

CHAPTER 1

INTRODUCTION

1.1 Background

Plastic has become one of the things that cannot be separated from our daily life. Ever since its invention in 1907, people have been using plastic for a lot of things, and indeed it seems inevitable to live today's life without the usage of plastic. Shopping bag, plastic bottle, food packaging, are just a few from many examples of the plastic usage in the modern society. Plastic is very versatile and durable, since it is mainly designed to last for a very long time. In fact, the main advantage of using plastic is its durability if compared to other materials. Some type of the plastic might take from 50 up to 600 years to be biodegraded, depending on the product type and environmental condition (BBC News, 2017).

However, its versatility and durability does not come without a cost. As mentioned before that plastic is designed to last for very long time, destroying plastic has come in a way of the problem in the modern society. Plastic waste is now a major environmental problem all over the world, and it has filled much of space in the land, as well as in the ocean. It is estimated that the total volume of plastic produced so far is 8.3bn tonnes, in which 6.3bn tonnes is now waste, and 79% of that has resided in landfill or natural environment (Jambeck et al., 2015). This vast amount of plastic waste has been driven mainly by the usage of "single use" plastic, where the product is only used once and then got thrown away as waste, such as drink bottles, to food packaging.

To worsen the problem, the plastic comes in many different shape and sizes, meaning that the small piece of plastic gives the same threat to environment as the large one. Due to the nature of the small size plastic waste, much of it will eventually end up in the ocean, and it is estimated that around 10 million tonnes are now in the ocean. The existence of plastic waste in the ocean would definitely be harmful for marine life. The danger could range from the animal being entangled to the plastic or

could mistakenly be consumed as their food, both which would do harm to the animal, and sometimes death.

Based on the fact presented above, it is obvious that plastic has and will continue to give the environment such a dangerous threat. However, it is also inevitable that plastic will always play a major role in modern life, due to its versatility and durability. Because of that, it is important for the industry leaders and scientist all over the world to keep finding the way to reduce plastic consumption. Recently, Coca-Cola, the major beverage company and arguably the major contributor to plastic bottle waste, has pledged to recycle its entire bottle by 2030 (BBC News, 2018). A late paper points to the development of plastic recycling by means of chemical method, making the process much more efficient with lower energy consumption (Garcia et al., 2017). Indeed, we can see an increasing number of industry leaders and scientist taking part in reducing the plastic waste, which eventually would lead up to a better environment.

In addition to the effort to recycle the existing plastic waste, another way to reduce plastic waste is to substitute plastic as a whole. The key task is to find a material that can have similar function as plastic but is environmental friendly. In other words, the world needs a plastic substitute that features plastic's versatility and durability, yet it would be no harm to the environment. Many scientists and start-up companies have already paved the way into having a biodegradable company and some have even started to produce a more environmental friendly, biodegradables plastic. Yet, this industry is still in its early age, and many more research and development works are needed to be done in order to find the best composition to substitute the conventional plastic.

Over years, scientists, activists, and government try to find solution regarding plastic waste problem. Researches range from alternative materials to plastic, recycling plastic waste into useful products, and various possible options in managing plastic waste are done to provide solutions. Other than that, in some countries, governments have tried to tighten the regulation or even ban the use of plastic bags. This attempt is expected to limit the number of plastic waste.

Some existing innovative ideas include using plastic waste as a binding agent for asphalt. The plastic waste is made into pellets which then mixed with the usual rocks and a small amount of bitumen for the asphalt plant (Appiah et.al, 2017). This technique has been applied in several countries like Ghana, and recently is adopted by Indonesia (Kompas, 2017). Besides that, scientists in Spain has discovered wax worms that can eat and biodegrades polyethylene plastic (Bombelli et al., 2017).

Even though some alternatives are already existing; however, it has not been able to bring significant change in the environment. A change in the environment will only be able to happen when there is a change in people's behavior. Hence, further research need to be conducted in order to understand people's awareness and perception regarding plastic waste solutions.

Considering the market potential, Indonesia had 4.6 million tonnes of domestic plastic consumption in 2016 (Global Business Guide Indonesia, 2017). If a renewable, eco-friendly plastic is able to be adopted and used by the market, the bio-plastic business will shift the current-conventional plastic industry players.

Market research is critical to understand what value is important and desirable by consumers. Other than that, consumer's valuation of a product is directly related to the utility or satisfaction associated with each attribute that comprises the product (Baker, 1998). In general, market research aims to understand the consumers, market trends, and performance of the product so that companies able to deliver the right product value to consumers.

Based on the facts above, the researcher wants to conduct market research of biodegradable sandwich packaging in Indonesia. Indonesian market chosen to be the subject of this study due to its large number of population. Moreover, Indonesian population is growing to become more affluent (BCG, 2012); therefore, people are having better purchasing power. Other than that, Indonesia market is still developing; hence, it is interesting to do this study to check whether the Indonesian market (with its people who have relatively low education background compare to developed countries) put more attention in biodegradable packaging and have the awareness towards environment sustainability.

Besides of the main objectives, this study can also be used to compare the result with similar researches done in another country. Based on previous research done by Datamonitor indicates that the new bioplastic caps for Nestle milk brands in Brazil is likely to be well received by Brazilian market (Datamonitor, 2011). Last but not least, this study hopefully can be used as a recommendation for companies to choose the right packaging for Indonesia market.

1.2 Problem Formulation

In recent years, local companies start to produce biodegradable packaging as an alternative to reduce the use of non-biodegradable packaging. In order to deliver the right product value to the market, the researcher would like to know whether the market really has the desire to buy product with biodegradable packaging, and also what are the factors which drive people to choose biodegradable packaging. Based on the situation explained, the researcher would like to further finding out the preferences of various segment categories.

1.3 Research Questions

In order to address the problem, it is appropriate for the researcher to answer the following questions:

1. Does the market have interest in bread with biodegradable packaging?
2. What attribute is the most important for Indonesian market?
3. Does different segments exhibit different preference towards packaging?

1.4 Research Objectives

- To understand Indonesian market interest on biodegradable packaging.
- To determine the most important attribute for Indonesian market.
- To explain different preferences between various market segments.

1.5 Research Limitations

1. Time – Better data and supporting evidences can be obtained if longer research period is available.
2. Sample size – The number of sample may be too small to be considered as representative of Indonesian consumer.