FUNDAMENTALS OF MANAGEMENT

SECOND PARTIAL

2021-22 EDITION

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SESSION 0: INTRODUCTION TO MANAGEMENT & FIRM OBJECTIVES

Management Activities:

- Acquiring and coordinating resources (human, physical, tangible) to achieve the goals of an organization
- Economic activities take place within societies to satisfy human needs
- But needs are unlimited, resources are limited
- Example: budgeting and planning, measuring performance, managing human resources
- Management is necessary to keep organizations operating reliably and efficiently

Management Myths:

- Management = leadership
- Managers can make people do things
- Good managers can manage anything

Management vs. leadership:

- Process v. vision - process of working with others to ensure the effective execution of a chosen set of goals <--> leadership is DIFFERENT (it is about developing what those goals should be)
- Organizing v. aligning
- Position v. quality
- Management makes resources work well on a daily basis (problem-solving and execution)
- Leadership creates systems that managers manage (vision and direction)
- Being a great leader does not mean you are a great manager

Management v. Leadership v. Ownership:

- It is hard to differentiate between the roles
- Both roles can be separated from that of the owners

A Management Experiment:

- Experiment with large multi-plant firms in India (no existing management practices in place)
- Treated plants got management training
- Control plants got nothing
- Performance of treated plans got much better (in 45 weeks)

Origin of Economic Activities:

- People have a variety of goals
- Pursuit of goals enables needs (food, sleep, etc.)
- Many needs are satisfied by economic goods
- Good are produced and consumed by economic activity

Different Types of Goods:

- Essential v. non-essential (like bread, water are essential) (jewelry, perfume, nice car are non-essential)
- Complements v. substitutes (cookies are a substitute for Pan di Stelle)
    - Complements: both are needed (car and fuel, tennis balls and tennis rackets, peanut butter and jelly)
    - Substitutes: one is an alternative for the other (coca-cola v. pepsi)

- Homogeneous vs. differentiable: universal v. different (crude oil is the same, clothes can be differentiable)
- Disposable v. durable (disposable, used for a short time - durable, you use it for a long time)
- Industrial v. consumer: steel v. pens

- Public v. private:
    - Rival: one person's consumption of a good diminishes another person's consumption of it
    - Non-rival: one person's consumption of a good does not diminish another person's
    - Excludable: people (who cannot pay for it) can be prevented from using it
    - Pure public good is NON-RIVAL and NON-EXCLUDABLE (like access to healthcare in Europe)
    - Pure private goods are RIVAL and EXCLUDABLE (like a Bocconi education)

Problems with Public Goods:

- People can use them without paying - free-rider problem
- People have incentives to hide their true preferences and have others pay for their share - free-riding
- Firms cannot recover costs due to non-excludability --> public goods may end up being under-supplied

How do you solve it?

- Heterogeneous preferences: some individuals care more than others about public goods (so you can charge them more) - e.g. rich people in Milan want good infrastructure, so you can tax them more
- Altruism: individuals care about others as well when they make economic decisions - e.g. buying eco-friendly substitutes for more money
- State intervention: subsidies, direct provision

Economic Activity:

- To satisfy economic needs (together with other activities, such as political and social)
- Three main aspects:
    - Production - transform and combine raw inputs, knowledge, data, etc.
    - Transactions - exchange of private goods, financial and human resources
    - Support functions - accounting, IT and HR, organization, management

Where does economic activity take place?

- Social bodies (with evolving roles over time and across space)
    - Families
    - Business firms
    - States (like US selling defense to other nations, China's Belt and Road initiative)
    - Nonprofit organization
- Tend to coexist and have different goals

DO it together: specialization of labor and separation of tasks

- Division of work into well-defined tasks
- Allocates workers to each specific task

FIRM OBJECTIVES

Henry Ford and the model-T:

- Manufactured for the first time in 1903
    - Too costly for mass production (850 dollars)

- New plant in 1910 incorporating new featured and assembly line completed in 1911
    - Car manufacturing in 84 steps
    - Separate stations, moving slides and interchangeable parts
    - Production time: 1\12

Sources of Efficiency:

- Fewer skills per person required
- Interchangeable parts and same components for each model
- Easier to train workers and monitor production
- Strong learning economies by each worker
- Problems: coordination costs, rigidity, lack of motivation, alienation

Summary of last time:

- Management is necessary for organizing economic activities
- Economic activity fulfills needs
- Resources are limited, so efficiency is necessary

Business firms:

- Legal entity that engages in the production of economic goods
- Predominantly economic objectives
- Many interests are the same (e.g. owners' interests might = employees' interests)
- Often complex and bureaucratic - often unable to be as efficient as desired

Corporation:

- Legal personality
    - Legal entities
    - May sue or be sued in ways distinct from individuals
    - They own assets
- Limited liability
    - Separate what the corporation owns from what the shareholders own
    - If the corporation goes bankrupt, shareholders are not individually liable usually
    - Creditors will go after the company's assets, not the owners' assets
- Transferability of shares
    - Shareholders are free to buy and sell company shares
    - Identity of corporation is independent from that of shareholders
    - Shareholders can be individuals, institutions (investment banks, hedge funds, pension funds, etc.)
    - Shares are transferred via financial transactions (stock markets or private transactions)
- Centralized management:
    - Shareholders own the corporation
    - But daily activities are often delegated to professional individuals (only a few)
    - Separation between ownership and control
        - Decision-making is more efficient
        - Can bring about agency conflicts
    - Organization becomes complex and problematic
- Advantages of corporations:
    - Accumulation of resources
    - Survive independently of their shareholders
    - Allow for risk-sharing
    - Facilitate larger operations - scale and scope

THEORIES OF THE FIRM

Market v. Firms:

- Can we replace firms with contracts?
- Price systems generate info about what people want to buy and sell
    - Prices give producers incentives to shift production to products with higher prices
    - Prices give consumers incentives to reduce the quantity of products they buy w lower prices

Transaction Costs:

- Using market transactions has higher costs than the simple market price (opportunity cost, enforcement cost, bargaining cost, info cost, etc.)
- Spot transactions v. incomplete long-term contracts
- Conducting economic activities within firms MINIMIZES transaction costs

TCE-view of the firm: (transaction cost economic)

- Firms have advantages over the market
    - Fewer transactions
    - Information specialization
    - Reputational concerns
    - Scale benefits (the bigger, the cheaper)
- TCE perspective helps understand what drives the size of the firm
- Transaction costs shape the boundaries of markets v. firms

Stakeholders: people who don't own part of the firm but are affected by the firm

- E.g. communities, employees, consumers, competitors, customers, investors, partners, etc.
- They do not own the firm necessarily!!!
- Shareholders are people owning the company
- Primary stakeholders: investors and employees (they directly contribute to the firm)
- Stakeholders are of different importance (state, families, non-profits, firms)
- For business firms, it may vary across industries or countries
- E.g. Chinese state in case of Alibaba is a stakeholder

Stakeholder v. shareholder view: should a firm do well or good? - Friedman v. Freeman

- Shareholder view:
    - Purpose of the firm is to satisfy the shareholders
    - Aka generate profits
    - Executives' responsibility: satisfy the shareholders
- Stakeholder view: focused on social impacts
    - Capital providers must be rewarded properly, the corporation has broader purposes
    - E.g. communities should be taken into account with pollution
    - This is not about making money only!
    - Social-entity notion of a firm
    - No shareholder primacy --> each stakeholder has rights
    - Social and economic impacts are mixed
- Milton's POV: let the government take care of social issues, the company should generate profit ONLY

SESSION 1: ECONOMIES OF SCALE LEARNING DIVERSIFICATION

Main Questions:

- What are the advantages and disadvantages of increasing production capacity?
    - Production capacity: how much a form can produce (how many cars can a car manufacturer produce, how many people can you serve as a lawyer, etc.)
- How big a market does the firm serve?

Size of firms:

- Fortune 500 companies are mostly located in China and the States (they are the largest economies in the world)
- Largest companies tend to be in the largest economies
- In Europe: Germany, France, Russia have the largest companies
    - Most European businesses have 10> employees (small firms)
    - Amongst, Italy has the most small businesses
    - European firms are not able to scale up, become big – problem in terms of global competitive advantage ("The real sick man of Europe")
    - Europe needs to have more big firms, that are better to invest in
    - Italy: people are rich because of inheritance – similarly, companies get sold to other nations' firms ("selling the family silver) – a lot of the money is generated by selling the firms

Pros and Cons of Firm size:

- Industry variations:
    - Big firms: chemical, pharmaceutical, banking and insurance industries
    - Small or medium firms: clothing, furniture manufacturers

Determinants of size:

- Economies of Scale: as you produce more, cost decreases
    - Declining average cost with volume
- Economies of Scope: it is cheaper to produce two things together at the same firm, than producing those two things separately at different firms
- Learning Curve: the more you do, the more you learn
    - Cost advantage with accumulated knowledge & expertise

Terms:

- Maximum Production Capacity (MPC): maximum units that can be produced in a given time
- Current Production Capacity (CPC): units of output that are actually produced in a given time
    - Different number than MPC because firms often don't operate at maximum capacity (they are inefficient)
    - + demand fluctuates all the time, supply of raw materials also fluctuates (like the current global supply crisis, like the shortage of car chips, shipping containers, ships, truck drivers) à makes CPC dependent on a lot of factors
- Often CPC<MPC
    - Technical failures
    - Expanding MPC in times of high demand
    - Low prices don't make it profitable to run the factory at full capacity
- CPC/MPC= degree of utilization
    - Ranges between 0% to 100%
    - Goal is to maximize the degree of utilization (relates to efficiency)

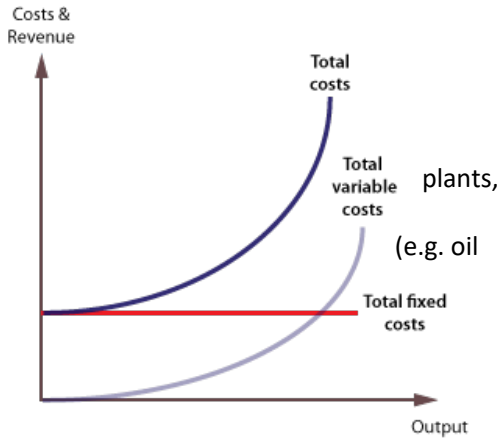
- However, utilization can be kept intentionally small: like during covid, restaurant capacity OR Contingency planning (we need backups if things go wrong, e.g. if a worker gets sick)

How to expand capacity? Depends on the industry

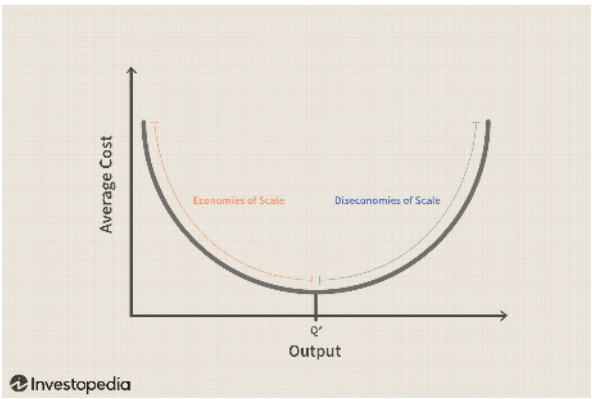
- Manufacturer: increasing the number of items that can be produced
- Physical retailer: increase storage space
- Airline: increase number of seats
- Service firm: increasing hours, number of people served, etc.

Costs:

- Fixed (FC):
  - Arise from "indivisibilities" in the production process
  - Certain inputs cannot be scaled down below a minimum size, even though output is small
  - These costs are CONSTANT within certain output ranges
  - Examples: rent, interests, insurance, maintenance, mortgage
- Variable (VC):
  - Varies as output scales up
  - Example: raw material, energy
- Total Cost:
  - Fixed Cost + (Variable Cost x Quantity)
- These vary across industries:
  - Most productive capital is indivisible (e.g. property, plants, equipment
  - Fixed costs are higher in capital-intensive industries (e.g. oil company, transportation, utility)
  - In labor or material-intensive industries, fixed costs are less



- Labor Costs: fixed or variable?
  - Variable, because must hire more people as output increases
  - Fixed, because it is hard to fire and hire people (e.g. during covid, production almost stopped, but companies did not fire everyone)
  - In reality… labor is regulated and labor laws create hiring/firing costs: labor costs are SEMI-VARIABLE
  - Employment protection is determined by culture and politics, varies throughout the world (e.g. in Italy, after 8 years of employment, firing is very hard)
    - UK, US, Canada – shareholders are more protected than employees
    - Italy, Germany – shareholders are less protected than employees
    - Negative relationship between shareholder and employment protection
    - China has a very complex labour market with complex regulations (depends on relationship with the government)
    - From a business perspective: it should be easier to hire and fire people – if it is hard to hire & fire, businesses become risk-averse



  - Contractual labour – variable cost, hiring a person for a specific job, in a specific time v. Long-time employees are fixed costs

Scale Economies:

- Average unitary cost (AUC) = totally production costs \ actual quantity produced
    - In scale economies, this AUC keeps falling as you produce more
- Scale economies come with lower average unitary costs that come from increasing production
- If a firm's MPC=x and we increase MPC=y, then it is a scale economy if AUC(y)<AUC(x)
- As output goes up, the costs per unit goes down, but not forever (see graph above) -diseconomies of scale
    - Creates a U-shaped cost curve
    - E.g. (diseconomies of scale) may need more factories, more machinery, where costs increase at a point
    - Where the economies of scale is constant: economies of scale exhausted
- Small firms compete with bigger ones (scale economies) by increasing the willingness to pay (uniqueness)
    - And a lot of small firms struggle with scaling
    - Struggle with scaling relative to…
        - Market demand
        - Maintaining high quality
        - Redesign the products so they are scaleable
- Car industry: an industry where economies of scale is very important
    - E.g. Ford and his specialization of tasks, interchangeable parts

Source of Scale Economies:

- Indivisibility of certain inputs
    - Fixed costs exist
    - Some input cannot be bought in subunits (e.g. a railroad track, a pizza oven, etc.) – you have to buy those no matter what
- Specialization
    - Large size means that resources can be employed more efficiently
    - Roles of employees are specialized, so they get better at what they do (in big companies)
- Bargaining power
    - Size improves the ability to influence customer and supply prices
    - E.g. A large clothing manufacturer could get raw materials for less because they purchase in larger quantities
- Learning advantages
    - Larger organizations can be better at solving problems due to accumulated knowledge
    - In large firms, there are more people, more ideas to fix problems
- Greater technological efficiency:
    - If you double the size of an engine, its fuel consumption does not increase proportionally
- Geometric properties of shipping containers:
    - Important in logistics, shipping, transportation, etc.
- Risk diversification:
    - Diversifying products, plant locations, or demand

Limits of scale economies

- Insufficient demand - scales faster than the market
- Niche markets – suppliers may want to produce small because the product type increases willingness to pay, "exclusivity" feelings (e.g. Gucci)
- Declining trends lead to excess capacity (due to social media trends, technological changes, recessions, etc.) – fundamental changes in what people buy, how businesses operate
- Diseconomies of scale – at a certain point, costs will go up
    - Coordination and administration costs
    - Excessive bureaucracy
    - Lack of incentives
    - Misallocation of resources with the company
    - May not have the resources available to expand (e.g. specialized workers, desired locations, talented managers)

- "Conflicting out" – the fact that you have one client may mean you cannot have someone else as a client (e.g. law firm, if Apple is a client, Microsoft cannot be a client)

Firm size and wage gap:

- Larger firms tend to pay their employees more even when accounting for differences in worker type
- WHY?
  - More unionization in larger firms
  - Compensating differences – workers in small businesses may enjoy working more, have more freedom, learn more skills
- This isn't necessarily bad for firms: because might get better \ more productive employees due to paying more

Fixed-cost Absorption:

- Reduction in AUC by dividing fixed costs across larger units of production inputs
- Increasing the rate of utilization for a given MPC (max production capacity)
- Greater benefits in industries where fixed costs represent a higher fraction of total costs (e.g. education, medical sector, manufacturing)
- Fixed costs do not change as output changes, so larger number of units will "absorb" the fixed costs better
- Our projection of much we are going to sell is going to determine fixed costs (e.g. what kind of technology is needed for the business?)
  - At higher outputs – high fixed, low variable is more profitable
  - At low outputs – low fixed, high variable is more profitable
  - Strategic decisions needed about scale & costs when building a firm
  - E.g. technology if a fixed cost – at higher outputs, it is worth it

Types of Economies of Scale:

- Short run – reductions in average costs due to increase in capacity utilization (moving CPC closer to MPC) – moving along the cost curve
- Long run – reductions due to adoption of a new technology that has high fixed costs but lower variable costs (e.g. advanced technology machine may use less raw materials / unit of output) - shift of the curve

NH Heart Hospital Case Study:

- Cheap, but good quality heart surgeries because of economies of scale
- In US: average cost is 2000, in India – average cost is 1200
- They specialized in heart surgery, very knowledgeable doctors, good machines
- Attract rich people with professionalism – provide free service to poor people
- Whole business model depends on economies of scale

SESSION 2: COST STRUCTURE AND BREAK-EVEN POINT

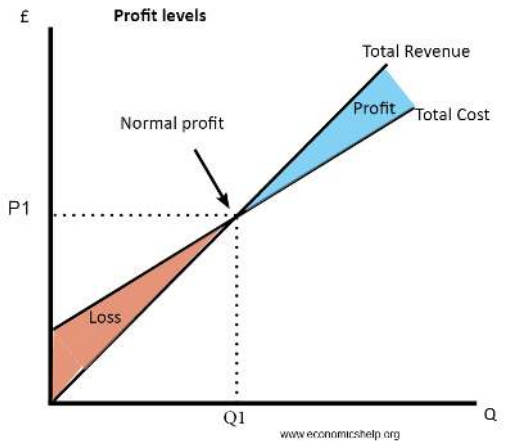
Scale v. Learning Economies:

- Scale economies – production capacity
  - Can be strong even when the learning curve is flat
  - Increasing capacity per year
  - E.g. going from 10k cans a year to 20k cans a year
- Learning economies – because of accumulated production over time

- Can be independent of the scale of operation (very strong in small or labor-intensive firms) – just by increasing the cumulative production
- Basically accumulated knowledge over time
- E.g. producing 10million cans in 10 years (up to date, accumulated production)

Economies of Scope:

- It is cheaper for the same firm to produce two products, than for two different firms to produce the two goods separately – when a firm gains advantage from producing a wide range of products
- Total Cost (Q_x, Q_y) < TC (Q_x,0) + TC (0, Q_y)
  - Total cost is less in the first case (the same firm producing goods x and y)
- E.g. Amazon keeps expanding into new industries, because it is cheaper for them to produce everything (literally) than separately
- Diversification and Firm Performance:
  - Dominant business – the firm's main objective
  - Related constrained – good expansions for the business (something related to the business à performance goes up)
  - Unrelated business – performance goes down (e.g. Apple Pay is mostly unrelated to Apple's business)



Break-even point: what allows the firm to cover its operating costs (no profit, where revenue = costs)

- P x Q= VC x Q + FC
- P x Q – VC x Q= FC
- Q_breakeven= FC/(P-VC)

$$\frac{Fixed\ Cost}{Price - Variable\ Cost}$$

  - at this quantity, the firm covers all its costs, this is quantity based (at which quantity does the firm break-even?)
- Unit contribution margin= p-VC
- Total contribution margin= p x Q- VC x Q
- % Contribution margin: (p-VC)/p
- Revenue-based break-even point: FC/((p-VC)/p)

$$\frac{fixed\ costs}{\frac{price - variable\ cost}{price}}$$

  - at what revenue does the firm break-even

Operating Leverage:

- Size of the area between the revenue and total cost line above and below the break-even point

Operating Elasticity: flexibility of firms (reliance of fixed costs etc.)

$$\text{Operating Elasticity} = \frac{Variable\ Cost * Quantity_{Break-even}}{Fixed\ Cost}$$

- Greater values – greater flexibility

Profit point:

- Managers often have a specific profit target for a given period

$$\frac{Fixed\ Costs + Target\ Operating\ Income}{Price - Variable\ Cost}$$

SESSION 3: VERTICAL INTEGRATION

Challenge: Should the firm make or buy??

Terms:

- Vertical chain: acquisition of raw materials + distribution and sale of goods and services
- Vertical Boundaries: activities the firm itself performs (opposed to purchases from independent contractors)
- Make: firms produce the good themselves
- Buy: firm relies on another firm to produce the good
- Upstream: earlier steps in the vertical chain
- Downstream: later steps in the vertical chain

The make / buy decision:

- Make or buy are the two extremes in a range of vertical integration
- Make or buy is not about eliminating steps from the vertical chain, it is about deciding which firms should perform which steps
- Question: which vertical chain is the most efficient? (→ firms want to be part of the most successful vertical chain)

Why BUY? – bc market firms are more efficient

- Market firms can achieve economies of scale easier (they only focus on producing that single product)
- Market firms may possess private info or patents → operate at a lower cost
- Market firms must be innovative and efficient to survive (inefficiencies can be hidden within in-house operations)
- Market firms have stronger learning economies (accumulated expertise)

Why produce on your own? (MAKE)

- Coordinating within the company is easier than with independent contractors
- Complete contracts are impossible…
    - Complete contract eliminates all opportunities for "shirking", defines penalties for going against outlined interests
    - Contracts must be enforceable
    - Any financial damage must be within the financial reach of the "criminal" party
  - Bounded rationality: humans are rational based on the information and the time they have (but they are also limited by these factors) → they can't write complete contracts
  - Asymmetric information (one party knows something that the other does not)
  - Difficulties specifying \ measuring performance
  - The role of Contract law: laws that make it possible for transactions to occur smoothly even when contracts are incomplete
- Leakage of private information (e.g. patents) can happen with an outside firm
- Transaction costs arise when using the market
- Asset specificity – site, physical, human
  - Firms must invest in machines, capital to produce specific products
  - If you go with a different supplier, not the one that purchased the specific assets – disadvantage

Risks of Making: Agency costs - costs associated with workers not acting in the best interest of the firm

- Goal: maximize profits while taking on a reasonable degree of risk
- Agency problems arise when… the objectives of the principal and the agent are different, the actions of the agent + the information the agent has (asymmetric information) are not observable by the principal
- Managers would want to…
  - Maximize their salary
  - Limit their personal risks

    - Boosting their CV / reputation
- THE COST OF AGENCY CONFLICT: the cost of preventing agency conflict + monitoring the agents
    - Uses time, resources, energy (the time spent on monitoring is not spent by working, etc.)
    - Company politics can affect decision-making
    - Transfer prices: internal prices of the company (e.g. the brake factory selling brakes to the assembly line), these prices can be politically determined (e.g. the brake factory manager wants to increase the price of brakes, the assembly line managers wants to decrease it)
- Why is it impossible to limit agency costs?
    - Hard to measure how individuals within a division perform
    - Divisions often don't generate revenue, just perform a service for the firm, called cost centers (hard to evaluate + isolated from market competitiveness)

Agency Costs in the Market: Suppliers also would not act in the best interest of the firm

- Cost of contracting
- Costs of safe-guarding against hold-up (explained later)
- Inefficiencies due to under-investments in specific-assets (supplier has little incentive to purchase fitting technology)
- Lost opportunities due to mistrust, inability to share sensitive data
- Costs associated with inefficient coordination

Coordination of Production Flows: GOOD COORDINATION IS CRUCIAL

    - Timing fit – Coca Cola marketing campaign must match the timing when its bottlers can have increased production
    - Sequence fit – steps to assemble an Iphone must be followed
    - Technical specification fit – the button of a coat must match the buttonhole on the coat
    - Color fit – the tops at Zara must match some bottoms
- Assignment problem: ensuring that the right people do the right jobs without extra effort

Challenges with supply chains:

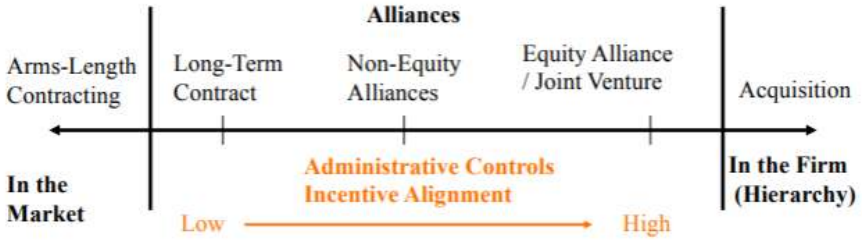
- Hard materials are hard to get, refine, etc.
- Global supply chains are complex and fragile (and firms want to avoid unnecessary tariffs, shipping costs, paperwork) – it is useful to have factories and suppliers near each other (China's industrial regions) – BUT skilled workers and sufficient capital is needed in that country
- E.g. phones need more than 75 elements (from the perodic table)
- Minimizing cost or maximizing responsiveness (how quickly can a firm respond to changes in the market)?
    - Being responsive to changes and flexible is undervalued (e.g. during covid, shifting to making newly demanded products like masks fast was an advantage)
    - Having factories closer increases responsiveness

SESSION 4: ALLIANCES, JOINT VENTURES, CONTRACTING

Resource Acquisition: from low – high control

- Arms-Length Contracting (in the market) - simply buying the product the firm needs
- Long-term contract: the supplier is "hired" by the firm for a long time, they can purchase asset-specific capital
- Non-Equity Alliances: two firms working together to build a product together (cooperation)
- Joint Venture – Equity Alliance: the firm owns a part of the supplier (like 20% of the supplier) → interest alignment increases
- Acquisition (in the firm) – buying the supplier so it is absorbed into the company

Alliance:



- Collaboration between independent organizations
- Firms still have autonomy
- They commit to a common goal (working together)
- They are often international
- Important in gaining competitive advantage

Why Collaborate?

- Obtaining skills more quickly
- Reducing asset commitment and increased flexibility
- Learning from the partner
- Sharing costs and risks
- Can cooperate

Risks of Collaboration:

- Adverse selection: partners misrepresent skills, resources, etc.
- Moral hazard: partners provide lower quality skills than promised
- Holdup: partners exploit the transaction specific investment made by others
- → you want to ensure you and your partner's interests are aligned

Types of Alliances:

- Long-term Contracts (licensing, franchising):
  - Multi-period contract
  - Partners agree on terms of contracts, etc. (McDonalds spaces are owned by individuals, there is a contract between the partner and the firm)
  - No equity stake in each other
  - E.g.: Calvin Klein's clothes produced by separate manufacturers
- Equity alliance:
  - Long term relationship as above
  - Each partner invests in each other, to ensure aligned interests
  - Incentive alignment
- Joint Venture: (e.g. Hulu)
  - New organization
  - Partners invest in the new firm, and provide necessary resources

Mergers and Acquisitions:

- Merger: two firms integrate their operations on an equal basis because together they have a stronger competitive advantage
- Acquisition: one firms buys 100% of another firm
  - Intention: use the firm's competence to make their firm better
  - E.g. Facebook buying Instagram
- Takeover: specific type of acquisition strategy
  - Offering a very high price for a company who originally did not want to be bough
- Over 50% of these M&A fail (often already failed businesses get combined)

- Even if they are from the same industry
- Skills of one company can be overestimated
- It is rarely the case that they are equally valuable
- BUT… M&As that transfer resources are key to innovation capability

Problems with Acquisitions:

- Integration difficulties
- Big debt (must pay interest for it)
- Resulting firm is too big
- Too focused on acquisition
- Overdiversified company
- Insufficient due diligence (reasonable steps taken to ensure success)
- Can't achieve synergy (interaction to give rise to a bigger company)
- High CEO turnover rate for merged firms

Vertical Integration: the firm owns the entire supply line (from the factories to the shops where the products were sold)
Horiztontal Integration: acquiring new firms in the industry (to have a larger market share, more market power)

Make-Buy Fallacies:

- Firms should make something if it is a source of competitive advantage
  - If it's cheaper to buy the product than to make it yourself → not a source of competitive advantage
- A firm should buy in order to avoid the cost of making something
  - The firm must pay no matter what
  - Question: whether a supplier can make it more cheaply than you
- A firm should make to avoid paying the profit margin of a market firm
  - Barriers to entry
  - Accounting v. economic profits
- A firm should make to avoid paying high market prices during periods of high demand or low supply
  - The high market price is still there, either as actual price or opportunity cost

Market Contracting: boundaries of the firm (in case of Uber)

- Uber wants its drivers to be contractors and not employees bc it comes with a lot of benefits (no need to pay maternity leave, taxes, health insurance, etc.)
- General Electric decided to break up, because profits made by one division were reinvested into a different division – firm became too big to manage

SESSION 5: EXERCISE SESSION WITH FORMULAS

Comparing the information about two different factories: which one to invest in?

Investment \ year	$\frac{Total\ Invesment}{Expected\ Length\ of\ the\ Investment}$
Variable Cost	$Sum\ of\ all\ Variable\ Costs\ (\backslash unit)$
Total Variable Cost	$Variabla\ Cost\backslash unit * quantity$
Total Fixed Cost	$Sum\ of\ all\ Fixed\ Costs$
Total Cost	$Total\ Variable\ Cost + Total\ Fixed\ Cost$
Average Unit Cost (AUC)	$\frac{Total\ Cost}{quantity}$
Operating Profit	$(price * quantity) - (quanity * AUC)$

ROI	$\frac{Operating\ Profit}{Total\ Cost}$ - The higher the better - A company should always invest in the firm with the higher ROI
Utilization	$\frac{Current\ Capacity}{Max\ Capacity}$ - Increasing Utilization should always be the goal
AUC at the other firm's utilization	$\frac{Fixed\ Cost_B}{Max\ Capacity_B * Utilization_A}$ - For comparing costs at the same utilization rate (shows fixed cost absorption)
Scale Economies	$AUC(A)_{Utilization\ (A)} - AUC(B)_{Utilization(A)}$ - Which plant can produce more cheaply at the same utilization rate?
Economies of Fixed Cost Absorption	$AUC(B)_{Utilization\ (B)} - AUC(A)_{Utilization(A)}$
Target Operating Income	$Target\ Net\ Income + Yearly\ Interest\ Expense + Taxes$
Profit Point	$\frac{Fixed\ Costs + Target\ Operating\ Income}{Price - Variable\ Cost\ per\ Unit}$ - Quantity at which the firm maximizes its profits
Break-even Point	$\frac{Fixed\ Costs}{Price - Variable\ Cost\ per\ Unit}$ - Where the company goes from making losses to making profits
Operating Elasticity	$\frac{(Variable\ Cost\ per\ Unit * Quantity_{break-even}}{Fixed\ Costs}$ - The higher, the better - The measure that shows how well the firm can increase operating income by increasing revenue
Min change in price enough for the needed change in ROI	- Calculate the difference in ROI between the two firms - Solve the ROI formula for the change in ROI

SESSION SIX: MARKET STRUCTURE AND INDUSTRY ANALYSIS

Transaction Costs:

- Time and expense of negotiating and enforcing contracts
- Opportunistic behavior
- Nature of transaction costs:
    - Relation specific assets
    - Rents and quasi rents
    - Holdup problem

Relation Specific Asset:

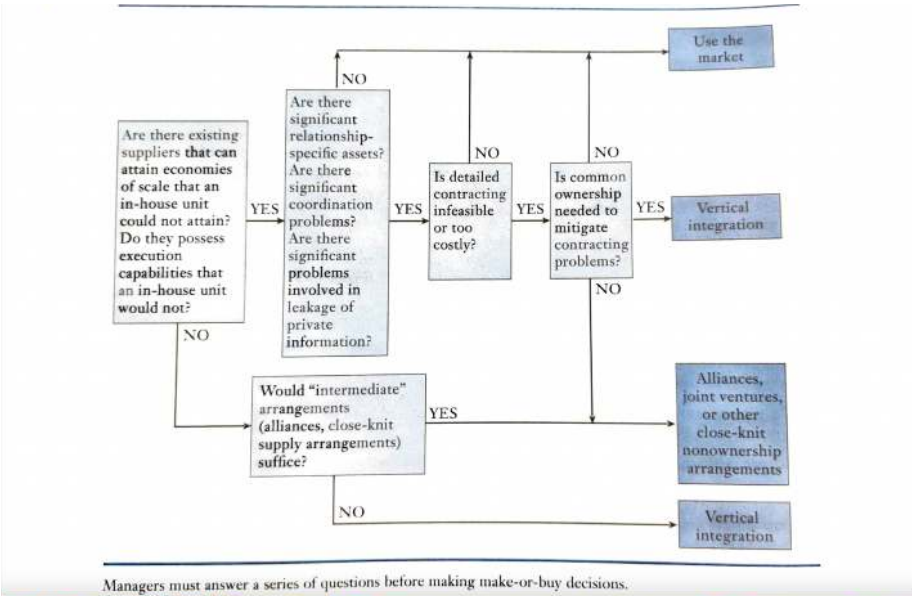
- There are assets that are specific to that transaction (e.g. a special machine for a specific product)
- Supports a given transaction that cannot be re-applied to a different transaction without productivity loss or additional cost
- Switching trading partners becomes expensive

- Both parties to the transaction make investments – it hurts both of them
- Forms of asset specificity:
    - Site: assets located near each other → decrease transportation cost, increased speed of production (e.g. factory located near the buyer's factory)
    - Physical: assets created with the assumption that they will be used by the inputs of a specific supplier (e.g. specific sunroofs in Toyota cars cannot be sold to Fiat for Fiat cars)
    - Dedicated: physical assets may be created for one buyer, and useless for another (e.g. buying a mine for a specific buyer, so resources would be supplied)
    - Human: people working for the firm may be only valuable for that firm (e.g. procedures, connections, skills)

Rents and Quasi Rents:

- You are making a product for another firm
- Factory construction: $I/year$
- Variable Cost: $C/Unit$
- Total annual cost for a million units: $I + \ 1\ milllion * Variable\ Cost$
- Price: p*
- Expected revenue: $p^* * \ 1\ million$
- Rent: $(1\ million(p^* - C)) - I$
    - Rent is the profit you expect to get when you build the plant assuming all goes as planned
    - Then the buyer backs out
- Now, you can sell the product for P_m<P*
- New Revenue: $P\_m * quantity$
- If P_m>Variable Cost, you sell to this new buyer (to at least get the variable costs back)
- Relation Specific Investment: $Fixed\ Cost - Quantity\ (P_m - Variable\ Cost)$
    - If this is 0< then there is relation specific investment
    - The firm cannot recover its investment fully (the investment was specific to the original buyer)
- Quasi Rent: the difference in profits when selling to the intended buyer versus to the next best option
    - Quasi Rent: $(quantity(P^* - VC) - FC) - (quantity(P\_M - VC) - FC)$
- Hold-up Problem:
    - If the assets arent relation-specific, quasi rent=0
    - If the assets are somewhat relation specific, quasi rent>0
    - Large quasi rent – firm has a lot to lose, lot of assets are relation specific
    - → this creates a holdup problem – when the firm holds up its trading partner, by attempting to re-negotiate the terms
        - E.g. offer a price between p* and p_m
    - If the seller is afraid… they may not invest in relation-specific assets → buyer must make themselves or find a different supplier
    - Costs of holdup problems:
        - Frequent bargaining
        - Confrontational initial bargaining (to avoid a holdup problem)
        - Investments designed to improve bargaining position (building a firm nearby the supplier as "insurance"
        - Reduced investment: investments may not happen simply bc of the holdup problem

Summary of make-buy decisions:



Managers must answer a series of questions before making make-or-buy decisions.

Main Question: How does asset specificity, costs, and scale work together?

Technical & Agency Efficiency:

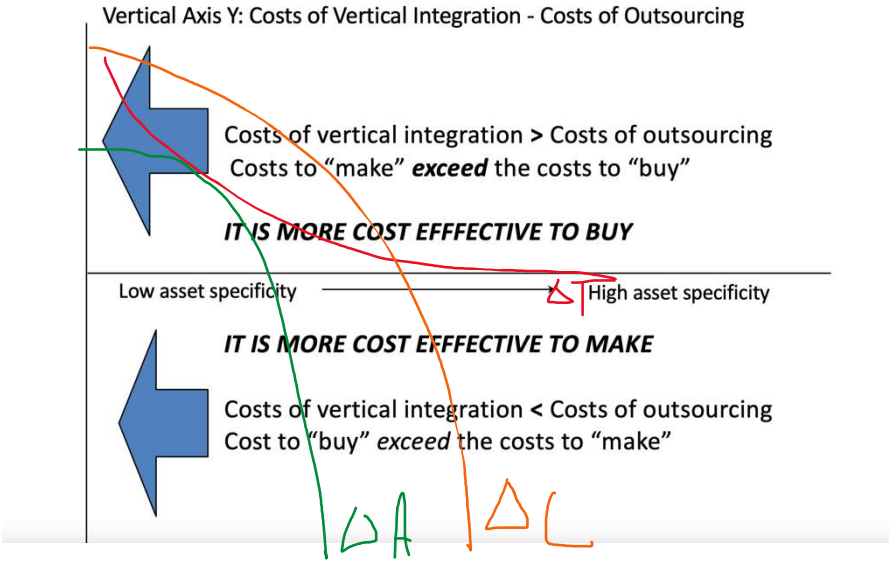
- Technical efficiency: cost efficiency in the physical production of the good (COST OF PRODUCING)
  - Economies of scale and scope
  - Minimum costs of the inputs
  - E.g. adopting the least-cost method of production, whether it is make or buy
  - Usually market is superior – very efficient, more competition, economies of scale
- Agency efficiency: cost of organization (= EXCHANGE COST) – everything excluded manufacturing costs
  - Extend to which exchange of goods in the vertical chain can be organized to minimize transaction costs
  - Inside the firm is cheaper typically
  - Is the organization easier outside or inside? (when making or buying?)

Market Tradeoff:

- Appropriate vertical integration must balance technical and agency efficiency (e.g. production costs and transaction costs)
- Optimal vertical integration minimizes the sum of technical and agency inefficiencies

Graph:

- Y-axis: cost of vertical integration - cost of outsourcing (VI-market)
- X-axis: Asset Specificity
- Top part is BUY zone, bottom is MAKE zone



Variables:

- DeltaT: technological efficiency
- DeltaA: agency efficiency
- DeltaC: total cost

Low asset specificity v. high:

- Low asset specificity: lot of suppliers who want to produce that product (market

size is big, suppliers is good at making the product) → as asset specificity increases, the market size goes down, costs of outsourcing goes up

Delta T: technological efficiency (cost of manufacturing)

- DeltaT is always positive at any level because outside suppliers always can take advantage of economies of scale and costs to lower production costs
- DeltaT declines at higher asset specificity → more specialized uses for the input, fewer buyers for the supplier → scale and scope for the supplier declines
- With low asset specificity, there is a small risk of holdup
- +Y: cost of internal organization exceeds cost of market
- -Y: cost of internal organization less than cost of market

DeltaA: measures exchange costs when the item is produced internally v. when it is bought from an outside supplier

- Exchange costs with vertical integration:
  - Slack effort by employees, administrative controls
  - Loss of efficiency due to internal influence costs
- Exchange Costs with the market:
  - Direct costs of contracting
  - Costs of preventing a hold-up
  - Under investments in relationship-specific assets
  - Lost opportunities due to mistrust, inability to share private data
  - Breakdowns in coordination
- When specialized assets are involved, holdup chance is high and transaction costs are higher
- Without the holdup problem, markets could be more "agency efficient" than making it in-house

Figure 4.1

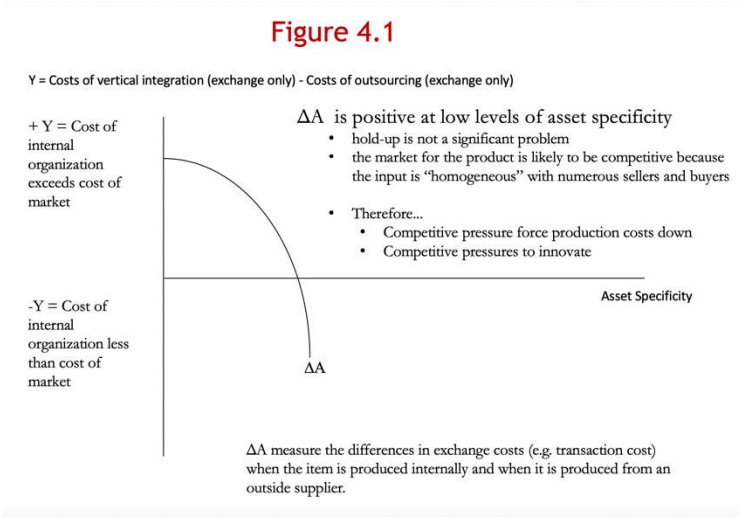
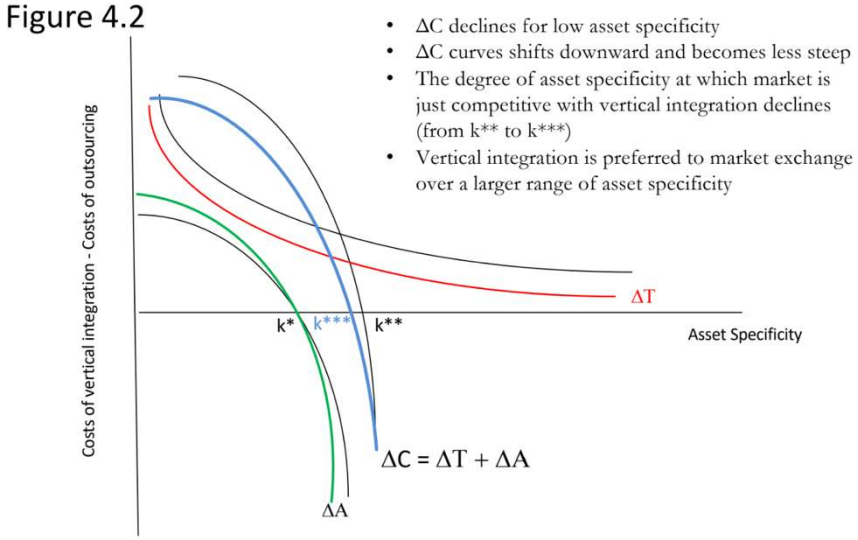


Figure 4.2



Market exchange preferred when asset specificity is low, i.e., when k<k***
Vertical integration when k>k***

linking asset specificity to agency cost, technological efficiency, and scale:

- When k<k*** - market exchange (when asset specificity is lower than total cost)
- When k>k*** - vertical integration (when asset specificity is higher than total cost)

- K is a general k of asset specificity

Implications:

- If there is a large market for the input → the firm should buy the input from outside market specialists
- A firm w larger share of the product market will benefit more from vertical integration
- A firm w multiple product lines will benefit more from vertical integration (of the shared components)
- A firm gains more from vertical integration when relation specific assets are involved!

Asset Ownership:

- Make-buy decision is about ownership and control rights about assets
- Ownership → control rights (rights not specified in contracts), vertical integration transfers these rights to the firm
- With complete contracts: doesn't matter who owns the asset in the chain BUT CONTRACTS ARE INCOMPLETE
- If the investment by upstream firm and downstream firm are same importance – market exchange
- If investment by one firm is more important – vertical integration
- Benefits of the market are diminished by contracting inefficiencies and bad governance

Other factors to take into account when make or buy:

- Political considerations (e.g. video about Huawei relating to China-America relations)
- Security

Profits vary across industries:

- Average Invested Equity-Performance graph
- Often, industries with less invested equity are more profitable (e.g. cosmetics, pharmaceuticals, food, etc.)

SESSION 7: PORTER'S 5 FORCES

(What affects industry profits? – 5 forces – How to evaluate an industry?)

1. Rivalry among Existing Competitors:

a. Competition for market share in the industry
b. Non-price competition drives and fixed (e.g. developing a new product) and marginal costs (e.g. adding product features)
    i. E.g. differentiate products (need R&D and new technology for it)
    ii. This has a lot of upfront costs
    iii. But in the long-run: less likely to decrease profits
c. Price competition diminishes industry profitability (because price keeps decreasing until the marginal cost)
    i. E.g. airlines, fashion industry, ride-sharing businesses, delivery businesses
    ii. As a customer, price competition is beneficial
    iii. Occurs when…
        1. Many sellers
        2. Some firms have an advantage over the others
        3. Excess capacity or decline in the industry
        4. Products are undifferentiated (e.g. steel is steel)
        5. Prices and sale terms are observable (e.g. a t-shirt price is observable, while a kilogram of steel's price is not)
        6. Large/infrequent orders
        7. Absence of price leadership
        8. Strong exit barriers from the market
        9. High price elasticity demand for the product (bc then as price changes, quantity demanded changes more)

2. Threat of Substitutes

a. Availability of substitutes can diminish demand
    i. Price elasticity is high → pressure from substitutes is notable
    ii. E.g. Skype and Whatsapp substitute normal landlines and telephone calls
b. Complements boost industry demand!
    i. Because it encourages the use of products together (attaches one to the other)
    ii. E.g. Apple Store improving phone sales for Apple
c. Changes in demand → internal rivalry

3. Threat of New Entrants – it is the firms' incentive to prevent new firms from entering the market, so they create barriers

a. Entry hurts the incumbents by
    i. Cutting into incumbents' market share
    ii. Intensifying internal rivalry → decline in price cost margin
b. Barriers to entry can be
    i. Nature of the industry – exogenous
    ii. Incumbents' strategic choices – endogenous
c. Factors affecting entry:
    i. Minimum efficient scale relative to the size of the market
    ii. Favorable gov policies towards incumbents
    iii. Brand loyalty
    iv. Entrants' access to critical resources (e.g. satellites for internet if talking about an internet company)
    v. Learning curve (how much knowledge is needed for the industry?)
    vi. Network externalities
    vii. Expectations about competition within the industry

4. Bargaining power of customers:

a. Buyer power is reverse to supplier power
b. Buyers have indirect power in competitive markets
c. Buyer concentration or relation-specific assets can lead to direct power

5. Bargaining power of suppliers:

a. Supplier has indirect power if upstream market is competitive → it sells to the highest bidder
b. Supplier has direct power if the upstream industry is concentrated OR the customers are locked into the relationship with suppliers (due to asset specificity)
c. Other factors determining supplier power:
    i. Availability of substitute inputs (e.g. the supplier of a special metal will have a lot of power)
    ii. Asset specificity
    iii. Threat of forward integration by suppliers
    iv. Ability to price-discriminate

Porter's five as an example: sportswear industry

- Internal competitors are at the heart of the model (e.g. Nike, Adidas, Puma, etc.)
- If an industry is highly concentrated: 4 firms own 80%+ - other than that, low concentration
- Brand names play an important role – marketing investments, brand recognition
- Differentiated products
- New entry is not likely – new competitors can hardly compete with established companies like Nike
- New entries can only compete locally (lower marketing expenses, target specific customers)
- Bigger companies have a cost advantage, bc Nike and Adidas buy larger quantities for cheaper
- Bargaining power of customers: customers cannot negotiate prices, but have some influence (e.g. focus on quality, branding) → perceived value is important

Strategies firms can use:

- Develop a cost advantage
- Seek an industry where the five forces are weaker
- Try to change the forcer
- Reduce competition by entering into alliances, etc
- Increase switching costs for the customers (e.g. combining iPhone with the iCloud)
- Reduce buyer or supplier power

Weakness of the 5 forces:

- All other firms are a threat, except mine
- But interactions between firms can be beneficial:
    - Technology, and industry growth
    - Promote favorable regulations (in lobby groups)
    - Improve product quality
    - Improve efficiency as an industry

SESSION 8: DELTA AIRLINES CASE STUDY

PRE-CLASS NOTES

- The biggest competition is from low-cost airlines such as Easyjet or JetBlue
- A high-cost carrier can almost never transform into a low-cost carrier → failed experiments

Airline Economics:

- CASM (Cost per available seat mile) – the cost to fly one seat, occupied or empty for one mile
- RPM (Revenue passenger miles)
- CASM could be decreased a lot by increasing the number of hours the plane was in service for (bc fixed costs of airlines are extremely high) → goal: maximize daily utilization
- Longer flights have lower CASMs

Competition:

- Shorter distances: competition with bus, car, train

- Longer distances: competition within the industry (major, national, and regional carriers)
- Passengers choose a carrier mostly based on the ticket price (other factors include: safety, convenience etc.), BUT business travellers are far less price-sensitive
- Yield management: raise fares without losing many customers, attract customers w small price decrease, and charge different prices to different customers (perfect price discrimination)
- "tell us what you can afford and we will sell you a ticket"
- Now with the Internet: easier to compare fare prices → incentive to offer the lowest price possible

Input Prices:

- Employee salaries and benefits were the biggest expense
- Most airline workers are unionized (better bargaining with management)
- Fuel is 10-15% of total cost, with longer flights having lower fuel/mile average
- Two primary aircraft suppliers: Boeing and Airbus – long-term contracts with carriers
- Airlines sometimes rented planes for lower prices

Impact of 9/11:

- Financial hardship as a consequence
- Additional costs imposed on airlines, such as airport security, taxes, insurance
- Governments decided to subsidize airlines, but still losses

Low-Cost Carrier Revolution:

- Remained profitable during troughs of the business cycle
- Southwest Airlines:
  - Very short turn times
  - High aircraft utilization
  - Low costs (so low, to compete with car travelling
  - BUT still, enthusiastic workforce and good pay packages
- JetBlue:
  - "bring humanity back to air travel" with low cost, new technology, and a strong brand
  - Most seats were booked online
  - Entertainment service on board, including yoga cards
  - World's first paperless airline – maintenance, flight checks, paperwork, tickets were computerized
  - JetBlue attracts high-end fliers as well, such as business travelers and brokers who attach a social significance to flying
- Low-cost subsidiaries:
  - Legacy airlines established low-cost subsidiaries of their own
  - Most of these experiments failed (e.g. Continental and peanuts)
  - Employees did not want to help these subsidiaries cut costs
  - They don't work because they are not truly low cost and the parent company hides the losses of the subsidiary

Delta Airlines:

- By 2002, it was the third-largest carrier in the world regarding revenue
- Most profitable of the big three legacy carriers
- Employee benefits and compensation was one of the best in the industry (allowed for by less restrictive rules that increased productivity)
- 3 competitive problems:
  - Hub-and-spoke carriers dropping prices
  - Regional airlines taking away Delta customers
  - Low cost airlines taking customers (Delta's response was its own LLC, which again, was a failure)
- Delta Express:
  - Low-fare subsidiary for the leisure market → to combat the regional airlines taking away Delta's Florida market
  - Lower labor rates and higher utilization
  - But all decisions were made by Delta, they were operated together

CLASS DISCUSSION ON THE CASE STUDY

Solutions:

- Starting their own low cost carrier (e.g. Delta creating Delta express)
- Buy an existing low cost carrier
- Launch a completely independent low-cost airline
- Do nothing, but cut costs
- Focus of Profitable Routes (e.g. direct flights, more concentration)

Airline Industry: Porter's Five Forces Analysis:

- Rivalry among existing competitors: very HIGH (price wars)
    - Price competition exists → diminishes profitability of legacy carriers (which is the problem)
    - Most profitable company has to have the lowest metrics (load factor, CASM)
    - Solution could be: product differentiation (but can't work bc comes with increased costs)
    - Customers' main goal is to get the cheapest ticket (wouldn't care about differentiation)
    - Fly on routes that low cost carriers are not taking (e.g. longer routes)
    - Focus on business-travelers because they are less price-sensitive
    - Delta was in competition with Southwest, JetBlue (short turn times, high utilization) – they were taking regional hubs away → Delta must improve efficiency, increase flexibility (working hours, etc.)
    - JetBlue has a major cost advantage because non of their employees are union members
- Customer Power: high power nowadays
    - Technology allows customers to see all the prices of airlines and compare → they have easy access to information
    - Customers can choose very easily
    - They can be price-sensitive (leisure travelers) or price-resilient (business travelers)
    - Price visibility – customers can see airlines' pricing strategies
    - Only big customers: travel agencies
    - Two things customers care about: safety (especially after 9/11), price – safety regulations are the same for every airline
    - Most customers aren't attached to a single airline (despite of frequent-flying program efforts)
- Supplier Power: not a lot of power
    - Different employees at the same airline are getting different wages (Delta Express wanted to pay less for pilots) → unacceptable for unions
    - Pilots' salary is the highest – they are specialized workers → increases their bargaining power
    - Airline tickets are very perishable good (a good that goes bad easily - people only want to travel at a particular time, like Christmas or summer holidays)
    - Fuel is a big expense – airlines want to have cost advantages here (e.g. through long-term contracts), but can mostly sell at market price
    - Aircraft suppliers – duopoly but highly competitive (Airbus and Boeing)
    - Airports have a lot of power – continuous landing spots (airlines can choose the cheaper airports though)
- Threat of New Entry:
    - Barriers to entry is high – lot of upfront costs, very capital-intensive industry (aircraft, staff, certifications, landing spots)
- Threat of Substitutes: for the industry
    - Trips less than 600 miles and more
    - Less than 600: bus, train, etc.
    - Higher than 600: competition between airlines (no substitutes)

Cost:

- Fixed costs are VERY HIGH (aircraft, landing fee, pilots, etc.)
- Variable cost is very low (only food, cleaning, etc.)
- Because of this, they can engage in price wars

SouthWest:

- Lot of negotiating power with (small) airports
- Low cost per seat per mile, and low variable costs (no food, no seat assigned, low service)
- Only one type of plane for ALL flights → interchangeable parts, standardized processes (maintenance, pilots)
- Customers are VERY price-sensitive
- Short turn-around times between landing and next takeoff → increased profitability
    - Free check-in bags
    - Entering through both the front and the back

JetBlue:

- High-end technology – electronic tickets, paperless airline
- Bought the entire fleet
- Between legacy carriers and Southwest (better services)
- Longer flights than Southwest
- Customers not as price-sensitive as Southwest

Problems associated with launching the low-cost carrier:

- Most legacy carriers cannot cut costs efficiently
- Managing policies don't make sense (coordinated strategy was not working)
- Internal barriers to change
- Reducing the customer basis for the legacy carrier (why would they pay for the higher-priced ticket?)
- Solutions to this:
    - Convince your staff that this is in their advantage (different agreement – less salary but more benefits)
    - Different name
    - Different management than for the legacy carrier

Why should Delta choose Delta Express (launching its own subsidiary):

- Covering a larger share of the market → taking customers who wouldn't normally buy the expensive ticket
- They can cover more routes (shorter routes – low cost, longer routes – legacy)
- Delta already has specialized knowledge
- Easier to get a good reputation
- Cost advantage due to long-term contracts and good reputation with suppliers
- Shared information about customers
- Shared loyalty program

SESSION 9 : COMPETITIVE ADVANTAGE

- Firms earn a higher rate of economic profit than the average rate of economic profit of other firms competing in the same market
- Firms create a competitive advantage by…
    - Creating more value than rivals
    - Capture portion of that value in the form of profits
- But there is no clear definition, only an idea

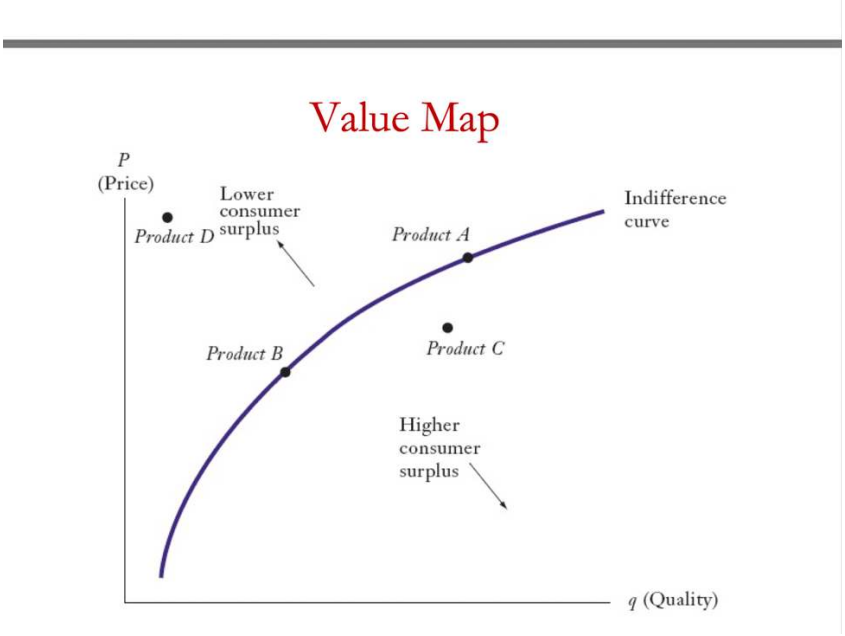
Strategic Positioning:

- Firms within the same industry can position themselves differently with different profitability

- How will the firm create value?
- Where will the firm do it?
- Ability of the firm to create value depends on the attractiveness of the market (Porter's 5 forces) + a firm's cost/benefit position

Consumer Surplus:

- Maximum willingness to pay – price at which the customer is indifferent between buying the product and not buying it
- Consumer surplus= maximum the consumer is willing to pay – market price (must be positive)
- If there is a choice between products, consumers will choose the one with the largest consumer surplus → firms need to maximize consumer surplus
    - How to do it? Lower the price or increase the willingness to pay
    - Willingness to pay = perceived benefit
- When products differ in quality, competing firms can be viewed as offering a consumer surplus with their respective quality-price combinations
- When a firm offers less consumer surplus than its rivals, sales decline



Value Map:

- Points on the curve – price-quality relationship with the same consumer surplus
- Product C has a higher CS than A and B
- Product B has a lower consumer surplus (negative)

Value Creation:

- B=max willingness to pay, P=price of the product, C=cost of making the product
- Value Created= B-C=(B-P)+(P-C)
- Value created= consumer surplus + producer surplus
- B-C must be positive for the product to create a benefit
- If B-C is negative the product won't be bought
- Occurs with respect to specific customers (because willingness to pay differ from person to person)
- A firm may be successful in creating a positive value for a group of customers (one segment with similar customers) while the firm might not be able to do it in another segment
- Competitive advantage: a firm must produce more value than its competitors

Strategic positioning:

- Described by a firm's generic strategy
- Depends on… cost leadership (decrease the cost), benefit leadership
- Or… narrow focus strategy

Cost Leadership:

- Lowering the price and increasing value creation based on that → increase the market share
- A cost leader can…
    - Price its product below the rivals and sell more
    - Match the rivals' price
- A cost leader creates more value by
    - Offering the same benefits as competitors (benefit parity)
    - Offering a slightly lower benefit (benefit proximity)
    - Offering a different product
- Differentiation strategy – increase the willingness to pay (costs will go up as well, but nearly not as much)
- Cost advantage should be pursued when:
    - The nature of the product does not allow benefit increase (e.g. steel, water bottles – hard to improve)
    - consumers are price-sensitive
    - it is a search good (e.g. a water bottle – simple commodity, indifferent between different ones) and not an experience good (fashion, skydiving, etc. – involves the experience)

Benefit Leadership: about increasing the willingness to pay

- creates superior values by…
    - cost parity
    - cost proximity
    - substantially higher benefit and higher cost
- Should be sought when…
    - When consumers are willing to pay a premium for extra benefits – e.g. Iphone logo
    - When economies of scale and learning have already been exploited → differentiation is the best option
    - The product is an experience good
- Differentiation Risks:
    - Extra costs might exceed value to customers
    - Not enough customers in that market segment (only a few people are willing to pay that much)
    - Customers don't value those extra characteristics (customers might not need the service you offer)

Elasticity of Demand v. Competitive Advantage:

- Elasticity: price sensitivity
- highly elastic – little price cuts → higher market share
    - Emphasis on cost advantage (decrease the price as much as possible)
- Low price elasticity (people are not that sensitive to prices)
    - Cutting prices won't increase the market share that much
    - Emphasis on benefit leadership (e.g. iPhone) and cost leadership (decrease cost to increase the "gap")

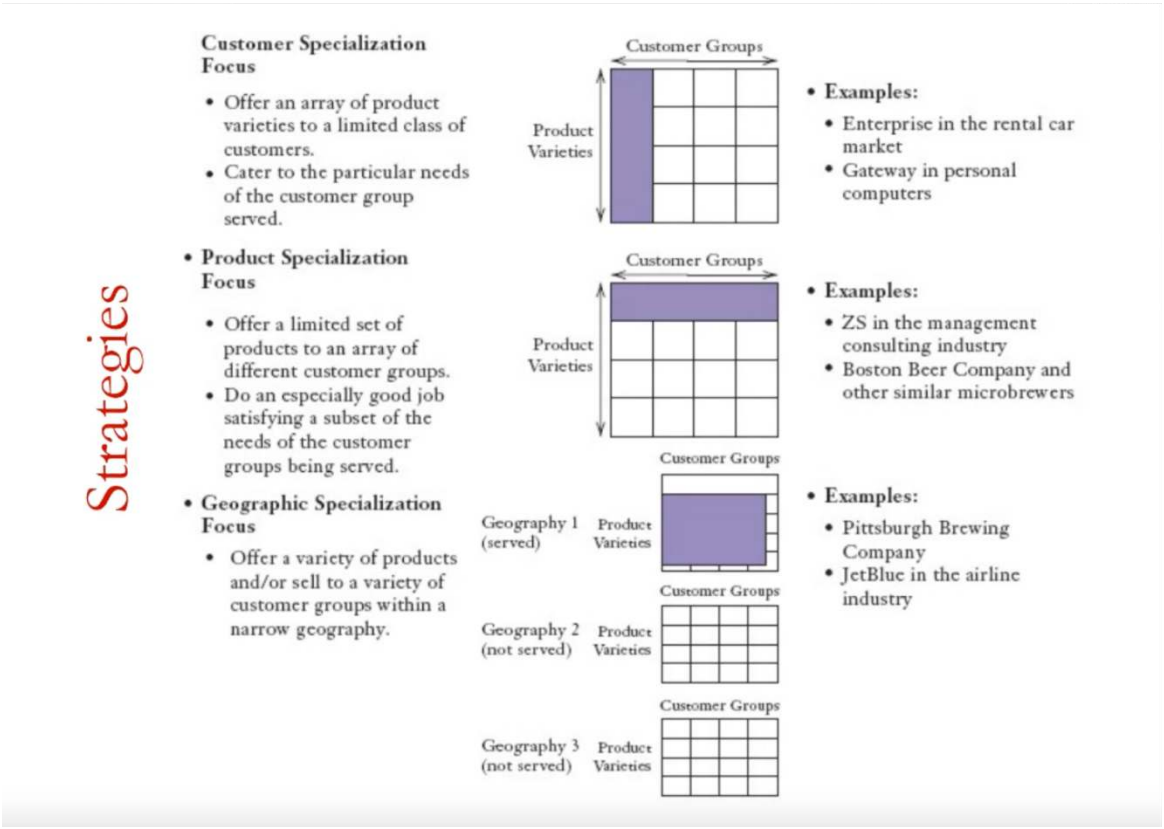
Which one now? Cost or Benefit Advantage?

- Some argue firms should either pursue cost advantage or benefit advantage but NOT BOTH
    - Firms that pursue both are "stuck in the middle"
- BUT… firms tend to have both types of advantage

Industry Segments:

- Two dimensions:
    - Product varieties – the different types of the same product
    - Customer groups – buyers in each customer group have similar tastes and preferences

- A segment is the intersection of a particular product with a specific customer group



- Attractiveness of the segment varies due to
  - Segment size (what percentage of the people are in that segment?)
  - Supply
  - Buyer preferences
- Firms can either serve all customer groups with all different product needs, or choose a specific market segment (specialization)
- Can be represented by graph below

Four General Strategies:

	Cost	Willingness to pay
Broad Target Market	Cost leadership	Differentiation
Narrow Target Market	Focused low cost	Focused differentiation

SESSION 10: STRATEGY AND STRUCTURE

Strategy → Structure:

- Organizational structure depends on the business strategy
- Structure affects
  - How division of labor is used to organize tasks
  - How information flows (communication is crucial between managers and employees) – it is important to know who to talk to in case of a concern/issue (channels of communication)
  - How agency problems are handled

Organizational Forms:

- A small group of employees can be organized in several easy ways
    - Each member can get a specific task and be rewarded based on his/her output – easy to measure performance
    - Small groups (self-managed team) – individual rewards depend on team performance
    - Hierarchy of authority can be used to coordinate and monitor others

Type of tasks:

- Firms use different structures based on the task
- When tasks don't require teamwork, employees can be treated as individuals (e.g plumbers, accountants, inspection companies)
- When coordination is necessary, individual performance is hard to measure → team approach (e.g. marketing division of a firm, making a high-quality phone)

Coordination and Hierarchy:

- If a group has n members, the number of possible interactions (one linkage between two people):

$$\frac{n(n-1)}{2}$$

- As n increases, hierarchy is needed to limit the number of interactions (make them manageable)
- When the number of interactions for a supervisor is too high → new layer of control should be created

Complex Hierarchy:

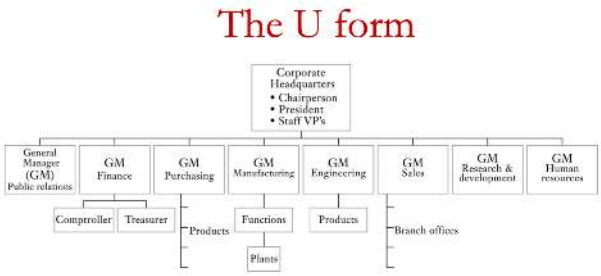
- Large firms have multiple groups and several levels of the groups
- Complex hierarchies are designed to address
    - Departmentalization: formal groups in firms can be based on functional areas, geography, products, types of customers, etc.
    - Coordination and control: coordination for flow of information, control distributes decision-making rights and rule-making authority

Organizational Structures Classification:

- U-form: unitary functional structure
- M-form: multidivisional structure
- Matrix structure
- Network structure
- Strategies can be mixed together based on the firm's needs

U-form:

- Each department in the firm is responsible for a particular area / department (e.g. finance)
- This structure is good for stable conditions, when the only goal is operating efficiency (lowering costs)
- When no focus on willingness to pay (e.g. steel) – hard to work in teams in this form (not good for innovative products)



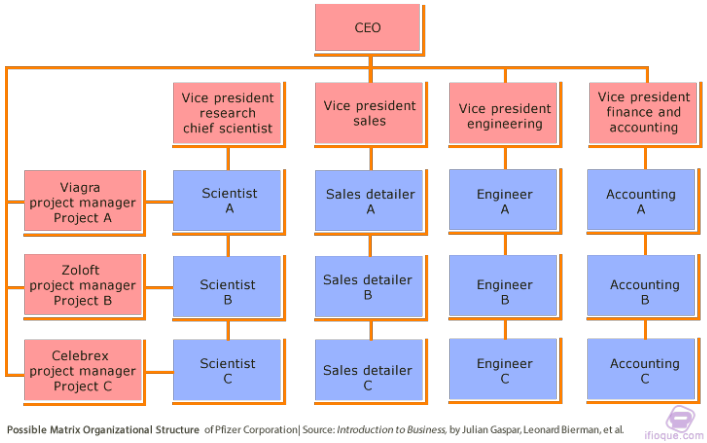
M-form:

- Organized along dimensions such as product line, geography, and types of customers
- Divisional managers will be responsible for operating decision
- Top management creates strategy
- Measuring divisional performance is easy
- Consumer product companies are organized this way
- Advantage: working together is easy relatively BUT disadvantage: departments are the same in each division (sometimes they might be replicating each other)

(b) M-form business organisation

Matrix Structure:

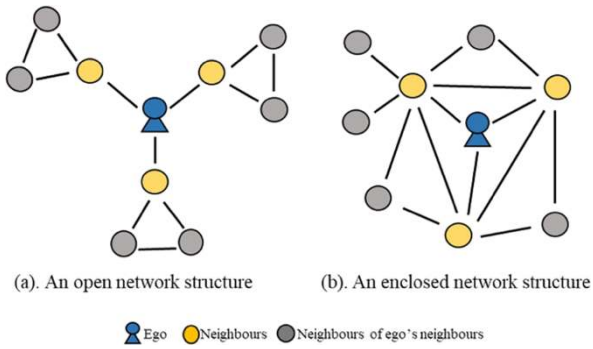
- Organized along two or more dimensions (e.g. geography and product line)
- In this structure, an employee belongs to two hierarchies, has two bosses
- Good for scarce human resources (e.g. one professional serves two or more companies)



Possible Matrix Organizational Structure of Pfizer Corporation| Source: *Introduction to Business*, by Julian Gaspar, Leonard Bierman, et al.

Network Structure:

- Workers or groups contribute to multiple tasks
- Coordination costs are high
- In high-tech firms, network structure is good for information flows → high level of product development (e.g. Apple, Microsoft, Facebook)
- Teams that keep breaking up and reforming with different people
- "contact person" is the manager kind of with more decision-making authority
- Good for innovative startups



(a). An open network structure (b). An enclosed network structure

Structure Evolves:

- U-form: good for exploiting economies of scale in marketing, production, distribution
- U-form → M-form as a result of diversification
- Mix of matrix form and network form for more global markets with flexibility needed

Recent trends:

- "flattening" the hierarchy
- Less about command & control, more about collaboration and feedback (for innovation)
- Anyone can have a good idea, and the company creates a team for the idea
- Some structure is needed, but removing some hierarchy is good for collaboration
- Managers need to be comfortable with change and question existing concepts (e.g. employees need to commute to office)

SESSION 11: APPLE CASE STUDY

PRE-CLASS NOTES

- Apple is one of the most profitable companies in the world
- 2015: smartphone competition became intense from low-cost competitors
- New invention of the Apple Watch

Apple's History:

- Initial goal: bring an easy to use computer to the market
- Apple became industry leader in the 1980s
- Apple struggled then, because of slow processors and competition from IBM PCs which became the industry standard
- The Sculley Years:
    - Expansion into the desktop market and education
    - "Apple's customers love their Macs" – Apple offered a complete desktop solution
    - Loyal customer base → sell Macs at a premium price, but Mac often seemed overprices → incentive to make a low-cost product
- The Spindler + Amelio years:
    - Apple lost momentum – everyone wanted to buy Intel computers
    - Return to the premium-price differentiation strategy
    - To save the company, Steve Jobs returned as CEO
- Steve Jobs:
    - Apple completely changed – decreased the number of products, launched a website for direct sales, decreased spending on R & D
    - Focus on a narrow product line
    - Closed door policy – company secrets are kept in trust
    - Introduction of the iMac – big hit
    - Focus on product differentiation: green alternative, elegant, good for businesspeople

Personal Computer Industry:

- IBM brought PCs into the mainstream, and every computer was designed with Microsoft's and Intel's technology
- Average profit margin for PCs was under 3% → companies cut spending on R&D
- Growth in demand for computers due to lower prices
- Buyers and distribution:
    - 5 categories of customers – home, small businesses, corporate, education, government
    - Home segment is 50% of the market – home consumers design and other characteristics more
    - Home customers mainly purchased from department stores and websites
    - White-box PCs – locally assembles PCs by small entrepreneurs
- PC Manufacturers:
    - 3 top companies: Lenovo, Hewlett-Packard, Dell
    - Lenovo was strongest in China, where it had 35% of the market share
    - Then, HP became market second
    - Dell: 3rd biggest market share, direct sales, appealing in the corporate world, push for international expansion
- Suppliers, Complements and Substitutes:
    - Products with many sources (competitive prices usually) and products whose components come from a few sources (Intel and Microsoft)
    - Microprocessors: brains of the PC, Intel was the market leader (good technology, scale, good branding) with 88% of market share
    - Operating system: Microsoft had the biggest share (90% of computers) with its Windows operating system (more marketing and support costs)
    - Software and complimentary products: the value of a PC corresponded directly to the software, hardware, and content offered // most important softwares were word processing, presentation, publishing, browsing apps

- Alternative Technologies: gaming and entertainment went on to other products like PlayStation // Chromebooks became another competitor (easily portable laptops with low-cost) // smartphones and tablets became more popular as well, but PC sales declines

Macintosh and Apple's Digital Hub Strategy:

- Digital hub – creating a hub of Apple devices and connecting them which is appealing to customers who want to use a lot of technology
- Focus on good user experience
- Create marketing and innovative products – differentiation strategy
- Changing the Machintosh:
  - New Mac OS X operating system
  - Buying Intel chips that were much faster → thinner, lighter, and more powerful laptops with these chips
  - Macbooks could also run on Windows finally
  - Developing a basic set of apps
  - New distribution strategy – opening cool Apple stores where customers would be exposed to all products

More than just the Macintosh:

- iPod, iPhone, iPad
- Digital hub strategy – connecting the iPod (simplicity) to the iTunes store on the Mac, you would need both to comfortably use the devices
- Because of the iPod flash memory, Apple became the largest purchaser of flash memory
- Once iPod would work w Windows as well, sales really skyrocketed
- iTunes:
  - completed Apple's entertainment hub
  - first legal store where paid music could be downloaded per song
  - number one music store in the world
  - iTunes increased iPod sales tremendously
  - iTunes itself was not profitable, but it was the driver for the profits coming from iPods
- Competition:
  - Many music-stores served as competition (such as Spotify, Pandora), some of them had higher profit margins
  - Customers in music stores declined (possibly due to increasing illegal downloads)
  - "If you don't cannibalize yourself, someone else will" → iPod technology was integrated into iPhones

IPHONE: revolutionary device

- Combination of several previous Apple products (touchscreen iPod, revolutionary mobile phone, Internet communications device) → developed under intense secrecy
- Phones had short product life cycles where Apple did not have a lot of experience → risky decision to enter the market
- Initially only distributed through AT&T – with a good price-sharing agreement
- Over time, Apple released phones that were thinner, faster, and more intelligent
- A new phone is released almost every year – constant urge to buy a new phone
- VERY profitable – 93% of the industry's profits
- Different agreements with carriers and unlocked versions of the phone as well
- Falling component costs made profit margins higher

App Store:

- Made it easy to download applications to the phone with many free apps
- Apple kept 39% of revenues from app sales → good deal for them
- "The App Store is what makes your device worth the price"

Competitors:

- Biggest competition is from Android (more variety and lower prices)
- Among, Samsung became the most dangerous competitor (volume leader in the industry)
- Chinese competitors brought low cost and innovation that was made possible by China's gov subsidies
- Competition to the App Store was the Play Store, but still Apple was superior in the premium market

Suppliers:

- Steve Jobs preferred more control over the suppliers, that's why he bought the microprocessor design companies that supplied Apple
- CPUs manufactured by Samsung (a competitor interestingly)

Patent Wars:

- Jobs was keen on lawsuits to protect the employees' innovations
- Apple controlled a lot of technologies, which was essential for other competitors to use

IPAD:

- "Our job is to figure out what they're going to want before they do"
- Demand for tablets was uncertain at the launch → but taking that risk paid off
- Device to consume content, not to produce in the beginning, this changed as more apps were developed for iPads
- Bookstore controversy with price-fixing
- Very profitable product: 25% profit margin
- Competition:

Competition:

- Google's version of Android – 70% of the market share, low-cost alternative
- Amazon – struggled to sell as much as they wanted
- Windows-based tablets – more like a PC than an actual tablet
- Tablet market slowed down drastically around 2014

ICLOUD:

- Digital hub strategy, connecting Apple devices through the iCloud
- Following this, competitors developed their own versions of clouds

APPLE WATCH AND APPLE PAY:

- Apple watch was its entrance into wearable technology
- Good addition for other devices (pick up calls easier, switch music, etc.)
- The smartwatch industry became very crowded – smartphone companies each introduced watches that would only work with their phones
- Apple Pay: used near field communication technology, combination of security and convenience

Disappointments: Mac Mini and Apple TV

IN CLASS NOTES

Competitive Advantage:

- Investment in R&D → innovation
- User friendliness
- High willingness to pay (good branding)

Porter's 5 forces Analysis for Personal Computers:

- Rivalry:
  - Rivalry is high on the industry level
  - but Apple differentiated its products, so customers are loyal to the brand
- Bargaining power of suppliers: very few suppliers → lot of power
  - Outsourcing to China for low cost → lower prices
  - Intel had a lot of power (microprocessors) – first Apple tried to produce its own, but later, they bought from Intel
  - Apple tried to have control over its production process (e.g Mac OS, App Store, own R&D)

    - Very few suppliers for these components → lot of power (that's why Apple tried to keep control)
    - Windows can be installed on Macs now → proves the bargaining power of Microsoft (Office can also be installed)
    - Small suppliers have less power: bookstores, musicians, app developers
- Bargaining power of buyers: not a lot of power
    - Not a lot of power because they are stuck in Apple's digital hub
    - Customers have a high willingness to pay
    - No negotiation over prices
    - Only power: switch to a different product
- New Entrances:
    - Patent protection is important
    - Has to stay innovative because it is a fast-moving industry
    - Barriers to entrance is high as well
- Threat of Substitutes:
    - Phones and tablets are substitutes
    - Chromebooks present a big threat (they are cheap and can perform the tasks of a laptop)

What should Apple do next?

- New product development
    - This is how Apple has developed forever, they came up with the new "big hit" (Macbook, Airpods, Ipad, Iphones)
    - Markets and needs are constantly changing so it is important to see what they need
- Create a new ecosystem (like cellular data service)
- Go into new industries (for innovation)

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