Template

Profit Range

The **profit range** is determined by the upper bound, lower bound and bargaining power. The **upper bound** is the **added value** which is defined as the total economic value created by all efficient transactions in the network of players minus the value that all others create in your absence.

- What is Dell's added value? What are the **capabilities** that **make Dell better than other players** in the market; Discuss **features** from the case; what they're would determine their added value. These capabilities determine their added value

The other thing that determines the range of profits is the **lower bound**, which is defined as the maximum of (1) The remaining value when all other players receive their **added value**; (2) The **outside option**, competition for your firm from other markets; (3) The profit they can guarantee themselves by credibly threatening to leave with some **subgroup**, competition for your firm from participants within your market.

Differentiation tradeoff

Differentiation tradeoff - the differentiation moves you away from the fierce price competition but also moves you away from the centre of demand. The differentiation decision depends on whether or not the benefit of less price competition is greater than the cost of losing part of the demand.

Review tut

Value capture
Salesperson
Move profit between existing range
Not impact added value

The car provide added value

- Can improve bargaining power

Where you lie on the range of profit is completely depends on your bargaining power
The salesperson increase your bargaining power by being able to negotiate with your client

Two firm one buyer one supplier
The added value for each firm is 0,
If the efficient transaction can be completed without either without dealer, a being part of it or without dealer. Cb, part of it, right

So the range of profits within which dealer A and dealer C work are 0

No room for Bargaining to help you -> no use of sales person

Supplier Dealer B and customer
If dealer b exist the market, supplier and customer can not ..
All three player are essential to the transaction -> all have high bargaining power
Without any of them, the transaction can not
Bargaining is very useful

Differentiation

Horizontal:

- coke vs pepsi
- Some prefer a and some prefer b if products are same price

Vertical:

- All consumer will always prefer a to b if both are at the same price

Fundamental tradeoff of differentiation

- Higher demand -> sell more, more people want to compete
- Differentiation yourself means moving away from the mass of demand but also lowering the extent of price competition from your rival
- Move away from competition, but move away from the center of demand

Industry lifecycle

- Overall, the industry as a whole

Dell

What was the source of Dell's competitive advantage in the 90s?

By taking orders directly from the end-users, Dell could undercut the competition while keeping a large portion of the margin that would otherwise be reaped by intermediaries such as resellers or retail chains. As Dell grew, the focus on cost continued when the company monitored and optimized its inventory levels, turning over its inventory 15 times in 1995 versus the industry average of four to seven times. In an industry where component costs fell by a few percentage points in weeks, holding less inventory resulted in **significant cost savings**.

While costs were reduced, Dell was able to boost prices per machine because users could customize their purchases. As Dell built its customer base with governments and large corporations, it was able to charge 15 percent to 40 percent more per machine. With large customers, the value proposition extends beyond the ability to configure a machine. In the 1990s, as the need for information technology software and hardware grew, at the customer level, costs grew as well. Computer hardware needed to be ordered, configured and delivered. As described on page 3 of the case, companies that worked with Dell were able to order computers that were pre-configured and customized to the business's needs. By using Dell computers, companies could reduce their IT infrastructure and personnel, resulting in cost savings, translating to a **higher willingness to pay** and, hence **higher added value** of Dell.

For lower bound, the discussion should be on the added value of other players (say, if they are not as differentiated, lots of competition among them), outside option of Dell, credible threat of Dell forming subgroups.

How sustainable was Dell's competitive advantage?

In the short run, competitors were unwilling to emulate Dell's direct model in its entirety as they had relationships and resources invested in their own supply chains and sales channels. *See case Exhibit 7* for an example of Hewlett-Packard's supply chain. **Unable and or unwilling to copy what Dell was doing**, most major competitors such as IBM, HP Compaq, and Gateway were unwilling and or unable to respond to Dell's push into their markets. However, likely due to the publicity around Dell's rise to prominence, competitors started to **take note of Dell's innovations in supply chain management.**

So, what happened in the 2000s?

Indeed, while Dell was focusing on costs, the computer industry had changed. **Competitors had begun to catch up, adopting some of Dell's best practices in inventory management and procurement.** Lower-cost manufacturers based in Asia were emerging. As can be seen *in case Exhibit 3*, the majority of Dell's manufacturing facilities were based in higher-cost countries. It seemed as though **one of Dell's sources of competitive advantage had vanished.**

As computing power increased year over year while prices dropped**, the demand for customized machines fell.** By the 2000s, the computing power in basic laptops or desktops often met end-user needs right out of the box. In addition to the availability of inexpensive computing power, **consumers began to select machines based on design**. Beginning with Apple's stylish iMac computers in the late 1990s, other manufacturers began investing in design, producing appealing computer products.

Until 2007, Dell seemed to have ignored these **external threats**. It continued opening factories around the world. Instead of focusing on identifying new threats, Dell focused on driving top-line revenues to record highs. There was no acknowledgement from management of the emerging threats of lower-cost production and the consumer's focus on design. Furthermore, **internally,** the company faced issues surrounding its financial reporting, which may have **distracted executive management from adapting to the changing dynamics of customer preferences**.

1) Start with applying the value capture theory by listing all players in the "market" relevant to Dell's business; (5")

- Consumer
- competition
- Supplier
- Retailers: e.g. BestBuy
- Government: patents

2) Discussing the features of the market as well as the capabilities of Dell that determine Dell's profit range; (10")

The profit range is determined by the upper bound, lower bound and bargaining power.

- The **upper bound** is the **added value** which is defined as the total economic value created by all efficient transactions in the network of players minus the value created by those same players if you don't exist (what you bring to the table).
- What is Dell's added value? What are the **capabilities** that **make Dell better than other players** in the market; Discuss **features** from the case; what they're would determine their added value. These capabilities determine their added value

- The other thing that determines the range of profits is the **lower bound**, which is defined as the maximum of your best outside option, the remaining value if every player in every subgroup, including you, receives their added value, and remaining value.
- You would then go on to discuss capabilities. That **Dell** has that determine it's lower bound right?

- **Bargaining power** (where you lie in this profit range), how well you can wrestle away profits from other players competing in the same profit range.
    - Your power over other players
        - The only person -> high
        - Many identical -> low

Bold the keywords: value created, added value, willingness to pay, upper bound, lower bound

So the **upper bound** of profits is determined by the **added value of a firm**. It is equivalent to the loss in total value if the said firm did not exist. Value is generated when a consumer's **willingness to pay** exceeds the cost of resources. dell predominantly served corporate and government clients who tended to be less price sensitive, and instead found value in swift delivery. Appealing to these preferences, translated to a **higher willingness to pay for Dell's goods relative to competition**. Competition which i**ncreased Dell's upper bound**.

Dell's **lower bound** is determined by a maximum of 3 values. Dell's **outside option**. **The value remaining of all other firms receive their added value**, or **the value Dell will receive were they to create a subgroup**. Dell had value viable outside options, since their expertise could be applied to adjacent hardware markets, or they could focus on the consumer market via retail or resellers. Further, even if all the other firms were to receive their added value, there would be still be a significant value left over. This is because Dell is responsible for a considerable amount of the total increase in computer

industry value due to its efficient supply chain management. Furthermore, Dell suppliers likely contributed Limited added value. 90% of Dell's goods were purchased from 33 primary suppliers which impliers higher bound for Dell. When many companies have undifferentiated offerings, they tend to capture limited value as they compete with each other's prices down. while the suppliers possibly had differentiated advantage. There's a high likelihood that there was some overlap. Dell further increases their lower bound by creating a subgroup that cuts out the middleman in favor of selling direct.
reducing the player Dell needs to bargain with and split value with after the upper bound and lower bound is determined.

The next step is for Dell, bargain and market to extract the most it can within the range formed by the upper and lower bounds.

3) Describe Dell's differentiation and pricing strategy; (10", 200 words)

- key differentiation is
    - focused on cause is cost focused and not innovation focused (4'')
    - Focus on the most profitable segment (2'')
    - Hiring policy is also cost focused (1'')
    - Case details (3'')

given its focus on a specific subset of the market Dell was able to avoid price wars with competitors. Horizontally it differentiated itself by building high machinery Quickly. vertically, it differentiated itself through premium pricing and high quality. In the early 2,000 S. Dell moved into other markets with high margins, and experienced similar success, due to logistical prowess. In these ways Dell **raised the barriers to entry** within its niche within its niche and increase its profit range.

4) Lastly, explain why Dell's larger competitors were unable or unwilling to copy what Dell did. (10")

- Cost saving and Innovation
- IP protection
- Relations and resources in its own supply chain and sales channel
- Case detail (3'')

So Dell's strategy involves 2 **trade-offs**. Its competitors would be unwilling to make. proficiency in cost savings and innovation is mutually exclusive. Therefore, innovations, such as Apple's Ipod, or HP's Trendy Jay-z advertisements, would be difficult to create at a plain, cost-oriented office. thus competitors such as Apple and HP. Who are intent on a distinct marketing, and who are intent on distinct marketing and design, would be uninterested in pursuing Dell's absolute cost focus.

They'll further **sacrifice the retail market for higher margin commercial clients**. Their small batch low inventory production is also not suitable for retail wenders, which require large batches of standardized products. Given that Dell's main competitors all heavily relied on retail customers, it would be suboptimal to completely replicate Dell's production model.

Finally, **process patents** were a roadblock to replicate strategy that Dell used, even if the above 2 downsides were ignored.

Additionally competitors were unwilling to emulate Dell's direct model in its entirety, as they had existing resources and relationships invested in their own supply chains and sales channels. most competitors, such as HP, Ibm and gateway were unable to, or unwilling to, respond to, dells pushed into their markets. **because they could not copy, or were unwilling to copy dell in its entirety**. Okay.

Identify the combination of factors – external competitors and internally at Dell – that caused Dell to lose its No.1 spot to Hewlett-Packard (HP) in 2007 and how the firm continues to struggle to find direction at the beginning of 2009.

Approach this question in the following way:

*1) Start again by applying the value capture theory by discussing what has changed in the computer industry that has affected Dell's **best-case and worst-case profit**. (20", 300 words)*

- Willingness to pay, added value of dell, no cost advantage compared to Asian manufacturers, and due to overall decline in production costs of computers.(5'')
- No longer enjoying premium for its product due to the advent of standardization and focus on design. (5'')
- Case (10'')

externally, Dell faced competitive pressure due to the natural occurrence of raw material prices decreasing within the **industry as it matures** as computer parts become more affordable. A greater number of competitors, more entrance, are able to Mla Dell's process. Efficiency to drive down its **lower bound** of value.

In addition, consumer demand demand for bespoke machines decreased, causing an overall **reduction in the value added** by Dell. thereby reducing the company's **upper bound** as well.

Therefore, the **industry demand for computer systems and services declined**, due to due to economic weakness, which further reduces Dell's **range of profits**.

Internally the company faced issues surrounding its financial reporting, which may have distracted executive management from adapting to the changing dynamics of customer preferences. This further reduces Del's **added value**, which reduces its **upper bound**.

2) Given that Dell's previous sources of advantage were the direct model and its manufacturing prowess, Dell's decision to sell through retail vendors and to disengage from manufacturing is a significant strategic shift. Do you think this is a good move? Why or why not? Please elaborate. (15")

- The point of this question is to realize or recognize the downside of this strategic shift,
- while also recognizing that no change which means a direct model in manufacturing in-house, which is more costly than outsourcing outsourcing, is also doomed because of the way the industry is maturing,

So main questions that need to be addressed here are.
- where does the value added of Dell like? Where does Dell's added value come from right? where does the added value come from?
- Why won't the strategic shift create internal conflict given existing organization and structure? why this will or will not create internal conflict before, because of the existing organization structure?

up until 2,006, selling direct to direct to consumer was the ideal strategy. since this allowed Dell to leverage its efficiency to drive down costs and deliver products quickly.

however, by 2,006 most competitors had caught up to Dell's cost advantage.

Moreover. demand for product customizability had also decreased negating the necessity necessity for any horizontal differentiation.
Continuing to sell exclusively direct-to-consumer would have been risky, particularly given the growing sales through the retail market, due to increased adoption of home computers

given, Dell no longer had a competitive advantage. Choosing to sell through retail vendors, in addition to direct to consumer, seems like the optimal strategy.

Furthermore, manufacturing overhaul was aligned with Dell's previous operational efficiency prowess which enabled the company to have a strong retail strategy.

This was overall, a good move to keep up with the marketing trends and realities. while still acknowledging that Dell had to give up some of its prowess in order to make this strategic shift.

Class 1: Introduction to Strategy

- 1 | How can firms consistently earn **profits/PPDs** without being competed to 0?
    - generating **added value**, and inducing **competition** for your firm
    - linking **product mix, pay policies, firm organization, pricing strategies, financing** in a coherent role that is difficult for competitors to respond to even when they know what you're doing.
    - E.g. highly differentiated product, barriers to entry, high consumer switching cost due to preference -> **features** that give scope for strategies to generate **PPD (persistent productivity differences)**
- 2 | A cost or operational advantage is not the same as a **strategic advantage**
    - Just improving quality, or lowering costs, or innovating will not be enough
    - Competitive advantage
    - choosing your product mix, choosing your organizational structure, in a way overcomes whatever inherent disadvantages your firm may face.
- 3 | Not all **strategic advantages** are **sustainable**
    - other firms can do it and will replicate what you're doing
    - retained even after rivals see what you are doing and attempt to respond.
- 4 | **Business model tradeoffs** can be a source of strategic advantage
    - they have to copy almost everything to compete

- Tradeoffs in strategic position can be useful if they make it hard to replicate your firm -> advantage sustainable
- can't easily match by changing a few things about their store
- Source:
  - There are often only few competitors
  - A clever firm can organize itself in a way that these finite rivals do not want to replicate them exactly, leaving potential for profit
- **tradeoffs** make **it difficult for rivals to replicate** what you're doing, and hence can make strategic advantages sustainable.

Class 2: Value Capture

5 | VCT **profit range** depends on competition against and for you

- create bounds on the earnings of all sorts of players in a "market" without making very strong assumptions.
- First, there is the total value V created when **every efficient transaction occurs**: all gains from trade happen, and all production is done by the least-cost producer in the least-cost way.
- Second, **each player must compete with others** to get business in their market: if you don't give a good enough deal to other players, they won't voluntarily transact with you.
- Third, **others will compete for you**: if one or a group of players do not give you at least as much as surplus as you can earn elsewhere, you won't transact voluntarily with them.

Willingness to Pay (WTP): Highest value at which consumer is willing to transact (the utility one gets from a product)
Outside Option (OO):

- The value of the "next best option" for the member of the market outside of its current market
- Every player in a market must earn at least their outside option (the maximum added value they have to any other market)

Value created: WTP minus the cost of all resources used to make the good(s)
Player: game theoretic term to mean a member of the market

- suppliers, and buyers, and rivals, and all others relevant to the economic surplus created by airplane flying)

Added Value: the marginal contribution of you, a specific player to this particular market (difference in total value created by you and others in this market and the value that all others create in your absence)

6 | **Added value** of firm to its market is **upper bound** on profits

- Competition against you
- No player earns more than their added value

7 | 3 factors for lower bound: other markets get value from you (outside option)

- Competition for you
- every subset of players herbs at least as much in the full market as it could earn just transacting with each other
- The Lower Bound is the largest of:
  - (1) The remaining value when all other players receive their added value
  - (2) Their outside option; (competition for your firm from other markets)
  - (3) The profit they can guarantee themselves by credibly threatening to leave with some subgroup (competition for your firm from participants within your market who want to work with you can drive up the minimum profits you can earn, e.g. wtp to you is higher)

8 | But also: firms "competing" to work with you, and need for V to go to someone

9 | Bargaining/negotiation skill affects where in that range you wind up

- Essential to create the value (necessary) -> high power -> all have added value = total value
- Bargaining power may be strong if you are patient, if you have a lot of cash reserves, if you have good negotiators or salespeople, and so on.
- depend on how well you can **bargain or negotiate** with other players like suppliers or buyers.
- negotiating prowess

compete by developing resources, skills, knowledge and strategies which affect added value, other's added value, your outside option & bargaining power

Insights - There are five ways a firm can increase their profit

- Generate more **added valu**e. [upper bound]
  - Competition against you means you can at most capture your added value.
- Decrease the **added value** of other firms. [lower bound]
- Increase value to outside markets (**outside option**) [lower bound]
- Increase the "competition" for the firm, that is, increase the **value of subgroups** of players the firm is a member of. [lower bound]
  - Competition for you(to work with you) means you capture more if **other players need you to create value**
- Increase the **bargaining power** of the firm

    - Competition through negotiation: extra-economic bargaining
    - A salesperson creates no added value but can improve profits by **improving your ability to bargain a higher share of your range of potential profits**.

Price,cost -> total value -> added value -> upper/lower bound
Others' added value -> lower bound

Class 3: Differentiation

10 | Horiz. or vert. differentiation can increase WTP by lessening competition
- **Horizontal differentiation** - Differentiated products where some consumers prefer A and some prefer B if products are same price
    - Different tastes, different location, bundled goods
    - Marketing driven
- **Horizontal differentiation** - Differentiated products where all consumers prefer A to B if both are at the same price
    - Luxury vs low cost, downtown hotels, bundled freebies (w/ meal)
- **Principle of minimum differentiation**: firms all want to move toward the center of demand
- **Principle of maximum differentiation**: price competition so severe when firms near each other that they locate at edges
- Differentiation, moving away from rivals, and nondifferentiation, crowding toward "center of demand", both lower the total economic surplus created!
- Increase added value, but at cost of lowering total value created
- you change some aspects of your product -> increase the **willingness-to-pay** of buyers.
- Differentiate to avoid fierce price competition

11 | But differentiation may move your product away from the mass of demand
- Differentiation yourself means moving away from the mass of demand, but also lowering the extent of price competition from your rival
- This is a **tradeoff**: differentiation moves you away from competitive pressure but may also move you away from the center of demand. Whether you want to differentiate or not depends on whether the **benefit** from less price competition is greater or less than the **cost** of not having the "optimal" product from the view of consumers.
- **Differentiation tradeoff - the differentiation moves you away from the fierce price competition but also moves you away from the centre of demand. The differentiation decision depends on whether or not the benefit of less price competition is greater than the cost of losing part of the demand.**

12 | Moving first can allow you to secure "good" market position
- the order of movement in differentiated industries matters, and it may be particularly important in these industries to "stake out" the most profitable positions before others do.

13 | Flooding market with different goods can prevent entry from rivals
- Given that possibility, a firm which worries about future entry may prefer to stake out multiple good positions so that there is no profitable location or product type left for rivals to enter in the future. This is sometimes referred to as "**flooding the market**".
- Flood market with varieties/locations only if it can deter entry from rivals and if cost of flooding market is cheaper than cost of lower profits when facing future rivalry

Class 4: Pricing Strategies

14 | Similar products plus free capacity equals incentive to cut prices
- When firms sell similar products and have free capacity, firms all have an incentive to cut prices in order to steal business from rivals.

15 | Low price guarantees and related strategies help avoid pricing dilemma
- decrease the number of your customers a rival can steal if they try to undercut you on price.

Pricing strategy
Strategies that often work:
- **Restrict industry capacity**

    - No point for new entrants to come in
    - Hard, because open market
    - Why it works?
        - can only sell a thousand units, you produce 200 units, 800 left, you make yourself biggest player (nobody wants to challenge you) -> monopoly, prices whatever they want
    - **Capacity choice**: Strategic use to prevent entry (if I am at capacity, you can enter and there is no way I will respond by cutting price; not true if I have excess capacity, which I can credibly threaten to cut price if you enter)
- **Obfuscate prices**
    - Hard to understand -> hard to switch
    - Confusing the customers -> so that unwilling to move
    - E.g. banking, and telecommunication.
    - Making it hard to figure out prices makes it hard for customers to compare prices, and hence acts like a “transportation cost” (in our differentiation model) if you want to switch firms
    - when one of us cuts price by a penny, not all customers switch, decreasing incentive to cut price, causing prices to remain high.
- **Loyalty program**
    - Getting rewards if you keep spending there
    - If the price is a bit above, people still but because of loyal rewards
    - E.g. airline
    - if you undercut my market price, my customers still won’t switch to you. Hence you price higher. Hence I can price higher as well.
    - You generally only see loyalty programs in low margin, commoditized businesses (grocery stores, credit cards, airlines, etc.).
- **Price match guarantee**
    - You will match whatever the lowest price, you never go below them
    - Good for firms, they never have to discount itesm, just match
    - price match guarantees remove the incentive to undercut your rival’s price, hence price is not competed down to MC and is higher in equilibrium than it otherwise would be
    - why don’t all firms do it?
        - You don’t have a cost advantage
        - Not all of your customers would know about the lower price
        - You won’t attract all of rival customers even with a lower price
- **Enter in weak market**
    - Price product as you wish, because the market is not strong
    - You are able to become dominate player immediately
    - Pricing advantage over product

Sometimes works

- **Bundle different goods**
    - Buy a and b together, give you lower price

    - Spending more with the company
    - Combination of goods or services are sold at a price that is less than what it would cost to buy these goods separately.
        - Bed and breakfast, Phone and operating system, Car and tires, Cable channels, Spotify subscription for unlimited songs
    - Can extract higher profits when the willingness to pay each good is imperfectly correlated. (negative)
    - Not so much if not a monopolist!
    - Moral: bundling often useful for monopolists, less so when there is competition.

16 | Predatory pricing is effective only in very specific situations

Rarely work

- **Predatory pricing**
    - You lower yourself to a point where you at loss -> others exit
    - Depends on your ability to keep taking a loss, no other enter the market, who you are competing with and their ability to sustain
- Predatory pricing means temporarily pricing below cost in order to force a rival to quit the business, not just providing a service at lower price because you have lower costs.
- to undercut prices temporarily and make a loss in order to force rivals to exit, you need
    - rival to have less resources than you (so that they run out of cash before you)
    - no new entrants after you push the existing rival out
    - This is an unlikely combo
    - Can't just buy and resell goods that are predatorially priced (see the Dow chemical example in the Vohra chapter)

17 | To avoid price war, make your **price structure** bad for some customers

- avoid triggering a price war, you need to enter an industry in a way that the incumbent's **most profitable customers** will not switch over to you.
- good for young folks, but one that was bad for business customers.

Enter small and do not attack strongest market of large firms, so that they will not risk profitable markets by trying to respond to your minimal incursion (risk meaning either because they can't price discriminate or because they have **uncertainty about demand**)

However, if your pricing leads you to steal their **unprofitable customers**, then they will not lower price in a way that harms their profit on their existing profitable customers.

Virgin has higher costs. If they offer same pricing structure, **Bertrand competition** will open up and they will make nothing and sell nothing.

Price war = firms think they can take market share from you by cutting price. The war develops if other firms respond to that attempt by themselves cutting prices even more.

, Virgin is selling a commodity where they have higher prices, but by choosing a **pricing structure** that does not threaten the profitability of incumbents with lower costs, they may still be able to enter profitably!

Class 5: The Product Life Cycle

18 | Product Life Cycle, with lots of entry early followed by a shakeout, is common 淘汰

- There is an incredible amount of **entry** early on
- Industry **growth rates** in revenue/total production are initially slow and then very fast (this is often called the "S-curve")
- There are many important **product innovations** (meaning qualitatively different product designs being invented) early on
    - High r&d
    - Product invention: new product.
    - Process invention: something that **reduces cost** or **improves quality** of product, like an improvement in the assembly line
- A "**dominant design**" begins to develop
    - a standardized product
    - process R&D leads incumbents to become very good at producing a certain type of product cheaply.
- With dominant design in hand, remaining firms focus on **reducing costs** on that design
    - Shift to **process R&D** because scale of production high + product relatively undifferentiated + trying to heavily differentiate becomes impossible due to regulation, complements, habit formation, etc.
    - Large firms sell more products, hence cost reductions are more valuable for them
- The industry life cycle will imply that how your firm should act, how it should experiment, how big it should be will depend heavily on precisely what point of the industry life cycle your firm finds itself in.

19 | Shakeout tends to occur after dominant design solidifies 固化

- An industry "**shakeout"** greatly decreases the number of firms remaining in the industry once a dominant design takes hold

20 | Firms that are big before shakeout tend to dominate after shakeout

- The firms that survive the shakeout are almost always firms that were already **large well before** the shakeout
    - size is positively correlated with growth rate and survival in early/intermediate stage of industries, especially low-tech/standardized industries
- In the absence of a **major technological shock**, industry structure can be very stable with **little entry** at this point
    - increase in product quality so great that you can **overcome very low unit** production cost of dominant design
    - **Branding** can't explain the shift from product to process R&D, nor the fact that even powerful brands in related industries find it tough to enter mature industries which have a product life cycle
    - Very unlikely once dominant design appears that a technological improvement alone is sufficient to overcome cost disadvantage compared to firms making dominant design.

21 | Life Cycle less common in industries without process R&D by manufacturers

- Industry life cycle doesn't apply because
    - 1) **process R&D** not terribly feasible or
    - 2) important hence **hard for existing firms to drive down costs** substantially
    - 3) **manufacturing done by third party** hence new firms can take advantage (as in T-shirts)
- in industries where brand is important, the **cost of advertising generates brand equity that accumulates over time and can have it cost spread over all units sold, hence industries where brands are very important may also show an industry life cycle.**

The age of an industry can be a source of sustainable strategic advantage for some firms

- Early growth stage
    - Many entry
        - Low barrier since fixed cost are low
        - No firm is terribly efficient

        - There is still scope to profit from experimentation since complementary inputs have not locked the industry into a particular style or design.
        - The main value of entering is to get toehold to experiment and see if you can make a highly valued product where you can capture that value
- Intermediate stage - “Dominant Design” coalesces
    - Firms become very good at producing that style of product at **low cost**.
    - **Specialized equipment** becomes common.
    - **Laws** force use of certain technology.
    - **Consumers** get used to certain type of technology.
    - **Complements** begin to appear increasing value of dominant design (like tractor attachment for early cars).
- Mature
    - Large firms sell more products, hence cost reductions are more valuable for them **process innovation**

- If you have new ideas for a mature industry, should you sell your idea to existing firms or try to develop capabilities yourself?
    - Consider **differentiation**: as industry matures, dominant design develops, hence more specialized laws/suppliers/complements make it more difficult to differentiate product. E.g., you can try to make a car that is four seats wide, and maybe it would work in 1900, but in 2018, the lane size on roads makes it impossible to differentiate that way.
    - Better to sell ideas to existing firms than try to develop these capabilities yourself
        - Can not overcome process R&D-driven cost advantage in production of existing manufacturers
- What can a firm do to ensure it is particularly profitable as industries move into mature parts of the product life cycle (before the convergence of dominant design)?
    - Remain **flexible to adapt product** toward dominant design to take advantage of complementary goods/inputs.
    - Do not commit by investing heavily in **process R&D** unique to one idea.
    - Gather other firms to help **coordinate industry** on a dominant design where your firm has some advantage.
    - Try to **use power over suppliers and legal developments** to drive dominant design toward a product where your strategy has particularly large PPDs as discussed in Class 2 (make sure you think hard about how you might do this!)