Economics 380: Solutions 2

2 November, 2006

1. This evidence suggests that people develop skills specific to a certain type of software that induces switching costs.

2. This is third degree price discrimination. The Economist's strategy is desirable if they think repeat customers have more inelastic demand. But it is unlikely to work: a repeat customer can always pretend to be a new customer. Premiere's strategy is desirable if they think repeat customers have more elastic demand. It is also good if you want to encourage loyalty, or if you would like to soften price discrimination (see Brandenburger and Nalebuff). Since a new customer cannot pretend they are a repeat customer, this kind of discrimination can work.

3. Yes. The markup if you live a long way from the factory is lower than the markup close to the factory. Presumably it would be seen as unfair to charge higher prices to those living a long way from the factory. However, a uniform markup seems to be economically more sensible since it would also soften price competition with competitors.

4. (a) assuming they serve both markets, profit is $(p-c)(6-p)+(p-c)(4-p)$. Maximising yields price $p=(5+c)/2$. Substituting, profit becomes $1/2(5-c)^2$. One can verify that if $c \leq 2$ then the firm is better off serving both the high and low markets. This will not be true if c is high enough.
(b) When the temperature is low they should charge $p=(4+c)/2$ yielding profit $1/4(4-c)^2$. When the price is high they should charge $p=(6+c)/2$ yielding profit $1/4(6-c)^2$.
(c) Comparing profits, the gain from investment is 1/2.

5. Your manager is wrong: you should fire her immediately. In terms of capacity, the marginal cost of the 500th customer in the winter is zero. To see this, suppose there were no winter customers. Since the 1000th room was built purely on the back of summer demand, the management would again choose to build 1000 rooms. Thus the introduction of winter customers has no affect on the capacity choice, and their marginal cost, in terms of extra capacity, is zero. Hence winter customers should not be asked to pay for the cost of the hotel rooms. For more, see the slides from week 6.

6. (a) A meet–the–competition clause increases the likelihood of competition after entry. That is, it makes the incumbent tough via the strategic effect. This should help to deter entry.

(b) Holland should have entered small, going after the small drinks companies. By not signing meet–the–competition clauses with these companies NutraSweet was signalling to Holland that it was fine to go after the small companies, but not Coke and Pepsi.

7. Incompatibility aids third degree price discrimination. The compatibility decision depends upon the similarity of demands between the two countries: if demand is very similar there is no need to price discriminate. The decision will also depend how many people travel between the countries, since incompatibility reduces the incentive to buy DVDs for those moving between countries.

8. The firms problem is to maximise profit $250[p(q)q] - c(x)$ subject to $q \leq x$. Since demand is the same every day, x will be chosen such that $q = x$. Substituting, the firm maximises

$$250[500 - 10q]q - 5000q$$

Differentiating yields $q^* = 24$.

9. The price you pay for a flight depends upon:
(a) degree of flexibility for changes and cancellations (2nd degree)
(b) when you buy your ticket (2nd degree)
(c) which class you travel in (2nd degree)
(d) which country you buy your ticket (usually 3rd degree)
(e) whether you buy your ticket online (2nd degree)
(f) whether you are a student or not (3rd degree)
(g) how much you travel, for example, via your miles (2nd degree)
(h) when you travel (2nd degree)
(i) whether you buy single or return (2nd degree)

10. Yield management:
(a) An airline would decrease it's price is no–one buys for a while. Intuitively, is no–one buys then the probability of stockout falls as does the opportunity cost of a ticket. Conversely, an airline would increase it's price if it sells lost of tickets (relative to the capacity).
(b) A fixed price scheme would achieve the optimum if: (i) there is little variation in customer's valuations; or (ii) the capacity constraint never binds.

11. The problem is that Glaxo is a natural winner due to the synergies and the common value nature of the auction. In response Wellcome could have tried the following:
(a) Hold a first price auction.

(b) Subsidise entry or provide bidder credits to Zeneca, or handicap Glaxo.
(c) Set a high reserve price. In order to commit to this higher reserve price they may need to implement a poison pill.

12. Car auctions:
(a) Private value components include the colour, the model, the size of the engine. For these components, a bidder knows their valuation. Common value components include the reliability of the engine, whether it has been in any crashes, and the amount of rust. For these components, bidder i's value depends on bidder j's information (e.g. their view of the quality).
(b) The winners curse states that winning is a bad sign since it means the winning bidder is most optimistic. For example, it could mean that all the other bidders think that the car is unreliable.