

An Exploratory Study on Food Handler's Awareness on Environmentally Friendly Food Packaging Practices

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Abstract

The study aims at exploring food handlers' participation on environmentally friendly food packaging practices. This research investigates food handlers' current food packaging practices, their environmental awareness level and their attitude towards environmentally friendly food packaging. The growing number of food handlers' usage and consumption of nonenvironmental friendly food packaging has resulted in the deterioration and damage on our natural environmental. The study discussed where the issue of no plastic bag implementation occurred among the hawkers and restaurants operators. The theory of Planned Behaviour (TPB) has been chosen as the guided theory used in this research in order to explore food handlers' participation on environmentally friendly food packaging practices. The main method for collecting qualitative data is through semi-structured interviews and observation among the hawker and restaurant operators. The result of this research project indicated the food handlers' current food packaging practices, their environmental awareness level and their attitude towards environmentally friendly food packaging. The limitation faced in this research was addressed together with recommendation of future research. The finding of this study provides valuable insights into the current level of awareness among food handlers about environmentally friendly food packaging practices. Additionally, the study investigates potential barriers and constrains faced by food handlers when adopting and promoting sustainable packaging materials. The results aim to contribute towards the development of educations programs and initiative targeted at enhancing food handlers' knowledge and engendering positive attitudes towards sustainable packaging practices. The significance of this study lies in its potential to bridge the gap between food handlers' awareness and the adoption of environmentally friendly food packaging practices. By understanding the knowledge gaps and barriers faced by food handlers, policymakers and industry stakeholders can develop effective strategies to enhance the implementation of sustainable packaging practices, thereby minimizing the industry's environmental impact. To conclude, this exploratory study provides an overview of food handlers' awareness of environmentally friendly food packaging practices. By highlighting the perspectives and

challenges faced by these individuals, this research contributes to the ongoing efforts in promoting sustainable packaging practices within the food industry.

Keywords: Food Handlers, Awareness, Attitude, Food Packaging, Environment Friendly

Introduction

Consumers used trillion plastic bags as carrier bags everywhere in the world annually. The plastic bag, which is also known as the plastic carrier bag, is a popular and widely accepted means used by publics for the functions of carrying and bringing the any goods, items or products during their purchasing and buying process. Therefore, the plastic carrier bags are always become the first choice among all retailer business' owners for their customers. It is because the plastic bags have several advantages, such as the plastic carrier bags are very light, very cheap, less costly, weightless, have strong capacity to carry or bring products or goods, as well as it is clean and hygienic when it is the first time to be used (Jalil et al., 2013). It is known that improper disposal and throwing of used plastic carrier bag has resulted several long-term and serious consequences and deterioration on our natural environment and ecosystem. It is because used plastic carrier bag or any plastic wastage is not degradable, and it takes a very long time for the degradation in the soil. As the result, it contributes to the environmental pollution, which include soil pollution, air pollution and water pollution. The non-degradable plastic carrier bag or any plastic wastage which end up in the landfills has brought very serious impact and burden on our natural environment, that associates with the resource use. By disposing or throwing the plastic carrier bag or plastic wastes into the landfills, this has resulted in the non-degradation of these wastes in the landfills because these plastic wastages take 400 to 1000 years for the degradation. As the consequence, the landfill pollution has been resulted (Musa et al., 2013).

The effort to reduce the usage of plastic bag has started been implemented in Malaysia to support the effort of environmentally friendly in this country. Plastic bag campaign that have been introduced in Malaysia since 2011 as an effort to lessen the global warming issue While in July 2009, the campaign of "No Free Plastic Bag" was launched in Penang, Continuously, Penang, being the first state in Malaysia, implements this "No Free Plastic Bag" campaign every day, which is applied by all supermarkets, hypermarkets, fast food restaurants, nasi kandar restaurant, pharmacies as well as convenience stores (including petrol stations). This campaign is conducted with the main objective of reducing the consumption of plastic carrier bag and, in turn, save and perverse our natural environment. However, this effort has caused many publics' reactions and acceptance, which include food handlers, plastic industry, policy makers as well as environmentalists. Cooperation among all parties (food handlers, plastic industry, policy makers and environmentalists) is very vital in order to make sure the success of this campaign and is a long way to reduce the plastic bags usage among Malaysians. Food handler plays a very crucial role in the effort of reducing the plastics bag usage and protecting environment. Therefore, considering food handlers as the major consequence, this paper evaluates the attitude, awareness and participation of food handlers in Teluk Bahang, Penang area towards environmentally friendly food packaging practices.

Problem Statement

Due to the environmental degradation, banning the plastic bag usage and charging extra money for plastic bags in shopping malls, hypermarkets, supermarkets, etc. have been taken as one of the ways for environmental protection. If the consumers are willing to adopt green purchasing behaviour by substituting the plastic packaging material into eco-friendly

packaging product, this environmentally sustainable purchasing behaviour will give significantly and positive impact on environment. As the result, eco-friendly packaging has emerged as vital focus among researchers and industries. The improvement of packaging has been investigated in order to reduce materials that cause negative impact on environment, enhance the recycled content, and produce more renewable packaging materials. According to Rokka and Uusitalo (2008), eco-friendly packaging of a product is a crucial product attributes affecting customers' product selection. Green product packaging has changed customers' attitude towards green purchasing behaviour and able to create green perception among consumers. As the result, consumers are more likely to use eco-friendly packaging products and have negative preference towards non-recyclable plastic packaging. In food and beverage industry, a lot of restaurant chains in Malaysia, such as Subway, KFC, McDonald, etc. are using biodegradable paper as food packaging in their outlets. However, most of food stalls, especially hawkers in Penang are still using plastic bags for taking away foods and drinks, even though the Malaysian government has been trying to raise awareness on this issue.

Plastic bags can be a nuisance in the society. It can cause wastage problem as most plastic bag is not bio-degradable if buried. It may release unhealthy gases when burned. It may cause hygiene problem on the street which at the end causes diseases. In the case of Teluk Bahang, food handler still fails to play their part even when the government imposes "No Plastic Bag" campaign and a ban on polystyrene foam to pack foods. Many of them found that it is quite difficult to play their roles as they are used to the plastic bag usage, and it is quite costly to use eco-friendly packaging methods. The application of plastic bag for hot edible foods and drinks is risky because wrong usage of type of plastic bag may result in migration of chemical components from plastic bag into the food and drink. These chemicals might cause the health problem, such as the issues of heart disease, cancer and reproduction. Plastic bag usage for hot food and drink items not only lead to health problem, but also result in negative impact on environment. Hence there is increasing number of people have urged the avoidance of plastic bags usage as food and drink packaging due to the issues of health and environment (Gooi, 2010).

For the food handlers, the ultimate objective of their business is not only to ensure the customer satisfaction towards their business and to build up the long-term relationship with their customer, but also to ensure their business sustainability in the intensive competitive market and business world. Due to the increasing pressures from society and government, a lot of food handlers are starting to integrate the green packaging practices. However, these food handlers are facing some obstacles during practicing green packaging, which include higher cost need to invest green packaging and developing green product, unfavourable perception towards green packaging and green products among food handlers, changes in food handlers' attitude towards green packaging and green product and also their suspicion towards the claims from green advertisement.

According to green marketing concept, the stakeholders, including business owner / hawkers, government and consumer are playing vital roles in the effort of reducing plastic bags usage. The current study focuses on one of the important players, which is hawker / food handlers. It is important to understand food handlers' / hawkers' opinion regarding eco-friendly packaging practice because food handlers' opinion could determine the success of no plastic bag campaign in food and beverage industry and usage of eco-friendly food packaging. Understanding food handlers' perception regarding eco-friendly packaging practice could help to come out with good proposal on planning proper strategy in order to moderately

reduce plastic bags usage as food package in food and beverage industry Malaysia and encourage them to play a role in saving the environment. As a result, it is important to explore how food handlers view the environmental issues, and how they behave, especially in their attitudes towards green products or environmentally friendly products (Gooi, 2010)

In this study, food handler's current food packaging practice was explored in order to understand the actual action of the food handler in afore mentioned perspectives. In addition, their attitude, awareness and future behaviour (intention) towards environmentally friendly food packaging practices were investigated. As there is dearth study on this subject, this study will significantly contribute to the body of knowledge of the subject,

Research Objectives

The main objectives of the study are:

- i) To explore food handlers' current food packaging practice.
- ii) To understand food handlers' environmental awareness level.
- iii) To investigate the food handlers' attitude towards the environmentally friendly food packaging practice

Research Methodology

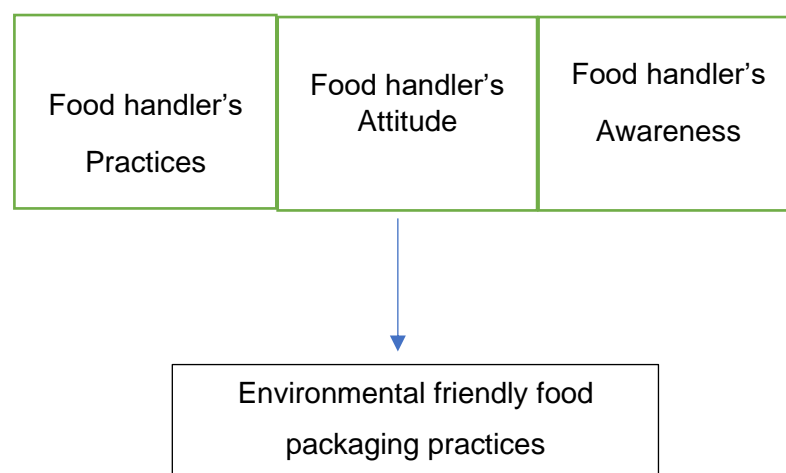
A qualitative research design is selected in order to explore the food handlers' current practices, their awareness on food packaging towards the environmental and to investigate the food handlers' attitude towards the environmentally friendly food packaging practice.

A convenience sampling design is employed whereby the primary data is collected during a five-week period among hawkers and restaurant operators in Teluk Bahang, Penang.

A semi-structured interview combines a list of questions and relevant topic that the researcher wishes to cover. The topics are pre-determined, and the questions are formulated in advance. This allows the researcher to be fully prepared, confident and more productive to solicit information relative to time and experience. Also due to researcher limited time, the interview will be focus on the few hawkers and food handler who operated business at Teluk Bahang.

A total of eight hawkers and restaurant operators who operated in Teluk Bahang area were selected as the participants. Nevertheless, the researcher stays flexible and ensure the interview is fairly informal, cordial atmosphere and attentive to what the participant says, and respond will follow-up question and reviews. Validity and reliability on the research is based on the data triangulation whereby the data obtained are cross examined with other sources such as industry report, newspapers and industry experts.

Research Framework



This study enhances understanding of hawker food handler's insight regarding their current practices of food packaging and their attitude, awareness and intention to use environmentally friendly food packaging. The finding of this study may assist to plan proper strategies and actions that could be taken to overcome barriers which restrict the food handlers from practicing the appropriate endeavor in plastic bag issue so that plastic usage can be reduced. This could help Penang state to consider alternative approaches to ensure the continuous enactment of environmental food packaging among hawker food handlers in order to increase and extend the desired outcomes for no plastic bag campaign in food and beverage industry. The findings of this study will also assist the government to design proper strategies and plans in order to reduce the plastic carrier bag usage among food handlers in Teluk Bahang. In addition, this study will contribute the effort of improving and enhancing the environmental awareness and concern regarding the sustainable food packaging usage among food handlers and all residents in Penang.

Reducing Plastic Packaging in Food & Beverage Industry

Polystyrene materials food packaging or polystyrene food container is one of the widely used and accepted food packaging used by Malaysians. These polystyrene food container or food packaging are used for beverage and food take away purposes. The usage of these polystyrene material food container or food packaging has resulted the serious consequences on consumers' healthy. When these polystyrene food container or food packaging contacts the hot food and beverage items, a chemical, called styrene is released from polystyrene material food packaging. This chemical is proved that has resulted significant and serious negative impact on our human healthy, especially on human' kidney function and central nervous system.

Apart from the polystyrene material food container or food packaging, food handlers also like to use the plastic bags to pack the food and beverage items because the plastic bags are cheap, easy to be found, abundant and very low weight. Many hawker food handlers are still utilizing plastic bags for edibles and hot food items. These plastic packaging is not only giving significant and negative impacts on our environment, but also result in health hazards to us. It is because by wrapping the hot and edible food items with plastic packaging, the chemical might be migrated from plastic into the food packed with this plastic packaging and consumed by people. This plastic chemical will be getting into the consumers' body. Based on observation, the plastic bags can still be seen in hawker food centre, café, canteen and food court in shopping mall for take away purpose. For example, in local hawker food centre located across Penang, it can be seen that the hot soups and hot noodles as well as hot drinks, such as tea, coffee etc. are packed by using soft plastic bags. Those soft plastic bags used in hawker food centre have not any plastic identification code. Therefore, customers are unable to identify whether the plastic packaging used is safe or not to be used as secure packaging. It is questionable that whether the food handlers aware the type of plastic bag that could be used to pack hot food items as well as their knowledge and responsibility to ensure the food safety.

In order to complement and make sure National Solid Waste Management Policy was implemented successfully, an entity, which is called Solid Waste Corporation (SW Corp) was established. In year 2015, there are a total of 38,000 tonnes of domestic rubbishes and wastes were created and generated by Malaysians every day. Out of the 38,000 tonnes of domestic rubbishes and wastes, there are 14% of them are plastic waste. It is known that plastic materials are not degradable. These plastic materials take very long time, that is around 1000

years to be degraded and decomposed. The disposal of the plastic waste on the landfill and soil has resulted in the soil and landfill pollution. This is because disposal of plastic bag on the landfill and decomposition of the plastic materials wastages on the landfill and soil leak the hazardous and dangerous contaminants into the water, soil and water during the decomposition process of plastic wastages. If compared with other food packaging materials, such as paper and banana leaf, these paper and banana leaf food packaging are degradable rather than the plastic wastages (Reducing Plastic Usage Good for Everyone, 2016).

Based on Plastic Oceans, which is a global network of non-profit charitable organizations, it was projected and estimated that every year, there are more than eight million tons of plastic wastes are thrown and disposed into our oceans. It was also found that there are a lot of micro plastics, which are bits of plastic that are broken off from the larger pieces of plastic wastes with the length of five millimetres in the ocean. These micro plastics have resulted in the significant and serious impact on our natural environment and wildlife. For example, the micro plastic wastes found in the ocean were eaten and ingested by shellfish and fishes in the ocean and ultimately resulted in ending their life. Besides that, these fishes and shellfishes which have eaten and ingested the micro plastics were end up on human's dining table. Eating these fishes and shellfishes by human will cause adverse consequences on human's healthy (Weule, 2017).

According to Davis and Hasanuddin which have conducted research at the University of California and University in Indonesia, showed that plastic or fibrous materials which are human-made debris in the guts consists of 25% of fishes, which are sampled collected from markets in California and Indonesia. However, they are never realizing that they are eating and ingesting the micro plastic when they consume those seafood and fishes. As the result, the consumption of these seafood and fishes exposes them to the contamination of hazardous chemicals (Kerlin, 2015).

Therefore, we should reduce drastically the usage of plastic bag or any plastic materials and minimize the dependence on the plastic materials gradually in our daily lives. As the result, state government in Selangor, Malacca, Penang and Sibiu have taken several initiatives to encourage and motivate residents to reduce the plastic and polystyrene material food packaging among the food handlers and consumers. For example, Selangor, Penang, Malacca, Perak, Johor and Sibiu government have enacted the no plastic bag policy and policy of banning of polystyrene food packaging in food and beverage industry. After that the no plastic bag policy and policy of banning of polystyrene food packaging in food and beverage industry have been enforced nationwide in whole Malaysia in order to maximize the effectiveness of these government policies of banning plastic bag and polystyrene food packaging usage. The public and Malaysian are motivated and encourage to adopt the ecological behaviours. For example, consumers could stop of purchasing the plastic bottled drinking water in order to reduce the generation of plastic bottle wastes. Instead of these plastic bottled drinking water, they could buy the reusable water bottles with the slightly higher price. If the consumers are willing to pay more for more sustainable food packaging, the implementation of environmentally friendly food packaging could be made successfully and eventually could reduce the negative consequences on our environment and preserve the environment.

In recent decades, packaging has contributed significant amount of solid waste. It is known as one of the major causes of environmental pollution and destruction. It is known that product packaging is one of the significant product attributes, that is highly influence in consumer choice. Based on the study which was conducted by Svanes et al (2010), the sustainable food packaging is defined as the food packaging, which not only possess the general functions of

food packaging, but also have the benefits of having environmentally friendly and biodegradable materials, which will cause minimum adverse consequences on the environment and human's healthy, and they are economically sustainable.

Green packaging was reported has a significant effect on consumer's selection. Green packaging could enhance the value of a products and make the product more valuable (Rokka & Uusitalo, 2008). Rokka and Uusitalo (2008); Magnier and Schoormans (2015) have revealed that consumers prefer eco-friendly packed products over conventional product. Prior study, which has investigated the effect on consumers' ecological protection, showed that consumers preferred eco-friendly packaging. The consumers exhibited negative attitude towards the usage of non-recyclable and non-degradable plastic packaging (Larceneux et al., 2012). Therefore, eco-friendly packaging is gradually gaining increasing attention and acceptance among practitioners and researchers.

Based on the study which was conducted by Rokka and Uusitalo (2008), product functionality is the priority that are encountered by consumers. Whereas the second priority that is encountered by consumers is the environmentally sustainable food packaging. The study conducted by Magnier and Schhormans (2015) showed that visual signal and verbal cues of environmental food packaging has stimulated and fostered the crucial environmental awareness and environmental concerns. It is because the consumers showed the higher intention to buy and purchase green product with ecological and sustainable food packaging.

Findings

Respondents' Demographic Profile

Table 4.1

Summary of Respondents' Demographic Profile

Demographic Profile		Frequency
Gender	Male	4
	Female	4
Race	Chinese	5
	Malay	2
	Indian	1
Age Group	21 – 30 years old	2
	31 – 40 years old	3
	41 – 50 years old	3
Average monthly income	RM2000 - RM4000	6
	RM4000 or above	2
Highest education level	SPM	5
	Diploma	3
	Degree	1
Working experiences in food hawker center	1 – 3 years	2
	3 – 5 years	4
	5 – 10 years	1
	More than 10 years	1

Table 4.1 showed the summary of respondents' demographic profile. Of the total of eight respondents who involved in the interview, 50% (4 out of 8 respondents) are male and 50% (4 out of 8 respondents) are female. Majority of them are Chinese (62.5%, 5 out of 8

respondents). 25% (2 out of 8 respondents) are Malay and 12.5% (1 out of 8 respondents) is Indian. Regards with age group, two of them are in the age group of 21 to 30 years old (25%), three of them are in the age group of 31 to 40 years old (37.5%) and three of them aged from 41 – 50 years (37.5%). Majority of respondent (75%, 6 out of 8 respondents) have the average monthly income of RM2000 to RM4000 and two of them (25%) possesses the average monthly income of RM4000 or above. 62.5% (5 out of 8 respondents) are SPM holders, 25% (3 out of 8 respondents) are Diploma holders. One of them (12.5%) is Degree holder. All eight respondents involved in this study are hawkers who are selling economy rice, noodles, porridge chicken rice and western food in hawker food center at Teluk Pahang area.

Food Handlers' Current Food Packaging Practices

Currently, 75% (6 out of 8 respondents) respondents revealed that they are using good and environmentally friendly food packaging for take away purpose. Based on respondents, they are using environmentally friendly food packages, including reusable plastic container, brown paper lined with thin plastic film, paper box. They responded that the food packages they are using now is a good practice and is known as one of the efforts to protect our environment and reduce the usage of materials that will damage our environment.

"I am using reusable plastic containers for take away foods. There is extra charger of RM 0.50 for each recyclable container on my customer. I think this food package is environmentally friendly because they can be reused." [Participant 2]

"Yes. The environmentally friendly food packages are used to pack take away foods for customers. We are using paper box and "Taiko box" [Participant 5]

However, 25% (2 out of 8 respondents) respondents indicated that they are still using plastic bags to pack the foods which are taken away by customers. Despite of it, they realized that using plastic bag as food package is not a good practice, which not only harm our health, but also environment.

"We are still using plastic bags to pack the food for take away purpose although we know it is not a good practice. Our foods are in liquid form. Usable plastic container is higher cost. Extra charges on customers will result in customers' complaints." [Participant 6]

Food Handlers' Environmental Awareness Level and Ecological Behavior

Regards with environmental awareness and environmental concern, all respondents have showed high level of environmental awareness and environmental concern. All respondents revelled that they are always concerning the environmental issues, such as environmental degradation, air and water pollution, increasing solid waste, global warming, climate changes issues, destruction of natural resources, etc. All respondents agreed that human's daily habits are one of the major factors that cause these environmental issues, such high usage level of plastic bag. They also agreed that everyone should do something to protect our environment, such as recycling behaviour, reducing plastic bag usage and using environmental friendly products rather than those will damage our environment.

"Everyone should be responsible to do something to protect our environment. For example, using recycle bag rather than plastic bag for packaging purpose." Participant 2]

“Yes. Every day we are doing some activities that are destroying our environment. For example, we are using so many plastic bags every day.” [Participant3]

In order to explore respondents' ecological behaviour, eight respondents were asked whether they are actively participating and involve ecological activities. All respondents revealed that they will bring their own recycled bag when going to buy grocery in shopping mall. It is mainly due to the reason of government enforcement of No Plastic Bag Campaign and RM 0.20 will be charged for every plastic bag. They agreed that bring recycled bag for shopping gradually become a habit.

“Yes. I always bring recycled bag when going to shopping mall and grocery because plastic bag is not provided. I am not willing to pay extra for plastic bag.” [Participant 5]

“Due to No plastic bag campaign, I am always bringing along recycled bag when shopping in big grocery store and shopping mall. It becomes a habit. Before that, I never bring and use recycled bag to shopping mall because plastic packaging is always provided.” [Participant 7]

Regarding to other ecological behaviour, majority of respondents revealed that they do not actively in other ecological activities, such as recycling activities, using food container for take away food, reducing plastic bag usage. Even though, all respondents have the habit of bring recycle bag when shopping in grocery and shopping mall, most of them (75%, 6 out of 8 respondents) do not bring and use their own food container to pack take away food. 87.5% (7 out of 8 respondents) of respondents revealed that they are still widely use plastic bag to pack the items they buy from pasar (market) and small grocery store, which are still providing plastic bag for packaging purpose. They revealed that since the plastic bag is provided without extra charge, then they no need to bring the recycled bag for packing purpose.

“When I go pasar, I do not bring along the recycle bag because tauke will help to pack the food items in the plastic bag. And there is no extra charge. So I do not need to use recycle bag.” [Participant 2]

“I do not bring my own food container to take away food because it is inconvenient. After finishing the food, I do not need to wash the container.” [Participant 4]

There are only 37.5% (3 out of 8 total respondents) respondents participate recycling activities, such as collecting recycled items, such as newspaper, cartoon, glass bottles and sending or selling them to collector. Majority of respondents respond that they have enough knowledge regarding recycling and know how to separate the waste based on the proper designed colour bin. However, they do not actively participate recycling activities. According to respondents, there are several barriers for their recycling behaviour. Some respondents revealed that they do not have time to separate and sort the waste for recycling purpose. They do not enough sufficient space in their home to store the items for recycling. In addition, some respondent states that it is inconvenient to practice recycling activities. They do not know where to send the recycled items to. The infrastructure for recycling is not easy to find.

"I realized that recycling is a good practice. I know those the wastes or materials that can be recycled. However, I and my family do not participate recycling activities because we are very busy for working and do not have enough time to join it." [Respondent 3]

"I have the intention to do recycling activities. However, my house has not enough space to store the recycled materials. Besides, I don't know where I should send these recycled items to. In my housing area, no people will collect these recycled materials." [Respondent 6]

Food Handlers' Attitude towards environmentally friendly food packaging

All participants have showed positive attitude regarding usage of environmentally friendly food package. They revealed that environmentally friendly food package is an effort of reducing the amount of plastic waste, which is not only good for environment, but also for our health. Respondents responded that plastic is not recyclable and plastic bag usage increase the amount of garbage. Therefore, they agreed that environmentally friendly food package is a good practice that able to reduce wasteful use of landfills, reduce the pollution and conserve the environment. In addition, they also realized that usage of plastic bag to pack hot food and drink will harm human's health because the plastic bag will release toxics when it is heated. Respondents have showed high environmental knowledge and awareness and have highlighted the negative impact of plastic bag usage towards environment and human health.

"Plastic bag is not degradable and damage the environment. Besides, usage of plastic bag to pack hot food items is not good for our health because plastic bag will release the toxic chemical and mix with packed food." [Participant1]

"Using environmentally friendly food package reduces pollution and improve environmental quality." [Respondent 8]

All respondents revealed that they know and aware the eco-friendly food packaging, indicating that there is high awareness and knowledge level regarding eco-friendly food packaging among food handlers. Although all respondents understand and aware the eco-friendly food packaging, only 37.5% realized that eco-friendly food packaging is one of the new trends in the food industry.

"Eco friendly food packaging is the food package that is made of recyclable materials" [Respondent 2].

"Eco-friendly food packaging is recyclable and reusable" [Respondent 3].

Participants revealed that if they have choice, they will use environmentally friendly packaging for take away food. Some respondents respond that they are willing to use environmentally friendly packaging for take away food for their customer. However, there are several obstacles for them to utilize the environmentally friendly packaging in their food stalls. According to respondents, especially those are still using plastic bag to pack food for their customers, the inhibitor of using environmentally friendly packaging in their food stalls is cost. They revealed that higher cost is incurred if using eco-friendly packaging. In addition, extra charging on customer for eco-friendly food package might not be accepted by customer and might result in the customer's dissatisfaction. In addition, some respondents revealed that they have limited resource to get and buy the environmentally friendly food packaging. They

do not know where to buy these eco-friendly packaging, especially for those food items in liquid form.

"I know using environmentally friendly packaging is a good practice to reduce the plastic bag usage and it is a good effort to protect our environment. But there is a higher cost to use this kind of food packaging. And it is unfair to charge the customer for these eco-friendly food packaging and may make them unhappy." [Respondent 6].

"I don't know where to buy these environmentally friendly food packaging, especially for liquid form food, such as soup." [Respondent 3].

Summary and Conclusion

This study was conducted with the objective of exploring food handlers' current food packaging practices, their environmental awareness level and ecological behaviour, their attitude towards environmental friendly food packaging, their awareness toward government policy regarding no plastic bag campaign and environmental friendly food packaging practice and their intention to participate environmental friendly food packaging practice.

As conclusion, food handlers who are working at Teluk Bahang, Penang are practicing environmentally friendly food packaging for take away purpose. They are using food packages, such as reusable plastic container, brown paper lined with thin plastic film, paper box. Most of the food handlers showed positive attitude towards environmentally friendly food packaging practice and revealed that it is a good practice that could help to protect environment and reduce the usage of materials that will damage our environment. There is a high level of environmental awareness among the food handlers at Teluk Bahang. They understand the negative consequence impact of human's daily habits, which include plastic bag usage on the environment. Regarding awareness towards government policy, all food handlers showed high level of awareness towards No Plastic Bag Campaign and banning of food package that is made from polystyrene. However, they revealed that Penang state has enforced the restaurant and food provider to ban the usage of plastic bag as food package. They responded that they would practice environmental food packaging practice if there is strict and clear government policy.

All respondents have high intention to use sustainable food packaging in their food stalls or workplace for their customers. The factors driving their intention to use eco-friendly food package for food handlers' customers include high environmental awareness and concern, sufficient environmental knowledge and government policy enforcement. However, some respondents revealed that they are less motivated to participate eco-friendly packaging practice due to several reasons. The obstacles of practicing sustainable food package among food handlers include higher cost of the sustainable food packaging items, their customers' unwillingness to pay extra, lack of the resource or supplier to obtain the environmentally friendly food packaging.

References

Davis, G., Phillips, P. S., Read, A. D., Iida, Y. (2006). Demonstrating the need for the development of internal research capacity: understanding recycling participation using the theory of planned behaviour in West Oxfordshire UK. *Resources, Conservation, Recycling*, 46(2),115–127.

- Jalil, M. A., Mian, M. N., & Rahman, M. K. (2013). Using plastic bags and its damaging impact on environment and agriculture: An alternative proposal. *International Journal of Learning & Development*, 3(4), 1–14.
- Kerlin, K. (2015). Plastic for Dinner: A Quarter of Fish Sold at Markets Contain Human-Made Debris. Retrieved from <https://www.ucdavis.edu/news/plastic-dinner-quarter-fish-sold-markets-contain-human-made-debris/>.
- Magnier, L., & Crie, D. (2015). Communicating packaging eco-friendliness: an exploration of consumers' perceptions of eco-designed packaging. *International Journal of Retail Distribution Management*, 43 (4/5), 355-366.
- Magnier, L., & Schoormans, J. (2015). Consumer reactions to sustainable packaging: The interplay of visual appearance, verbal claim and environmental concern. *Journal of Environment Psychology*, 44, 53–62.
- Musa, H. M., Hayes, C., Bradley, M. J., Clayson, A., & Gillibrand, G. (2013). Measures aimed at reducing plastic carrier bag use: A food handler behaviour focused study. *Natural Environment*, 1(1), 17–23.
- Reducing Plastic Usage Good for Everyone. (2016). Borneo Post Online. Retrieved from <http://www.theborneopost.com/2016/12/25/reducing-plastic-usage-good-for-everyone>.
- Rokka, J., & Uusitalo, L. (2008). Preference for green packaging in consumer product choices—do consumers care? *International Journal of Consumer Studies*, 32, 516–525.
- Svanes, E., Vold, M., Moller, H., Pettersen, M. K., Larsen, H., & Hanssen, O. J. (2010). Sustainable packaging design: A holistic methodology for packaging design. *Packaging Technology Sciences*, 23, 161–175.
- Weule, G. (2017). Plastic and how it affects our oceans. Retrieved from <http://www.abc.net.au/news/science/2017-02-27/plastic-and-plastic-waste-explained/8301316>.