

# CHAPTER 1

## INTRODUCTION

### 1.1 Statement of Problem

Traditional economics theory has mentioned price as a main policy of the firm. However, for the case of oligopoly market, firms hardly use price as a main variable to make a competitive strategy because it might lead to what we call “price war” and profit will be reduced to zero. Instead, most of the firms use non-price strategy such as product differentiation, location setting, quality of services, etc. to increase value of its products and gain a positive profit.

In the past, non-price strategies are not studied as intensively as pricing strategy, which we can say that it has been studied in almost every aspect. This may due to the fact some of non-price strategy are subjective and cannot be interpret in term of number. One of the examples is quality of product. Some consumer may grade a specific product as a good quality product while the others say it is an average quality.

There are many literatures such as Hotelling (1929), Narajabad and Watson (2008), Limpong (2003), etc, that have already done the study about non-pricing strategy. However, almost of them study only one of these factors at a time. Only a few that considers two or more factors at the same time. Therefore, to become more realistic, this study tries to consider two non-pricing strategies at the same time.

Although the more non-pricing strategies considered at the same time the better of the model. However, we also need to concern that which non-pricing strategy we want to consider. One of the popular non-pricing strategy is the location of the firm and consumer as this one can represent so many cases of competition. There is also another non-pricing strategy which it is as important as location. This non-pricing strategy is “quality”.

As commonly known that the higher quality brings the better consumers' satisfaction, it is also comes with the cost. The higher quality of the product leads to the higher production cost. Therefore, by consider quality and location as non-pricing strategy concerned by the firm, it will be closer to the more realistic world.

There are some studies that consider both factors at the same time such as Economides (1989), Tabuchi (1994), Narajabad and Watson (2008), etc. We can see that all of them do the analysis of the "first competition", which is the competition between players that just enter into the market. This is only the first stage of competition in the real world business life cycle, the pioneer stage. After entering into the market and settle down in the Nash Equilibrium already, players still need to compete against each other again in the "second competition" or the competition in the growth stage. This stage is an opportunity for the players to capture as much profit as possible. Although there are some literatures that studied about this choice already, none of them did the study it simultaneously with location and consumer preference as non-price strategies.

As no one want to make a wrong decision, it is interesting to find the firm's best price and non-price strategies, which affect the production cost that will make them gain the highest profit as possible given that there are two non-pricing strategies to concern in this "second competition".

## **1.2 Objective of the study**

The study is aimed to analyze the circumstance where the players have to add another location instead of changing location under the situation that two non-price strategies are the factors of consideration and one of them affects the cost of production. The objective is to analyze this type of competition in order to use the results in the real world explanation.

### **1.3 Scope of Study**

This study will focus on the duopoly competition between two identical firms under the situation that non-pricing strategy also affects production cost. The competition concerned in this study will mainly focus on non-pricing strategies, in particular, location and quality strategies.

As the purpose of this study is to expand the scope Hotelling's game, the application to the real world will not be cover in this study, in other word, this study will be done in theoretical manner only