Lecture 11: Cost and Differentiation Strategies

Profitability varies across firms and industries.

- The pharmaceuticals and soft drinks industries have consistently outperformed airlines.
- There is tremendous variability between high and low performers within industries.

When a firm earns a higher profit than the average in their industry, we say the firm has a **competitive advantage** in the industry.

How do firms do this? They create, deliver and capture more value.
Strategies for Competitive Advantage: Airlines since deregulation

- Until 1978, firms could not compete on price (which the Civil Aeronautics Board based on miles traveled) and entry was restricted.

- After 1978, American Airlines developed a national hub-and-spoke system, focused on traveler loyalty through its AA rewards program and sought to maximize revenue through sophisticated reservation and yield management systems.

- Southwest Airlines expanded beyond its pre-deregulation Texas-only routes, slowly, to cities in the Midwest and Southwest by flying into lesser-used airports. It did not adopt a hub-and-spoke system. It focused on building a highly-motivated workforce and providing low-amenity, cheap flights on identical (Boeing 737) airplanes.

- Northwest, Continental, JetBlue, etc., pursued distinct strategies.
Strategies for Competitive Advantage: How do you win?

- You win by creating value.
  - Produce at lower cost.
  - Produce at higher quality.
  - Serve a novel market or part of a market—“create” customers.
  - Avoid being “stuck in the middle.”

- You win by capturing value.
  - Find places to be on the short side of the market.
  - Avoid price wars or be in good position to win them.
Porter’s Generic Strategies

- **Cost leadership.**
  - Undercut rivals’ prices and sell more.
  - Charge same price and earn higher price-cost margins.

- **Benefit leadership.**
  - Match rivals’ prices and sell more than they do.
  - Charge price premium and attain higher price-cost margins than they do.

- **Focus strategy.**
  - Create greater value than competitors within a narrow segment of the population.
Porter’s Generic Strategies in the US Personal Computer Industry

- Historically, Dell has been a cost leader.
  - Unit costs 15% lower than competitors (late 1990s).
  - Lower component costs, lower inventory carrying costs.
  - Lower prices, higher sales.

- Alienware is a focused company.
  - All-in for the hard-core gamer market.
  - [http://www.alienware.com](http://www.alienware.com).

- The two strategies are not mutually exclusive...Dell acquired Alienware in 2006, lowering the cost of producing Alienware, and eventually abandoned its own XPS gaming brand.
Let’s define value

- The easiest setting is seen in the basic Bertrand model.
- Suppose 3,000 customers wish to buy either 0 or 1 units of the good and have reservation values $V$.
- For simplicity, let the two firms have unlimited capacities.
- Value created per unit sold is $V - c$.
- As long as all customers in the market are served, total value created is
  \[ 3,000 \times (V - c). \]
- Now, how to capture this?
Let’s define value

- Now, suppose firms produce at different marginal costs.
- Let firm 1 produce at cost $c_1$, let firm 2 produce at cost $c_2$, and let $c_1 < c_2$.
- Because $c_1 < c_2$, the maximum possible value created is

$$3,000 \times (V - c_1).$$

- Firm 1 adds value $3,000 \times (c_2 - c_1)$. Does it capture this value?
Bertrand with asymmetric marginal costs: equilibrium

- If firm 2 chooses price $P_2 > c_1$, then firm 1’s best-response is to set $P_1$ just under $P_2$.
- If firm 1 chooses price $P_1 > c_2$, then firm 2’s best-response is to set $P_2$ just under $P_1$.
- Firm 2 will not price below $c_2$, however.
- The equilibrium has firm 2 set its price at $c_2$, and firm 1 sets its price at (just below) $c_2$.
- Firm 1 serves all customers and earns profit

\[ 3,000 \times (c_2 - c_1). \]
It is rather extreme to (almost) match price and capture all value.

What happens if products are differentiated?

Revisit the Hotelling model. Let the travel cost be $t$ per unit distance.

Let firm 1 produce at marginal cost $c_1 < c_2$.

Intuition: how will this affect pricing incentives?
Obviously, firm 1 wants to lower price, but then so does firm 2 by a lesser amount.
Hotelling with asymmetric marginal costs: equilibrium

- Equilibrium prices are
  \[ P_1^* = t + \frac{2c_1 + c_2}{3}, \quad P_2^* = t + \frac{2c_2 + c_1}{3}, \]

- Equilibrium price-cost margins are
  \[ P_1^* - c_1 = t + \frac{c_2 - c_1}{3}, \quad P_2^* - c_2 = t + \frac{c_1 - c_2}{3}, \]

- Equilibrium market shares are
  \[ D_1^* = \frac{1}{2} + \frac{c_2 - c_1}{6t}, \quad D_2^* = \frac{1}{2} - \frac{c_2 - c_1}{6t} \]

- Both firms charge lower prices.
- Firm 1 charges the lowest price, sells to the most customers, earns the highest profit.
- Firm 1 does not capture all added value.
Exploiting a cost advantage through pricing: extrapolation

- Continue to assume that firm 1 is the low-cost firm.
- Firm 1’s price-cost margin, scaled by the price, is

\[ \frac{P_1^* - c_1}{P_1^*} = \frac{t + \frac{c_2 - c_1}{3}}{t + \frac{2c_1 + c_2}{3}} \]

- This ratio is always less than 1 and is increasing in \( t \)...in a more differentiated market (higher \( t \)), the low-cost firm should be less inclined to cut percentage points off of its price-cost margin. It should instead rely on greater margins to increase profit. This is called a \textit{margin strategy}.
  - Intuition: when products are strongly differentiated, a firm’s price elasticity of demand is low, so price cuts gain little market share.

- In contrast, when products are less differentiated, the low-cost firm should pursue a \textit{share strategy}, that is, cut price to gain a high market share.
Now, suppose firms produce different quality products and produce at marginal cost $c_1 > c_2$.
- Here firm 1 produces at higher marginal cost, but...
- Let firm 1 produce a product for which consumers have reservation value $V_1$, let firm 2 produce a product for which consumers have reservation value $V_2$, and let $V_1 > V_2$.
  - Importantly, let $V_1 - c_1 > V_2 - c_2$, so that firm 1 adds more value.
Bertrand with asymmetric reservation-value products: equilibrium

- If firm 2 chooses price $P_2 > c_2$, then firm 1’s best-response is to set $P_1$ just under $P_2 + (V_1 - V_2)$.
- If firm 1 chooses price $P_1 > c_1$, then firm 2’s best-response is to set $P_2$ just under $P_1 - (V_1 - V_2)$.
- Firm 2 will not price below $c_2$, however.
- The equilibrium has firm 2 set its price at $c_2$, and firm 1 sets its price at (just below) $c_2 + (V_1 - V_2)$.
- Firm 1’s price-cost margin is then

\[ P_1 - c_1 = c_2 + V_1 - V_2 - c_1 \\
= (V_1 - c_1) - (V_2 - c_2), \]

the exact value added *relative to the competition*. This is what firm 1 earns per unit.
The Value Chain

- Value is created as good move along a chain.
- The **value chain** depicts the firm as a group of value-creating activities, some of which are logically represented in a sequential manner.
- Each link adds costs and benefits.
- It is typically easier to isolate costs associated with the various activities than to isolate benefits.
The Value Chain

- Firm Infrastructure
- Human Resource Management
- Technology Development
- Procurement
  - Inbound Logistics
  - Production operations
  - Outbound Logistics
  - Marketing And sales
  - Service
Creating Value

- There are two ways a firm can outvalue its competitors.
  - First, it can develop a similar configuration to its competitors but create more value within that chain.
    - “Cost” strategy, e.g. Dell.
  - Second, it can develop a different configuration of its value chain.
    - “Focus” strategy, e.g. Enterprise Rent-A-Car.
- It could also do both, of course.
Competitive Cost Analysis

- The starting point for identifying competitive advantage.
- Look at each group of activities in the value chain and identify my costs.
- Identify **cost drivers** associated with each activity.
- Use cost drivers to estimate competitors’ costs.
- Sum up and compare.
Collins Kitchen vs. Betsy Baking: early 1990s

- Consider the snack cake market in western Canada, early-to-mid 1990s.
- Betsy Baking grew from a 1% market share to a 20% market share 1990-95.
- Collins Kitchen (Dinklets and Angel Dogs) shrank from 45% to 25%.
Price of typical snack cake: 72 cents.

- Inbound Logistics (raw materials): 18 cents.
- Operations (of baking, filling, etc.): 15 cents.
- Outbound Logistics (delivery, maintenance of shelf space): 26 cents.
- Marketing expenditures (ads, promotions): 12 cents.
- Profit: 1 cent.
Collins Kitchen: cost drivers

- Cost of outbound logistics per snack cake falls as local market shares rise.
  - Scale economies: total delivery costs depend on number of stops, so if drivers can deliver more cakes per stop, the delivery cost per cake goes down.
- Urban deliveries more expensive due to traffic.
- Outbound logistics more expensive with increased product variety (more difficult to restock shelves and remove out-of-date cakes).
- Snack cakes with fewer preservatives must be delivered more often.
Betsy Baking

- Operations Costs: 21 cents (12 cents less).
  - Used inexpensive raw materials purchased in bulk.
- Logistics Costs: less than half Collins’.
  - Baked their products with more preservatives—less frequent deliveries.
  - Less complicated product line.
- Marketing: also less than half.
  - No promotions.
- Altogether, Betsy Baking spent only 34 cents per snack cake.
Cost Analysis

- Note that an effective cost analysis need not include everything.
  - If some part of costs across competitors is the same, it is irrelevant.

- Conventional accounting systems may overemphasize manufacturing costs.
  - If firms sell intangible things like services, it can be difficult to allocate costs to overhead correctly.

- Comparing costs as a percentage of sales rather than in absolute terms may make cost and price differences harder to see.

- One-time investments should not be mixed with recurring costs.

- Don’t confuse differences in product mixes with differences in costs.
Enterprise Rent-A-Car

- The largest rental car company in the US.
- Consistently profitable, in contrast to the “Airport 7” (Hertz, Avis, National, Alamo, Budget, Dollar and Thrifty)
  - Enterprise Holdings now includes National and Alamo.
- Enterprise grew as a company focused on the replacement car market.
  - “We’ll pick you up.”
- Smaller capacity lots away from airports.
- Cultivates relationships with body shops, insurance agents, auto dealers.
Enterprise Rent-A-Car

- Entered airport market in 1999.
- Focus on leisure travelers.
  - Directions, restaurant recommendations, help with luggage.
- Initially shut out of many important airports (including Orlando).
- The Airport 7, notably, Hertz and Avis, have tried to build an off-airport business.
A firm that produces a product of higher quality \((V_1 > V_2)\) than its competitors for about the same cost can command a price premium.

When a firm does this, we say they pursue a **benefit strategy**.

To analyze the gain to a benefit strategy, one should try to estimate consumer willingness to pay for various product characteristics.

This is easier to do for industrial products, which may save quantifiable things (like energy), as opposed to consumer products (where willingness to pay can be “happiness”).
Husky Injection Molding Systems [HBS 9-799-157 (Jan Rivkin)]

- A top manufacturer of plastic injection molding equipment.
  - Most large soda bottles are made from polyethylene terephthalate (PET) using injection molding systems.
  - Husky manufactured machines that have molds for making preforms for PET products.
- Husky historically built better machines than their competitors and charged more for them.
- Analysis of consumer willingness to pay reveals that to replace a $1.2 million Husky PET System, a consumer would have to spend $1.34 million plus $49,000 per year on alternative products to duplicate the same production.
  - Husky systems also produce fewer surface blemishes and a less variable burst pressure.
  - Note from the willingness-to-pay calculation that Husky leaves significant value to the customer.
- Husky enjoyed return on equity of nearly 40% during 1992-95.
Is it possible to sell a product that delivers more value while lowering average cost?

Perhaps...to do this a firm must initially operate on the declining part of its average cost curve.

It must also initially sell with significant markups over marginal cost.

Then, even if producing a superior product increases its entire average cost curve, if the improved product increases demand enough, it can produce at lower average cost after the change.
The Holy Grail: greater benefit, lower cost

Note the learning curve effects...as output expands, the firm learns how to produce at lower cost.
While having higher benefits and lower costs is possible (Frito-Lay in salty snacks, e.g.), Michael Porter argues that it is generally a bad idea to pursue a part-cost, part-benefit strategy.

This can lead to “unfocused decision making and the pursuit of inconsistent actions” that have a muted impact on costs or benefits or one where the effects cancel each other out.

Kmart has been criticized for weak imitation of best practices by its rivals.

- Imitate Target’s hipness (Martha Stewart’s line)?
- Compete on price with Walmart (Every Day Low Pricing in 2001)?
- Do both (badly)?
Types of Focus Strategies

- Enterprise Rent-A-Car surged to profitability by targeting consumers needing replacement cars. They adopted a **customer specialization focus**.
  - The idea is to offer an array of products to a limited group, and then cater to particular needs.
- In contrast, it may pay to adopt a focus on a particular set of products, a **product specialization focus**.
  - The idea is to satisfy some needs of a wide group of customers.
  - Microbrewers do this.