

**THE FACTORS OF PRACTISING GREEN PAKAGING
ADOPTION AMONG FOOD INDUSTRY AROUND MELAKA**

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**Report submitted in fulfillment of the requirement for the
Bachelor Degree of Technology Management in Innovation**

**Faculty of Technology Management and Technopreneurship
Universiti Teknikal Malaysia Melaka**

June 2016

**THE FACTORS OF PRACTICING GREEN PACKAGING ADOPTION AMONG
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SUPERVISOR DECLARATION

“I hereby declare that have read this thesis and in our research is sufficient in terms of scope and quality. This project is submitted to Universiti Teknikal Malaysia Melak as a requirement for completion and reward Bachelor Degree of Technology Management
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DEDICATION

This research paper is special dedicated to my parents, Hj. Mohamed bin Daud and Hjh Asiah binti Hj Zakaria, who has been my main source of inspiration and encouragement during my studies. Thank you for giving me the opportunity and a new experiences in my life to complete this meaningful research. Thank you to all my friends because give full support to me for complete my research. And lastly thank you to my supervisor Dr. Juhaini binti Jabar because always there in helping me from started until the end of the thesis.

APPRECIATION

The author would like to express my sincere appreciation to my supervisor, Dr.Juhaini binti Jabar for the support given during the project undergone a bachelor's.

Appreciation is also extended to all those involved either directly or indirectly help ensure the success of this research project. We hope this report will serve as a reference for other students in the future.

ABSTRAK

Pembungkusan hijau merupakan satu isu yang sangat dititikberatkan sekarang, pelbagai pihak telah melakukan segala usaha untuk ke arah pembungkusan hijau terutamanya dari industri pembungkusan makanan. Hal ini kerana, industri makanan merupakan industri yang paling banyak menyebabkan pencemaran alam sekitar yang berpunca daripada pembungkusan. Sumber dari pelbagai pihak telah membuktikan bahawa pembungkusan makanan amat merungsiakan sekarang, jadi kajian ini akan mengenalpasti kepentingan pembungkusan hijau agar dapat mengurangkan pelbagai faktor negatif yang boleh mengakibatkan masalah kepada masyarakat dan alam sekitar serta industri itu sendiri. Melalui kajian ini, penulis telah menjalankan sesi temubual bersama pihak pengurusan syarikat yang terpilih. Melalui sesi temubual itu penulis menanyakan soalan-soalan yang berkaitan dengan isu kepentingan pembungkusan hijau yang melindungi keselamatan dan kesihatan pengguna; mengurangkan kesan terhadap alam sekitar dan kriteria keberkesanan pembungkusan hijau bagi mengurangkan pembaziran pembungkusan makanan. Diharap melalui kajian ini dapat meningkatkan lagi kesedaran kepada masyarakat, syarikat dan kerajaan. Walaupun dari segi kebaikan memang banyak yang dapat dilihat dengan pembungkusan hijau ini, tetapi ia boleh membunuh industri pembungkusan terutamanya pembungkusan plastik.

ABSTRACT

Green packaging is an issue that is very focused now, the various parties have made every effort to toward green packaging, especially food packaging industry. This is because, the food industry is the industry's most cause environmental pollution caused by the packaging. Sources from various parties have proven that food packaging is very worrying now, so this study will identify the importance of green packaging in order to reduce various negative factors that can lead to problems for society and the environment as well as the industry itself. Through this study, the authors have conducted interviews with the management of selected companies. Through interviews, the authors ask questions related to issues of green packaging to protect the safety and health of consumers; reduce environmental impact and effectiveness criteria of green packaging to reduce wastage of food packaging. With this research can raise the awareness to the public, companies and governments. Although there are many advantages in terms that can be seen with green packaging, but it can kill the packaging industry, particularly plastic packaging.

TABLE OF CONTENTS

RECOGNITION		ii
SUPERVISOR DECLARATION		iii
DEDICATION		iv
APPRECIATION		v
ABSTRAK		vi
ABSTRACT		vii
TABLE OF CONTENT		viii
LIST OF FIGURES		xiii
LIST OF APPENDICES		xiii
CHAPTER 1 INTRODUCTION 1.0	Background	
	1	
1.1 Problem Statement		3
1.2 Research Objective		6
1.3 Scope and Limitation		6
1.4 Project Significant		7
1.5 Conclusion		8
CHAPTER 2 LITERATURE REVIEW		
2.0 Introduction		9
2.1 Type of Packaging		10
2.2 Function of Packaging		12
2.3 Sustainable Packaging		13
2.4 Green Packaging Definition		15
2.4.1 Green Packaging Terms		16
2.5 Type of Green Packaging		17
2.6 Important of Green Packaging in Protecting Public Health and Safety		18
2.6.1 Food Factor		20
2.6.2 Package Factor		21

2.6.3	Environment Factor	21
2.7	Important of Green Packaging in Minimizing the Environmental Impact	22
2.7.1	Reduce/Eliminate	23
2.7.2	Re-use	25
2.7.3	Recycle/ Recover/ Dispose	26
2.8	Important of Green Packaging in Reducing Food Waste	27
2.8.1	Choose Carefully	28
2.8.2	Reuse It	28
2.8.3	Recycle Right	28
2.8.4	Sort It	29
2.8.5	Compost It	29
2.9	Summary	30
2.10	Theoretical Framework	31

CHAPTER 3

RESEARCH METHOD

3.0	Introduction	32
3.1	Research Design	33
3.1.1	Descriptive Studies	33
3.2	Methodological Choices	34
3.2.1	Qualitative Method	34
3.2.2	Sampling in Qualitative	35
3.3	Primary Data Sources and Secondary Data Sources	36
3.3.1	Data Collection Method	36
3.4	Location of The Research	37

3.5	Research Strategy	37
	3.5.1 Survey	38
	3.5.2 Case Study	39
	3.5.3 Grounded Theory	40
3.6	Time Horizon	40
3.7	Analyzing Qualitative Data	41
	3.7.1 Inductive Approach	41
	3.7.2 Deductive Approach	42
3.8	Scientific Canons	44
	3.8.1 Internal Validity	44
	3.8.2 External Validity	45
	3.8.3 Content Validity	45
	3.8.4 Construct Validity	46
	3.8.5 Criterion-Related Validity	47
	3.8.6 Reliability	47
3.9	Summary	48
 CHAPTER 4		
 DATA ANALYSIS AND DISCUSSION		
4.0	Introduction	49
4.1	Identify The Important of Green Packaging Adoption in Helping to Protecting Public Health and Safety	50
	4.1.1 Food Factor	51

4.1.2	Package Factor	53
4.1.3	Environment Factor	54
4.2	Identify The Important of Green Packaging Adoption in Helping to Minimizing Environment Impact	56
4.2.1	Reduce/Eliminate	56
4.2.2	Re-use	58
4.2.3	Recycle/Recover/Dispose	60
4.3	To Examine The Criteria of Effectiveness of Green Packaging Adoption to Reducing Food Packaging Waste	61
4.3.1	Choose Carefully	62
4.3.2	Reuse It	63
4.3.3	Recycle Right	65
4.3.4	Sort It	66
4.3.5	Compost It	67
4.4	Discussion	69
CHAPTER 5		
CONCLUSION		
5.0	Introduction	71
5.1	Overview The Important of Green Packaging Adoption in Helping to Protecting Public Health and Safety	72
5.1.1	Respondents Perception Towards The Food Factor	72
5.1.2	Respondents Perception Towards The Package Factor	73
5.1.3	Respondents Perception Towards The Environment Factor	74

5.2	Overview The Important of Green Packaging Adoption in Helping to Minimizing The Environment Impact	75
5.2.1	Respondents Perception Towards The Reduce/Eliminate	75
5.2.2	Respondents Perception Towards The Re-use	76
5.2.3	Respondents Perception Towards The Recycle/Recover/Dispose	77
5.3	Overview The Criteria of Effectiveness of Green Packaging Adoption to Reducing Food Packaging Waste	77
5.3.1	Respondents Perception Towards The Choose Carefully	78
5.3.2	Respondents Perception Towards The Reuse It	78
5.3.3	Respondents Perception Towards The Recycle Right	79
5.3.4	Respondents Perception Towards The Sort It	80
5.3.5	Respondents Perception Towards The Compost It	80
5.4	Conclusion	81
5.5	Limitation	82
5.6	Recommendation For Further Study	82
	REFERENCES	84
	APPENDICES	88
	Gant Chart	92

LIST OF FIGURE

FIGURE	TITTLE	PAGE
Figure 2.3	The Four Sustainable Packaging Principle	14

Figure 2.6	Factors Effecting Shelf Life of Packaged Food	19
Figure 2.10	Theoretical Framework	31

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	Interview Question	88

CHAPTER 1

INTRODUCTION

1.0 Background

Food is a basic human need, human beings can't live without food and drink. In modern times now, most people work and busy with their matter. So food industry has grown rapidly, and forms variety of food packaging to attract buyers. The manufactory produced various types of packaging but unfortunately they produce unfriendly environmental packaging. Food packaging is the largest contributor to the rest of landfills in Malaysia. Manufacture has been producing packaging that can't be decomposed even embedded in the soil for hundreds of years. Furthermore, the Government has introduced the 'No Plastic Day' in all supermarkets nationwide. For example Malacca is one of the country followed the campaign "Hari Tanpa Beg Plastik" and every Friday and Saturday no plastic bags supplied to consumers started 1st April 2014. Even that, state governments of Malacca also agreed to be added "Hari Tanpa Beg Plastik" to the Friday, Saturday and Sunday starting 1st January 2015. Melaka also decided to do every day without plastic beg starting 1st January 2016, information from Melaka green tech. This is one of the government's efforts to ensure that our planet is no longer polluted with waste dumping. In addition, the supplier of food packaging must also be equally supportive of the government's intention to produce packaging that is

economical and environmental friendly. Melaka also introduce life without polystyrene on 25th Mac 2015 and was approved from Majlis Mesyuarat Kerajaan Negeri (MMKN) for Proposed Implementation Stop the Use of polystyrene containers around Malacca. 15th May 2015 until 31st August 2015, all government departments and government premises in Melaka State shall discontinue the use of polystyrene containers, while the public and private premises are also encouraged to stop using polystyrene containers. Starting 1st September 2015 enforcement across Malacca, as an alternative to polystyrene containers are replaced with biodegradable containers. The important of green technology is believed to be overcome environmental degradation and natural resources, improve health and life, and maintaining the ecosystem. As well as the cost burden on the government in its efforts to mitigate the effects of development and serve as an alternative in efforts to improve the economy without compromising the environment. Malacca focusing to improve the environment and reduce the pollution while being green city (Perbadanan Teknologi Hijau Melaka).

Every manufacture need to consider about waste in designing and produce packaging. When designing a product and its packaging, it is important to ensure that is minimum waste of materials. It is more okay if possible no waste at all. According to V. Ryan (2004), this is because when company manufactures a design the materials used are often expensive, any wasted materials means that the company is also wasting money. In a competitive world waste must be minimized. The little waste of material than less material is needed to manufacture a design, can helps converse the environment. How to protect the environment also can apply recycle as much waste material as possible and use it again and also can save money.

According to David Marinac, (2012) from the Stand up Pouches company said that stand up pouches packaging was an option for food packaging. When used the biodegradable packaging for food can help environment and more reduce the impact for environment, as well as using the 3R (Reduce, Reuse, Recycle). Biodegradable packaging benefit can keep the smell, barriers trash, and no air and sunlight get to the product. Also ground backup, land fill friendly and can be recyclable. Non

biodegradable packaging will affect the food because expose to air and give several layer of barriers, the example of their product is bin and jar.

According to News (2010), green packaging which is also known as sustainable packaging, are commonly known terms in use today, a significant number of people struggle with their meaning. Green packaging is the use of manufacturing methods and materials for packaging of goods that has low impact on the environment and energy consumption. In other words, sustainable packaging uses environmentally-sensitive methods, including energy efficiency, recyclable and biodegradable materials, downgauging, reusability and much more.

1.1 Problem Statement

A problem statement is basically a statement that illustrates a clear vision and the overall method that will be used to solve the problem at hand. Usually used when doing research, a problem statement discusses any foreseeable tangible or intangible problems that the researcher may face throughout the course of the project (Tips on writing a Problem Statement)

Green packaging not only related to the reduction packaging, it also involve used of sustainable, biodegradable packaging and recycle materials to reduce environmental impact and ecological footprint (Phua. B., 2013). In his slide Benjamin said, it is important to manufacture also concern about environment and effect to customer while they produce the food packaging. Biodegradable packaging one of the best packaging that can used in package the food. But manufacture need to consider not all food can package using paper, box and biomass packaging, because certain food need plastic to cover or protect the food. Benjamin also give the examples that his company in

Singapore do reduction packaging. He also said that green packaging may initially increase costs, but in a long run it creates cost reduction by reducing the materials. The moral to consumers, there is an interesting trend of environmental awareness and companies are expected to be more responsible towards the environment. with the green packaging Singapore is able to meet their ethical needs of doing a part for the environment. Furthermore, less packaging would mean that the products are more convenient easier to handle.

Food packaging does much more than simply hold a product but it is also keeps food safe and fresh, tells us how to safely store and prepare it, displays barcodes that facilitate purchasing, provides nutritional information, and protects products during transport, delivery, and storage. On the other hand, packaging also fills trash containers and landfills, lasting far longer than the products it was made to contain. It consumes natural resources, and also can transfer chemical into food without unknown health effects (Luz Claudio, 2012). But according to the News (2010), the thickness of the packaging is the problems of the safety and health to consumer. Packaging materials differ in thickness, the thinner the packaging materials, and the less landfill space it will take up. Thin plastics can be very strong, however the use of thinner plastics in food packaging can reduce safety and protection from contaminants, punctures, and tampering. Other than that, layer of the packaging also effect the food security and for supply of the safe food. But the each layer is different and some of the layer can't be recycled because is foil-backed the food that helps keep warm, for example sandwich wrap.

What happen in the landfill, if the food packaging give the impact to the environment? Based on the report from Food Packaging Waste and Environment Impact in UK and US, the food packaging give the big impact to the environment. One of the impact is pollution problems and enhance the air pollution. This is because everyday human using packaging in daily life, and food packaging is the top disposal in the earth. This issues make our environment be so dangerous and human also breathe with air pollution. Hence, it will affect the human health and safety.

According to a report produced by the Environmental Protection Agency, “food and packaging/containers account for almost 45% of the materials land filled in the United States.” Almost 23% of the materials discarded at landfills are food-related containers and packaging. (The Food Packaging Problems, 2015). These single-use, long forgotten containers, sleeves, boxes, and wrappers create a whole host of problems.

According to The California Crows, 2015, environmentally speaking, “fish, birds, and other aquatic wildlife are often harmed by ingesting plastic bags and other debris from packaging.” Once these materials find their way into oceans, they create navigational issues and hazards for boats. Because of this waste will affect the environment and society life style. So companies and government should take part to give the awareness to the consumer about this issues. By adopt the green packaging will help to reduce food waste, because the packaging its design to environmental friendly.

In researcher opinion, the three of the problem need to be concern by community and government now days. Human need to conceder about protecting health and safety, care the environment and focus on reducing food waste. Based on researcher research there are three research questions. The main research question has been constructed following the study need to achieve and fulfill the research requirement. Below are the questions:

- i) Why green packaging adoption is important in helping to protecting public health and safety?
- ii) How green packaging adoption important in helping to reducing the environmental impact?
- iii) What are the criteria of effectiveness of green packaging adoption in reducing food packaging waste?

1.2 Research Objective

This research want to identified the important and preparation of the manufacture do to in their company. In order to achieve the aim of this study successfully, research objective have been listed down according to the research questions. Below are the objectives;

i) To identify the important of green packaging adoption in helping to protecting public health and safety. ii) To identify the important of green packaging adoption in helping to reducing the environmental impact. iii) To examine the criteria of effectiveness of green packaging adoption in reducing food packaging waste.

1.3 Scope and Limitation

The study about the factors of green packaging adoption among food industry around Melaka. The researcher focus on qualitative method, because the researcher wants to discover and explore the factors of green packaging adoption. The researcher will used the survey method and conduct the interview with the top management in food industry. The researcher just focus on food industry for search about green packaging. The reason researcher has choose food industry because of packaging in food consume highest amount of waste in our earth. Food packaging also the highest ranking in packaging manufacturing. Now we can see that, the packaging being the waste disposal in earth.

Besides that, the researcher has choose Melaka city because the status of “Melaka Maju Negeriku Sayang, Melaka Bandar Teknologi Hijau”. Melaka was the first state in peninsular Malaysia respond to the government desire, “Malaysia Menjadi

Negara Maju pada Tahun 2020”, and desire from YAB Seri Mohd Ali bin Rustam, Chief Minister of Malacca 2013. To success the dream and desire Green Technology Malaysia Melaka Council was established in 16th May, 2011.

The limitation researcher assume lack of information because just a few expert people about the green packaging. Furthermore respondents maybe not give the honest answer and does not know about the innovation/technology. The time for researcher do the research also one of the limitation because of time to collect the data. The researcher only have one years to settle the research and full fill the discovery. Focus for the food packaging so cannot take the extra information from other industry packaging. Need to focus just food industry and the industry that using the package for their food packaging, for example regular foods, frozen foods and fast food. The location for the research just in Malacca and cannot go the other state. The researcher location limited around Malacca food industry.

1.4 Project Significant

The project significant is the important of this research. The researcher focus on factor green packaging adoption among food industry. So the most important of this research for food packaging manufacture, the manufacture also can known better about the green packaging and focus to concern about packaging. When the industry produce the green packaging, so consumer and environment will get the benefit. For example, the package will protect the food safety for consumer, this will affect the public health. While for environment, green packaging will protect the environment and become environmental friendly packaging. This packaging can be recycles and reuse back without affect the environment and public.

Not only that, this research also can give benefit to industry because of the technology, the new innovation and the new technology will change the world and industry. For example the packaging innovation will make more innovative work around employee to think further and deep about the innovation. Now days the technology and innovation is important for the world, because everyone racing to become innovator in the new technology or innovation.

1.5 Conclusion

From the previous details of the background in this chapter, the aim of the study, scope and limitation have been stated accordingly to give clear view in the next following chapter. Based on the topic, the government and public must concern about the package issues facing now. Even though we focus about the green packaging adoption but it also will kill the packaging industry especially plastic industry.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The section on literature review is usually cut short and blended within the introduction itself. While presenting a thesis, it is the review of literature part with usually forms the bulk of the content. This chapter will discuss the secondary data gained in supporting the study based on the reading list of publish writings that related to research field before the researcher proceed to the primary data. Only the relevant data being state in this section that link to the case study conducted thus show the significant of every each theory gained suit the research objective.

A literature review is an evaluate report of information found in the literature related to the research. The review should describe, summaries, evaluate and clarify this literature. It should give a theoretical base for the research and help the researcher determine the nature of the researcher research. Works which irrelevant should be discarded and those which are peripheral should be looked at critically.

“In writing the literature review, the purpose is to convey to the reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are. The literature review must be defined by a guiding concept (e.g., your research objective, the problem or issue you are discussing, or your argumentative thesis). It is not just a descriptive list of the material available, or set of summaries” (Taylor, D., 2007).

2.1 Type of Packaging

According to the Marsh. K., (2007), packaging provides a physical barrier between a product and the external environment thereby ensuring hygiene and reducing the risk of product wastage due to contamination, some forms of packaging prolong the life of food, some packaging is also needed for safe and efficient transportation, and packaging is also used to provide customers with information and instructions, for which there are some legal requirements.

Packaging is important to protecting the integrity of products by preventing damage, contamination and tampering. Even enabling transport and handling during manufacture, storage, distribution and sale. Packaging also preventing deterioration due to bacteria, moisture, light, heat etc. packaging making products attractive and giving them identity and shelf presence, distinguishing them from competitors and marketing the product to the consumer. Packaging also providing important information such as bar codes, ingredients lists and best before dates (Chris C Brookes & Kate Vrolijk, 2006).

According to Jane Muncke (2012), food packaging protect foodstuffs, but it also can be a source of chemical food contamination. The layer that is in direct contact with the foodstuff is called “food contact material”.

The major layer of packaging have a three group based on Packaging for Organic Food (2012). Firstly is primary package is in direct contact with food, it also called consumer or retail packs. These unit packs can be of various size, to cater to different market requirements. After that, secondary package also called transport packs is an outer box, case or wrapper that holds a single primary packs. This secondary package function to minimize risks to the product in their primary packs during storage, transport,