Industrial Economics
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ICEF - HSE

Homework 12

Due January 30, 2017

Homework will be collected at the end of the lecture on the day it is due. Submissions in any other time or manner will be ignored. The maximum score is 100. Unprofessionally looking papers or unnamed or unstapled sheets or improperly labelled questions or bad handwriting will result to a penalty up to 50% at the discretion of the grader. Plagiarism will be prosecuted and perpetrators will have to solve an exam as difficult as homework #9 in 20m in order to pass the course.

1. A developer is offering new flats in New York. The construction cost of each flat is 100,000 USD. There are two types of prospective customers: type 1 customers are ready to pay up to $(250{,}000 - 10{,}000X)$, where X is the number of months that they would have to wait before taking possession of the flat; type 2 customers are willing to pay up to $(200{,}000 - 1{,}000X)$. Assume that the developer is able to supply all flats immediately and that there are 20 customers of type 1 and 20 customers of type 2. Each customer demands at most one flat. The developer cannot distinguish the different types of customers apart. Moreover, taxes are high enough to prevent any arbitrage between customers of different types.

   (a) Assume that $X = 0$. Find the optimal price for the developer and its profit. [10p]

   (b) Now assume the developer could set X as well as the price for the flat. The firm offers 2 options:

   i. the price of the flat is 190,000 USD and is available in 6 months;

   ii. the price of flat is 240,000 USD and is available now.

   Which option will be preferred by type 1 customers? Which option will be preferred by type 2 customers? Calculate the developer's profit. [30p]

   (c) Can the developer increase its profit compared to part (b)? If yes, find the optimal combination of offers (price and X) that the developer can choose? [30p]

2. Icon club in Moscow is well-known for its strict "face-control" policy at the entrance. On average only one out of three customers is admitted every Saturday night. "Scientific research" has shown that people who speak English at the door and are identified as expatriates are almost never denied entrance. After someone passes the face control stage, the club applies the following pricing system: for admission, men have to buy a 2,000 rubles card while women enter for free. The card can be redeemed at the bar for 5 free drinks. The price of a drink (without using a card) is 400 rubles.

   (a) Is "face control" a price discrimination method? If yes, which degree? Explain your answer shortly. [10p]

   (b) Is the fact that men pay 2,000 for admission and women pay nothing, a price discrimination method? If yes, which degree? Explain your answer shortly. [10p]

   (c) Consider the pricing for men. Is this a two-part tariff? Explain your answer shortly. [10p]