

**MOTIVATIONAL FACTORS TO ENCOURAGE THE USE OF
GREEN BAGS IN THAILAND**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF MANAGEMENT
COLLEGE OF MANAGEMENT
MAHIDOL UNIVERSITY
2019**

COPYRIGHT OF MAHIDOL UNIVERSITY

Thematic paper
entitled
**MOTIVATIONAL FACTORS TO ENCOURAGE THE USE OF
GREEN BAGS IN THAILAND**

was submitted to the College of Management, Mahidol University
for the degree of Master of Management
on
September 7, 2019



.....
Miss Pavita Ngamsri
Candidate

.....
Asst. Prof. Randall Shannon,
Ph.D.
Advisor

.....
Assoc. Prof. Astrid Kainzbauer,
Ph.D.
Chairperson

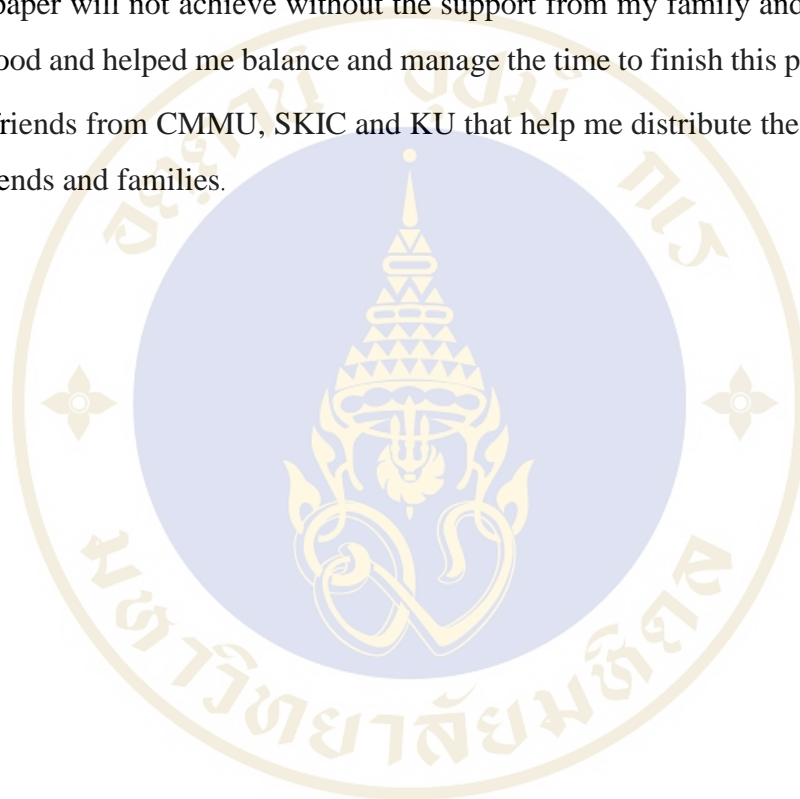
.....
Duangporn Arbhasil,
Ph.D.
Dean
College of Management
Mahidol University

.....
Dr. Ronald Thesenvitz,
Ph.D.
Co-advisor/member

ACKNOWLEDGEMENTS

Throughout the Thematic paper I have received a great support and assistance from my supervisors, Asst. Prof. Randall Shannon and Dr. Ronald Thesenvitz, for valuable advice and guideline that considerably improved the report. My completion of this paper will not achieve without the support from my family and colleagues who understood and helped me balance and manage the time to finish this project. Finally, to all my friends from CMMU, SKIC and KU that help me distribute the questionnaire to their friends and families.

Pavita Ngamsri



MOTIVATIONAL FACTORS TO ENCOURAGE THE USE OF GREEN BAGS IN THAILAND

PAVITA NGAMSTI 6049192

M.M. (MARKETING AND MANAGEMENT)

THEMATIC PAPER ADVISORY COMMITTEE: ASST. PROF. RANDALL SHANNON, Ph.D., ASSOC. PROF. ASTRID KAINZBAUER, Ph.D., RONALD THESENVITZ, Ph.D.

ABSTRACT

As environmental problem is becoming a big issue in all over the world and also in Thailand where single-use plastic bags are heavily used. News about the consequences from plastic waste were presented recently rising the environmental concern in Thailand. Many organization both government and public introduced campaign to reduce the use of single-use plastic bags. This research pinpoint on factors; environmental concern, attitude, store policy and contextual factors (availability and effort) to recognize the relationship of these factors with green behavior of Thai people. The quantitative research was conducted on 241 Thai people who live in Thailand and had a grocery shopping in the past month. According to the finding Thai People concerns about the environmental issues and do considered that there were impact on the environment from their own behavior. People preferred to have a choice for the grocery shopping and did not consider preparing reusable as a trouble or needed effort to do so. Increasing in environmental concern, attitude, store policy and availability of the options would increase green behavior.

KEYWORDS: Green bag, Single-use plastic bag, Environmental concern

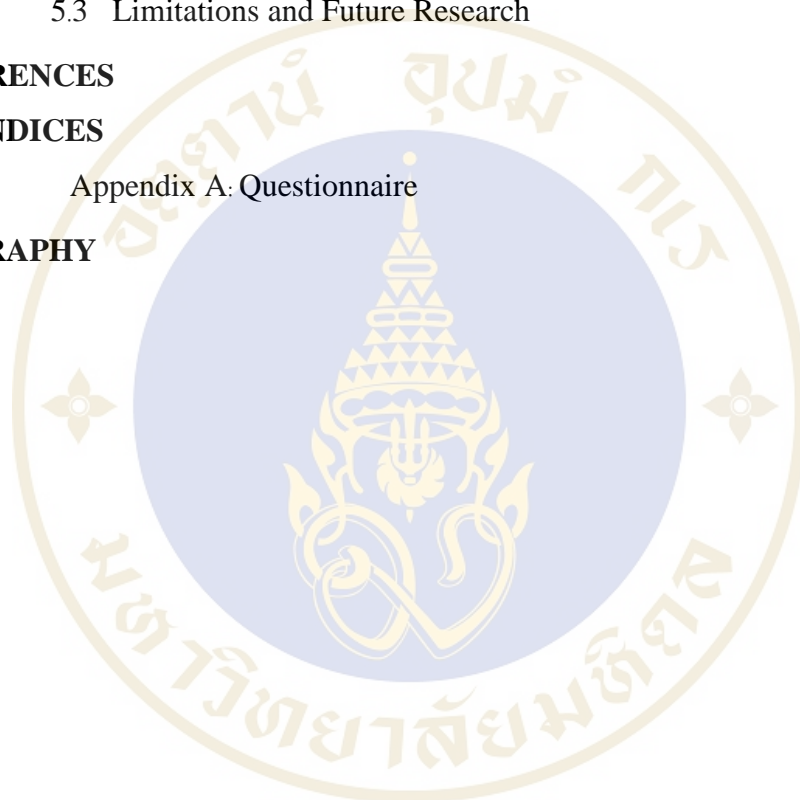
36 page

CONTENTS

	Page
ACKNOWLEDEMENT	ii
ABSTRACT	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Objectives	2
1.3 Research Questions	2
CHAPTER II LITERATURE REVIEW	3
2.1 Green Behavior	3
2.2 Environmental Concerns	4
2.3 Attitude	4
2.4 Store Policy	5
2.5 Contextual Factors	5
2.6 Conceptual Framework	6
CHAPTER III RESEARCH METHODOLOGY	9
3.1 Methodological Approach	9
3.2 Sample and Data Collection	9
3.3 Data Analysis	10
CHAPTER IV DATA ANALYSIS	11
4.1 Sample profile	11
4.2 Descriptive statistic and interval scale for 5-Likert scale	12
4.3 Pearson's Correlation coefficient	16
4.4 Regression analysis on Green behavior	18

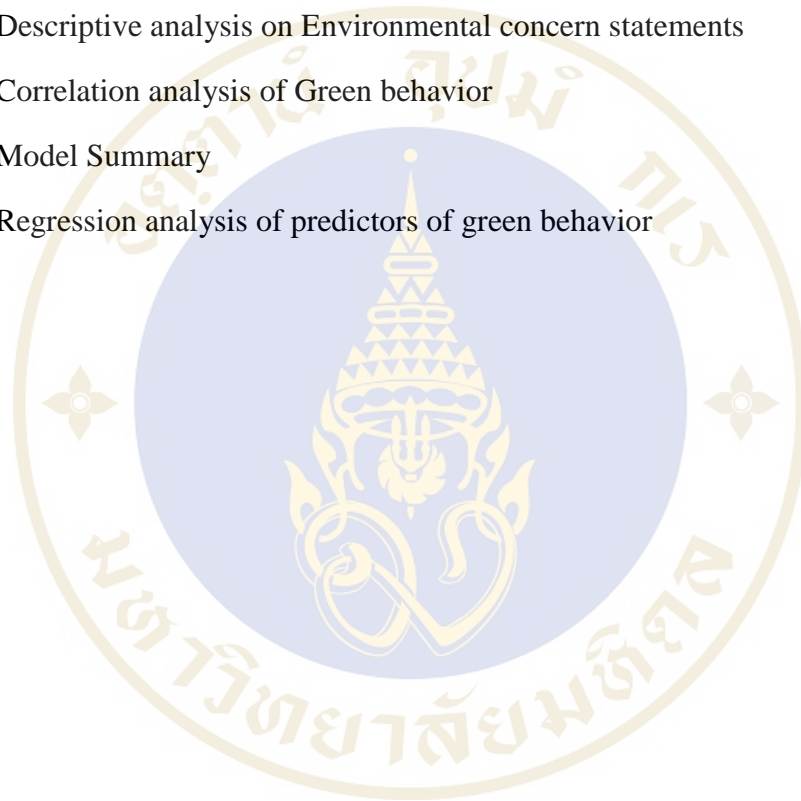
CONTENTS

CHAPTER V CONCLUSION & RECOMMENDATION	21
5.1 Conclusions	21
5.2 Recommendations	22
5.3 Limitations and Future Research	22
REFERENCES	24
APPENDICES	27
Appendix A: Questionnaire	28
BIOGRAPHY	36



LIST OF TABLES

Table	Page
2.1 Summarize literature review and references for the questionnaire	8
4.1 Survey Respondents' profile	11
4.2 Descriptive analysis on Environmental concern statements	15
4.3 Correlation analysis of Green behavior	16
4.4 Model Summary	19
4.5 Regression analysis of predictors of green behavior	20



LIST OF FIGURES

Figure	Page
1.1 Conceptual model of green behavior	7



CHAPTER I

INTRODUCTION

1.1 Background

Single use plastic bags were used wide spreading all over the world as a purpose to carry things around from the shops to the consumer's destination. As the plastic bag is reusable, lightweight, strong and inexpensive, a trillion plastic bag have been consumed every year (Earth Policy Institute, 2014). Every year eight million tons of plastic are entering to the ocean and only few countries responsible for the majority of the plastic waste including Thailand. (Ocharoenchai, 2017) In Thailand, consumption of shopping bag is widely used in supermarket, retails, convenience store and street food vendors. The whale was found on the Songkhla beach on 28 May, 2018 and over 80 pieces of plastic bags was found in its stomach which considered as a cause of whale dead (Pakkawan, 2018). This is one of the tragedy news that is a trigger the point of the environmental issue in Thailand. Thai people used, on average, at least eight plastic bags per day or two million bags per year. As a result of the use of plastic bags of Thai people, the growth of plastic industry annually is 12% since 1970 (Selly, 2019). To react with this plastic issue, many company creating an activities and campaign to try reduce the use of plastic bags. Forty retailers, including small and large retail chains, not providing plastic bags on the forth of every month, since December 2018 as they entered an agreement with the Mineral Resources Department. Tops providing a 'green checkout counter' for people who bring their own bag or not receiving the plastic bag (Jitpleechep, 2018) 7-Eleven launched 'reduce and stop' use of plastic bags campaign at all stores and encouraging the people to join by giving the donation to Siriraj Hospital in every transaction the customer say no to plastic bag. (The Thaiger, 2019) Tesco-Lotus is not only giving more member point for consumer who reject to receive the plastic bag but also provide paper grocery bag on the 4th of every month in all branches and in some specific branch are 'plastic bag free branch' where no plastic bag are used or given to the consumer. The 'plastic bag free branch' of Tesco Lotus are chosen by location where

located near the universities because the young generation tend to understand more about the waste and environment issues. (Brandinside, 2019).

1.2 Objectives

The purpose of this study is to understand what is the important factors that having an effect on the 'Green Behavior' or to use reusable bags when have a grocery shopping for Thai people. As mentioned in the Background section, at the current there are more concern about the environmental problems among Thai people and one of the obvious action and campaign to response to the plastic environmental issues is to reduce using single-use plastic. Stores in Thailand are launching different campaign to resolve the plastic problem. But in order to have an effective measurement to change customer behavior, we need to fully understand the important factors that encourage customer to do the green action. As stated by the BBC Thai website, reporting about plastic waste problem in Thailand, calling Thailand as a plastic country and mentioned that Bangkok as a fast-moving fast-paced so people buying food from the street and all the food are wrapped in plastic as a hygienic concerns. Also people buying thing from convenience store with a lot of plastic. (Head, 2018) According to this lifestyle, single-use plastic bags are frequently use in Thailand. From the use and the environmental problem occur form the plastic bag, the study would like to investigate on the environmental concern, attitude and other factors that affect customer behavior toward the use of reusable bag as a substitute of receiving the single-use plastic one in Thailand.

1.3 Research Questions

Q1. Do consumer consider the use of single-use of plastic bag from the supermarket in Bangkok as an environmental threat?

Q2. How do consumer feel about the single-use plastic bag in supermarket?

Q3. The criteria that would move consumers to switch to environmental friendly bags in supermarkets?

CHAPTER II

LITERATURE REVIEW

2.1 Green behavior

To mention about the behavior that refers to action that create minimum damage to the environment (Steg & Vlek, 2009) can be called in many ways such as green, green consumption, ecofriendly or pro-environmental behavior. The green behavior is also include not only bringing your own bags but also recycling and buying and utilizing the ecofriendly products. (Tan, Johnstone & Yang, 2016) Green behavior is relating with not only attitudes but also situations or circumstance factors affect the actions. Beneficial situation or contextual factors (i.e. monetary incentives and legal factors) supports the strength of attitude-behavior relationship whereas bad circumstance deprecate the relationship of attitude-behavior. (Joshi & Rahman, 2015) Generally for the behavior research, knowledge and behavior are having a positive relationship. Although in environmental field, there are no clear evidence to prove the theory as more finding show a complex relationship. (Chan, 2001) From the previous survey, the common two reasons to not always use reusable bag are people forget to bring green bag when go to the store and they prefer to use the single-use plastic bag for other purpose after shopping. (Bartolotta & Hardy, 2018)

Green behavior or the action that create minimum damage to the environment, in this paper the ecofriendly behavior focusing on the use of recyclable (for example using paper grocery bag) or reusable bag in supermarket instead of use a single-use plastic bags.

2.2 Environmental concern

According to Diekmann and Franzen (2018) environmental concerns is “an individual’s awareness on the threatening behavior that is impact to the environment or

natural resources”. This for Tang, Wang and Lu (2014) includes all the “people who have the positive attitude toward the use of green product”. Jardon and Silva (2017) add that “environmental concern is the general approach or set of direction specific to the individual to fulfil the responsibilities on the environment issue”. In other terms, for Mutsaers (2015) “the underlying constructs of environmental concern are willingness to pay, local environmental problem and global environmental problems”.

In this study, environmental concerns define as an individual’s awareness on the impact of human threaten behavior underlying the pro-environment and positive attitude which lead to the responsible behavior on the environmental issue.

2.3 Attitude

From Fazio’s (1986), attitude-to-behavior theory, disregarding about the environmental-friendly or green factor, the attitude guides behavior as awareness are selectively created toward matters and objects that are constant with the attitude. The attachment on the environmental goals are considered as pro-environmental attitude which vary in each individuals. For consumer with a pro-environmental attitude tend to find the sign or signal of the green properties before doing the action or buying the claimed environmental product but the attitude only have an effect only for under certain situation.(Thøgersen, 2000) For environmental context or pro-environmental attitude can be understand as consumer’s readiness to be responsible about natural environment. (Bissing-Olsen, Iyer, Zacher, 2013)

In the study focus on attitude towards using recyclable paper bag or reusable bag (like cloth bags) instead of single use plastic bags is one factor that the study want to find out in order to link with the green behavior. The bad attitude on the single-use plastic bag should increase the green behavior.

2.4 Store Policy

Cash-back scheme is one of the most common policy from supermarket or stores to encourage people to bring their own bags instead of receive free of charge

single use plastic bag. About 5.5% increasing of consumer using their own bags are benefit from the cash-back scheme in Urban India. Higher cash-back benefit can increase more rate, as experiment compare 1% and 2% cash-back was implemented. The scheme can be considered as a subsidies offered by retailers may be interpreted as an indirect tax on the use of plastic bags. To enhance the effectiveness of the cash-back program availability of a substitution or an alternative as cloth bags is also important.(Gupta,2011) As a test run for 100 stores of 'Target', the 5th largest stores in USA, the stores gave a discount for 5 cents of each reusable bag can decrease about 50% of plastic bag use. (Miller, 2011)

In this paper, the store policy to persuade people to bring their own reusable bag instead of take the single-use plastic bag from store at point of sale or cashiers to carry purchased things. These include cashback program, and point collection for member customer.

2.5 Contextual factors

Clearly, people action or behavior does not depend only by motivation alone but also other factors can be considered to have an impact with. As for pro-environmental or green behavior, the availability of facilities for recycling, products that supply in the market and public transportation quality are also capture an important role in pro-environmental or green behavior. Contextual factors could drive the behavior in both direct and non-direct ways. The direct effect example such as one cannot travel by bus when no bus service is available. For non-direct way, introduction of recycling facilities may result in more positive attitudes towards recycling (e.g., because it is more convenient), and positive attitudes may in turn result in higher recycling levels. Context also can be implied as time both extra effort which consumer evaluate as time required to perform green behavior and availability of time to act. (Ertz, Karakas & Sariöllü, 2016) Situational or context factors such as accessibility, availability of the product or economic limitation can be a barrier for one to perform a green behavior. To be green, time, effort and money are considering parts of the environmental friendly behavior. (Tan, Johnstone & Yang, 2016) In the previous study about sustainable or green behavior of consumer reflects about situational factor as forces that can motivate or demotivate

such action. Difficulties to access the green products are considered as main reason to not purchase the environmentally products as people don't want to spend time to searching for green products. People prefer to purchase what are obtain easily. (Joshi & Rahman, 2015)

The contextual factor in this paper will include solid factors like availability of substitute and also extra effort as time that in consumer perception considered related with green behavior. The difficulty or unavailability of the substitute of the single-use plastic bag can be a barrier to the green action. To rejected single-use plastic bag for a trip to supermarket stores required time for preparation to bring your own bag, the paper consider the time to preparation as one of the context that might affect the green behavior.

2.6 Conceptual framework

Fig.1 present the research conceptual model of 'green behavior' or to use the reusable bag instead of receiving single-use plastic bag from supermarkets or convenience stores. According to the literature review environmental concern of individual and attitude towards the environmental problem effect the green behavior of consumer but there might be other factors that refrain the consumer to do the green act, consider as contextual factor which in the research focus on time and effort that the consumer use to do the green behavior. Also one of the factor that effect the green behavior is store policy as a persuasion and incentive to do the green behavior.

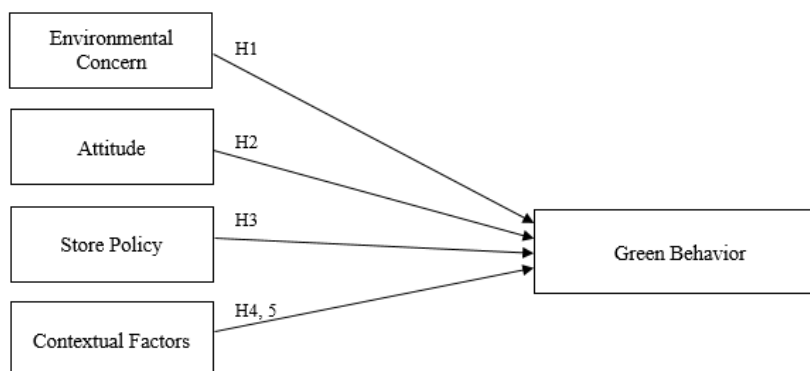


Figure. 1.1 Conceptual model of green behavior

Referring to figure 1.1, there are Hypothesis of the variables as follow,

- H1: The greater the environmental concern of individual, the more frequency in green behavior.
- H2: The greater the attitude toward the environmental issue and the single-use plastic bag, the more frequency in green behavior.
- H3: The more effective store policy (as a successful in consumer perception), the more frequency in green behavior.
- H4: The more availability options the consumer consider they have, the more frequency in green behavior.
- H5: The more effort the consumer consider as they have to give for green behavior, the less frequency in green behavior.

In order to design the questionnaire for this paper, the previous research papers were used as references as table 2.1

Table 2.1 Summarize literature review and references for the questionnaire

Variable	Definition (in this research)	References for the questionnaire
Green Behavior	-bring your own bag -store selection (alternative choice at store)	Miller, K. E. (2011). Student attitude and action regarding the single-use plastic shopping bag on the University of Alabama campus (Doctoral dissertation, University of Alabama Libraries). Bartolotta, J. F., & Hardy, S. D. (2018). Barriers and benefits to desired behaviors for single use plastic items in northeast Ohio's Lake Erie basin. <i>Marine pollution bulletin</i> , 127, 576-585.
Store Policy	-agreement on the store policy	Miller, K. E. (2011). Student attitude and action regarding the single-use plastic shopping bag on the University of Alabama campus (Doctoral dissertation, University of Alabama Libraries). Lealaphan, A., & Launglaor, W. (2014). Attitudes and behavior of Bangkok Residents regarding reducing the use of plastic bags. <i>University of the Thai Chamber of Commerce Journal Humanities and Social Sciences</i> , 34(1), 70-88.
Attitude	-general environmental issues -single-use plastic bag issue	Miller, K. E. (2011). Student attitude and action regarding the single-use plastic shopping bag on the University of Alabama campus (Doctoral dissertation, University of Alabama Libraries). Tan, L. P., Johnstone, M. L., & Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. <i>Australasian Marketing Journal (AMJ)</i> , 24(4), 288-299
Environmental concern	-Important about the environmental problem -Plastic bag with environmental problem	Martinho, G., Balaia, N., & Pires, A. (2017). The Portuguese plastic carrier bag tax: The effects on consumers' behavior. <i>Waste management</i> , 61, 3-12.
Contextual factors	-Effort -Availability	Tan, L. P., Johnstone, M. L., & Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. <i>Australasian Marketing Journal (AMJ)</i> , 24(4), 288-299

CHAPTER III

RESEARCH METHODOLOGY

3.1 Methodological Approach

The quantitative research method is selected to use in the study since the purpose is to understand the factors that affect the green behavior of Thai consumer who living in Thailand. The survey will be conducted in the form of online questionnaire from google form and distribute on social media platform like Facebook and Line application to obtain the target respondents about the perception of consumer towards the use of green bags.

3.2 Sample and Data Collection

People aged above 18 year olds and living in Bangkok with Thai nationality were targeted for the survey as in Thailand the age under 18 will considered as a child. (Yimpoosup, 2017) The survey questions were create mainly from the variable mentioned in the literature review also adapted from the past research. With targeted at least 200 respondents.

The survey will divided into four parts. The first part is a screening questions part. Two questions were asked whether the participant is Thai people who currently living in Thailand and whether they recently experienced for the grocery shopping in the past month. The second part consist of general information by using 5 Likert scales to determine the degree to which agree or disagree on the statement related to environmental concern and environmental problem attitude. Follow by the part that focus on the agreement on the statement related with attitude on single-use plastic bag and green bag (reusable bag), store policy that aimed to increase the use of green behavior, contextual factor and green behavior. For attitude on single-use plastic bag, 5-point Likert scales was used to determine the degree to which they agree or disagree with the statement of negative impact of the single-use plastic bag, important of the

plastic bag in shopping experience and the feeling when the plastic bag was banded from the stores. Follow by asking about the store policy implementation to measure which policies would be the most agreeable one in the customer point of view. 5-Likert scale to find out the degree on agree or disagree on the store policy implementation. 'Then 5-Likert scale are asked to measure the degree on effort (as time and money) to bring your own bag for shopping. The last part obtains the basic information of the participants' demographic data as gender, age, education level and income. The sample questionnaire is provided in the appendix.

3.3 Data Analysis

1. Descriptive analysis is used to explain respondent's demographic information as sample profile.
2. Descriptive statistic and interval scale for 5-Likert scale is used to translate the meaning of the average for each statement as follow
 - Average 4.21 – 5.00 meaning 'Strongly agree'
 - Average 3.41 – 4.20 meaning 'Agree'
 - Average 2.61 – 3.40 meaning 'Neutral'
 - Average 1.81 – 2.60 meaning 'Disagree'
 - Average 1.00 – 1.80 meaning 'Strongly disagree'
3. Pearson's Correlation coefficient is used to find the relation between independent factors (Environmental concern, Attitude, Store policy, Contextual factor-Availability and Contextual factor-Effort) and dependent factor (Green behavior) and to confirm the hypothesis.
4. Multiple regression analysis is used to find predictor(s) from environmental concern, attitude, store policy and contextual factor (availability and effort) of green behavior.

CHAPTER IV

DATA ANALYSIS

4.1 Sample profile

This research was used quantitative method by using online questionnaire as a tool to collect the data from 271 Thai respondents during 11 to 14 August, 2019. The summary of the respondents' demographic information as in Table 4.1.

There are 206 Female or 76% of the 271 Thai respondents who answering the surveys. Most of the respondents are in the age range 18-25 years old (71.6%).

Table 4.1 Survey Respondents' profile

Respondents	Description	N	%
Gender	Male	65	24.0
	Female	206	76.0
Age	18 to 35 years old	194	71.6
	36 to 55 years old	71	26.2
	56 years old and above	6	2.2
Education	Secondary School	2	0.7
	Vocational or High Vocational Certificate	11	4.1
	Bachelor degree	149	55.0
	Master degree	107	39.5
	Doctoral/PhD.	2	0.7
personal income	Less than 15,000 THB	10	3.7
	15,001 to 25,000 THB	33	12.2
	25,001 to 40,000 THB	85	31.4
	40,001 to 70,000 THB	92	33.9
	More than 70,001 THB	51	18.8

4.2 Descriptive statistic and interval scale for 5-Likert scale

4.2.1 Environmental concern

On average, Participants strongly agree (mean = 4.62) on all the statements asking on the agreement for environmental concern. 'Environmental problems are now becoming a big issue in Thailand' got the highest score (mean = 4.75, SD = 0.467). Follow by, 'Using recycle or reuse products can be a part of how to protect or preserve the environment' (mean = 4.72, SD = 0.472) and 'Environmental problem(s) is/are important to you' (mean = 4.60, SD = 0.555).

Thai people did aware of the environmental problems and also considered that the problem is important to themselves.

4.2.2 Attitude

For Attitude on average, participants agree on the statements (mean = 4.15). The highest score, with strongly agree on the statement, is 'You would feel bad when you see the consequences of human behavior on the environment such as the enormous amount of plastic in the sea, trashes on the streets, air pollution, and etc.' (mean = 4.74, SD = 0.473). Follow by 'Single-use plastic bags have notable negative consequences for the environment' (mean = 4.58, SD = 0.620) and 'There are long term impacts of your behavior on the environment.' (mean = 4.55, SD = 0.618) respectively.

Thai people had bad attitude towards consequences of human behavior on the environmental and considered single use plastic bags as threaten to environment and recognized their long term impacts on the environment.

4.2.3 Store policy

On average, participants agree on the statements asking about store policy that related to the use of green bags. 'Stores should offer a discount for each use of reusable bags or for not receiving plastic bags from the stores.' had the highest score (mean = 4.48, SD = 0.709) in all the store policy statement. Follow by, 'If your grocer provides a subsidy or extra points for reusable bags that you bring, your household would switch to use reusable bags for all grocery shopping trips.' (mean = 4.43, SD =

0.771), 'If your grocer is charging you for a plastic bag at the checkout, you would switch to use reusable bags brought from home' (mean = 4.41, SD = 0.820) and 'Stores should charge for a single use plastic bag' (mean = 4.04, SD = 1.062). Respondents agreed that current campaign to reduce using single-use plastic bags are successful. (mean = 3.40, SD = 0.964)

People preferred to have an incentive as extra points or discount than charging the plastic bags to encourage green.

4.2.4 Contextual factors (Availability and effort)

For availability, people agree on statements 'You prefer to shop at stores that provide alternative choice (such as paper grocery bag, corrugated box or reusable bag).' (mean = 3.92, SD = 0.913) and 'As a consumer you feel that you have enough options or opportunities to reduce the amount of single-use plastic bags used in your life.' (mean = 3.84, SD = 1.034).

For contextual factor as effort, average score on the statements about the effort is neutral (mean = 2.63). Average score for 'Bring your own bag require a lot of effort.' is neutral (mean = 2.84, SD = 1.187) but 17.7% and 10% agree and strongly disagree on the statement. People are disagree on 'Bringing your own bag for shopping is more costly compared to single-use plastic bags from the stores.' (mean = 2.49, SD = 1.098) , 'Bringing your own bag for shopping is a lot of trouble.' (mean = 2.57, SD = 1.044) and 'You don't have sufficient time to bring your own bag for shopping.' (mean = 2.60, SD = 1.153).

Participants felt that they have an option to perform the green action but 27.7% considered that they required an effort to perform green behavior.

4.2.5 Green behavior

On average, participants agree on the statements asking about green action (mean = 3.85). The highest score of the agreement is 'You reject to receive single-use plastic bags when you go shopping.' (mean = 4.08, SD = 0.859) Follow by, 'You bring your own bag when you go shopping.' (mean = 3.87, SD = 0.881) then 'You try to go to the store that provides alternative green bag.' (mean = 3.59, SD = 0.910).

Linked back the green behavior agreement scores with environmental concern and attitude, the green behavior had average agreement though a lot higher scores on all environmental concern statements and some of the statement about the consequences from human behavior and single use plastic bag.



Table 4.2 Descriptive analysis on Environmental concern statements

	Statement	Mean	Standard Deviation	Meaning
Environmental concern	Environmental problems are now becoming a big issue in Thailand.	4.75	0.467	Strongly agree
	Single-use plastic bags can be harmful to the environment.	4.54	0.676	Strongly agree
	Environmental problem(s) is/are important to you.	4.60	0.555	Strongly agree
	Using recycle or reuse products can be a part of how to protect or preserve the environment.	4.72	0.472	Strongly agree
	You are considering the option that are less harmful to the environment in order to lessen the environmental issues (such as carrying your own reusable bag).	4.49	0.602	Strongly agree
	<i>average</i>	<i>4.62</i>		<i>Strongly agree</i>
Attitude	Consequences of your behaviors can have an impact on the environment (such as using your own reusable bag).	4.40	0.669	Strongly agree
	There are long term impacts of your behavior on the environment.	4.55	0.618	Strongly agree
	You would feel bad when you see the consequences of human behavior on the environment such as the enormous amount of plastic in the sea, trashes on the streets, air pollution, and etc.	4.74	0.473	Strongly agree
	On a daily basis, you take measures to reduce your impact on the environment.	4.39	0.572	Strongly agree
	Reducing the use of plastic is a measure you take to reduce the impact on the environment.	4.50	0.596	Strongly agree
	Reducing consumption is a measures you take to reduce your impact on the environment.	4.20	0.768	Agree
	Using green products is a measure you take to reduce your impact on the environment. (e.g. Biodegradable or recyclable packaging, Eco-car)	4.33	0.694	Strongly agree
	Sorting waste-recycling is a measure you take to reduce your impact on the environment?. (e.g. paper, plastic, metal)	4.32	0.675	Strongly agree
	Single-use plastic bags have notable negative consequences for the environment.	4.58	0.620	Strongly agree
	Single-use plastic bags is a necessary part of your shopping experience.	3.10	1.189	Agree
You would feel that your right to personal choice as a consumer would be violated if single-use plastic bags were banned.	2.49	1.128	Agree	
	<i>average</i>	<i>4.15</i>		<i>Agree</i>
Store policy	Stores should ban the use of single-use plastic bag.	3.94	0.987	Agree
	Stores should offer a discount for each use of reusable bags or for not receiving plastic bags from the stores.	4.48	0.709	Strongly agree
	Stores should charge for a single-use plastic bag.	4.04	1.062	Agree
	If your grocer is charging you for a plastic bag at the checkout, you would switch to use reusable bags brought from home.	4.41	0.820	Strongly agree
	If your grocer provides a subsidy or extra points for reusable bags that you bring, your household would switch to use reusable bags for all grocery shopping trips.	4.43	0.771	Strongly agree
	The current campaign (at the stores in Thailand) to reduce using single-use plastic bags are successful.	3.40	0.964	Neutral
	<i>average</i>	<i>4.12</i>		<i>Agree</i>

	Statement	Mean	Standard Deviation	Meaning
Contextual factors (Availability)	You prefer to shop at stores that provide alternative choice (such as paper grocery bag, corrugated box or reusable bag).	3.92	0.913	Agree
	As a consumer you feel that you have enough options or opportunities to reduce the amount of single-use plastic bags used in your life.	3.84	1.034	Agree
	average	3.88		Agree
Contextual factors (Effort)	Bring your Own Bag require a lot of effort (effort = time & money)	2.84	1.187	Neutral
	Bringing your own bag for shopping is a lot of trouble.	2.57	1.044	Disagree
	Bringing your own bag for shopping is more costly compared to single-use plastic bags from the stores.	2.49	1.098	Disagree
	You don't have sufficient time to bring your own bag for shopping.	2.60	1.153	Disagree
	average	2.63		Neutral
Green behavior	You bring your own bag when you go shopping.	3.87	0.881	Agree
	You reject to receive single-use plastic bags when you go shopping.	4.08	0.859	Agree
	You try to go to the store that provides alternative green bag.	3.59	0.910	Agree
	average	3.85		Agree

4.3 Pearson's Correlation coefficient

According to the result of Pearson's Correlation analysis summary in table 4.3, it can be said that with the significant level at 0.000

- Environmental concern have a positive correlation on Green behavior.
- Attitude have a positive correlation on Green behavior.
- Store policy have a positive correlation on Green behavior.
- Contextual factor (Availability) have a positive correlation on Green behavior.
- Contextual factor (Effort) have a negative correlation on Green behavior.

Table 4.3 Correlation analysis of Green behavior

		Environmental concerns	Attitude	Store policy	Contextual factor (Availability)	Contextual factor (Effort)
Green Behavior	Pearson Correlation	.501**	.426**	.527**	.582**	-.282**
	Sig. (2-tailed)	.000	.000	.000	.000	.000

** . Correlation is significant at the 0.01 level (2-tailed).

Hypotheses were tested from the information in table 4.3 Correlation analysis of green behaviour and interpreted as below,

Hypothesis testing 1: Accepted H1

H0: There are no or negative relationship between the environmental concern and green behavior. (Pearson Correlation ≤ 0)

H1: The positive relationship between environmental concern and green behavior. (Pearson Correlation > 0)

At significant level 0.000 which was lower than 0.01, Rejecting null hypothesis as Pearson Correlation > 0 . Pearson's correlation of Environmental concerns and green behavior is 0.501, Environmental concern have positive correlation with green behavior.

Hypothesis testing 2: Accepted H2

H0: There are no or negative relationship between the attitude and green behavior. (Pearson Correlation ≤ 0)

H1: The positive relationship between attitude and green behavior. (Pearson Correlation > 0)

At significant level 0.000 which was lower than 0.01, Rejecting H0 as Pearson Correlation > 0 . Pearson's correlation of attitude and green behavior is 0.426, Attitude have positive correlation with green behavior.

Hypothesis testing 3: Accepted H3

H0: There are no or negative relationship between the store policy and green behavior. (Pearson Correlation ≤ 0)

H1: The positive relationship between store policy and green behavior. (Pearson Correlation > 0)

At significant level 0.000 which was lower than 0.01, Rejecting null hypothesis as Pearson Correlation > 0 . Pearson's correlation of store policy and green behavior is 0.527, Store policy have positive correlation with green behavior.

Hypothesis testing 4: Accepted H4

H0: There are no or negative relationship between the availability and green behavior. (Pearson Correlation ≤ 0)

H1: The positive relationship between availability and green behavior. (Pearson Correlation > 0)

At significant level 0.000 which was lower than 0.01, Rejecting null hypothesis as Pearson Correlation > 0 . Pearson's correlation of availability and green behavior is 0.582, Availability have positive correlation with green behavior.

Hypothesis testing 5: Accepted

H0: There are no or positive relationship between the effort and green behavior. (Pearson Correlation ≥ 0)

H1: There are positive relationship between effort and green behavior. (Pearson Correlation < 0)

At significant level 0.000 which was lower than 0.01, Rejecting null hypothesis as Pearson Correlation < 0 . Pearson's correlation of effort and green behavior is -0.282 Effort have negative correlation with green behavior.

4.4 Regression analysis on Green behavior

From table 4.4 Model summary, predictors, that effect to green behavior at significant level of 0.001, are consist of 5 predictors as contextual factor (Availability), environmental concerns, store policy, contextual factor (Effort) and attitude respectively. Five predictors able to predict the green behavior 47.8%. Contextual factor

(Availability) will effect green behavior 34.2%. Combination of contextual factor (Availability) and environmental concern will effect green behavior 42.9%. Top up with store policy 45.9% will effect green behavior. Contextual factor (Availability), environmental concerns, store policy and contextual factor (Effort) will reach to 47% effect to green behavior.

From Standardized Coefficients or beta data in table 4.5 Regression analysis of predictors of green behaviour, it shows that relationship between Contextual Factor (Availability), Environmental Concerns, Store policy and attitude have positive relationships with green behavior. Green behavior will increase when those factor are improve. For Contextual factor (Effort), when people feel that it takes a lot of effort to do the green behavior, the behavior will decrease as beta show negative result (-0.138).

Therefore, the regression formula from results of Table 5 equal 'Green Behavior' = (-0.808) + (0.355 x Availability) + (0.150 x Environmental concerns) + (0.197 x Store policy) + (-0.138 x Effort) + (0.122 x Attitude). If availability has risen 1 unit, then the green behavior will be increasing by 0.461 units. If environmental concerns has risen 1 unit, then the green behavior will be increasing by 0.161 units. If Store policy has risen 1 unit, then green behavior will be increasing by 0.118 units. If effort has risen 1 unit, then green behavior will be decreasing by 0.072 units. If attitude has risen 1 unit, then green behavior will be decreasing by 0.064 units.

Table 4.4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584 ^a	.342	.339	1.64334
2	.655 ^b	.429	.425	1.53325
3	.677 ^c	.459	.453	1.49551
4	.686 ^d	.470	.462	1.48270
5	.691 ^e	.478	.468	1.47445

a. Predictors: (Constant), Availability

b. Predictors: (Constant), Availability, Environmental concern

c. Predictors: (Constant), Availability, Environmental concern, Store policy

d. Predictors: (Constant), Availability, Environmental concern, Store policy, Effort

e. Predictors: (Constant), Availability, Environmental concern, Store policy, Effort, Attitude

Table 4.5 Regression analysis of predictors of green behavior

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.808	1.271		0.888	0.377
	Contextual factor (Availability)	0.461	0.069	0.355	6.715	0.000
	Environmental concerns	0.160	0.069	0.150	2.323	0.021
	Store policy	0.118	0.033	0.197	3.523	0.001
	Contextual factor (Effort)	-0.072	0.025	-0.138	-2.867	0.004
	Attitude	0.064	0.032	0.122	1.996	0.047

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusions

From the research data, it shows that consumer did consider the use of single-use plastic bag from the supermarket are threaten the environment as they are strongly agree that the plastic bag has consequences to the environmental. In spite of the environmental consequences from the plastic bags people perceived them as important to their shopping experiences.

As current situation, environmental problems including plastic waste are now becoming a big focus all over the world including Thailand. To reduce single-use plastic consumption is one of the campaign that used to solve the plastic waste problem. In Thailand, single-use plastic bag are commonly use when going for grocery shopping even though many sectors and retail stores try to campaign about it many years ago but it show slow progress of success. From this research show that in order to increase the green behavior as for people using reusable bag instead of receiving single-use plastic bag from the stores is required many factors. In term of the availability as contextual factor, customer wanted to have options for them in order to reduce the use of plastic bags. Availability of the substitute together with environmental concern, which high at this current situation, and right store policy have an important role to improve the rate of green behavior. People do concerns about the environmental and accepted that single use product is harmful to the environment. To continuity stress about the environmental issues as aimed to increase high level environmental concerns of the individuals will help maintain and also increase the green behavior according to the Pearson's and Regression analysis.

5.2 Recommendations

As the most important factor that effect the green behavior is availability of the substitute, Retailers should regularly provide substitute as to give options for customer to do green behavior. With repeatedly elaborate consequences of the single-use plastic to maintain high level of environmental concern, these can increase the green action of Thai people.

Retailers or private sector also having an important roles to encourage people to have green behavior as to select the right policy and campaign for encouraging people to perform green actions. Discounts and point collection or even single-use plastic bag charge can be used as an incentive to trigger the customer to be green. Time and money as effort to preparing one's self to be ready for green behavior is one of the factor that refrain people with environmental attitude and concerns to do such green act to reduce single-use plastic bag.

Sharing reusable bag campaign (where customer share excessive or unwanted or unused bags at standees or shelves) might help people feel that to do the green behavior required an effort. As when people forget to bring the reusable bag they can borrow, so that more positive feeling towards the green behavior.

5.3 Limitation and Future Research

In order to understand more about the variable, qualitative or focus group of people who doing the green behavior and not doing the green behavior can be implemented. So that we can understand more about the availability as contextual factor in deeper way. As most of the people doing the survey do aware of the environmental problem but less action was implemented (according from the agreement degree on the statements). To understand about customer behavior more in Thailand might help understand why the rate of green behavior is not high comparing with the high in environmental concerns and attitude toward the plastic bags.

To focus in specific areas as Bangkok and perimeter comparing with up-country would helpful as different lifestyle can also be an important role and different action should be focus related to that for the best result. Hectic lifestyle in urbanization

or less awareness in up-country as limited access to the environmental news or media which can be lead to low environmental concerns. Implementation plan and policy using in different areas might needed.



REFERENCES

- Bartolotta, J. F., & Hardy, S. D. (2018). Barriers and benefits to desired behaviors for single use plastic items in northeast Ohio's Lake Erie basin. *Marine pollution bulletin*, 127, 576-585.
- Bissing-Olson, M. J., Iyer, A., Fielding, K. S., & Zacher, H. (2013). Relationships between daily affect and pro-environmental behavior at work: The moderating role of pro-environmental attitude. *Journal of Organizational Behavior*, 34(2), 156-175.
- Brandinside. (2019). *Tesco Lotus ไม่น้อยหน้า ประกาศเลิกใช้แพ็คเกจจิ้งโฟมทุกชนิด เริ่ม 1 ก.ค. 62*. Retrieved from <https://brandinside.asia/tesco-lotus-ban-packaging-foam/>
- Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology & marketing*, 18(4), 389-413.
- Diekmann, A., & Franzen, A. (2019). *Environmental Concern: A Global Perspective. In Einstellungen und Verhalten in der empirischen Sozialforschung* (pp. 253-272). Springer VS, Wiesbaden.
- Earth Policy Institute. (2014). *Plastic Bags Fact Sheet*. Retrieved from http://www.earth-policy.org/press_room/C68/plastic_bags_fact_sheet
- Ertz, M., Karakas, F., & Sarigöllü, E. (2016). Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research*, 69(10), 3971-3980.
- Gupta, K. (2011). *Consumer responses to incentives to reduce plastic bag use: Evidence from a field experiment in urban India*. SAMDEE.
- Head, J. (Reporter). (2018, June 7). ปัญหาขยะพลาสติกในไทย [Video file]. Retrieved from <https://www.bbc.com/thai/thailand->

[44391881?ocid=socialflow_facebook&fbclid=IwAR16qQaWOT57DO1n-t4XXb6ZhqXo8Kkmb7hv5j15-F4Pc2Wy8evLMex6G6k](https://www.facebook.com/socialflow?ocid=socialflow_facebook&fbclid=IwAR16qQaWOT57DO1n-t4XXb6ZhqXo8Kkmb7hv5j15-F4Pc2Wy8evLMex6G6k)

Jardon, C. M., & Dasilva, A. (2017). Intellectual capital and environmental concern in subsistence small businesses. *Management of Environmental Quality: An International Journal*, 28(2), 214-230

Jitpleecheep, P. Shops pledge to cut plastic bag use (2018, December 5) Retrieved from <https://www.bangkokpost.com/business/1587694/shops-pledge-to-cut-plastic-bag-use>

Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic management review*, 3(1-2), 128-143.

Lealaphan, A., & Launglaor, W. (2014). Attitudes and behavior of Bangkok Residents regarding reducing the use of plastic bags. *University of the Thai Chamber of Commerce Journal Humanities and Social Sciences*, 34(1), 70-88.

Miller, K. E. (2011). *Student attitude and action regarding the single-use plastic shopping bag on the University of Alabama campus* (Doctoral dissertation, University of Alabama Libraries).

Mutsaers, J. (2015). Environmental concern in global perspective: Exploring relations between core- periphery, vulnerability, environmental problems, post-materialism and environmental concern.

Ocharoenchai, N., Producer responsibility: The key to solving Thailand's plastic crisis (2017, 14 June), Retrieved from <https://www.greenpeace.org/southeastasia/story/556/producer-responsibility-the-key-to-solving-thailands-plastic-crisis/>

Pakkawan, A. (2018). *8kg of plastic garbage found in dead whale*. Retrieved from <https://www.bangkokpost.com/thailand/general/1478049/8kg-of-plastic-garbage-found-in-dead-whale>

- Selly, D.S., Can Thailand ever turn the tide on single-use plastic waste? (2019, February 22). Retrieved from <https://bk.asia-city.com/city-living/news/can-thailand-ever-turn-tide-single-use-plastic-waste>
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of environmental psychology*, 29(3), 309-317.
- Tan, L. P., Johnstone, M. L., & Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. *Australasian Marketing Journal (AMJ)*, 24(4), 288-299.
- Tang, Y., Wang, X., & Lu, P. (2014). Chinese consumer attitude and purchase intent towards green products. *Asia-Pacific Journal of Business Administration*, 6(2), 84-96.
- The Thaiger. (2019). *Shoppers said 'no' to 237 million plastic bags at 7-11 in three months*. Retrieved from <https://thethaiger.com/hot-news/plastics/shoppers-said-no-to-237-million-plastic-bags-at-7-11-in-three-months>
- Thøgersen, J. (2000). Psychological determinants of paying attention to eco-labels in purchase decisions: Model development and multinational validation. *Journal of consumer policy*, 23(3), 285-313.
- Yimpoosup, Y. (2017), เล็ก เขาวงกต ผู้เยาว์. Retrieved from <http://www.library.coj.go.th/Info/46869?c=428032>



Appendix A: Questionnaire

Part 1: Screening question

Are you a Thai living in Thailand?

Y

N

Have you been going for grocery shopping in the past month?

Y

N

Part 2: General overview about environmental concerns

To what extent do you agree with the following statement?

1) Environmental problems are now becoming a big issue in Thailand.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

2) Single-use plastic bags can be harmful to the environment.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

3) Environmental problem(s) is/are important to you.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

- 4) Using recycle or reuse products can be a part of how to protect or preserve the environment.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 5) You are considering the option that are less harmful to the environment in order to lessen the environmental issues (such as carrying your own reusable bag)
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 6) Consequences of your behaviors can have an impact on the environment (such as using your own reusable bag).
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 7) There are long term impacts of your behavior on the environment.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree

- 8) You would feel bad when you see the consequences of human behavior on the environment such as the enormous amount of plastic in the sea, trashes on the streets, air pollution, and etc.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 9) On a daily basis, you take measures to reduce your impact on the environment.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 10) Reducing the use of plastic is a measure you take to reduce the impact on the environment.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 11) Reducing consumption is a measures you take to reduce your impact on the environment.
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree
 - 1 Strongly disagree
- 12) Using green products is a measure you take to reduce your impact on the environment. (e.g. Biodegradable or recyclable packaging, Eco-car)
- 5 Strongly Agree
 - 4 Agree
 - 3 Neutral
 - 2 Disagree

1 Strongly disagree

13) Sorting waste-recycling is a measure you take to reduce your impact on the environment (e.g. paper, plastic, metal)

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

Part 3 : Information on the single-use plastic bag and consumer behavior

14) Single-use plastic bags have notable negative consequences for the environment. (AT9)

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

15) Single-use plastic bags is a necessary part of your shopping experience.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

16) You would feel that your right to personal choice as a consumer would be violated if single-use plastic bags were banned.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

17) Stores should ban the use of single-use plastic bag.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

18) Stores should offer a discount for each use of reusable bags or for not receiving plastic bags from the stores.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

19) Stores should charge for a single-use plastic bag.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

20) If your grocer is charging you for a plastic bag at the checkout, you would switch to use reusable bags brought from home.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

21) If your grocer provides a subsidy or extra points for reusable bags that you bring, your household would switch to use reusable bags for all grocery shopping trips.

5 Strongly Agree

4 Agree

3 Neutral

2 Disagree

1 Strongly disagree

22) The current campaign (at the stores in Thailand) to reduce using single-use plastic bags are successful.

5 Strongly Agree

4 Agree

- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

23) You prefer to shop at stores that provide alternative choice (such as paper grocery bag, corrugated box or reusable bag).

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

24) As a consumer you feel that you have enough options or opportunities to reduce the amount of single-use plastic bags used in your life.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

25) Bring your Own Bag require a lot of effort (effort = time & money)

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

Z

26) Bringing your own bag for shopping is a lot of trouble.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

27) Bringing your own bag for shopping is more costly compared to single-use plastic bags from the stores.

- 5 Strongly Agree

- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

28) You don't have sufficient time to bring your own bag for shopping.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

29) You bring your own bag when you go shopping.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

30) You reject to receive single-use plastic bags when you go shopping.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

31) You try to go to the store that provides alternative green bag.

- 5 Strongly Agree
- 4 Agree
- 3 Neutral
- 2 Disagree
- 1 Strongly disagree

Part 4 : Demographic Information

What is your gender?

- Male
- Female

How old are you?

- under 18
- 18-35 years old (Young adult)
- 36-55 years old (middle aged adult)
- aged older than 55 (older adult)

What is your level of education?

- Secondary School
- Vocational or High Vocational Certificate
- Bachelor degree
- Master degree
- Doctoral/PhD.
- Others (please specify)

What is your personal income?

- Less than 15,000 Baht
- Between 15,001 - 25,000 Baht
- Between 25,001 - 40,000 Baht
- Between 40,001 - 70,000 Baht
- More than 70,001 baht

