

Competitive Strategy: Week 11

Signalling

Simon Board

Employment Choice

- You work for JPMorgan and need a new analyst.
- Candidate 1
 - Maths major, specialising in number theory.
 - Interests: Chess, backgammon and poker.
- Candidate 2
 - Sociology major, specialising in addiction and drug policy.
 - Interests: Film and drama.
- Who would you employ? Why?

Your Actions Reveal Information

- A high GPA reveals good information to employers.
- Your *actions* also reveal information.
- One CEO claimed you should not hire anyone who
 - Wears a bow-tie (too fussy)
 - Smokes a pipe (“can’t do” people)
 - Has a beard (too academic)
- Problem is *not* the bow-tie, pipe or beard.
 - Problem is that these features are *chosen* to signal some aspect of the individual.

Law Firm’s Marbled Buildings

- Law firms care about appearances
 - Marbled floors
 - Immaculate carpets
- This is not to make offices nicer to work in.
 - This is to signal that firm is successful.
- Firm cannot choose not to signal
 - Plain offices signals a less successful firm.

Warranties

- Hyundai offers America's Best Warranty™
 - 5 year, 60,000 miles bumper to bumper.
 - 10 year, 100,000 miles powertrain.
- In 1986, Hyundai entered US market. Customers were cautious.
 - What signal does this warranty send?
- ShedRain sells umbrellas with lifetime guarantees
 - Does this send a signal?

Fashion

- People spend a lot of money on their appearance. Consider the following cases.
- You are going out for an evening in NYC. You wish to signal your immense wealth.
- You are going for an interview with JPMorgan. You wish to appear serious and intelligent.
- You are going to a goth concert....

When Will a Signal (Not) Work?

- You are trying to convince an employer you have high IQ.
- For action a to serve as signal, two conditions must hold:
 1. High IQ people must want to choose a
 2. Low IQ people must not want to choose a
- Called “credibility test” or “single crossing condition”.
- Are these conditions satisfied in the following examples?
 - You get a degree to signal ability.
 - Law firms have large building to signal success.
 - Hyundai offers long warranties to signal quality.
 - You wear a Rolex to signal wealth.

Mathematical Example: Education Choice

- Agents differ in ability
 - Productivity is θ_1 or θ_2 , where $\theta_2 \geq \theta_1$
- Education
 - For type θ_i cost of degree is c_i , for $i \in \{1, 2\}$
 - Education has no affect on productivity.
- Education can serve as signal if
 1. Agent 2 gets degree, $\theta_2 - c_2 \geq \theta_1$.
 2. Agent 1 does not get degree, $\theta_2 - c_1 \leq \theta_1$.
- Rearranging, a degree acts as a signal of ability if

$$c_1 \geq (\theta_2 - \theta_1) \geq c_2$$

The Peacock's Tail

- Evolutionary puzzle
 - Female peacocks go for male with longest tail.
 - But tails are hard to grow and reduce mobility.
 - How can tails survive evolution?
- Tails act as a signal
 - Tails act as signal of strength.
 - They are credible signal *because* they are cumbersome.
- Why do long tails pass the credibility test?

Bargaining and Strikes

- Suppose a firm (NHL) is bargaining with a union (NHLPA).
 - The firm's profits are either high or low,
 - Union doesn't know firm's profits.
- Firm claims profits are low and thus wages should be low.
 - Should union believe profits are low?
- Firm is willing to suffer a year strike and forgo a year's profit.
 - Should union believe profits are low?
- Why do strikes pass the credibility test?

Initial Public Offerings

- Two seemingly identical internet firms, A and B, have IPOs
 - Owners of A sell 25% of company.
 - Owners of B sell 75% of company.
- Consider owners' position
 - Owners like to diversify their holding so would like to sell the company.
 - But owners have inside information.
- Which share price could be higher?
- Why do share holdings pass the credibility test?
- Problem: Why not sell 25% at IPO and sell rest afterwards?
 - Investment banks have lockup period: original owners banned from selling stock for 180 days after IPO.

Leadership

- Managers know more about company than employees
 - Know how likely company is to succeed.
 - Know the direction company is likely to head.
- Managers want employees to invest in firm-specific skills.
 - Employees only want to invest if they have future in the firm.
- Managers can signal company prospects by taking salary in shares and options.
- Managers can signal direction of company through investments and advertising.

Introductory Offers and Advertising

- In 1998 Gillette invented the Mach3 at a cost of \$750m.
 - In the U.S. they spent \$100m on advertising.
- Reasons for advertising
 - Let people know about product.
 - Emotional power of adverts.
 - Signalling product quality
- Advertising persuades people product is good and they should try it.
 - Credibility test: would company with poor product copy this strategy?

Limit Entry Pricing

- Entry game:
 - t=1 Incumbent chooses price.
 - t=2 Entrant chooses to enter or not. Then incumbent and entrant simultaneously chooses prices.
- Limit entry pricing:
 - Incumbent chooses low period 1 price and blocks entry.
 - Problem: why should period 1 price affect post-entry game?
- Limit entry pricing as signalling strategy
 - Incumbent has high or low cost.
 - Entrant does not want to enter if incumbent has low cost
 - Incumbent can signal that she has low cost by charging low price in period 1.

Toxic Waste

- A large manufacturing company wanted to locate toxic recycling plant in a midwestern town.
 - It promised to bring jobs and prosperity.
- Locals had health and safety concerns.
 - They were also concerned about house prices tumbling.
- Solution: Company indemnifies residents against fall in house prices over 5 years.
 - If the plant was safe, then this would cost the firm nothing.
- Credibility problem
 - The tactic was proposed to management
 - Management responded: “We couldn’t do that. It would cost us a fortune”.

Asymmetric Information: Overview

- Suppose a principal and an agent are trying to trade.
- There are two types of asymmetric information.
- Adverse selection
 - Agent has hidden information about their characteristics (e.g. their ability) or the state of the world.
 - Signaling: informed party (agent) signals their type.
 - Screening: uninformed party (principal) separates agents by providing contract only attractive to some types.
- Moral hazard
 - After the contract the agent takes unobservable action (e.g. chooses how hard to work).

Assignment

- Read, “I’ve Started So I’ll Finish”, The Economist, 29/9/05 (on website).
- How does the US and UK dropout rates differ?
- How does dropping out affect salaries in the UK and the US?
- Why might this be the case?