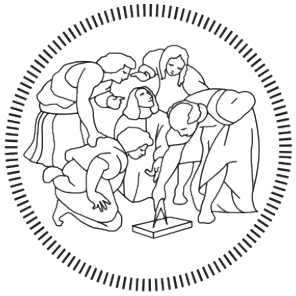
Report of Pricing in ecommerce



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Chapter 1

The Product

After a brief consulting we decided to analyze the price and demand curve of a new technological product. Our choice fell upon an electric scooter; although already present on the market for some years, the development of more reliable and cheaper batteries has brought on the market last year redesigned products more accessible to the customers. The price of this item varies from 325€ to 425€ and we chose to analyze this range with five distinct segments. We assume that a new tech product will have a higher price when launched on the market and then it will be subject to a smooth change during the analyzed period. We also assume the presence of seasonal abrupt changes due to festivities, sales, and/or environmental factors which usually affect this kind of consumer product.

Figure 1.1 Xiaomi Mi Eletric Scooter

Chapter 2

Aggregate Demand Curve

2.1 Demand

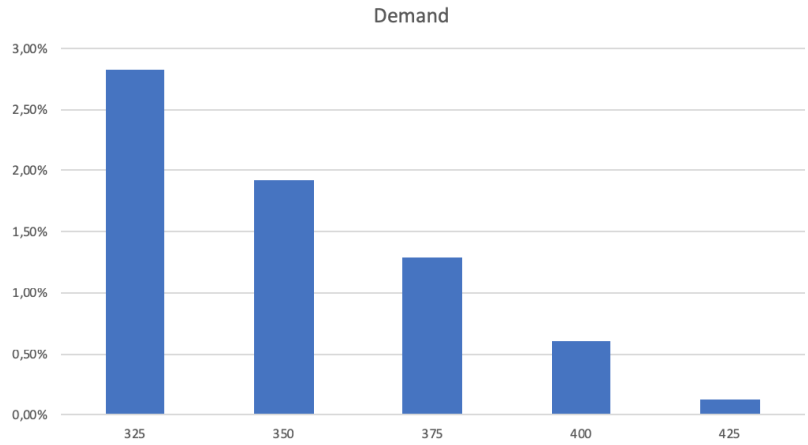

Figure 2.1 Demand Curve

2.2 Disagreggated Demand

We decide to divide the customers in 3 different classes of users: Worker, Student, Retired. They split the market according to different percentages, the class composed by workers takes the 75%, students are the 20% and retired people occupy the 5% of the market. In the graph below are shown the disaggregate demand curves based on conversion rates for each price, as the plotted result shows in Figure 2.2, Figure 2.3, Figure 2.4.

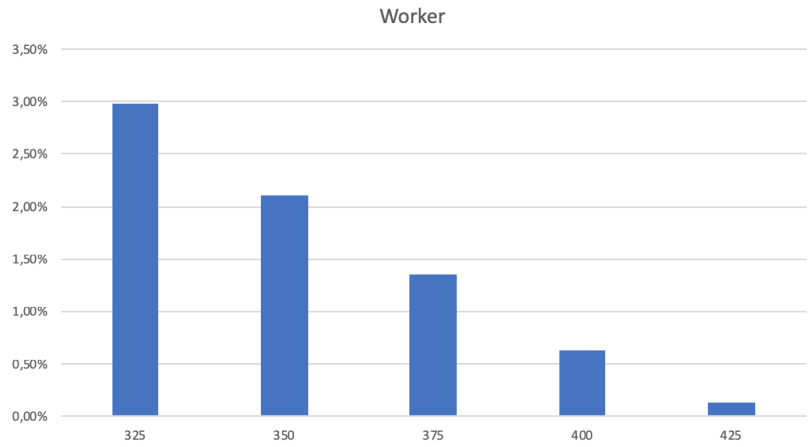

Figure 2.2 Demand Worker

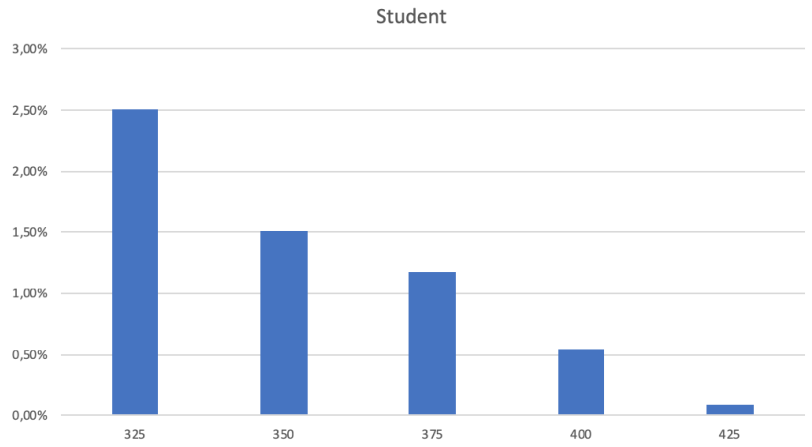

Figure 2.3 Demand Student

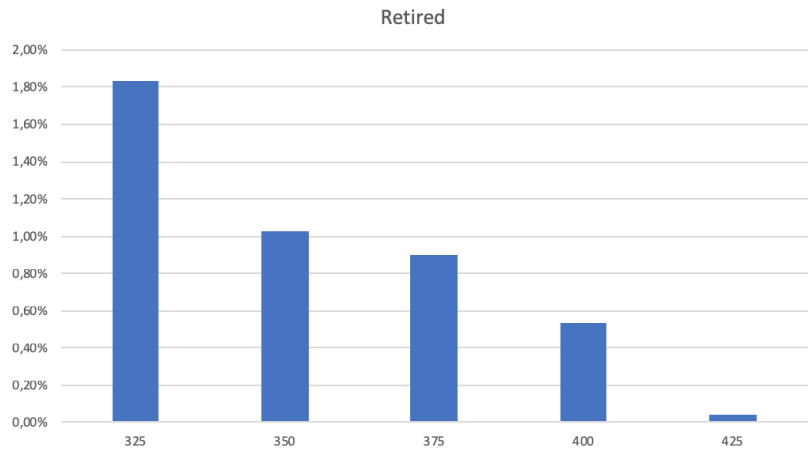

Figure 2.4 Demand Retired

The conversion rates of each class are the average of the values estimated for every *phases*. In particular we assume that we have 4 different phases reflecting the seasons of a year: Spring, Summer, Autumn and Winter. Spring and Summer share the same demand curve. The values are above the average, that's because we can imagine that in such seasons people are more attracted to our product. During Autumn phase, at the end of the summer and with the cold weather, people is not so tempted to buy an electric scooter, so the demand curve is below the average demand. In the Winter phase, the values are a bit below the average for the same reasons of the autumn, but the decreasing is not so accentuated because people thinks forward to the summer and our good can attract people as a Christmas present. In the graph below are shown the disaggregate demand curves divided also in phases, this is the graph that generate the average demand curve for each class.

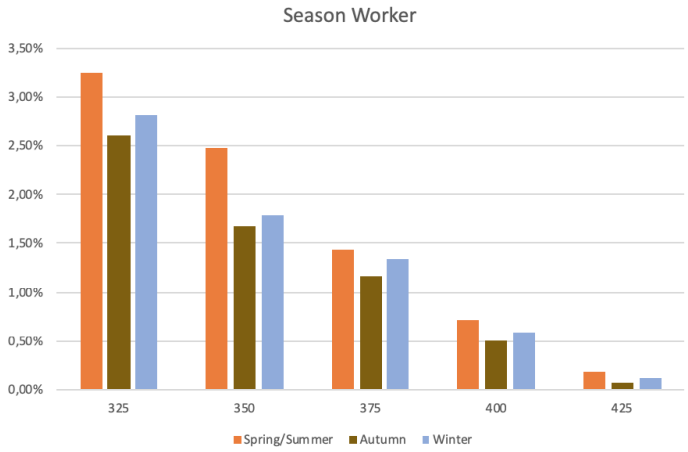

Figure 2.5 Season Worker

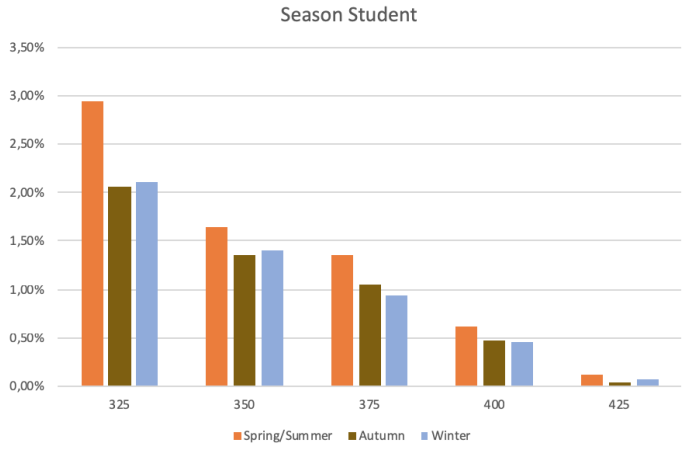

Figure 2.6 Season Student

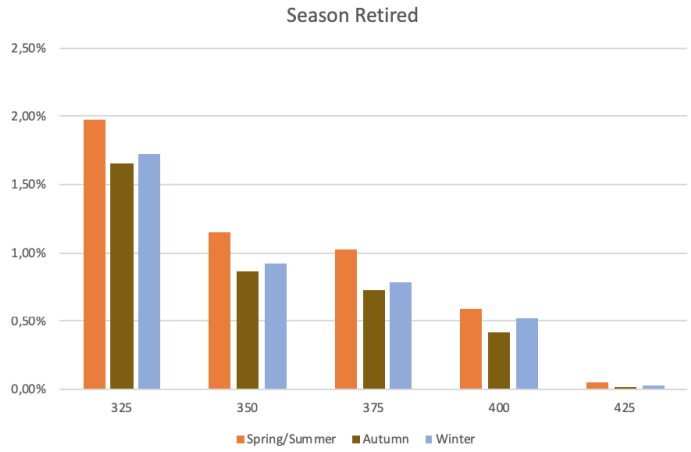

Figure 2.7 Season Retired

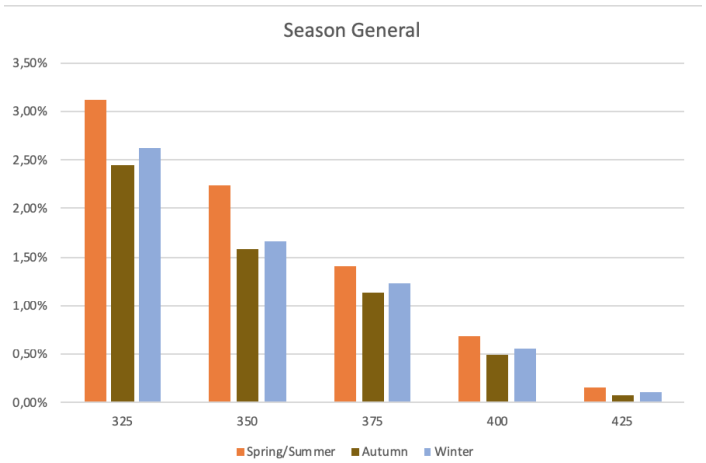

Figure 2.8 Season General

2.3 Horizon

Based on the price analyzed on various online marketplaces such as Amazon and CamelCamelCamel, we decide to set a temporal horizon of one full year for our experiments. This period of time is divided into 365 individual days, drawing 1000 samples every day. According to the above-mentioned price research, we chose a set of 5 possible prices, ranging from 325€ to 425€ with 25€ steps.

Chapter 3

Application Of Algotithm