B.E. International Program

Faculty of Economics, Thammasat University

EE481: Industrial Economics, Semester 1/2016

Problem Set #2

Instructions

1) To complete the homework assignment, you are allowed to discuss the problems with your colleagues but have to write up solutions completely on your own. **Copying is plagiarism and will be treated as an honor code violation**.

   More information: http://www.plagiarism.org/plagiarism-101/types-of-plagiarism/

2) Do all works with your handwriting.
3) The date of submission is by Tuesday 1rd November 2016. (**before the lecture begins**)
4) If you have questions, please send us your message at pwrasai@gmail.com

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1) Suppose you have a bar and you are facing with two kinds of customers: those who love drinking and those you love dancing. There are 500 dancers, each with the same demand curve for drinks: $Q_{drinker} = 5\text{-}P$ *and* there are 500 drinkers, each with an individual demand curve for drinks: $Q_{dancer} = 10\text{-}P$. Cost function is $TC = 1000 + 0.5Q$ where Q is number of drinks in Euro, 1000 is a fixed cost. **Plot the two demand curves and marginal cost curve in the same diagram.**

   Suppose that your first strategy will be to try to get both customers (it is not necessarily the best strategy). Therefore the cover charge cannot be larger than the consumer surplus of the customer with the smallest consumer surplus. In this case the Dancers will always have smaller consumer surplus. The cover charge (T) is a function of P: $T = f(P)$

   From the demand curves in your diagram, **Find the function of cover charge (*T(P)*)**. (Hint: the area of Dancer's consumer surplus=cover change you will set, given the price you will charge.) Afterwards, with the function of cover charge you have derived. **Find the profit function and the do the First ordered condition (F.O.C.) to get the optimal price**, i.e., the price that maximizes profits. **Draw the price line into the diagram you constructed above**. Next, **calculate the optimal cover charge, amount of drinks that an individual customer of each type will consumer ($Q_{drinker}$, Q_{dancer}), and the total profits**.

What I hear, I forget.

What I see, I remember.

What I do, I understand.

- Kung Fu Tzu (Confucius)