# CHAPTER 1

# INTRODUCTION

## 1.1 Problem Background

Characterization of sensory attributes is important in product quality assessment which will determine consumer acceptance and demand toward the product. Quantitative Descriptive Analysis (QDA) is a tool for measurements and optimization of sensory attributes that recognized for a food product (Stone and Sidel, 1998). The QDA training session about 10 – 12 panelists are exposed to many possibilities of the attributes variations of the product to facilitate accurate concept formation. Panelist generates a set of attributes that describe the differences among the products. Then through consensus, panelist develops a standardized vocabulary to describe the sensory differences among the sample (Choi, Sarah, & Merrigan, Jill, 2014). QDA method requires an extensive training program for panelist thus the step in conducting the QDA is to develop training session to build the trained panelists who are expected to have a standardization against the sensory attributes used and also having a good reproducibility shows by the low standard deviation in the result.

QDA methods requires a long time in the process of sensory profiling of a product since they need to have an extensive training program to ensure that the vocabulary and evaluation scales used consistently and that the panelists present consensus, ability to discriminate samples, and repeatability of results (J.M. Murray a, C.M. Delahunty b, 2001). However, in market research, most of companies require quick response about their product, therefore, using a trained panellist is not a practical option because the training phase is extensive, required a long time, and additional cost therefore, this considered as a limiting factor in the practical application in industry. Moreover, this training phase also requires an additional budget in which could be considerably high since the company needs to prepare the trainer and even other supporting things like, materials, accommodations, etc. (Silva et al., 2013).

According to (Delarue & Sieffermann, 2004), the main limitation of QDA is the time consumed, and often this leads to non-execution of this valuable quality tool. This fact accentuates the need for a rapid assessment in the practical context of the industry. In order to tackling this situation, the use of semi-trained or consumer panelist in substitute for trained panelist can be considered. Although there are many warnings regarding the use of consumer or semi-trained panelist, such as with an untrained panel, besides the overall acceptance judgement there is no assurance on the validity and reliability of the responses (Stone & Sidel, 1993) and there are other literature that stated consumers can only tell about what they like and dislike (Lawless & Heymann, 1998), however the use of consumer or semi-trained panelist can be a good alternative, a study by Husson, Le Dien, and Pages (2001) shows that a sensory profiles obtained by consumers can meet the requirements discrimination, panelists' consensus, and reproducibility. By using semi trained or untrained panelist, the time for training the panelist can be cut which leads to a shorter period of development of a product. In this study, the author analyzed the sensory profile of vanilla ice cream obtained by using a different degree of panelist training.

## 1.2 Research Objectives

The objective of this study is to analyze sensory mapping methods performed by panels with different degrees of training on the sensory profiling of vanilla ice cream using Quantitative Descriptive Analysis, Flash Profiling, and Projective Mapping.

## 1.3 Scope of Research

The scopes of research of this thesis are:

- Analyzed the term generated from sensory profiling method by using panelist with different degree of training using vanilla ice cream as the product.
- Comparing sensory scaling on intensities used by semi-trained and consumer panelist to trained panelist and analyze the reproducibility of the result.

- Analyze the effectivity in term of time required of using semi-trained or consumer panelist compared to a trained panelist.