

**PROJECT MANAGEMENT APPROACH ON
SINGLE-USE PLASTIC BAG BANNING
AWARENESS CAMPAIGN**

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**PROJECT MANAGEMENT APPROACH ON SINGLE-USE PLASTIC BAG
BANNING AWARENESS CAMPAIGN**

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**A project report submitted in partial fulfilment of the
requirements for the award of Master of Project Management**

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2 April 2019

DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

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APPROVAL FOR SUBMISSION

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Specially dedicated to
My beloved husband, children's and my parent's

ACKNOWLEDGEMENTS

Firstly, I would like to express my sincere gratitude to my supervisor Dr. Chia Fah Choy for the continuous support of my Master study and related research, for his patience and immense knowledge. His guidance helped me in all the time for research writing.

Besides my supervisor, I would like to thanks all my friends who had contributed to the successful of the research writing.

Last but not least, I would like to thank my family especially my son, my two daughters who are very understanding me when I am having hard time as a student and a mother to them. And to my beloved husband, always supporting me and become my partner when I have sleepless nights to complete thesis before deadlines. Also, my parents for continuously supporting me.

ABSTRACT

This research investigate the effectiveness of awareness campaign on single-use plastic bag banning in relative to project management context. The objective is to study adoption of project management in awareness campaign, to measure the awareness level on the campaign of single-use plastic bag and to analyse the effectiveness of the awareness campaign. The project management triangle namely scope, time and cost was adopt in this research study to define the single-use plastic bag campaign as a project. A quantitative close-ended questions is using for this research study and designed by google form. There were 202 respondents are given the questionnaires to be answered. These groups were identified as respondent who are consuming plastic bag in their daily routine. Distribution of the questionnaires are using by hand and WhatsApp application to get the feedbacks. In this study, single-use plastic bag banning awareness campaign defined as a project based on project management approaches namely scope, time and cost. Plastic bag campaign is consider unique because it is designed to accomplish specific goal, having specific time period and budget allocation. This finding shows that unclear of project scope leads project does not reach the project goal hence contributing project do not meet success. In order to ensure the single-use plastic bag campaign successfully implemented, project scope, time and cost are inter-related to reach project successful conclusion. Project success can defined as a client satisfaction rating of “very satisfied”. There are two parameter was apply on this research study. First parameter is satisfaction federal government introducing “No Plastic Bag Day” campaign revealed that Malays are not satisfied because they have to bring their own reusable bag. Second parameter is satisfaction on federal government efforts in promoting awareness in public areas such as Bus Station, LRT station, Social media and University/school. This present study revealed that majority of Chinese and Indian are not satisfied with the government effort in promoting the campaign, they wants federal government increase awareness campaign focusing in the public area. The contribution of project not success due to very dissatisfied from respondent. Generally, the campaign was not successful implemented. This research study is useful especially to The Government of Malaysia with the aim of achieving transparency, accountability, efficiency and effective use of resources, enhance

implementation of policy and change, stakeholder engagement and delivering services to the public. This research study is design to be tailored to fit the policy making. Therefore, for the academicians/researchers, this research study can be use as reference to the training industrial specialise in plastic industry, university undergraduates students, post graduate students, doctorate researcher and related to this industry researcher. Conjunction with this, this finding and study will provide to the researcher a new perspective way of looking awareness campaign by adopting project management approach with hope there will be more research study can be done in the future.

TABLE OF CONTENTS

DECLARATION	iii
APPROVAL FOR SUBMISSION	iv
ACKNOWLEDGEMENTS	vii
ABSTRACT	viii
TABLE OF CONTENTS	x
LIST OF TABLES	xiii
LIST OF FIGURES	xvi

CHAPTER

1	INTRODUCTION	1
	1.1 Background	1
	1.2 Problem Statement	2
	1.3 Aims and Objectives	3
	1.4 Research Scope	4
	1.5 Chapter Outline	5
2	LITERATURE REVIEW	6
	2.1 Introduction	6
	2.2 Defining Project Management	6
	2.3 Single-use Plastic Bag Campaign	7
	2.4 Define Plastic Bag Campaign as a Project	8
	2.4.1 Define Scope, Time and Cost of “No Plastic Bag Day” Campaign	8

	2.4.2 Significance of Scope, Time and Cost in Campaign Project	10
3	RESEARCH METHODOLOGY AND WORK PLAN	14
	3.1 Introduction	14
	3.2 Research Strategy	14
	3.3 Research Methods	15
	3.4 Questionnaires Designed	16
	3.5 Data Structure	19
	3.6 Data Collection Method	20
	3.7 Data Analysis	21
	3.8 Sample Selection	22
4	RESULTS	24
	4.1 Cronbach’s Alpha-Reliability Test	24
	4.2 Frequencies Test	27
	4.3 Friedman Test	34
	4.4 Kruskal Wallis Test	37
5	DISCUSSION	65
	5.1 Self-Experiences with Plastic and Reusable Bag	65
	5.2 Why Single-use plastic bag was so popular	68
	5.3 Awareness Level on Plastic Towards Health and Environments	69
	5.4 Satisfaction with Federal Government Introduced the “No Plastic Bag Day Campaign” throughout Malaysia for each Saturday	70
	5.5 Satisfaction with Federal Government’s Effort in Promoting the Awareness on Single-use Plastic Bag banning.	72

6	CONCLUSION	74
	6.1 Introduction	74
	6.2 Achievements of Research Aims and Objectives	74
	6.3 Implication of the Study	77
	6.4 Limitations of the Study	80
	6.5 Recommendation	81
	REFERENCES	82
	APPENDICES A	86
	APPENDICES B	91

LIST OF TABLES

3.1	Comparison of Quantitative Data and Qualitative Data	19
3.2	Likert Scale Response Categories	21
4.1	Cronbach's Alpha Reliability Test	24
4.2	Reliability Test by Item	24
4.3	Frequencies Test on Demographic	27
4.4	Frequencies Test on Self-claim towards awareness campaign	28
4.5	Frequencies Test on why plastic bags so popular	29
4.6	Frequencies Test on Plastic Awareness towards Environment and Human Health	30
4.7	Frequencies Test on Satisfaction with federal government introduced the "No Plastic bag Day Campaign" throughout Malaysia for each Saturday	31
4.8	Frequencies Test on Satisfaction with federal government effort in promoting the awareness on single-use plastic bag banning	32
4.9	Descriptive Test on should plastic bags banned	33
4.10	Friedman test on self-claim towards awareness campaign on single use plastic bag banning	34
4.11	Friedman test on respondent experience with why single-use plastic bag was so popular	34
4.12	Friedman test on respondent awareness towards environmental and Human Health	35
4.13	Friedman test on respondent satisfaction with federal government introduced the No Plastic Day campaign throughout Malaysia for each Saturday	35
4.14	Friedman test on respondent satisfaction with the federal government effort in promoting the awareness on single-use plastic bag banning	36
4.15	Kruskal Wallis Test by grouping variable between age and self-claim towards awareness campaign on single-use plastic bag banning	37

4.16	Kruskal Wallis Test by grouping variable between age and self-claim towards why single-use plastic bag was so popular	39
4.17	Kruskal Wallis Test by grouping variable between age and self-claim towards awareness on environmental and human health	41
4.18	Kruskal Wallis Test by grouping variable between age and satisfaction with federal government introduced “No Plastic Day Campaign” throughout Malaysia for each Saturday	42
4.19	Kruskal Wallis Test by grouping variable between age and satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning	43
4.20	Kruskal Wallis Test by grouping variable between gender and self-claim towards awareness campaign on single-use plastic bag banning	45
4.21	Kruskal Wallis Test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning	46
4.22	Kruskal Wallis Test by grouping variable between race and self-claim towards why single-use plastic bag was so popular	47
4.23	Kruskal Wallis Test by grouping variable between race and self-claim towards awareness on environmental and human health	48
4.24	Kruskal Wallis Test by grouping variable between race and satisfaction with federal government introduced “No Plastic Day Campaign” throughout Malaysia for each Saturday	50
4.25	Kruskal Wallis Test by grouping variable between race and satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning	52
4.26	Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning	56
4.27	Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning	57

4.28	Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness on environmental and human health	60
4.29	Kruskal Wallis Test by grouping variable between education level and satisfaction with federal government introduced “No Plastic Day Campaign” throughout Malaysia for each Saturday	62
4.30	Kruskal Wallis Test by grouping variable between household size and satisfaction with federal government introduced “No Plastic Day Campaign” throughout Malaysia for each Saturday	63
4.31	Kruskal Wallis Test by grouping variable between household size and satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning	64

LIST OF FIGURES

Figure		Page
3.1	The Propose Research Model	16

LIST OF APPENDICES

APPENDIX	PAGE
APPENDIX A: Questionnaires	86
APPENDIX B: Time Schedule	91

CHAPTER 1

INTRODUCTION

1.1 Background

Since 1950's, the growth in the production of plastic has largely outpaced that almost other material due to its functionality and versatility (UNEP, 2018). Most of the plastic are designed based on their durability that can be used in almost all sectors of the economy which results in accumulating the single use disposable plastic waste in the landfill and dumps or littered in the open environment (MESTECC, 2018).

Single use plastics often knowns as disposable plastics which commonly used for plastic packaging for retail activities and consumer purchases (Ten Brink *et al.*, 2016). Plastic packaging is mostly single-use only and can be thrown away after used it.

In 2016, world plastics production total 335 million tonnes. China is the largest producer of plastic materials (29%), Europe (19%), NAFTA (18%), Middle East Africa (7%), Latin America (4%), Japan (4%), CIS (2%) and rest of Asia (17%). Among the product categories, 39.9% contribute to the packaging were the most recovered (UNEP, 2018).

Single use plastic giving serious environmental pollution, this plastics not only kill more animals, but damage human health as micro plastics enter the food chain. They will harmful to biodiversity and change ecosystem. This situation create more and more single use plastics to meet consumers expectations for their convenience and most of these plastics can never be recycled.

Malaysia is a global player in the plastic industry with currently about 1,300 plastic manufacturers (MESTECC, 2018). Plastic pollution become a major discussion where it has given environmental problem. Therefore, according to Minister Yeo Bee Yin during her town hall session in September 2018, she said that Malaysia has been ranked eighth among top ten countries of being worst in the world for plastic waste (Channel News Asia, 2018).

More than 80 countries has taken serious action to curb single use plastic waste such as imposed bans and levies. Based on United Nation Environmental Programme publication also highlighted some countries has taken a phases approach to overcome this problem. For example, India is planning to abolish all single use plastics by 2020 due to its impact on marine ecosystem, water bodies and soils (UNEP, 2018).

Plastic pollution is a global problem that need to be focus and look into precisely. Malaysia has always promoted sustainable development by balancing economic growth with environment protection in line with the United Nation's Sustainable Development Goals. Therefore, the government has taken action by launching roadmap towards zero single use plastics 2018-2030 in hopes that the plastic industry in the transition to eco-friendly products.

1.2 Problem Statement

In order to widely ban single-use plastics bag similarly to global initiative and United Nation Sustainable Development Goals, a solid implementation of the banning process is required via nationwide awareness campaign. However, single-used plastic bag is involved in every vertical on consumer related business. Therefore, tedious planning and execution are required to completely ban single use plastic bag in every consumer verticals. Hence, a solid Project Management approach has to be adopted by the relevant federal government agencies to execute such a campaign.

There is limited study has shown that project management approaches has been apply to the government agencies to execute awareness campaign but indirectly there are similarly processes has been used to execute awareness campaign.

Many research study has done related to plastic bag campaign. In year 2012, a research study done on Selangor Government's "No Plastic Bag Day" campaign to measure the acceptance and awareness level towards protecting the environment (Kamaruddin and Yusuf, 2012) . then, followed by research study on "No plastic bag campaign day in Malaysia and the policy implication" is to evaluate the impact of the campaign on consumer awareness, knowledge, attitude and behaviour (Zen *et al.*, 2013). Another research study on public participation and effectiveness of the No Plastic bag day program in Malaysia has done in year 2014. Based on the findings of no plastic bag day launched in 2011, it has reported that the campaign only achieved 52.3% effectively in reducing the plastic bag (Asmuni *et al.*, 2015). It can be explained that the campaign has not fully successful implemented.

However, the aim of this study need to carry out and analyse single-use plastic bag banning awareness campaign by adopting project management approaches such as scope, time and cost.

1.3 Aims and Objectives

The aim of this research is to investigate the effectiveness of awareness campaign on single-use plastic bag banning in relative to project management context. In order to accomplish the purpose of this dissertation, the following objectives are being considered as follows:

- a. To study adoption of project management in awareness campaign;
- b. To measure the awareness level on the campaign of single-use plastic bag; and
- c. To analyse the effectiveness of the awareness campaign.

1.4 Research Scope

This research survey was conducted to investigate awareness on single-use plastic bag banning campaign in relative to project management context to the respondent with various educational background (Secondary, Diploma, Bachelor, Master's and Doctorate) in Klang valley area. The aspects looked into respondent self-awareness towards the single-use plastic bag, awareness towards environmental and human health and satisfaction on government's effort in promoting awareness and recommendation to the future study.

Moreover, the proposed project management approach in single-use plastic awareness campaign will help government to enhance the policy making, meet stakeholder expectations and for academician useful for future research study hence better understanding in applying project management approach. The period of research survey is started from 15th October 2018 until 5th April 2019.

Although the research study has reached its aims, there were some unavoidable limitation. First, because of the time constrain, this research survey was conducted in a small size of population with 202 respondents. In order to generalize the results for a large population, the study should consider more respondent in different location.

Second, majority of the respondent have no time to response the questionnaire in proper way because they are working in different fields and sectors, time is limit for prepare them in responding in proper manner. However, it might affect the result of the correlation between Single-use plastic bags banning awareness campaign.

1.5 Chapter Outline

This research consist of six chapters as follows:

Chapter 1 - A brief introduction of the research background, problem statement, aims and objectives of the research and research scope. This chapter illustrates the background reflects to this study to be carried out.

Chapter 2 - Literature reviews conducted on various sourced from UTAR mega search library's catalogue and google scholar. It explained introduction, define of project management, definition of Plastic Bag Campaign, define Plastic Bag Campaign as a project and significance of scope, time and cost in campaign project.

Chapter 3 - This chapter describes research method has used in this study. A research strategy, developing a research plan and timeline, how questions was designed, data structure, data collection method, data analysis and sample selection on this study.

Chapter 4 - This chapter explained the result on the data collected regarding respondent feedback on single-use plastic bag awareness campaign using Cronbach's alpha test, frequencies test, Friedman test, Kruskal Wallis and post hoc analysis with Bonferroni correction for multiple comparisons.

Chapter 5 - A discussion based on result in Chapter 4 was carried out to get the research finding.

Chapter 6 - This chapter provides the conclusion of the research finding, evaluate achievements of research aims and objectives and implication of study to the Government, stakeholder and academician/researcher. Therefore, this chapter will explain the implication of the study, reflect the limitation of this research and recommending areas for future study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Many study have been proposed to explain human behaviour with plastic bag campaign. However, in this chapter, the literature review will focus on project management approach especially scope, time and cost in defining the single-used plastic bag banning awareness campaign. Therefore, explanation how the campaign project carried out.

2.2 Defining Project Management

Project are ubiquitous and unique. They are everywhere and everybody does them (Paul C.Dinsmore, 2011). According to the PMBOK (2017), a project is a temporary endeavour undertaken to create a unique product, service or result. Based on PMI's PMBOK Guide, (PMI, 2017) there was ten knowledge areas namely (1) Integration, (2) Scope, (3) Time, (4) Cost, (5) Quality, (6) Procurement, (7) Resources management, (8) Communications, (9) Risk Management and (10) Stakeholder Management.

Therefore, five process groups namely (1) initiating, (2) planning, (3) executing, (4) monitoring and (5) controlling and closing throughout project process life cycle concept. For the past, researcher has proven that project management trends very significant within time and cost in measuring the success of project (Wit, 1988). During that period, many researcher focus on cost and schedule control, performance measurement. The government has sponsored a large of number of the research projects

in the research studies particularly in the government sectors (Kloppenborg and Opfer, 2002).

According to PMBOK (2016), project management is the application of processes, knowledge, methods, skill and experience to achieve the project objectives. On top of that, it can be defines as practice of initiating, planning, executing, controlling and closing to achieve specific goals and meet specific success expectation at the specified period of time.

2.3 Single-use Plastic Bag Campaign

According to Collins dictionary, definition of single-use is made to be used once only whereas definition of plastic is a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be moulded into shape while soft and then set into a rigid or slightly elastic form.

Single-use plastic referred as disposable plastics which commonly used for plastic packaging and can be used only once before they are thrown away or recycled. Plastic is a lightweight, hygienic and resistant material which can moulded in a variety of ways and utilized in a wide range of application (UNEP, 2018).

According to the Cambridge dictionary, definition of campaign is a planned group of especially political, business, or military activities that are intended to achieve a particular aim; to organize a series of activities to try to achieve something. Similarly Merriam Webster dictionary defined campaign is a connected series of military operations forming a distinct phase of a war or a connected series of operations designed to bring about a particular result.

2.4 Define Plastic Bag Campaign as a Project

According to PMBOK (2016), a project is temporary endeavour undertaken to create a unique product, service or result. In this context, “No Plastic bag Day” campaign was chosen for the research study to be classified as a project because this campaign temporary has defined beginning and ending in time with well define scope and resources allocated. “No Plastic bag Day” campaign is consider unique because it is designed to accomplish specific goal, having specific time period and budget allocation. A project can be considered to be the achievement of a specific objective, which involves a series of activities and tasks which consume resources to deliver on time (Munns and Bjeirmi, 1996). Besides that, project need resources such as funding, people, equipment (Kerzner, 2017).

As a result, a task that need to complete to reach a project objective, goal and deliver the project within the time. Plastic bag campaign project consists of any series of activities such as have a specific objective, defined start and end dates, funding and having resources such as money, people, equipment and material. Despite having resources, a plastic bag campaign need a careful analysis of the problem, there was a communications with stakeholders, detailed planning of what is to be done, when and by whom hence develop a systems to monitor and manage the campaign project which is similar with project needs.

2.4.1 Define Scope, Time and Cost of “No Plastic Bag Day” Campaign

a. Scope

The tasks required to fulfil the project objectives and goals. In this context, “No Plastic bag Day” campaign aimed to reduce the environmental degradation from improper disposal of used plastic bags. First objective is to identify the level of consumer participation in the program and determine the effectiveness of the

program through analysing consumer response on the levy charged on the plastic bag (Asmuni *et al.*, 2015). A well-defined project scope is a necessary to ensure the success of the campaign project. Once the scope has been established, it will enable the allocation of the task more efficient and provide a clear direction for project team to deliver the project within a deadline.

b. Time

The schedule for the project to reach completion. Every project need a time schedule to meet their timeline for their project activities. In this context, the survey took three consecutive days in October of 2013. The observations taken placed from retail, minimarket and supermarket stores. It is important the task deadlines can be achieved within the timeline. Successful project can be defined as achieving the project objective within the time, cost, utilize all resources effectively and efficiently and accepted by the customer.

c. Cost

In order to make sure campaign project is successfully implemented and achievable or known as project is an endeavour (PMBOK) budget allocation is needed. Therefore, amount of money is required to complete the campaign project. In order to complete the project, resources is needed such as people which include labour costs, material and equipment to carry out the project. In order to ensure the campaign successfully manage, 45 observer has been recruited to make the observations at selected stores. Cost has defined as expenses for the people doing the job, material they use (paper, poster, banner, flyers and etc.) and equipment for the work of the campaign project such as computer and printing machine.

However, in other country, there are many studies about educational and awareness raising activities and how much government or private agencies spent

into labour cost, equipment cost and printing material to implement plastic campaign. According to Peter Kershaw, Saido Katsuhiko (2011), in the Netherlands and Belgium, approximately US\$13.65 million per year is spent on removing beach litter. Clean ups of beaches and waterways awareness campaign can be expensive. There is another case has been reported that in South Africa's it would cost about US\$279 million per year to clean up the streams (Richard C. Thompson, Bruce E. La Belle, Hindrik Bouwman, 2011) This, in turn, can lead to loss of income by local communities engaged in tourism, impact to national economic activities and job opportunity to the worker.

2.4.2 Significance of Scope, Time and Cost in Campaign Project

In July 2009, “No Free Plastic Bag” campaign was first launched in Penang. Penang was the first state to do it every day. After that, the Selangor state of government has declared Saturday as a “No Plastic Bag Day” campaign on 1st January 2010 follow by federal government in 2011 launched the “No Plastic Bag Day” (NPBD) campaign for each Saturday across Malaysia. The objective is to reduce the use of plastic bags which harmful to environment. Knowing that project is a temporary, unique and need to deliver on time, this study will evaluate on “No Plastic Bag Day” (NPBD) campaign in scope, time and cost.

a. Significance in project scope

The objective of “No Plastic Bag Day” (NPBD) campaign is identify to reduce the use of plastic bags which harmful to environment when It was launched in year 2011. Until today, there was no report or feedback revealed on this NPBD campaign is successful or unsuccessful. But, there are research study done on NPBD in identifying public participation and effectiveness of the program. In this context, the possibility of uncertainty of the project scope is exist in this campaign such as following:

- i. Unclear specification of what is required;
- ii. Unclear business requirement;
- iii. Unclear project vision and strategy
- iv. Subsequent changes to the scope;
- v. Insufficient information; and
- vi. Lack of experienced and competent personnel.

In order to ensure “No Plastic Bag Day” campaign project success, the six factors as mentioned above should not be found in the project scope because it can lead to poor in scope project. There are research study has reported that most of the project do not meet project success due to lack of clear definition for project scope (Mirza, Pourzolfaghar and Shahnazari, 2013). Project success also can defined as a client satisfaction rating of “very satisfied” (Kerzner and Institute for Learning, 2010). In the present research study on satisfaction federal government introducing “No Plastic Bag Day” campaign revealed that Malays are not satisfied because they have to bring their own reusable bag. It is same agreement based on the findings of no plastic bag day launched in 2011, it has reported that the campaign only achieved 52.3% effectively in reducing the plastic bag. It can be explained that the campaign has not fully successful implemented (Kamaruddin and Yusuf, 2012)..

b. Significance in project time

The previous research survey done on “No Plastic Bag Day” campaign only took three days in observation during the campaign. It is believed that there will be a time constraint due to limited time to record information. Based on the research study “No Plastic Bag Day” campaign, the findings claimed that the study did not get to capture motives of consumers in their participants during campaign (Asmuni *et al.*, 2015).

Time management refer to ability of project manager in planning and organising the time spent on activities. In this context, organizing “No Plastic Bag Day” campaign slightly seemed to be poor managed which the project did not captured as overall. Good time management can results in improved productivity and effectiveness.

According to the Mirza, Pourzolfaghar and Shahnazari (2013), said that the eminent researchers considered time were the most important factor determine project success criteria. It is same agreement with Khosravi and Afshari (2011), that project success criteria is time performance with the high score in his research finding.

c. Significance in project cost

Budget is important element in every project. There is amount of budget allocation to the “No Plastic Bag Day” campaign, in this research study, there are not reporting how much the budget has been allocated to this campaign. However, in the trend of project wise, the material cost, labour cost, equipment cost and other indirect and direct cost taken into the account as a project cost.

Project success is determine by how well the project cost has been managed and control in the project. Many research study claims that project may not be complete within the project cost which can leads the project failure. The campaign on “No Plastic Bag Day” did not mentioned on project cost which researcher could not evaluate into details.

As a conclusion in this chapter, the campaign on “No Plastic Bag Day” which launched in 2011 did not meet the project success because a success project should have meet project scope, time and cost. In order to meet the project scope, this campaign should have recruit an expertise in determine a project scope, very clear vision and there is no more changes on project scope.

Project success also can defined as a client satisfaction rating of “very satisfied” (Kerzner and Institute for Learning, 2010). In this present findings study has shown that majority of Malays respondent are not satisfied with government introducing “No Plastic Bag Day” campaign because they have to bring own reusable bag whereas majority of Chinese and Indian not satisfied with federal government effort in promoting awareness in public areas such as Bus Station, LRT station, Social media and University/school. This present study revealed that the project not success due to very dissatisfied from respondent.

CHAPTER 3

RESEARCH METHODOLOGY AND WORK PLAN

3.1 Introduction

This chapter discussed in detail on research methodology that has been adopted in this study of Project Management approach on single-use plastic bag banning. The method that has been used in this study was so carefully designed. This chapter also described every component that takes a particular approach, setting up a research strategy, making conclusions from findings or results. However, there was description in survey form in term of population group and sampling technique. Therefore, there will be a detail explanation on the selected mode of analysis, data structure and data collection method in this study.

3.2 Research Strategy

Researchers have always seen research as an academia activity that frequently used in technical sense. For many years, research have been considered as redefining problems, formulating hypothesis or solution suggestion, data collection, organizing and data evaluation, providing conclusion as well as tailored the formula to fit the hypothesis.

For this reason, research strategy that has been used in this study was a step by step action plan in the milestone that given a direction hence helping to conduct research systematically. However, to produce a quality result of research, the milestone has been set up to ensure a good report is on the schedule whereas project can deliver within the time.

i. Developing a work Plan and Timeline

A research paper is much more manageable when it is properly planned. It is important for a writer manage timeline wisely (refer appendices B). In order to deliver a research project within a time, this planning break into five areas consists of (1) develop the questionnaire, (2) distribute the survey questions after approved by supervisor, (3) sorting and key in the data into SPSS to get the result, (4) start writing the project research and (5) check and balance.

3.3 Research Methods

For the purpose of this study, survey research has been used as a method of data collection. Survey are very traditional way of conducting research and useful for non-experimental descriptive designs to describe reality (Nigel, Mathers and Fox, 2009). Survey is defined as the collection of information from a sample of individuals through their responses to questions. Surveys have a variety forms in carried out in many ways depends on the methods of methodology. It is not just a particular technique of collecting information thus questionnaires are widely used in other technique such as structured and in-depth interview, observation and content analysis also can be used in survey research (David De Vaus, 2002).

In this study, the survey questions was designed by using why, what and how to develop the research questionnaires. Numerical data will be explaining to this finding by using mathematically based statistic whereas it is contradict to qualitative which focuses on procedures and technique to analyse data (Nigel, Mathers and Fox, 2009).

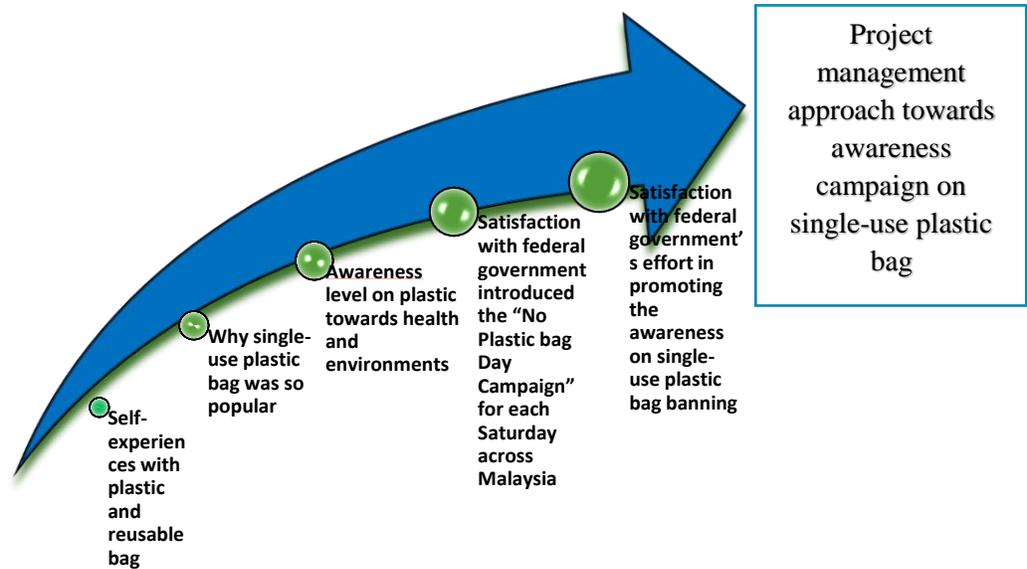


Figure 3.1: The proposed research model

3.4 Questionnaires Designed

Initially, the survey will begin with general research issues by selecting hot issues within Malaysia and when it came falls into national agenda which it is worth to do a research. Almost every day in the newspaper is announcing about Malaysia with the plastic bag waste and also as a global issues. Minister YB Yeo, taken a serious action to breaks off with the single-use plastic bag and gone viral in the Facebook. The interesting part was Minister of Housing made an announcements this year said that Malaysia will ban the single-use plastic bag very soon but realised that Malaysians still have low awareness on plastic bag hence government need to educate public before banning. In addition, there was a research study highlighted low level of awareness among public on the disposal plastic (Ponnusamy Rajkumar, 2015). This single-use plastic issues need to be investigated when it is highlighted in the research study as a research issues, newspaper, social media and global issues. This research on single-use plastic bag need to narrow down to be categorized and discuss as research question, which may form the proposed research model as shown in Figure 3.1.

In order to assist researcher in understanding the subject matter in an overview manner, previous research study related to the awareness on plastic bag are helps in resulting to design a research questions, relevant theories and evidence. Generally, the idea of research questions was designed based on all kind of reading material as below:

- i. United Nation Environment Report;
- ii. Malaysia's Roadmap to Zero Single-Use Plastic;
- iii. Malaysia Sustainable Development Goals;
- iv. Newspaper related to the plastic bag;
- v. Journals related to the Single-Use Plastic; and
- vi. Previous research study done by researcher related to the plastic bag campaign.

There were many of research study to do with measurement on acceptance, attitude and behaviour related to plastic bag but not much research study done to measure awareness level towards single-use plastic bag and also to analyse satisfaction on government efforts in promoting awareness campaign in Malaysia. This idea came across conjunction with many of environmental issues are frequently reported in the newspaper and social media.

After taking into all consideration, the priority topic issues are awareness on single-use plastic bag by determine the purpose (writing to persuade? To inform? To explain?), decided what kind of population and target group to be then do simple research to understand the topic. On top of that, the research study focusing how to administrate in this survey to get a better and standard questions such as brainstorm questions related to the topic, list the research question and develop hypothesis.

In this context, after small research has done, noticed that several research has been done in Malaysia related to the plastic bag. Then, the questionnaire was designed based on all kind of reading materials.

There will be five sections consists of questions to measure awareness level on single-use plastic and satisfaction on government in promoting awareness campaign as below:

- i. Self-experiences with plastic and reusable bag;
- ii. Why single-use plastic bag was so popular;
- iii. Awareness level on plastic towards health and environments;
- iv. Satisfaction with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia; and
- v. Satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning.

Sub question on Self-experiences with plastic and reusable bag was created is based on respondent self-experience more using plastic bag or reusable bag when they are shop. Then, sub question on why single-use plastic bag was so popular was created to get response from respondent on how much they are agree on plastic bag was so popular because it is lightweight, durable, free, convenience, cheap and it isn’t compostable and biodegradable. After that, to measure their awareness level on plastic towards health and environments, the sub question asked about are they aware plastic waste is clogging oceans and rivers, micro plastic found in fish and salt, plastic debris caused death birds, plastic effect can result in severe disorder of the development to the body and etc. Moreover, to analyze their satisfaction on government’s effort in introducing “No Plastic bag Day campaign, sub question sound do you satisfied to pay MYR 0.20 per plastic bag, bring own reusable bag, reduction amount of plastic bags end up in landfills and etc.

Lastly, satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning measure by poster/banner/flyer at bus station, LRT station, Shopping mall, social media, TV, Radio and etc.

3.5 Data structure (close-ended question)

Quantitative data was chosen because it is one of the most practical ways to examine the relationship between variables. In this context, the methods will be carefully structured, designed and consistent during data collection. The design of data is using a questionnaire with close-ended questions as shown in the table 3.1. The current research study choose closed-ended questions because the respondent will answer all the questions compared to open-ended question will be missing data across question forms. There existing of 0-1% data missing across to close-ended questions (Reja *et al.*, 2003).

In this research study, tables and figure would form in the result for chapter 4 provide numerical data which can be analysed statically in term for researcher looks for a correlation between awareness levels in single-use plastic bag banning campaign. In this matter, researcher has chosen quantitative methodology because it would be the best apply to this research problem. Therefore, this data can use to determine the cause and effect relationships exists in order to make predictions or verify the data.

Table 3.1: Comparison of Quantitative Data and Qualitative Data
(adapted from John W.Creswell, 2014)

Quantitative Data	Qualitative Data
Numbers in the form of data ✓ How many?	Explore, explain and understand in the form of words- what? Why?
Structured method ✓ Questionnaires, strategy	Data gathered through interviews, observation, content analysis
Closed-ended questions ✓ Quantified answer	Open-ended questions ✓ Open answer
Use a large sample size for the study ✓ Verify and prove	Use a small sample size ✓ Explore and explain

Quantitative Data	Qualitative Data
Results are documented using objective language	Results may be presented subjectively

3.6 Data collection method

Survey research may use a variety of data collection methods with the most common being questionnaires and interview. This study used questionnaires as an instrument to do the survey research. Questionnaires was carried out to define the population to be studied, analyse and interpret the data. Questionnaires was administrated by course supervisor and it was tailored reflecting the research aim.

A part of that, questionnaires include five sections was created to meet valid and reliable research instrument. This procedure used to explain the contents of the survey questionnaires in order for reader to interpret and evaluate the error of validity and reliability (Brant *et al.*, 2015).

Mode of questionnaire administration can have serious effects on data quality. This study used google form application developed questionnaires. Questionnaires can form into the paper as well as handing to respondent and asking them to return back to the researcher (Bowling, 2005), delivered in an electronic format via email or an internet based such as google forms and what's app through garget which is giving the respondent the option based on their comforts choose. Therefore, the questionnaires were distributed by hand to the government department for them to answer the questions survey form and completed in the course of two weeks. Del Bosque, Leif, & Skarl, (2012) mentioned the same method has been used to gather and compare data consistently in his research. The form was constructed using google form developed 19 questionnaires about the use of Twitter by the library.

3.7 Data Analysis

Data analysis was carried out by using SPSS software version 23. In this study, there are two type of measurement are used for Likert type data namely nominal and ordinal. Nominal data consists of gender, age, educational level, race and household sizes. This variables are identified that have two or more categories such as for gender it consists of two categories called female and male. Another example of a nominal variable would be classifying age into six categories.

Likert scales were developed in 1932 as the familiar five point bipolar response that most used by many researcher until today (Mcleod, 2008). Chandel (2015) mentioned Likert scale was devised in order to measure “attitude” in a scientifically accepted and validated manner. Leon Festinger and James M. Carlsmith (1959) was designed the theory on boring experience to test the result rated from (0-5). However, in this study, the used of Likert scale is to ensure that awareness level can be measured. Respondents was given a selection of five choices to choose from with the neutral point being neither agree nor disagree and neither aware nor not aware. On top of that, the Likert scale is used to allow the respondents to express how much they agree or disagree with a particular statement. The scales range in this study is to include at least five response categories. Some examples of categories group appear in the Table 3.2.

Table 3.2: Likert Scale Response Categories

Scale	1	2	3	4	5
	Never	Occasionally	Sometimes	Usually	always
	Strongly Disagree	Slightly Disagree	Neutral	Slightly Agree	Strongly Agree
	Not Aware	Little Aware	Neutral	Moderate Aware	High Aware
	Very Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Very Satisfied

In this study, writer has adopted Cronbach's alpha to measure internal consistency. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Then, frequency analysis was taken because it is a part of descriptive statistics. Therefore, the data can analyzes the results to represent the survey data in organize manner hence draw a conclusion.

The Friedman test also adopted in this research study. It is used for the non-parametric one way ANOVA with repeated measures. It is used to test for differences between groups. This research question used Friedman test because the questionnaires was ordinal with many order of choices such as very satisfy to dissatisfy. This test is to get the mean rank for each variable. In addition, the Kruskal-Wallis test was applied in this study to determine if there are statistically significant differences between two or more groups of an independent variable. However, it won't tell which groups are different. For that reason, then, post hoc analysis with Bonferroni correction for multiple comparison is used to show pairwise comparison by grouping variables between age, races, household sizes and educational background.

As a conclusion, the result of the Kruskal-Wallis test used for further discussion in the Chapter 5.

3.8 Sample selection

According to the American Heritage College Dictionary, sampling is the process of selecting a portion, piece or segment that is representative of a whole. Sample selection is a very important item in any empirical study which the goal is to make inferences about a population from a sample. There are two sampling methods that describe probability and non-probability sampling. Non-probability meaning to say that do not know which individual will be selected from population as a sample. In this section, probability sampling is used because it eliminates social bias that could shape the research sample. In other words, the research questions and objective will be determine the factor of sample

selection and identify the population of the research. To determine the sample selection, 202 respondents are from Klang valley sufficient for the survey research.

i. Distribution of Questionnaires by hand to the Respondent

Questionnaires was distributed to the respondents from November 2018 to December 2018. In order to produce a better findings, various educational background are selected to response in this survey. There are five categories from various educational background are Secondary, Diploma, Bachelor, Master Degree and Doctorate.

Questionnaire was distributed by hand to the staff in various position in the government department such as clerk and chief clerk with secondary and Diploma background for them to answer the survey questions. After one week, the survey form are collecting back for sorting stage. Questionnaires can form into the paper as well as handing to respondent and asking them to return back to the researcher (Bowling, 2005), delivered in an electronic format via email or an internet based such as google forms and WhatsApp application through garget which is giving the participants the option based on their comforts choose.

ii. Distribution of Questionnaires by WhatsApp to the Respondent

In additional, WhatsApp application are used to get more response to the survey using google form. In this WhatsApp groups, the respondent majority are from Bachelor, Master and Doctorate. Mode of questionnaire administration can have serious effects on data quality. The response are very fast compared by hand distribution.

CHAPTER 4

RESULTS

4.1 Cronbach's Alpha-Reliability Test

Table 4.1 shows a reliability test analysis was carried out of all four sections with 47 items. The overall score of 0.911 indicating internal consistency of the items in order to see how closely related a set of items are as a group.

Table 4.1: Cronbach's Alpha Reliability Test

Cronbach's Alpha	N of Items
0.911	47

Table 4.2: Reliability Tests by Items

Section	Items	Cronbach's Alpha	N item
1.	Self-experiences with plastic and reusable bag	0.70	4
2.	Why single-use plastic bag was so popular	0.899	7
3.	Awareness level on plastic towards health and environments	0.911	10
4.	Satisfaction with federal government introduced the "No Plastic bag Day Campaign" for each Saturday across Malaysia	0.87	6
5.	Satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning	0.975	12

i. Self-experiences with plastic and reusable bag

Self-experiences consists of four questionnaire items. The respondents would have answer based on their experiences related to the plastic bag. The scale has a good and acceptable internal consistency, with Cronbach alpha score 0.70.

ii. Why single-use plastic bag was so popular

Concerning on this why single-use plastic bag was so popular among consumer that believed of the convenient. This questionnaires was designed to see how far the respondent agree because it is free, lightweight, cheap, convenient, durable, watertight and compostable. The reliability shows a good internal consistency with a Cronbach alpha score 0.899.

iii. Awareness level on plastic towards health and environments

In the survey, this questionnaires consists of ten items to measure level of awareness on plastic towards environments. However, this questionnaire was designed to identify respondent awareness level on plastic bag towards health and environments. The Cronbach alpha was reported 0.911 which indicates an excellent internal consistency.

iv. Satisfaction with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia

There are six questionnaires was designed to measure satisfaction with federal government introduced the campaign to the public. This questionnaire was designed because the need of unexpected findings for additional studies to understand more about campaign for No Plastic Bag Day done by government

to the public. However, the Cronbach alpha was reported 0.87 which means the reliability shows a good internal consistency of items.

v. Satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning

A new approach to study for the satisfaction with federal government effort in promoting the awareness on plastic bag banning. In order to measure the effectiveness government in promoting the awareness, twelve questionnaires was designed to the respondent. Therefore, the reliability shows excellent internal consistency with Cronbach alpha score 0.975.

4.2 Frequencies Test

Table 4.3: Frequencies Test on Demographic

Items		Percent	Frequency
Age	0-17	1%	2
	18-24	10%	19
	25-34	27%	55
	35-44	35%	71
	45-54	13%	26
	55 +	14%	29
Gender	Female	59.9%	121
	Male	40.1%	81
Race	Chinese	47%	95
	Malay	33%	66
	Indian	10%	20
	Others	10%	21
Education Level	Secondary	17%	35
	Diploma	23%	47
	Bachelor	45%	90
	Master	12%	24
	Doctorate	3%	6
Household size	1-3	37%	75
	people	55%	111
	4-6	7%	14
	people	1%	2
	7-9		
	people		
	10+		
	people		

Table 4.3 shows the highest frequency and percentage of demographic respondent survey on single-used plastic bag banning awareness campaign. From the list, 35% (n=71) age of (35-44) indicated the highest percentage out of six categories of ages. Then, follow by categories of gender 59.9% (n=121) which is the highest score compared to male. The highest score for race categories is Chinese 47% (n=95) for this survey. However, 45% (n=90) respondents are from bachelor degree with score.

A number of different surveys can be used for analysing plastic bag usage into household sizes. In this context, the highest score for household size (4-6 peoples) is 55%

(n=111) out of four categories. This questionnaire was designed to identify and predictable the amount of usage of plastic bag within one week. In other words, this survey can contribute to the quality of data measurement.

Table 4.4: Frequencies Test on Self-claim towards awareness campaign

Items	Percentage				
	Never	Occasionally	Sometime	Usually	Always
I use plastic bags whenever I shop	13	28	25	19	15
I bring along reusable bags when I shop at grocery store	20	20	39	10	11
I bring along reusable bags when I shop at shopping mall	28	20	32	10	10
I bring along reusable bags when I shop at wet market	41	18	22	9	10

To assess self-claim towards awareness campaign, there was a four questionnaires was used to test for the item section B. The result was reported that the highest score for the item “I use plastic bags whenever I shop” is 28% (n=57). For this section, there are five Likert scale was used to measure the variables. The majority of respondents was reported are occasionally using plastic bags whenever they have gone for shopping. Somehow, there are two items was reported that sometime respondents bringing along reusable bags when they are shop at grocery store and at the shopping mall with percentage and frequency score 39% (n=79), 32% (n=64). Therefore, the result for item four was reported that 41% (n=83) respondents never bring along reusable bags when they are shop at wet market with score.

Table 4.5: Frequencies Test on why plastic bags so popular

Items	Percentage				
	Strongly Disagree	Slightly Disagree	Neutral	Slightly Agree	Strongly Agree
It is free	7	7	22	24	40
It is lightweight	7	4	18	22	49
It is cheap	8	8	21	17	46
It is convenient	5	7	20	19	49
It is durable	10	12	30	18	30
It is watertight	7	13	30	26	24
It isn't truly compostable and biodegradable	12	8	34	17	29

Table 4.5 shows a set of analysis used to test on respondents about why the single-used plastic bags so popular. There are 40% (n=80) respondents tend to point out strongly agree with plastic bag is free, 49% (n=100) strongly agree with plastic bag is lightweight, 46% (n=93) strongly agree with plastic bag is cheap and 49% (n=98) strongly agree with plastic bag is convenient. However, the result found that 30% (n=60) of respondents strongly agree and neutral in response for “it is durable”. It was found out that item 1 to 4 is strongly agree, whereas 30% (n=61) for item 6 and 34% (n=69) for item 7 is neutral. These results shows that respondents are fair with single-used plastic bags is watertight and not compostable and biodegradable.

Table 4.6: Frequencies Test on Plastic Awareness towards Environment and Human Health

Items	Percentage				
	Not aware	Little aware	Neutral	Moderate aware	High aware
Plastic waste is clogging oceans and rivers.	4	10	11	18	57
Reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission.	7	11	17	18	47
Plastic debris caused death birds.	8	10	18	22	42
Micro plastics found in fish.	5	11	20	25	39
Nationwide campaign on “No Plastic bag day”.	6	9	18	29	38
Micro plastics found in salt.	12	15	34	14	25
Plastic effect can result in severe disorder of the development to the body.	18	14	16	19	33
Southeast Asia facing plastic pollution problem.	8	10	26	30	26
Government will work to educate the public and raise awareness on plastic banning.	6	13	26	26	29
Malaysia is the world eighth biggest plastic polluter.	19	17	27	17	20

The result in Table 4.6 shows the ranking of self-claim towards awareness to the environment and human health. The descriptive analysis test is used and resulting majority of respondents high aware with the item 1, 2, 3, 4, 5, 7 and 9. 34% (n=69) of respondent has rated micro plastics found in salt has placed as the sixth rank. This is followed by 30% (n=61) of respondent has rated Southeast Asia facing plastic pollution problem which is placed as the eighth rank with moderate aware. It has found that 27% (n=54) of respondent has rated Malaysia is the world eighth biggest plastic polluter was rank tenth with neutral rating scale.

Table 4.7: Frequencies Test on Satisfaction with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia

Item	Percentage				
	Very Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Very Satisfied
I pay MYR 0.20 per plastic bag.	13	14	26	19	28
I have to bring my own reusable bag.	8	8	22	19	43
The environmental degradation are saved from lessen disposal of used plastic bag.	9	5	25	26	35
Reduction amount of plastic bags end up In landfills.	8	7	26	22	37
Public Engagement day serve its purpose by collecting feedback.	11	18	25	20	26
Public aspiration and wishes on ‘No Plastic Bag’ are improved.	16	14	22	25	23

In the ranking of Public Engagement Program awareness campaign, 43% (n=86) respondent tent to point out very satisfied with bring their own reusable bag which placed first rank. 37% (n=76) respondents very satisfied with No Plastic bags Day Campaign because it can reduce amount of plastic bags end up in the landfills to be placed in the second rank. Therefore, 35% (n=71) of respondents very satisfied with the campaign and agreed that the environment degradation are saved from lessen disposal of used plastic bag. Also, 28% (n=57) of respondents willing to pay MYR 0.20 per plastic bag which placed them rank fourth. From this data, we can see that item 1, 2, 3 and 4 resulted in the top four highest ranking frequency score compared item 5 and 6. Therefore, 26% (n=53) out of 120 respondents very satisfied with public engagement day serve it purpose by collecting feedback which place them rank fifth. Further analysis showed that 23% (n=50) of respondents slightly satisfied with public aspiration and wishes on No Plastic bag are improved.

Table 4.8: Frequencies Test on Satisfaction with federal government effort in promoting the awareness on single-use plastic bag banning

Items	Percentage				
	Very Dissatisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Very Satisfied
Poster/Banner/Flyer at bus station	12	30	32	19	7
Poster/Banner/Flyer at LRT station	15	28	32	18	7
Poster/Banner/Flyer inside the public transport such as train	12	27	38	17	6
Poster/Banner/Flyer at the shopping centre	10	18	37	27	8
Promotion/advertisement in Radio	11	20	28	27	14
Promotion/advertisement in TV	11	27	22	24	16
Promotion/advertisement in Instagram	10	28	32	19	11
Promotion/advertisement in Facebook	9	27	33	20	11
Promotion/advertisement in Youtube	12	32	27	19	10
Promotion/advertisement in newspaper	11	31	29	18	11
Promotion/advertisement in magazine	15	29	27	19	10
Education in the school/university	12	26	26	21	15

Table 4.8 shows the questionnaires required respondents to give information about their satisfaction with the federal government effort in promoting the awareness on single-use plastic bag banning. In response to the item poster/banner/flyer at bus station, LRT station, flyer inside the public transport such as train, at the shopping centre, promotion/advertisement in radio and education in the school/university, more than half of respondents has rated neutral for item 1,2,3,4,5,7,8 and 12.

The respondents expressed slightly dissatisfied with federal government effort in promoting the awareness in TV, YouTube, newspaper and magazine. 27% (n=54) of the respondents has rated slightly dissatisfied for awareness promoting in the TV, 32% (n=64) promoting in the YouTube, 31% (n=62) promoting in the newspaper and 29% (n=58) promoting in the magazine.

Table 4.9: Descriptive Test on should plastic bags banned

No.	Question	Scale	Percentage	Frequency
1.	Should plastic bags be completely banned?	Yes	69.3%	140

69.3% of those were answerable survey questionnaires indicated that plastic bags should be completely banned. Having said this, only a small number of respondents indicated that plastic bags should not be completely banned.

4.3 Friedman Test

The table 4.10 provides the test statistically significant with value chi-square 53.155 and p value is <0.001. The test shows the highest score mean rank is 2.81 for item I use plastic bags whenever I shop and the lowest score mean rank is 2.11 for item I bring along reusable bags when I shop at wet market.

Table 4.10: Friedman test on self-claim towards awareness campaign on single use plastic bag banning.

	Mean rank	Chi-square	Asymp. Sig
<i>I use plastic bags whenever I shop</i>	2.81	53.155	.000
<i>I bring along reusable bags when i Shop at grocery store</i>	2.65		
<i>I bring along reusable bags when i Shop at shopping mall</i>	2.44		
<i>I bring along reusable bags when i Shop at wet market</i>	2.11		

The table 4.11 provides the test statistically significant with value chi-square 110.749 and p value is <0.001. The test shows the highest score mean rank is 4.65 for item it is lightweight and the lowest score mean rank is 3.49 for item it is watertight.

Table 4.11: Friedman test on respondent experience with why single-use plastic bag was so popular

	Mean Rank	Chi-square	Asymp.Sig
<i>It is lightweight.</i>	4.65	110.749	.000
<i>It is convenient.</i>	4.48		
<i>It is cheap</i>	4.20		
<i>It is free.</i>	4.09		
<i>It is durable.</i>	3.56		
<i>It isn't truly compostable and biodegradable</i>	3.53		
<i>It is watertight.</i>	3.49		

The table 4.12 provides the test statistically significant with value chi-square 228.314 and p value is <0.001. The test shows the highest score mean rank is 6.86 for item plastic waste is clogging oceans and rivers and the lowest score mean rank is 4.13 for item Malaysia is the world eight biggest plastic polluter.

Table 4.12: Friedman test on respondent awareness towards environmental and Human Health

	Mean Rank	Chi-square	Asymp.Sig
<i>Plastic waste is clogging oceans and rivers.</i>	6.86	228.314	.000
<i>Reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission.</i>	6.15		
<i>Nationwide campaign on “ No Plastic bag day”.</i>	5.96		
<i>Microplastics found in fish.</i>	5.93		
<i>Plastic debris caused death birds.</i>	5.79		
<i>Government will work to educate the public and raise awareness on plastic banning.</i>	5.37		
<i>Southeast Asia facing plastic pollution problem.</i>	5.25		
<i>Plastic effect can result in severe disorder of the development to the body.</i>	5.04		
<i>Microplastics found in salt.</i>	4.52		
<i>Malaysia is the world eighth biggest plastic polluter.</i>	4.13		

The table 4.13 provides the test statistically significant with value chi-square 61.332 and p value is <0.001. The test shows the highest score mean rank is 3.90 for item I have to bring my own reusable bag and the lowest score mean rank is 3.17 for item public aspiration and wishes on “No Plastic Bag” are improved.

Table 4.13: Friedman test on respondent satisfaction with federal government introduced the No Plastic Day campaign for each Saturday across Malaysia

	Mean Rank	Chi-square	Asymp.Sig
<i>I have to bring my own reusable bag.</i>	3.90	61.332	.000
<i>Reduction amount of plastic bags end up In landfills.</i>	3.77		
<i>The environmental degradation are saved from lessen disposal of used plastic bag.</i>	3.72		
<i>Public Engagement day serve its purpose by collecting feedback.</i>	3.25		
<i>I pay MYR 0.20 per plastic bag.</i>	3.18		
<i>Public aspiration and wishes on ‘No Plastic Bag’ are improved.</i>	3.17		

The table 4.14 provides the test statistically significant with value chi-square 113.571 and p value is <0.001. The test shows the highest score mean rank is 7.28 for item promotion/advertisement in radio and the lowest score mean rank is 5.88 for item poster/banner/flyer at LRT station.

Table 4.14: Friedman test on respondent satisfaction with the federal government effort in promoting the awareness on single-use plastic bag banning

	Mean Rank	Chi-square	Asymp.Sig
<i>Promotion/advertisement in Radio</i>	7.28	113.571	.000
<i>Promotion/advertisement in TV</i>	6.99		
<i>Poster/Banner/Flyer at the shopping centre</i>	6.98		
<i>Education in the school/university</i>	6.93		
<i>Promotion/advertisement in Facebook</i>	6.63		
<i>Promotion/advertisement in Instagram</i>	6.55		
<i>Promotion/advertisement in newspaper</i>	6.29		
<i>Promotion/advertisement in YouTube</i>	6.25		
<i>Poster/Banner/Flyer inside the public transport such as train</i>	6.10		
<i>Promotion/advertisement in magazine</i>	6.07		
<i>Poster/Banner/Flyer at bus station</i>	6.03		
<i>Poster/Banner/Flyer at LRT station</i>	5.88		

4.4 Kruskal-Wallis Test

Table 4.15: Kruskal Wallis Test by grouping variable between age and self-claim towards awareness campaign on single-use plastic bag banning.

Item	Age	Mean Rank	Chi-Square	df	p
I use plastic bags whenever I shop	0-17	81.75	14.973	5	0.01
	18-24	134.61			
	25-34	112.27			
	35-44	97.18			
	45-54	75.15			
	54+	94.95			
I bring along reusable bags when I shop at grocery store	0-17	40.50	14.562	5	.012
	18-24	90.18			
	25-34	107.49			
	35-44	104.19			
	45-54	72.33			
	54+	121.33			
I bring along reusable bags when I shop at shopping mall	0-17	28.50	18.505	5	0.002
	18-24	93.45			
	25-34	112.12			
	35-44	105.65			
	45-54	64.77			
	54+	114.43			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
I use plastic bags whenever I shop	75.15 134.61	45-54 18-24	0.008
I bring along reusable bags when I shop at grocery store	72.33 121.33	45-54 54+	0.018
I bring along reusable bags when I shop at shopping mall	64.77 and 105.65 64.77 and 112.12 64.77 and 114.43	45-54 and 35-44 45-54 and 25-34 45-54 and 54+	0.024 0.007 0.017

Kruskal Wallis test was conducted and shows in table 4.15, there were three items that significant different in this groups. First, there were significant difference in mean rank among age for item “I use plastic bags whenever I shop”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 18-24, where 18-24 is higher than 45-54 ($p = .008$).

Second, Kruskal Wallis test was conducted and shows there were significant difference in mean rank among age for item “I bring along reusable bags when I shop at grocery store”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 54+ ($p = .018$).

Third, there were significant difference in mean rank among age for item “I bring along reusable bags when I shop at shopping mall”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 35-44 ($p = .024$), 45-54 and 25-34 ($p = .007$) and lastly 45-54 and 54+ ($p = .017$).

Table 4.16: Kruskal Wallis Test by grouping variable between age and self-claim towards why single-use plastic bag was so popular.

Item	Age	Mean Rank	Chi-Square	df	p
It is lightweight	0-17	152.50	12.659	5	.027
	18-24	103.34			
	25-34	85.39			
	35-44	99.11			
	45-54	124.58			
	54+	112.50			
It is cheap	0-17	156.00	17.772	5	.003
	18-24	112.58			
	25-34	84.99			
	35-44	100.20			
	45-54	135.02			
	54+	94.93			
It is convenient	0-17	119.25	13.642	5	.018
	18-24	96.21			
	25-34	82.90			
	35-44	103.01			
	45-54	126.75			
	54+	112.67			
It is durable	0-17	148.25	18.325	5	.003
	18-24	88.66			
	25-34	79.09			
	35-44	106.82			
	45-54	127.92			
	54+	112.47			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
It is lightweight	85.39 and 124.58	25-34 and 45-54	0.036
It is cheap	84.99 and 135.02	25-34 and 45-54	0.002
It is convenient	82.90 and 126.75	25-34 and 45-54	0.011
It is durable	79.09 and 127.92	25-34 and 45-54	0.004

Kruskal Wallis test was conducted and shows in table 4.16, there were four item that significant different in this groups. First, there were significant difference in mean rank among age for item “it is lightweight”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 45-54 ($p = .036$).

Second, there were significant difference in mean rank among age for item “it is cheap”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 45-54 ($p = .002$).

Third, there were significant difference in mean rank among age for item “it is convenience”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 45-54 ($p = .011$).

Fourth, it is shows that there were significant difference in mean rank among age for item “it is durable”. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 45-54 ($p = .004$).

Table 4.17: Kruskal Wallis Test by grouping variable between age and self-claim towards awareness on environmental and human health.

Item	Age	Mean Rank	Chi-Square	df	p
Plastic waste is clogging oceans and rivers	0-17	106.00	22.350	5	0.000
	18-24	115.47			
	25-34	81.65			
	35-44	94.76			
	45-54	132.15			
	54+	118.69			
Plastic effect can result in severe disorder of the development to the body	0-17	84.00	16.987	5	0.005
	18-24	140.71			
	25-34	108.35			
	35-44	92.88			
	45-54	76.56			
	54+	107.50			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
Plastic waste is clogging oceans and rivers	81.65 and 118.69	25-34 and 54+	0.032
	81.65 and 132.15	25-34 and 45-54	0.001
	94.76 and 132.15	35-44 and 45-54	0.028
Plastic effect can result in severe disorder of the development to the body	76.56 and 140.71	45-54 and 18-24	0.003
	92.88 and 140.71	35-44 and 18-24	0.017

Kruskal Wallis test was conducted and shows in table 4.17, there were two item that significant different in this groups. First, there were significant difference in mean rank among age for plastic waste is clogging oceans and rivers. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 54+ ($p = .032$), 25-34 and 45-54 ($p = .001$) lastly 35-44 and 45-54 ($p = .028$).

Second, there were significant difference in mean rank among age for item plastic effect can result in severe disorder of the development to the body. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 18-24 ($p = .003$), lastly 35-44 and 18-24 ($p = .017$).

Table 4.18: Kruskal Wallis Test by grouping variable between age and satisfaction with federal government introduced “No Plastic Day Campaign” for each Saturday across Malaysia.

Item	Age	Mean Rank	Chi-Square	df	p
The environmental degradation are saved from lessen disposal of used plastic bag	0-17	110.50	16.434	5	0.006
	18-24	109.18			
	25-34	84.87			
	35-44	93.68			
	45-54	125.15			
	54+	125.31			
Public aspiration and wishes on ‘No Plastic Bag’ are improved	0-17	131.25	14.568	5	0.012
	18-24	141.03			
	25-34	105.74			
	35-44	93.66			
	45-54	81.23			
	54+	102.88			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
The environmental degradation are saved from lessen disposal of used plastic bag	84.87 and 125.15	25-34 and 45-54	0.039
	84.87 and 125.31	25-34 and 54+	0.026
Public aspiration and wishes on ‘No Plastic Bag’ are improved	81.23 and 141.03	45-54 and 18-24	0.008
	93.66 and 141.03	35-44 and 18-24	0.020

Kruskal Wallis test was conducted and shows in table 4.18, there were two item that significant different in this groups. First, there were significant difference in mean rank among age for the environmental degradation are saved from lessen disposal of used plastic bag. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 25-34 and 45-54 ($p = .039$), lastly 25-34 and 54+ ($p = .026$). Second, there were significant difference in mean rank among age for item public aspiration and wishes on “No Plastic Bag” are improved. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 18-24 ($p = .008$), lastly 35-44 and 18-24 ($p = .020$).

Table 4.19: Kruskal Wallis Test by grouping variable between age and satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning.

Item	Age	Mean Rank	Chi-Square	df	p
Poster/banner/flyer at LRT station	0-17	114.25	12.412	5	0.030
	18-24	94.37			
	25-34	119.87			
	35-44	102.06			
	45-54	75.67			
	54+	92.22			
Poster/banner/flyer at the shopping Centre	0-17	98.75	12.901	5	0.024
	18-24	84.16			
	25-34	106.79			
	35-44	110.06			
	45-54	112.60			
	54+	72.10			
Promotion/advertisement in TV	0-17	98.00	14.584	5	0.012
	18-24	102.76			
	25-34	120.94			
	35-44	102.06			
	45-54	72.65			
	54+	88.53			
Promotion/advertisement in magazine	0-17	111.50	17.422	5	0.004
	18-24	114.89			
	25-34	118.41			
	35-44	103.79			
	45-54	69.35			
	54+	83.19			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
Poster/banner/flyer at LRT station	75.67 and 119.87	45-54 and 25-34	0.015
Poster/banner/flyer at the shopping Centre	72.10 and 110.06	54+ and 35-44	0.033
Promotion/advertisement in TV	72.65 and 120.94	45-54 and 25-34	0.006
Promotion/advertisement in magazine	69.35 and 118.41	45-54 and 25-34	0.004

Kruskal Wallis test was conducted and shows in table 4.19, there were four item that significant different in this groups. First, there were significant difference in mean rank among age for item poster/banner/flyer at LRT station. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of age between 45-54 and 25-34 ($p = .015$).

Second, there were significant difference in mean rank among age for item poster/banner/flyer at the shopping centre. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of age between 54+ and 35-44 ($p = .033$).

Third, there were significant difference in mean rank among age for item promotion/advertisement in TV. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of age between 45-54 and 25-34 ($p = .006$).

Fourth, there were significant difference in mean rank among age for promotion/advertisement in magazine. It shows there is significant difference in post hoc analysis in pairwise comparison of age between 45-54 and 25-34 ($p = .004$).

Table 4.20: Kruskal Wallis Test by grouping variable between gender and self-claim towards awareness campaign on single-use plastic bag banning

	Gender	Mean Rank	Chi-Square	df	p
It isn't truly compostable and biodegradable	Female	109.69	6.379	1	.012
	Male	89.26			
I bring along reusable bags when I shop at shopping mall	Female	109.32	5.761	1	.016
	Male	89.82			
Nationwide campaign on "No Plastic bag Day"	Female	109.20	5.743	1	.017
	Male	89.90			
I bring along reusable bags when I shop at grocery store	Female	109.13	5.571	1	.018
	Male	90.10			

The table 4.20 showed that Kruskal Wallis test by grouping variable between age and respondent experience with plastic bag and reusable bags. The test overall is statistically significant as shown above. The highest mean rank score is 109.69 for gender female for item it isn't truly compostable and biodegradable meanwhile the lowest mean rank score is gender male for same item. Multiple comparisons are not performed because there are less than three test fields.

Table 4.21: Kruskal Wallis Test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning.

Item	Race	Mean rank	Chi-Square	df	p
I use plastic bags whenever I shop	Chinese	91.35	22.882	3	.000
	Malay	124.42			
	Indian	64.13			
	Others	110.95			

Item	Mean rank	Pairwise comparison	Post Hoc P value
I use plastic bags whenever I shop	64.13 and 124.42	Indian and Malay	0.000
	91.35 and 124.42	Chinese and Malay	0.002

The table 4.21 showed that Kruskal Wallis test by grouping variable between races and self-claim towards awareness campaign on single use plastic bag banning experience for I use plastic bags whenever I shop. There were significant difference in mean rank for this item.

It shows there is significant difference in post hoc analysis in pairwise comparison of age between Indian-Malay ($p=.000$) and Chinese-Malay ($p=.002$).

Table 4.22: Kruskal Wallis Test by grouping variable between race and self-claim towards why single-use plastic bag was so popular.

Item	Race	Mean rank	Chi-Square	df	p
It is convenient	Chinese	109.54	10.069	3	.018
	Malay	84.13			
	Indian	113.60			
	Others	108.21			

Item	Mean rank	Pairwise comparison	Post Hoc P value
It is convenient	84.13 and 109.54	Malay and Chinese	0.022

The table 4.22 showed that Kruskal Wallis test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning experience. There were significant difference in mean rank for item it is convenience.

It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.022$).

Table 4.23: Kruskal Wallis Test by grouping variable between race and self-claim towards awareness on environmental and human health.

Item	Race	Mean rank	Chi-Square	df	p
Plastic waste is clogging oceans and rivers	Chinese	109.43	19.917	3	.000
	Malay	78.65			
	Indian	115.95			
	Others	123.67			
Micro plastics found in fish	Chinese	111.28	17.945	3	.000
	Malay	80.23			
	Indian	95.65			
	Others	129.67			
Plastic debris caused death birds	Chinese	108.71	13.370	3	.004
	Malay	81.42			
	Indian	118.25			
	Others	116.02			

Item	Mean rank	Pairwise comparison	Post Hoc P value
Plastic waste is clogging oceans and rivers	78.65 and 109.43	Malay and Chinese	.022
	78.65 and 115.95	Malay and Indian	.032
	78.65 and 123.67	Malay and Others	.004
Micro plastics found in fish	80.23 and 111.28	Malay and Chinese	.003
	80.23 and 129.67	Malay and Others	.003
Plastic debris caused death birds	81.42 and 108.71	Malay and Chinese	.014

The table 4.23 showed that Kruskal Wallis test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning experience. There were three items that significant different in this groups. First, there were significant difference in mean rank for item plastic waste is clogging oceans and rivers. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.002$), Malay-Indian ($p=.032$) and Malay-Others ($p=.004$).

Secondly, there were significant difference in mean rank for item micro plastics found in fish. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.003$) and Malay-Others ($p=.003$).

Thirdly, there were significant difference in mean rank for item plastic debris caused death birds. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.014$).

Table 4.24: Kruskal Wallis Test by grouping variable between race and satisfaction with federal government introduced “No Plastic Day Campaign” for each Saturday across Malaysia.

Item	Race	Mean rank	Chi-Square	df	p
I have to bring my own reusable bag	Chinese	110.09	7.912	3	.048
	Malay	86.19			
	Indian	111.40			
	Others	101.33			
The environmental degradation are saved from lessen disposal of used plastic bag	Chinese	108.85	9.327	3	.025
	Malay	84.55			
	Indian	106.73			
	Others	116.55			
Reduction amount of plastic bags end up in landfills	Chinese	111.61	15.477	3	.001
	Malay	80.59			
	Indian	123.85			
	Others	100.21			

Item	Mean rank	Pairwise comparison	Post Hoc P value
I have to bring my own reusable bag	86.19 and 110.09	Malay and Chinese	.044
The environmental degradation are saved from lessen disposal of used plastic bag	84.55 and 108.85	Malay and Chinese	.041
Reduction amount of plastic bags end up in landfills	80.59 and 111.61	Malay and Chinese	.003
	80.59 and 123.85	Malay and Indian	.015

The table 4.24 showed that Kruskal Wallis test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning experience. There were four items that significant different in this groups. First, there were significant difference in mean rank for item I have to bring my own reusable bag. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese (p=.044).

Second, there were significant difference in mean rank for item the environmental degradation are saved from lessen disposal of used plastic bag. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.041$).

Third, there were significant difference in mean rank for item reduction amount of plastic bags end up in landfills. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Malay and Chinese ($p=.003$), Malay and Indian ($p=.015$).

Table 4.25: Kruskal Wallis Test by grouping variable between race and satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning.

Item	Race	Mean rank	Chi-Square	df	p
Posters/banner/flyer at bus station	Chinese	92.86	9.427	3	.024
	Malay	117.68			
	Indian	85.10			
	Others	105.33			
Posters/banner/flyer at LRT station	Chinese	96.22	10.556	3	.014
	Malay	115.64			
	Indian	72.45			
	Others	108.62			
Posters/banner/flyer inside the public transport such as train	Chinese	96.16	12.156	3	.007
	Malay	117.31			
	Indian	70.88			
	Others	105.12			
Promotion/advertisement TV	Chinese	100.31	8.275	3	.041
	Malay	114.48			
	Indian	76.00			
	Others	90.36			
Promotion/advertisement in Instagram	Chinese	96.33	15.399	3	.002
	Malay	121.70			
	Indian	73.05			
	Others	88.50			
Promotion/advertisement in Facebook	Chinese	98.25	10.006	3	.019
	Malay	116.70			
	Indian	74.50			
	Others	94.17			
Promotion/advertisement in YouTube	Chinese	99.26	13.124	3	.004
	Malay	117.80			
	Indian	68.10			
	Others	92.24			
Promotion/advertisement in newspaper	Chinese	97.81	13.318	3	.004
	Malay	119.56			
	Indian	72.83			
	Others	88.76			

Promotion/advertisement in Magazine	Chinese	98.85	15.468	3	.001
	Malay	118.97			
	Indian	64.03			
	Others	94.26			
Education in the school/university	Chinese	99.52	9.889	3	.020
	Malay	115.95			
	Indian	73.13			
	Others	92.10			

Item	Mean rank	Pairwise comparison	Post Hoc P value
Posters/banner/flyer at bus station	92.86 and 117.68	Chinese and Malay	.037
Posters/banner/flyer at LRT station	72.45 and 115.64	Indian and Malay	.017
Posters/banner/flyer inside the public transport such as train	70.88 and 117.31	Indian and Malay	.007
Promotion/advertisement TV	76.00 and 114.48	Indian and Malay	.049
Promotion/advertisement in Instagram	73.05 and 121.70	Indian and Malay	.004
	96.33 and 121.70	Chinese and Malay	.031
Promotion/advertisement in Facebook	74.50 and 116.70	Indian and Malay	.021
Promotion/advertisement in YouTube	68.10 and 117.80	Indian and Malay	.004
Promotion/advertisement in newspaper	72.83 and 119.56	Indian and Malay	.007
Promotion/advertisement in Magazine	64.03 and 118.97	Indian and Malay	.001
Education in the school/university	73.13 and 115.95	Indian and Malay	.019

The table 4.25 showed that Kruskal Wallis test by grouping variable between race and self-claim towards awareness campaign on single use plastic bag banning experience. There were ten items that significant different in this groups. First, there were significant difference in mean rank for item poster/banner/flyer at bus station. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Chinese and Malay ($p=.037$).

Second, there were significant difference in mean rank for item poster/banner/flyer at LRT station. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.017$).

Third, there were significant difference in mean rank for item poster/banner/flyer inside the public transport such as train. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.007$).

Fourth, there were significant difference in mean rank for item promotion/advertisement in TV. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.049$).

Fifth, there were significant difference in mean rank for item promotion/advertisement Instagram It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.004$) and Chinese and Malay ($p=.031$).

Sixth, there were significant difference in mean rank for item promotion/advertisement in Facebook. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.021$).

Seventh, there were significant difference in mean rank for item promotion/advertisement in YouTube. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.004$).

Eighth, there were significant difference in mean rank for item promotion/advertisement in newspaper. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.007$).

Ninth, there were significant difference in mean rank for item promotion/advertisement in magazine. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.001$).

Tenth, there were significant difference in mean rank for item education in the school/university. It shows there is significant difference in post hoc analysis in pairwise comparison of race between Indian and Malay ($p=.019$).

Table 4.26: Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning.

Item	Education level	Mean Rank	Chi-Square	df	p
I use plastic bags whenever I shop	Secondary	113.81	13.200	4	0.010
	Diploma	121.74			
	Bachelor's degree	91.64			
	Master's degree	81.63			
	Doctorate	98.42			
I bring along reusable bags when I shop at grocery store	Secondary	101.97	12.932	4	0.012
	Diploma	92.82			
	Bachelor's degree	110.74			
	Master's degree	72.96			
	Doctorate	142.25			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
I use plastic bags whenever I shop	91.64 and 121.74	bachelor degree and diploma	0.033
I bring along reusable bags when I shop at grocery store	72.96 and 110.74	Master's degree and Bachelor	0.034

The table 4.26 showed that Kruskal Wallis test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning experience. There were two items that significant different in this groups. First, there were significant difference in mean rank for item I use plastic bags whenever I shop. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for bachelor degree and diploma ($p=.033$).

Second, there were significant difference in mean rank for item I bring along reusable bags when I shop at grocery store. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Master's degree and Bachelor degree ($p=0.034$).

Table 4.27: Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning.

Item	Education level	Mean Rank	Chi-Square	df	p
It is free	Secondary	76.57	17.008	4	.002
	Diploma	92.21			
	Bachelor's degree	107.61			
	Master's degree	120.56			
	Doctorate	151.83			
It is lightweight	Secondary	72.33	32.207	4	0.000
	Diploma	78.84			
	Bachelor's degree	116.22			
	Master's degree	131.13			
	Doctorate	109.83			
It is cheap	Secondary	66.77	27.531	4	0.000
	Diploma	88.76			
	Bachelor's degree	113.87			
	Master's degree	130.21			
	Doctorate	103.58			
It is convenient	Secondary	84.40	19.996	4	0.001
	Diploma	78.96			
	Bachelor's degree	112.73			
	Master's degree	122.83			
	Doctorate	124.00			
It is durable	Secondary	89.27	22.580	4	0.000
	Diploma	80.64			
	Bachelor's degree	108.81			
	Master's degree	140.42			
	Doctorate	71.00			
It isn't truly compostable and biodegradable	Secondary	88.00	16.917	4	.002
	Diploma	84.41			
	Bachelor's degree	109.26			
	Master's degree	132.69			
	Doctorate	73.00			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
It is free	76.57 and 120.56	Secondary and Master's	0.030
	76.57 and 151.83	Secondary and Doctorate	0.023
It is lightweight	72.33 and 116.22	Secondary and Bachelor's	0.000
	72.33 and 131.13	Secondary and Master's	0.000
	78.84 and 116.22	Diploma and Bachelor's	0.001
	78.84 and 131.13	Diploma and Master's	0.001
It is cheap	66.77 and 113.87	Secondary and Bachelor's	0.000
	66.77 and 130.21	Secondary and Master's	0.000
	88.76 and 130.21	Diploma and Master's	0.027
It is convenient	78.96 and 112.73	Diploma and Bachelor's	0.006
	78.96 and 122.83	Diploma and Master's	0.013
It is durable	80.64 and 140.42	Diploma and Master's	0.000
	89.27 and 140.42	Secondary and Master's	0.007
It isn't truly compostable and biodegradable	84.41 and 132.69	Diploma and Master's	0.006
	88.00 and 132.69	Secondary and Master's	0.028

The table 4.27 showed that Kruskal Wallis test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning experience. There were six items that significant different in this groups. First, there were significant difference in mean rank for item it is free. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Secondary and Master's Degree ($p=.030$) and Secondary and Doctorate ($p=.023$).

Second, there were significant difference in mean rank for item it is lightweight. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Secondary and Bachelor's Degree ($p=.000$), Secondary and Master's Degree ($p=.000$), Diploma and Bachelor's Degree ($p=.001$) and Diploma and Master's Degree ($p=.001$).

Third, there were significant difference in mean rank for item it is cheap. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Secondary and Bachelor's Degree ($p=.000$), Secondary and Master's Degree ($p=.000$) and Diploma and Master's Degree ($p=.027$).

Fourth, there were significant difference in mean rank for item it is convenient. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Diploma and Bachelor's Degree ($p=0.006$) and Diploma and Master's Degree ($p=0.013$).

Fifth, there were significant difference in mean rank for item it is durable. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Diploma and Master's Degree ($p=.000$) and Secondary and Master's Degree ($p=.007$).

Sixth, there were significant difference in mean rank for item it isn't truly compostable and biodegradable. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Diploma and Master's Degree ($p=.006$) and Secondary and Master's Degree ($p=.028$).

Table 4.28: Kruskal Wallis Test by grouping variable between education level and self-claim towards awareness on environmental and human health.

Item	Education level	Mean Rank	Chi-Square	df	p
Plastic waste is clogging oceans and rivers	Secondary	77.64	32.427	4	.000
	Diploma	79.15			
	Bachelor's degree	110.53			
	Master's degree	135.56			
	Doctorate	144.00			
Plastic debris caused death birds	Secondary	80.47	26.475	4	.000
	Diploma	78.77			
	Bachelor's degree	110.29			
	Master's degree	131.90			
	Doctorate	148.83			
Reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission	Secondary	82.16	30.350	4	.000
	Diploma	76.64			
	Bachelor's degree	109.30			
	Master's degree	141.52			
	Doctorate	132.00			
Item	Mean Rank	Pairwise comparison	Post Hoc P value		
Plastic waste is clogging oceans and rivers	77.64 and 110.53	Secondary and Bachelor's	0.017		
	77.64 and 135.56	Secondary and Master's	0.000		
	77.64 and 144.00	Secondary and Doctorate	0.042		
	79.15 and 110.53	Diploma and Bachelor's	0.009		
	79.15 and 135.56	Diploma and Master's	0.000		
	79.15 and 144.00	Diploma and Doctorate	0.044		
Plastic debris caused death birds	78.77 and 110.29	Diploma and Bachelor's	0.017		
	78.77 and 131.90	Diploma and Master's	0.001		
	78.77 and 148.83	Diploma and Doctorate	0.038		
	80.47 and 131.90	Secondary and Master's	0.005		
Reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission	76.64 and 109.30	Diploma and Bachelor's	0.010		
	76.64 and 141.52	Diploma and Master's	0.001		
	82.16 and 141.52	Secondary and Master's	0.000		

The table 4.28 showed that Kruskal Wallis test by grouping variable between education level and self-claim towards awareness campaign on single use plastic bag banning experience. There were six items that significant different in this groups. First, there were significant difference in mean rank for item plastic waste is clogging oceans and rivers. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Secondary and Bachelor's Degree ($p=.017$), Secondary and Master's Degree ($p=.000$), Secondary and Doctorate ($p=.042$), Diploma and Bachelor's Degree ($p=.009$), Diploma and Master's Degree ($p=.000$) and Diploma and Doctorate ($p=.044$).

Second, there were significant difference in mean rank for item plastic debris caused death birds. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Diploma and Bachelor's Degree ($p=.017$), Diploma and Master's Degree ($p=.001$), Diploma and Doctorate ($p=.038$), Secondary and Master's Degree ($p=.005$).

Third, there were significant difference in mean rank for item reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Diploma and Bachelor's Degree ($p=.010$), Diploma and Master's Degree ($p=.001$) and Secondary and Master's Degree ($p=.000$).

Table 4.29: Kruskal Wallis Test by grouping variable between education level and satisfaction with federal government introduced “No Plastic Day Campaign” for each Saturday across Malaysia.

Item	Education level	Mean Rank	Chi-Square	df	p
The environmental degradation are saved from lessen disposal of used plastic bag	Secondary	79.56	12.782	4	.012
	Diploma	93.82			
	Bachelor's degree	107.89			
	Master's degree	127.48			
	Doctorate	89.92			
Reduction amount of plastic bags end up in landfills	Secondary	83.67	19.013	4	.001
	Diploma	79.67			
	Bachelor's degree	113.47			
	Master's degree	125.00			
	Doctorate	103.00			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
The environmental degradation are saved from lessen disposal of used plastic bag	79.56 and 127.48	Secondary and Master's	0.013
Reduction amount of plastic bags end up in landfills	79.67 and 113.47	Diploma and Bachelor's	0.008
	83.67 and 125.00	Secondary and Master's	0.013

The table 4.29 showed that Kruskal Wallis test by grouping variable between education levels and self-claim towards awareness campaign on single use plastic bag banning experience. There were two items that significant different in this groups. First, there were significant difference in mean rank for item the environmental degradation are saved from lessen disposal of used plastic bag. The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of education level for Secondary and Master's Degree ($p=.013$).

Second, there were significant difference in mean rank for item reduction amount of plastic bags end up in landfills. The post hoc analysis with Bonferroni correction for

multiple comparisons showed there was pairwise comparison of education level for Diploma and Bachelor's Degree ($p=.008$) and Secondary and Master's Degree ($p=.013$).

Table 4.30: Kruskal Wallis Test by grouping variable between household size and satisfaction with federal government introduced "No Plastic Day Campaign" for each Saturday across Malaysia.

Item	Household size	Mean Rank	Chi-Square	df	p
Public aspiration and wishes on No Plastic bag are improve	1-3	83.56	14.677	3	.002
	4-6	108.82			
	7-9	135.36			
	10+	131.25			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
Public aspiration and wishes on No Plastic bag are improve	83.56 and 108.82	1-3 and 4-6	0.019
	83.56 and 135.36	1-3 and 7-9	0.011

The table 4.30 showed that Kruskal Wallis test by grouping variable between household size and self-claim towards awareness campaign on single use plastic bag banning experience. There were significant difference in mean rank for item public aspiration and wishes on "No Plastic Bag" are improved.

The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of household size 1-3 and 4-6 ($p=.019$), 1-3 and 7-9 ($p=.011$).

Table 4.31: Kruskal Wallis Test by grouping variable between household size and satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning.

Item	Household size	Mean Rank	Chi-Square	df	p
Promotion/advertisement in YouTube	1-3	91.90	9.995	3	.019
	4-6	102.41			
	7-9	137.11			
	10+	162.00			

Item	Mean Rank	Pairwise comparison	Post Hoc P value
Promotion/advertisement in YouTube	91.90 and 137.11	1-3 and 7-9	0.037

The table 4.31 showed that Kruskal Wallis test by grouping variable between household size and self-claim towards awareness campaign on single use plastic bag banning experience. There were significant difference in mean rank for item promotion/advertisement in YouTube.

The post hoc analysis with Bonferroni correction for multiple comparisons showed there was pairwise comparison of household size 1-3 and 7-9 ($p=.037$).

CHAPTER 5

DISCUSSION

5.1 Self experiences with plastic and reusable bag

There were three statements that statistically significant related to self-experiences with plastic and reusable bag. These statement are “I use plastic bags whenever I shop”, “I bring along reusable bags whenever I shop at grocery shop” and “I bring along reusable bags when I shop at shopping mall”.

5.1.1 “I use plastic bags whenever I shop”

The post-hoc test shows that the groups of age 18-24 and 45-54 are statically significantly different in “I use plastic bags whenever I shop” The group of age 18-24 shows higher incidences of used plastic bags whenever they shop than age group of 45-54.

The group of age 18-24 claims that they will use plastic bag whenever they shop compared to group of age 45-54 which they claims that they are seldom used plastic bag whenever they were shops. The most interesting finding was that the trend of group of age 18-24, probabilities to shop is high because they do not have any commitment at home even after working hours.

This finding concurred with reported by Lee Taylor & Cosenza, (2002) who stated that youth generation, known as “echo boomers,” they are powerful buying group and they love to shop. Therefore, group of age 45-54 year, probabilities to shop is low because they don’t have much time for shopping and having other commitment at home.

Another finding reported that Malay tend to use more plastic bags whenever they shop compared to Indian and Chinese. It is consistent with previous research found that 70% non-recyclers in Malaysia are dominated by Malays (Zen, Noor and Yusuf, 2014).

However, in education background perspective, it was found that majority is diploma respondents that always use plastic bag when they are shop. This can be explain that lower educational shows that level of knowledge also low. This explanation is based on the trend of the results showing diploma is the higher score even secondary is not significant in this finding. This result has found similarly with Zen et al. (2014), shows that lower educational levels is one of the factors contribute to low awareness and knowledge about plastic bag.

5.1.2 “I bring along reusable bags whenever I shop at grocery shop”

The group of age 54 above tend to always bring along reusable bags whenever they shop at grocery store compared to group of age 45-54 that occasionally bring reusable bags. These differences can be explained the fact that group of age 54 above prefer go to the grocery store to get things. This finding is in agreement with Lesakova (2016) findings which showed nearly 22% of elderly adults have mobility difficulties go to shopping and having limitation of movement when they buying things. Therefore, this group also difficult to travel to larger supermarket hence prefer smaller food stores for their grocery shopping. According to these survey, 23% of elderly adults perceive the size of the supermarket to be a problem for them to shops and grocery store always is the best choices for them to walk around.

5.1.3 “I bring along reusable bags when I shop at shopping mall”

The post-hoc test indicated that there was three pairwise comparison significantly different for group of age 45-54 with 35-44, 25-34 and 54 above. This finding found that these groups tends to always bring along reusable bags when they shop at shopping mall.

These group age of 25-34 and 35-44 which called as young adult, their tendency go to shopping is much higher compared to group age of 45-54.

Bakewell & Mitchell (2003) in the research survey findings reported that 33% young adult agreed that they enjoy shopping, they can get quality product, fashionable, attractive styling and well-known product. It may simply verified that group age of 25-34 and 35-44 prefer go to shopping mall and they have habits of bringing reusable bag when they shop at shopping mall.

It is reported in this finding that group age of 54 above which is consists of elderly adult always bring reusable bags when they shop at shopping mall. It is contradiction with earlier findings that has been reported elderly groups they have difficulties go to shopping and having limitation of movement in the shopping mall. Despite the fact that there was some inconsistency of this finding, there is probability minority of these group would have gone to shopping mall with their reusable bags.

Initially the current study thought that this finding was equal to previous survey finding reported that middle age people and the elderly is tendency to avoid paying levy and will carry reusable bag when they buy things (Asmuni *et al.*, 2015). However, the current finding point to the probability that group age of 45-54 in habits wise they wants get thing done easily and fast that why they prefer use plastic bag rather that bring reusable bag.

As a whole, the campaign on single-use plastic bag has not successfully implemented today as plastic bag are still famous used among all level age. Therefore, adoption of project management practices is an important factor in project success for the long term. Federal and local government need to adopt project management triangle model as well as scope where emphasis on resources need to be fully utilize to produce standard of rule and regulation on plastic bag.

5.2 Why single-use plastic bag was so popular

Lightweight, convenience, cheap, free, durable, and it isn't truly compostable and biodegradable were statistically significant related to why single-used plastic bag was so popular. Among the six reasons "lightweight" is the main reasons on why single-used plastic bag was so popular.

Looking at the sample size and trend of the age, respondent age 45-54 are more significant because more likely of behaviour and attitudes affected this group. These findings of the current study are consistent with other research which found plastic carrier bag was popular because they are lightweight and capable of being carried to everywhere (Ayalon *et al.*, 2009).

Majority of respondents those background from bachelor and master strongly agree that plastic bag was so popular with the six reasons. Therefore, it is different with doctorate background that has strongly agreed plastic bag was so popular because it is free.

Why plastic bag was so popular until today because Malaysians still have the attitude of wanting everything so easy, they want to have plastic bags so they can bring their item back home. In this findings, the research reveals that majority respondents agreed that the plastic is lightweight and research study suggested more eco-friendly bag will be produce by replacing plastic bag. In order to reduce plastic bag it can be explained that adoption of project management practices is necessary.

Federal government and local government should bind legally through the Letter of Agreement (LA) where sign by manufacturer to swift their business to eco-friendly bag. In project wise, the support from top management is essential to ensure that project becomes success. In line with this, adopting project management practices within an organization required a strong decision maker and influences leader through their authority and status (Greenhalgh, Trisha Robert, Glenn Macfarlane, Fraser Bate, Paul

Kyriakidou, 2004). To meet the rising tide of plastics, Malaysian urgently need strong government leadership and intervention for a better Malaysia.

5.3 Awareness level on plastic towards health and environments

There were five statements that statistically significant related to awareness level on plastic bag towards health and environments. The reasons mentioned was clogging oceans and rivers, micro plastic found in fish, plastic debris caused death birds, plastic effect can result severe disorder of the development to the body and reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission.

Plastic waste is clogging oceans and rivers has shown in higher score among five (5) reasons. The post-hoc test indicated that there was three pairwise comparison significantly different for group of age 25-34 and 45-54, 25-34 and 54 above and 35-44 and 45-54. The pairwise comparison that given more impact is age 25-34 and 45-54. This finding can be explained that age 45-54 year, they are aware harmful of plastic towards environment whereas age 25-34 shows that low awareness toward environments.

This finding shows that the correlation between clogging oceans and rivers with awareness level on plastic towards health and environment results majority of Chinese, Indian and others races are highly aware. Adane & Muleta (2011) points out that several problems associated with plastic waste in Jimma City, Southwestern Ethiopia was reported that animal death, blockage of sewage system, deterioration of natural beauty of environment and human health. Therefore, this findings are consistent with case study about plastic pollution in Kerala, India was reported the plastic clogs drainage systems or end up in a river or sea in fact, a study by the Helmholtz centre for environmental research found that ten rivers release more than 90% of total plastic debris found in the sea globally (Economist Group, 2018).

In this finding discussion, it is captures the response of higher educational background given an impact to awareness on health and environmental issues mostly came

from bachelor degree, master degree and doctorate. It is important to have good knowledge and concern what is happening around the world especially has been highlighted in the newspaper recently and Agenda for Sustainability Development Goal (United Nation, 2016).

This findings can be explained that existing of knowledge barrier. To filling the gap on this finding, knowledge sharing and knowledge transfer important for enhancing project management practices. The knowledge transfer process identified as capturing, developing, sharing and using it both tacit and explicit knowledge. On top of this, effective knowledge transfer on project is to capture all project management practices and lesson learned into repository and document it. The project team will be sharing it to all team member through case study.

5.4 Satisfaction with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia

There were four statements that statistically significant related to satisfaction with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia. These statements are “I have to bring my own reusable bag”, “the environmental degradation are saved from lessen disposal of used plastic bag”, “reduction amount of plastic bags end up in landfills” and “public aspiration and wishes on “No Plastic Bag” are improved”.

The post-hoc test indicated that there was pairwise comparison significantly different for Malay and Chinese for “I have to bring my own reusable bag”. The findings results that Malays not satisfied because they have to bring own reusable bag for each Saturday when they are shop. However, it is contradict with Chinese because they are very satisfied to bring their own reusable bag for each Saturday across the campaign.

The findings reported that there was respondents still are not satisfied with federal government introduced the “No Plastic bag Day Campaign” for each Saturday across

Malaysia. The age of group are not satisfied is 34-54 with public aspiration and wishes on “No Plastic Bag” are improved follow by the group of age 25-34 are not satisfied with the environmental degradation are saved from lessen disposal of used plastic bag. Another finding shows that Malay are not satisfied with the item reduction amount of plastic bag end up in landfills whereas in overall finding are reported that Chinese and Indian are satisfied with federal government introduced “No Plastic bag Day Campaign” for each Saturday across Malaysia.

From education background perspective, the finding found that those who are bachelor degree and master degree are satisfied with federal government effort compared to secondary and diploma holder. These finding can be explained that 40.6% respondents are from secondary and diploma background whereas 59.4% respondents are from bachelor, master and doctorate background. The education background actually giving deep impact to the survey study. According to Akareem & Hossain (2012), highlighted that education quality is very important especially for higher education produce good quality products.

However, as stated in the Introduction, the main objective was to analyse the effectiveness of the awareness campaign, educational campaign of bring your own shopping bag campaign need to be implementing (Zen *et al.*, 2013). This findings shows that existing of stakeholder and communication barrier between federal government and respondents in project management view. To filling the gap in this study, all resources such as people, material and equipment should fully utilize. Many researcher agreed that government need to continuously educate public about awareness in single-use plastic bag which was mentioned earlier in the literature review. CEPA is the best approach to develop loss biodiversity and change in society today. This concept can shift into project management view to implement the awareness campaign.

5.5 Satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning

There were eleven statements that statistically significant related to satisfaction with federal government's effort in promoting the awareness on single-use plastic bag banning. There are poster/banner/flyer at bus station, LRT station, train, shopping centre, and promotion/advertisement in TV, Instagram, Facebook, YouTube, newspaper, magazine and education in the school/university.

The post-hoc test indicated that there was four pairwise comparison significantly different for group of age 45-54 and 25-34, 54 above and 35-44, 45-54 and 25-34 lastly 45-54 and 25-34 with campaign at LRT station, shopping centre, TV and magazine.

It is shown that age 45 above, they claimed that they are not satisfied with federal government in promoting the awareness campaign at LRT station, shopping mall, TV and magazine whereas young adult with age 25-44 are satisfied with it. As highlighted by Addullah Mahmood, Abdelnaser Omran (2009) in his research study, only 23.4% respondents knew the campaign through promotion at train station. This significant shows that government need to increase public awareness campaign by integrate all media network, school and university as well as public area such as LRT station.

Plastic pollution is a global problem that need to be focus and look into precisely. Even though the Malaysian government continuously promoting awareness, single-use plastic bag are still widely used in shopping mall, retail shop and public area. Kamaruddin & Yusuf (2012) revealed that most of the respondents in his survey showing positive reaction about the plastic bag awareness campaign. He concluded that plastic pollution has reduced and level awareness has increased.

The current study shows it is contradict with the previous research finding that majority of respondents those are Chinese and Indian are not satisfied with federal government's effort in promoting the awareness on single-use plastic bag. The Kruskal

Wallis test shown that Chinese and Indian not satisfy compared to Malay. The results revealed that they wants government do more effort in promoting awareness at bus station, LRT station, and public transport such as train area. Government also need to increase awareness by promoting in media social such as Facebook, YouTube and Instagram.

Social networks are one of the fastest growing industries in the world. Social network such as Facebook, Twitter, Instagram, LinkedIn and YouTube today is connecting people, building relationship and communicating with people around the world. Therefore, it is a platform to deliver message and information to people. Although, Malaysia government, private agency or non-profit environmental agency is continuously promoting awareness in social media, but there is a space need to be improve. According to EcoKnights (2017), they launched their eco-friendly bag campaign into social media to spread the message to more people hence encouraging people to tweet, Instagram and Facebook their bags and food containers.

In order to analyse effectiveness of single-use plastic bag awareness campaign in line with objective study, the questionnaire was designed to get their feedback on satisfaction with Federal Government introduced the “No Plastic bag Day Campaign” for each Saturday across Malaysia and satisfaction with federal government’s effort in promoting the awareness on single-use plastic bag banning. However, the finding in this study resulted majority are not satisfied.

In order to filling the gap of this study, integration between social network, monitoring and continuously feedback with federal government in achieving project success and satisfaction of stakeholder.

CHAPTER 6

CONCLUSION

6.1 Introduction

This chapter will concludes the research study by review the achievement of the research aim and objectives. In addition, this chapter will explain the implication of the study, reflect the limitation of this research and recommending areas for future study.

6.2 Achievements of Research Aims and Objectives

a) To study adoption of project management in implementing single-use plastic bag awareness campaign;

Overall, this present current study on single-use plastic bag awareness campaign used certain criteria such as scope, time and cost to define campaign is a project. However, the findings show that overall the campaign is not successful. Project success also can defined as a client satisfaction rating of “very satisfied” (Kerzner and Institute for Learning, 2010). In the present research study, there are two parameter is using on this research study. First parameter is satisfaction federal government introducing “No Plastic Bag Day” campaign revealed that Malays are not satisfied because they have to bring their own reusable bag. Second parameter is federal government effort in promoting awareness in public areas such as Bus Station, LRT station, Social media and University/school. This present study revealed that majority of Chinese and Indian are not satisfied with the government effort in promoting

the campaign, they want federal government increase awareness campaign focusing in the public area. The contribution of project not success due to very dissatisfied from respondent.

It is same agreement with evaluation to the previous research study on “No Plastic Day Campaign” using certain criteria such as scope, time and cost to define campaign is a project. A major contribution to unsuccessful projects is the lack of understanding or defining project scope at the beginning of the project (Mirza, Pourzolfaghar and Shahnazari, 2013). It is found that overall there was poor in identify project scope of the campaign which consists of unclear specification of what is required, unclear business requirement, unclear project vision and strategy, subsequent changes to the scope, insufficient information, lack of experienced and competent personnel has identified in the campaign. Based on the previous research study on “No Plastic Day Campaign”, the project implementation on this campaign is using government existing standard procedure.

b) To measure the awareness level on the campaign of single-use plastic bag; and

Respondent towards their self-experiences with single-use plastic is very high and making use of reusable bag awareness is still low. This research findings showed that respondent still having low awareness toward single-use plastic bag. In addition, plastic bag was so popular because it is lightweight and easy for respondent to carry things. In Malaysia, the federal and local governments have been trying to grapple with the problem of plastic bag for many years. It can be found plastic waste around the planet, clogging up stream, river and ocean. Sickening marine life like corals and serving as breeding grounds for diseases. However, it is suggest that more eco-friendly products need to gazette related industry player in order to safe environment. Therefore, government should have come out proper guideline making sure the product is safe use for human and environment.

The results showed that majority of Malay are unaware whereas Chinese, Indian and other races are aware of single-use plastic effect can giving problem to environment and human health. In addition, secondary and diploma background having low knowledge in resulting to this study compared to respondents who having bachelor, master and doctorate background having a good knowledge responding to this study. After analyse in every vertical points, the results showing that Malaysian still have low awareness towards single-use plastic bag.

c) To analyse the effectiveness of the awareness campaign

i. Introduce “No Plastic Bag Day” campaign; and

Majority Chinese (47%) and Indian (9.9%) are satisfied with the government in introduced “No Plastic Bag Day Campaign” whereas Malays (32.7%) are not satisfy with it. These satisfied groups agreed that through the campaign, reduction amount of plastic bag end up in the landfills, bringing reusable bag will save the environment and the environmental degradation are saved from lessen disposal of used of plastic bag. As a conclusion, this result has showed introduction of “No Plastic Bag Day” campaign are not fully effective.

ii. Promoting awareness in public areas such as Bus Station, LRT station, Social media and University/school

The finding of this study shows that majority of Chinese and Indian not satisfied with federal government effort in promoting awareness in public areas such as Bus Station, LRT station, Social media and University/school. Respondents in this survey wants government to do more effort in promoting awareness through banner/flyer/poster at public area such as bus station, LRT station, University/school. Government also need to increase awareness campaign such as environmental education programmes in the school as well

as promoting in media social such as Facebook, YouTube and Instagram. Social networks are one of the fastest growing industries in the world by connecting people, building relationship and communicating with people around the world. Therefore, it is a platform to deliver message and information to people.

6.3 Implications of the study

a) The Government of Malaysia;

Firstly, the implication of this study can be used as a guidance to introduce project management approaches into Government of Malaysia as well as development of policy making and regulations or various aspect related campaign studies. “Getting a new idea adopted, even when it has obvious advantages, is difficult” (Suman Kishore Mathur, 2014). It will take time to adapt a new environment as project management approaches never been apply in the government sector especially in the area of policy making and regulation related to awareness campaign. Conjunction with this approach, with the aim of achieving transparency, accountability, efficiency and effective use of resources, enhance implementation of policy and change, stakeholder engagement and delivering services to the public. This research study is design to be tailored to fit the policy making. When there is an investment of project management there will be a guarantees of returns of investment in a specific context.

However, another implication is during the course of survey study, there are indirectly develop a better understanding of project management practices on these plastic bag awareness campaign. Project management involves application of knowledge, skills, tool and techniques in achieving project objectives efficiently and effectively. As project management approach has been applied in Malaysia for many years especially most in construction

fields, there is no research done in adopting project management practices in plastic bag awareness campaign. The good part of this practices is to mitigate the scope creep and bureaucratic within organization, utilize all resources, delivered project within the time and meet stakeholder expectation. Having said this, indirectly it will reflect accountability and transparency that the system provided were a requirement of government. On top of that, there will be consequences of monitoring, feedback and lesson learned throughout the project life cycle. Therefore, lesson learned identifying project success and failure and also improvement future performance can be compiled and formalized store into organization repository. This practices can be commercially apply to the Malaysia of government.

b) Stakeholder; and

Secondly, implication of the study to the stakeholder into society today is to relook the single-use plastic bag banning campaign at the concept of project management from a new perspective.

In the perspective of the stakeholder, refer to the chapter five (5) which mentioned that respondent are not satisfied with the government effort in promoting the awareness campaign which now priority is to focus on stakeholder. In general terms, stakeholder in this context are from “pressure group” with affected by the outcomes of project. In order to enhance the project outcome in this context, stakeholder engagement is a must to increase trust and confidence among project community. There are many type of engagement can be done such as sharing information through bulletins, newsletters, meeting or social media. Other than that, public hearings, workshop, online feedback or survey form.

In order to achieve stakeholder expectation affect to project success, the first thing is define who, what, when and how’s related to the individual of

community group. In this finding study, stakeholder to be known as “pressure group” to the project have more power to the outcome of project. Having said this, project manager should meet stakeholder expectation in order to achieve project objectives and goals.

Therefore, communication is one of the effective method to deliver a clear message and avoid misunderstanding or conflict related the issues. A very common reason for projects failure is the poor of communication and don't meet stakeholder expectations. To filling the gap, adoption of project management mitigate the risk and problem within organization. When there is less scope creep within organization, meet stakeholder expectation and effectiveness of communication, the project can deliver during the timeline hence there were no addition budget allocation to the project. This finding given deep impact to the research study and respondents of the project.

c) **The Academicians/Researchers**

Thirdly, the implication of this study towards academic researchers by looking at every point of view on this research because project have own unique in term of writing style and interaction pattern to produce the beauty and value of research study.

In this study, research has tended to focus on single-use plastic bag banning awareness campaign by adopting project management approach especially triangle model i.e. scope, time and cost rather than project management knowledge area. One of the major drawback to adopting project management approach is that based on the certain evaluation and findings in previous study on “No Plastic Bag Day” campaign implemented by federal government for the past few years. This research study can use as a future reference and guide for expertise and researcher doing a research study regards this issue.

Conjunction with this, this finding and study will provide to the researcher a new perspective way of looking awareness campaign by adopting project management approach. Therefore, it can be use as reference to the training industrial specialise in plastic industry, university undergraduates students, post graduate students, doctorate researcher and related to this industry researcher.

6.4 Limitations of the study

Different understanding, experience and limitation of knowledge with “project management” practices to apply in this study challenges to the writer. Therefore, the creativity and critical thinking is important in writing a research paper where stylist manner from beginning until the end of the writing with climax to be engaging.

Every research study has limitations. In this research study, short survey duration reflects research study limitation due to inability to capture project management approach which consists of ten knowledge areas namely (1) Integration, (2) Scope, (3) Time, (4) Cost, (5) Quality, (6) Procurement, (7) Resources management, (8) Communications, (9) Risk Management and (10) Stakeholder Management. Therefore, lack of information and understanding in project management approach are apply to the single-use plastic bag awareness campaign as a research study.

Another potential limitation is due to questionnaire designed related to the project management approach. Respondents do not given any questions related to the project management knowledge because their lack of understanding in this subject matter. As a result, this study do not response in view of project management approach from respondents.

6.5 Recommendation

There are limited number of researcher are doing research study related to the project management practice on single-use plastic bag banning awareness campaign. More studies should be conducted in fundamental and applied knowledge of this project management practice Single-use plastic bag become a major discussion where it has given environmental problem. Therefore, in this research findings has been reported that Malaysian still have low awareness towards single-use plastic bag. Since this plastic bag is vulnerable in Malaysia and become as a global issue. Based on results and findings in this study, it is show that there is an urgent need for more information and research in every aspect using project management approach and ten knowledge areas to be captured as part of future academic research study especially in stakeholder, communication, resources and integration view.

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APPENDICES A: Questionnaires

Section A (Demographic survey Questions)

1. What is your gender?
 - a. Male
 - b. Female

2. What is your age?
 - a. Below 18 years old
 - b. 18-24 years old
 - c. 25-34 years old
 - d. 35-44 years old
 - e. 45-54 years old
 - f. 55 above

3. How would you describe yourself?
 - a. Malay
 - b. Chinese
 - c. Indian
 - d. Others

4. What is your highest degree or level of school you have completed?
 - a. SPM
 - b. STPM
 - c. Diploma
 - d. Bachelor's Degree
 - e. Masters degree
 - f. Doctorate

5. Household size
 - a. 1-3 peoples
 - b. 4-6 peoples
 - c. 7-9 peoples
 - d. 10 above

Section B (Self claim towards awareness campaign on single use plastic bag banning)

6. Do you consume meat or vegetable? (if your answer is no, please proceed to question no.9)
- Yes
 - No
7. How many times a week?
- One
 - Two
 - Three
 - Four
 - More than four
8. Please choose what the best describes your experience with plastic and reusable bags.
- Never occasionally sometimes usually always
- a. I use plastic bags whenever I shop.
- b. I bring reusable bags when i Shop at grocery store.
- c. I bring reusable bags when i Shop at shopping mall.
- d. I bring reusable bags when i Shop at wet market

9. Please select one appropriate answer for each of the following questions about why single-use plastic bag was so popular?

Strongly	slightly	neutral	slightly	strongly
Disagree	disagree		agree	agree

- It is free.
- It is lightweight.
- It is cheap.
- It is convenient.
- It is durable.
- It is watertight.
- It isn't truly compostable and biodegradable.

10. Do you aware of the following?

not	little	neutral	moderate	high
aware	aware		aware	aware

- Plastic waste is clogging oceans and rivers.
- Micro plastics found in fish.
- Micro plastics found in salt.
- Plastic debris caused death birds.
- Plastic effect can result in severe disorder of the development to the body.
- Reduction in plastic bag use will bring reduction in heat trapping greenhouse gas emission.
- Government will work to educate the public and raise awareness on plastic banning.
- Malaysia is the world eighth biggest plastic polluter
- Southeast Asia facing plastic pollution problem
- Nationwide campaign on "No Plastic bag day"

Section C

Please select one appropriate answer for each of the following questions.

11. How satisfied are you with federal government introduced the No Plastic bag Day campaign for each Saturday across Malaysia?

very	slightly	neutral	slightly	very satisfied
dissatisfied	dissatisfied		satisfied	

- a. I pay MYR 0.20 per plastic bag.
- b. I have to bring my own reusable bag.
- c. The environmental degradation are saved from lessen disposal of used plastic bags.
- d. Reduction amount of plastic bags end up In landfills.
- e. Public Engagement day serve its purpose by collecting feedback.
- f. Public aspiration and wishes on 'No Plastic Bag' are improved.

Section D

12. How satisfied are you with the federal government's effort in promoting the awareness on single-use plastic bag banning as below?

very	slightly	neutral	slightly	very satisfied
dissatisfied	dissatisfied		satisfied	

- a. Poster/Banner/Flyer at bus station
- b. Poster/Banner/Flyer at LRT station
- c. Poster/Banner/Flyer inside the public transport such as train
- d. Poster/Banner/Flyer at the shopping centre
- e. Promotion/advertisement in Radio
- f. Promotion/advertisement in TV
- g. Promotion/advertisement in Instagram
- h. Promotion/advertisement in Facebook
- i. Promotion/advertisement in Youtube
- j. Promotion/advertisement in news paper/
- k. Promotion/advertisement in magazine
- l. Education in the school/university

13. Should plastic bags be completely banned?

- Yes
- No

14. What is the best way to tackle plastic pollution?

Answer:

APPENDICES B: The Expected Work Schedule/Timeline***15 October 2018-13 Jan 2019***

Week 1 15 Oct- 21 Oct	Week 2 22 Oct- 28 Oct	Week 3 29 Oct- 4 Nov	Week 4 5 Nov- 11 Nov
Develop the questionnaire			
Week 5 12 Nov- 18 Nov	Week 6 19 Nov- 25 Nov	Week 7 26 Nov- 2 Dis	Week 8 3 Dis- 9 Dis
Distribute questions after approved			
Week 9 10 Dis-16 Dis		Week 10 17 Dis- 23 Dis	
Sorting and key in the data using SPSS and writing			
Week 11- Week 13 24 Dis - 13 Jan (Break)			
Writing			

14 Jan 2019 – 5 April 2019

Week 1 14 Jan-20 Jan	Week 2 21 Jan - 27 Jan	Week 3 28 Jan – 3 Feb	Week 4 4 Feb - 10 Feb
writing			
Week 5 11 -17 Feb	Week 6 18 - 24 Feb	Week 7 25 - 3 Mac	Week 8 4 - 10 Mac
writing			
Week 9 11 - 17 Mac	Week 10 18 - 24 Mac	Week 11 25 - 31 Mac	Week 12 1 -4 April
Correction week, check and balance			
Submission on 5 April 2019			