1. Introduction

Given the growth in airline industry and its competitiveness among different types of low-cost, luxury and other companies, it has become very important to offer the right services for the right customers to achieve market success. The group is composed by a marketing team working for a new airline company, which aims to investigate customer preferences in the industry and then introduce a new route between the Netherlands and Barcelona. The key trade-off to be discussed in the following paper relates to customers' willingness to exceed their budget or not in order to have convenient services or products available in their travel. To do so, the team will develop a study to determine the utility for relevant attributes and its levels offered in flight tickets and thereby analyze what is the optimal combination of offerings that maximizes consumers' utility.

2. Conjoint Design

- **Step 1. Type of Study**

In order to develop the study, a choice-based conjoint analysis will be used. In this method, respondents are shown a set of products with different combination of attributes and attributes` levels and are asked to indicate the most preferable option. This method is widely used by researchers and there are several advantages related to it. Some of them are: in choice-based approach trade-offs are more enforced; The method is more realistic, as consumers in real world naturally make choices in the marketplace; Choosing is cognitively less demanding for respondents compared to rating, and others.

- **Step 2. Attributes and Step 3. Levels**

For the attributes and attributes' levels, the group did a previous research to see what other competitors in the airline industry have to offer. Therefore it was possible to verify which are the most important services customers look for and also the varying levels in real-life. With this in mind, the group decided to choose 5 attributes, with 2 or 3 levels each. All of attributes are clearly communicable to the respondents, without strong correlation among them and the levels are unambiguous. The attributes and attributes' levels are shown in Table 1 above:

Attributes	Levels		
1. Leg space	Normal	Extra Large	
2. Food	No Food	Complete Meal	
3. Luggage	Cabin Luggage	Cabin + Checked Luggage	
4. Ticket Refund	Yes	No	
5. Price	90 euros	120 euros	150 euros

Table 1: Attributes and attributes' levels for the conjoint analysis

Leg Space

This attribute describes the space between each seat. The levels are the above mentioned: i) Normal leg space seat; ii) Extra large leg space seat. Specifically, the normal seat option is 77 centimeters long, while the extra large seat provides you with 97 centimeters of leg space.

Food

This attribute describes if the price of the ticket includes a meal during the flight. The Levels are: i) No meal; ii) Complete meal. Regarding the complete meal, it includes 75g chicken, 125gr pasta, a small bread roll and a yogurt with honey as dessert or 75gr fish, 125gr baked potatoes, small bread and a yogurt with honey.

Luggage

This attribute describes the amount, dimensions and weight of the luggage that the passenger is allowed to travel with. The levels are: i) Cabin luggage; ii) Cabin + Checked luggage. At the first level, the passenger is allowed to travel with a cabin baggage, maximum weight of 8kg and a maximum dimension of 115cm (height+length+width). At the second level, the passenger is allowed to travel with a cabin baggage and a checked baggage with a maximum weight of 23 kg and a maximum dimension of 158cm (height+length+width).

Ticket refund

This binary attribute refers to the travel insurance. The levels are: i) No; ii) Yes. On the first level, the customer has no insurance and so, he is not allowed to be refunded if he needs to cancel his flight due to unexpected circumstances. On the second level, the customer has the right to be 100% refunded in the case of cancellation of his flight due to unexpected circumstances, if he cancels his flight with 2 weeks in advance.

Price

The price attribute includes a return ticket from Netherlands direct to Barcelona, Spain, for the end of January 2020. The levels for the prices are: i) 90 euros; ii) 120 euros; iii) 150 euros. Those are approximately the price levels that were found for return tickets from Netherlands to Barcelona to the date indicated above.

- **Step 2.4. Questionnaire**

Having decided to adopt the choice-based method and determined the most relevant attributes and levels in airline scenario, the next step is to design the questionnaire. The Software Sawtooth was used to generate this questionnaire.

Firstly, it was decided how many profiles should be included. In the questionnaire, the respondent will be presented with 24 stimuli. Every respondent will have 12 choice sets, each with 2 profiles and a “no-choice” option. Each profile has 5 attributes, meaning the respondent will have to deal with 10 bits of information per task (2 alternatives with 5 attributes).

To make the questionnaire more realistic and avoid obvious answers, the group excluded the options that the respondent can choose all the services at the lowest price and no services for the highest price.

The optimality criteria for level balance is fulfilled. That means that the number of stimuli (24) is divisible by the number of levels (2, 3) for any attribute and also by the product of the number of levels (4, 6) for any pair of attributes.