convenient. The result illustrates 45% of respondents agree and 27.5% of people who strongly agree which is more than half of all respondents that shows the awareness toward the plastic pollution issue but they still using plastic straws with their beverage because it is more convenient for them and not every retailer provide the biodegradable straws. Therefore, it shows the retailers who can provide the items and also can help reduce plastic waste need to take action a lot as end users' perception and willingness is already concerned and ready on this issue but they need to use the items that retailers provide without any choices.

Do you agree with the following statement: in general I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because it is convenient. (คุณเห็นด้วยกับข้อความนี้หรือไม่ ในความเป็นจริงฉันมีความกังวลเรื่องสิ่งแวดล้อม แต่เวลาที่ฉันซื้อเครื่องดื่มที่ให้หลอดพลาสติกมาด้วย ฉันก็ยังใช้หลอดพลาสติกอยู่ดีเพราะว่ามันสะดวก)

120 responses

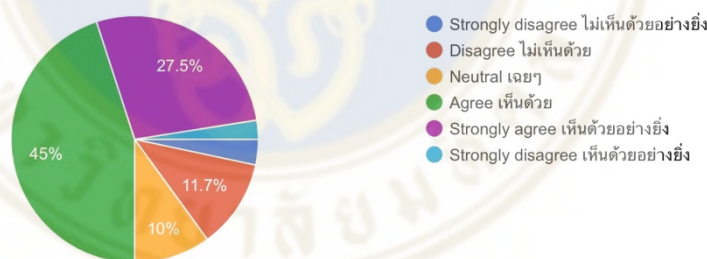


Figure 4.6 Perceived behavioral control

Secondly, the survey question asked the respondents about their thoughts on attitude toward the reaction with the limit of alternative biodegradable straws that available to use: In general, I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because no good alternatives are available. The results for this question seems to be very clear on people agree that there

are no good alternative biodegradable straws available for using: 42.5% agree and 37.5% strongly agree on the use of plastic straws cause due to lack of good alternative biodegradable straws in the market. Thus, it can be stated that people concern about the plastic waste impact but there is still no good choice for retailers and end users to choose and use as an alternative. Thus, it becomes a major reason for plastic straws still existing in the Thai market.

Do you agree with the following statement: in general I am concerned about the environment, but when I buy a beverage that comes with a plastic straw I still use it because no good alternatives are available.
(คุณเห็นด้วยกับข้อความนี้หรือไม่ ในความเป็นจริงฉันมีความกังวลเรื่องสิ่งแวดล้อม แต่เวลาที่ฉันซื้อเครื่องดื่มที่ให้หลอดพลาสติกมาด้วย ฉันก็ยังใช้หลอดพลาสติกเนื่องจากไม่ได้มีหลอดดูดน้ำทางเลือกที่สามารถย่อยสลายได้ให้ใช้)

120 responses

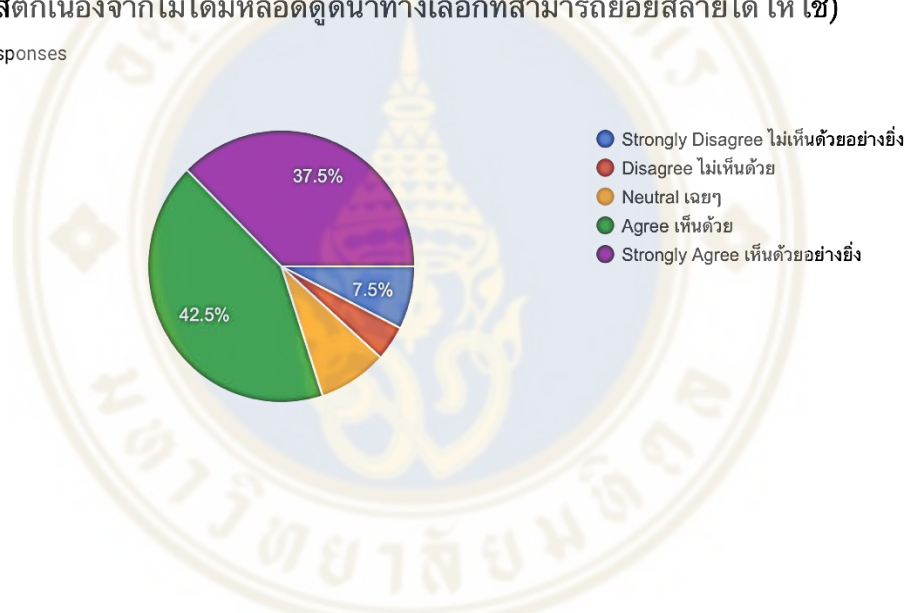


Figure 4.7 Attitude toward the reaction with the limit of alternative biodegradable straws

The last question that link to Perceived Behavior Control attitude and also state strongly about plastic straw overconsumption problem is “In real life I never accept a plastic straw that comes with a beverage, because it is not good for the environment.” Unfortunately, the results show 38.3% of 100 respondents who disagree, 15% strongly disagree, and 20% neutral to reject on accepting plastic straws even though they notice on the negative impact to the environment. In other words, people still accept plastic straws that come with the beverage as the reason of no better choice of alternative

product that will not harm the environment. The end users and retailers as a provider need to use what is available in the market.

All of these online survey questions lead to the conclusion that consumers are concerned about the environmental waste issue, but there is no good alternative product available in the market. This creates the following attitude of the users that they do care, but they have no good alternative choice in order to save the environment.

Do you agree with the following statement: in real life I never accept a plastic straw that comes with a beverage, because it is not good for the environment. (คุณเห็นด้วยกับข้อความนี้หรือไม่ ในความเป็นจริงฉันไม่เคยรับหลอดพลาสติกที่มาพร้อมกับเครื่องดื่ม เนื่องจากคุณรู้ว่ามันไม่ดีต่อสิ่งแวดล้อม)

120 responses

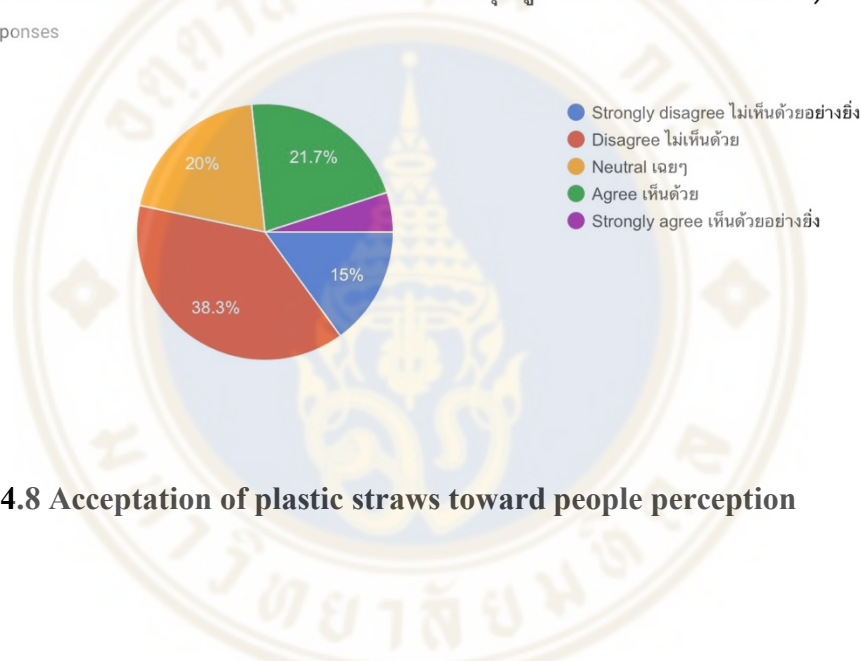


Figure 4.8 Acceptation of plastic straws toward people perception

4.2 Concerned factors toward alternative biodegradable straws

In order to change to the new product, the users need time to make their decision and choice. Apart from this, the factors that lead their decision for using the new product are also important as well because it shows customers' perception toward the product quality. Moreover, it also provides information about the possibility of the new product to the existing market for growth.

The biodegradable straws also have its own factors that can lead to the end users' decision which can show what factors are the most important that people concern about for this product. In fact, the research did the online survey question to ask the

respondents' ideas for each factors that can lead to their final decision to know whether they want to use the biodegradable straws or not.

The first factor that the users concern about the most is the duration of the straw. As, people notice that biodegradable product is eco-friendly to the environment. The product needs to use natural ingredients in order to produce it as well. The usage period of the biodegradable straws will not reach to plastic straw which can stay forever. Therefore, people concern on the duration that how long the composable straws will last and it can also reach to the average usage timing of the end users or not. This factor got the highest percentage compared to other factors with 69.5%.

Secondly, the smell of the straw is the next factor that the users concern as well because people get used to plastic straws with no smell even if they use it as long as they want. The new product with biodegradable function lead users to think that what if they can be composable which is make sense of smelliness with 50.8% of respondents. For example, paper straw which is biodegradable product also consist of paper smell which create the smell factor toward the users.

Thirdly, many people got the habit of biting the straws while they use it. This leads to the next factor of concerned which is the hardness of the straw. The alternative biodegradable straws still have weaknesses on this point because it cannot last long if the users bite it or use it in the wrong condition. Hence, any alternative biodegradable straws have its limitation for using, which is the consideration for the users with 40.7%. Therefore, it takes time to educate users and make people to understand its functionality.

The next factor that people concerned about is the texture of the biodegradable straws with 34.7% of respondents' concerns. All respondents definitely have been used plastic straws which the users will get used to the texture of the plastic straws. This leads them to consider on the texture of the biodegradable straws as well because the feeling for using should not be different much to make the same feeling for the users.

The last factor that consist to be the users' concern is bendiness of the straw with 12.7% of all respondents. The material that use to produce biodegradable product has higher possibility for the bendiness of the straws. For example, paper will get softer when it gets to touch with water. In fact, this logic can be used to the paper straws as

well. therefore, it is not that hard for people to guess the side effect after using biodegradable straw such as paper based.

Which factors are you concerned with when using a biodegradable straws? (You may should more than one answer) ปัจจัยไหนของคุณที่มีความกังวลต่อการใช้หลอดดูดน้ำย่อยสลายได้บ้าง (คุณสามารถเลือกตอบได้มากกว่า 1 ข้อ)

118 responses

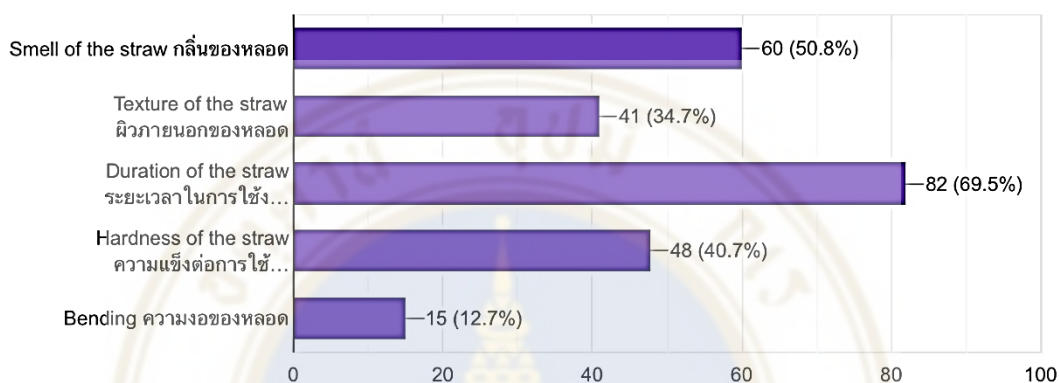


Figure 4.9 Factors concerned toward biodegradable straws

CHAPTER V

DISCUSSION AND LIMITATIONS

The main target for this research is to know the way to influence people to use less single-use plastic straws. All of the solutions are a way to help reduce plastic straw usage in the long term, leading to a more sustainable consumption system for Thai society in Bangkok.

The results of the analysis are beneficial for readers and other researchers in the future if they want to change people's behavior or perception toward using plastic straws, which cause great damage to the environment. The results also indicate that planned behavior theory is helpful for understanding people's behavior of why they are still using plastic straws, even they may notice its harmfulness. However, it may not guarantee the result whether it will work to change people's behavior, but the theory will definitely lead the reader to better understand people's behavior on this issue.

5.1 Recommendations

After gaining and analyzing all results that are needed with all factors, the most appropriate and suitable way to help on reducing plastic straws in Bangkok is to use planned behavior framework to create a better systematic solution (Figure 2.6). This will make people follow easier and more practical in term of adapting their attitude in the future. This is because to create a change on people's habit is not an easy thing to do. Therefore, a short term and long term solutions can be developed from planned behavior theory after applying this framework into action.

Obviously, the result from the online survey together with planned behavior framework showed many various perceptions from people's thoughts. First, starting from attitude toward behavior, people are willing to change for reducing plastic straws and willing to use less plastic straws because the waste issue has big negative impact that affect other living things such as wildlife and marine life. Therefore, the

recommendation for this is using marketing tools and trustable influencers to promote and give knowledge to people to support their willingness to change with biodegradable straws for replacing plastic straws in long term.

For willingness to pay more or affordability, the result come out that people are willing to pay more in order to use biodegradable straws because people are concerned about this issue a lot more which can drive on changing their attitude much easier. However, the recommendation for this factor is the producers or manufacturers should not use this chance to raise the price of composable products up too high, which will create a short effect on changing and bad perception toward end users. This will lead to an unsustainable solution in the end and also will limit the availability of biodegradable straws for the end consumers. This is because if the price were charged too high, the retailer will definitely not cost themselves up to lower their margin. On the other hand, if the price from manufacturer and distributor is up to the standard charge, the retailer will definitely buy biodegradable straws to use in their shop because every business wants to gain best reputation to create the sustainable brand image to the society. In fact, this will stimulate the widespread availability of biodegradable straws for the end users.

Moreover, the Thai government should be concerned about this issue and strictly enforce the laws and regulations to ban single-use plastic items such as straws and cups. If the government is not focused on enforcing the laws to change people's behavior, the issue will become harder to solve in the future. This is the most effective way to create change toward the plastic pollution issue because the effects will link together. For example, the retailers will need to change from providing plastic straws to biodegradable straws and the end users will need to use it as well. In order to make it more efficient, the government can set up the new department to look after this issue.

The factors that people concern about for biodegradable straws are important as well because it will lead to the willingness to change the behavior of the end users. For instance, according to the online survey results, it states that people are concerned on the duration, smell, and hardness of the biodegradable straws, which impacts their decision on using it. Responses to open questions showed that some people had a bad experience with biodegradable straws, such as paper straws which have problems with durability and smell while using it. Therefore, the recommendation is the

manufacturers should set a high standard for the biodegradable straws in order to replace the plastic straws completely. As a consequence, if the users are impressed with the product, they will definitely be more likely to repeat using it. Additionally, it is good to start with a small product like straws, because it is then easier to follow-up and make similar good alternatives for other kinds of single-use products like biodegradable plates or cups in the long term.

5.2 Limitations

The limitation of this research is the job type of respondents. For example, it is hard to find café owners in order to get the most accurate results from both providers and users. Another limitation is the lack of comparable products such as biodegradable straws in Thailand, because it is a new product to the Thai market. Last but not least, the limitation for this research study is the time limit during the collecting data period because this research can only survey a small number of participants. It is not suited to the common products like straws, which can lead to inaccurate results.

5.3 Future research

To improve and complete this study is to change the research design to get the results from both quantitative and qualitative methods, because interviews with the actual respondents in person can give more in-depth answers and new insights. Even though the number of respondents from interviewing may be lesser than online survey but the research can interview the right target respondents, which may give more precise and useful results to develop this case study. Besides, it will be easier to focus on café owners, which is the main target group who provides and uses straws in their business.

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