600541 APPLIED BUSINESS ECONOMICS, 2021–22 TUTORIAL 11

If you wish to discuss the tutorial questions please come to my office hours.

1. (*Cabral* 17.7) Explain why the market adoption of a new technology may be too fast or too slow.

2. (*Cabral* 17.8) Company A has just developed a new technology. Company B approaches Company A, stating it has developed its own version of the technology and proposing a compromise that would make the two technologies compatible with each other. What advice would you give Company A?

3. There are two operating systems: type A and type B. Mac and Mick are each developing a computer. Each faces the choice of whether to make their computer compatible with operating system A or B (but not both). In particular, Mac and Mick can either make their computers compatible (same operating system) or incompatible (different operating systems). The unit cost of production of any computer is 500. There are 2 million consumers:

   - half are Mac fans, willing to pay $1000n$ for Mac's computer and 0 for Mick's computer;
   - half are Mick fans, willing to pay $1000n$ for Mick's computer and 0 for Mac's computer;

   where n is the total number of owners, in millions, of a compatible computer. Consumers are indifferent between the two operating systems.

   Will Mac and Mick choose to make their computers compatible or incompatible? What will their prices and profits be?

4. Now suppose that everything is the same as in question **??**, except all consumers are willing to pay $1000n$ for Mac's computer or Mick's computer.

   (a) Suppose Mac were a monopoly. What price would Mac charge and what would be his profit?

   (b) Assume that if Mac and Mick produce incompatible computers, then there is an equal chance that each wins the standards war, and that the loser makes zero profit. What are Mac and Mick's expected profits in a standards war?

   (c) Suppose that Mac and Mick produce compatible computers. What will be the Nash equilibrium prices and profits?

   (d) Copy and complete the payoff matrix below using your answers to **??** and **??**. Will there be a standards war?

	Mick	
	Type A	Type B
Mac Type A		
Mac Type B		

   (e) Explain, intuitively, any differences between the outcomes in this question and in question **??**.