

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background Research

Vegan diet is the type of diet that restricts the consumption of any meat or animal-derived products. Indonesia is said to be one of the biggest vegetarian societies in the world according to International Vegetarian Union manager, John Davis. (Laarse, 2015) The population of vegetarians is rapidly increasing in Indonesia and around the world. (Fikawati, Wahyuni & Syafiq, 2013). Wan (2018) did research on the growing population on vegetarian markets in Asia. They stated that the four top five global vegetarian markets in Asia are India, Indonesia, China, and Pakistan where Indonesia includes 25.4% of its population. The increase of the percentage is due to the rising of Buddhist and Hindu population. With the increase of vegetarians around the world the body of knowledge in the form of research projects to investigate potential vegan ingredients and scientific findings on the benefits of vegetarian diet and alternative meat products. (Fikawati et al., 2014) Furthermore, Wan (2018) also stated that the rapid growth of vegetarians leads to higher consumption of vegetarian meat in the form of chicken fillet, sausages, nuggets, burgers that is usually purchased from the UK Brand; Quorn.

Due to the increase of vegetarian population, meat analogues became very popular in which they can be found in many forms such as ham, chicken, beef, turkey, etc. People are interested due to the health, ethical, cost-effective reasons, or simply just because it is a new type of product. (Wild & Knoch, 2016) These types of meat analogues are based on an actual form of real meat and they are more interested in buying those meat analogues to shift towards a healthier diet. (Wan, 2018) There are a lot of sources of real meat, they are chicken, pork, cows, duck, etc. Meat is the critical component in a person's healthy diet as it is rich in minerals as well as an excellent source of proteins. (Hayes & Brunton, 2011) Therefore, meat analogues' final product should mimic the sensorial properties and

characteristics of meat/ meat product in general, for example it will mimic the texture, flavor, and appearance of real meat. Furthermore, the nutritional aspects of meat analogues should also be like meat. (Alexander et al., 2019) Due to the shifting trends on plant-based proteins, these meat analogues are often called Plant-Based “Meat” Alternatives of PBMA which could be divided into two forms: traditional and non-traditional forms. PBMA in traditional forms have been widely consumed in Asia for centuries, in which the examples are tofu, tempe, and seitan. As for the non-traditional PBMA, the products are made with advanced knowledge in food technology usually made by TVP or Texturized Vegetable Protein, Soy Protein Concentrate or even using the traditional PBMA, tempeh and tofu. (Fernandez, 2012)

PBMA could be made in many forms, depending on the raw materials used or what kind of “meat” is aimed to be made. It can be formulated to have a protein, fat, moisture content and muscle that resembles any type of meat, including beef. (Chiang, Hardacre & Parker, 2019) According to Varelis, Melton & Shahidi (2018) the typical ingredients for PBMA are water, TVP or Texturized Vegetable Protein; could be in the form of soy concentrate, wheat gluten or a mixture of both, Non-textured protein which are usually isolated soy protein or whey proteins, flavor and spices, fats, binding agents such as gums, starches or enzymes and coloring agents. The main challenge in producing PBMA is during the mixing step which requires a lot of trial and errors to achieve the most desirable final product properties. Ingredients used must complement each other’s function, therefore it requires some additives to match the properties of the “meat” product. Currently, there is a gap in knowledge regarding this field due to a lot of potential ingredients that can be used.

Despite the growth of the vegetarian/vegan population in Indonesia, the market of vegan-friendly food still must be analysed. Market research needed to be conducted as it is important to know the potential of a certain food product to avoid making mistakes during the process of sales. Usually, market research could be done by telephone or face-to-face interviews, questionnaires, FGD or Focus Group Discussions and observations. Depending on the outcome, different techniques are

used in different situations. According to Igor Ansoff, there are four situations that require the role of market research, which are the development of new products in existing markets, new products in new markets, existing products in existing markets as well as existing products in new markets. Therefore, the objective of market research can be specified. They could be used to explore their competitors, to know more about the brand's value, determine the satisfaction of possible consumers and know deeper about the marketing related decisions. (Hague, Hague & Morgan, 2004)

This study will focus on obtaining and analyzing consumer insight regarding market opportunities on meat substitute in general with focus towards vegan *bakso*. The results from the market analysis is expected to have data on current market opportunities that can be used for guidance in development of vegan *bakso* in the future.

## **1.2 Problem Formulation**

The research problems are formulated as follows:

- What are the current market opportunities for vegan *bakso*?
- How is the market segmented for plant-based meat products?
- How is consumer behavior and attitude regarding meat substitute in general and its common ingredients such as tofu & defatted soy flour?
- What are the important sensorial attributes of both *bakso* and vegan *bakso* based on the current trends?
- What are the respondents' preferred ingredients for the development of vegan *bakso*?

## **1.3 Objectives of Research**

This study is aimed to obtain and analyze the market opportunities of meat substitutes in general with a focus towards vegan *bakso*. It is expected that the data of current market opportunities obtained can be used to guide the development of vegan *bakso* in the future.

#### **1.4 Scope of Research**

In this study, a questionnaire is provided to selected vegan communities in Indonesia to obtain the demographic segmentation for these populations and their preference regarding plant-based meat in general. The results obtained will be analyzed to understand consumer behavior, attitude, and preferences on vegan *bakso*, to determine the market opportunities specifically on vegan *bakso*.

#### **1.5 Importance of Research**

The importance of this research is to obtain consumer insights regarding the market opportunities of meat substitutes in general and more specifically on vegan *bakso*. The results obtained from this study are important to guide future product development of vegan *bakso* for it to capitalize on current market opportunities.