Management Information Systems MIS 310

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STRATEGY AND TECHNOLOGY

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Enable Strategy through IS

- Information Systems for Supporting Strategy
- Identifying Where to Compete:
  - Analyzing Competitive Forces
- Identifying How to Compete:
  - Choosing a Generic Strategy
  - Resources and Capabilities
  - Analyzing the Value Chain
  - The Role of IS in Value Chain Analysis
- The Technology/Strategy Fit

IS for Supporting Strategy: Doing Things Smarter

- Information systems should be implemented to support the organization's strategy by
  - Innovation,
  - Streamlining operations,
  - Optimizing the value chain,
  - Better understanding customers.
- In any significant IS implementation, there must be significant organizational change

Strategy and IS

Industry Structure
(5 Competing Forces)

Competitive Strategy

Value Chain Analysis

Business Model / Process Design

Information Systems

IS and Strategy

- Michael Porter's concepts
  - **Five Forces Framework**
    - Published in Harvard Business Review in 1979
    - Tool for analyzing competition of a business.
  - **Value Chain Analysis**
    - Introduced in 1985 best-seller, Competitive Advantage: Creating and Sustaining Superior Performance.
    - Set of activities that a firm performs to deliver a valuable product.

Professor, Harvard Business School

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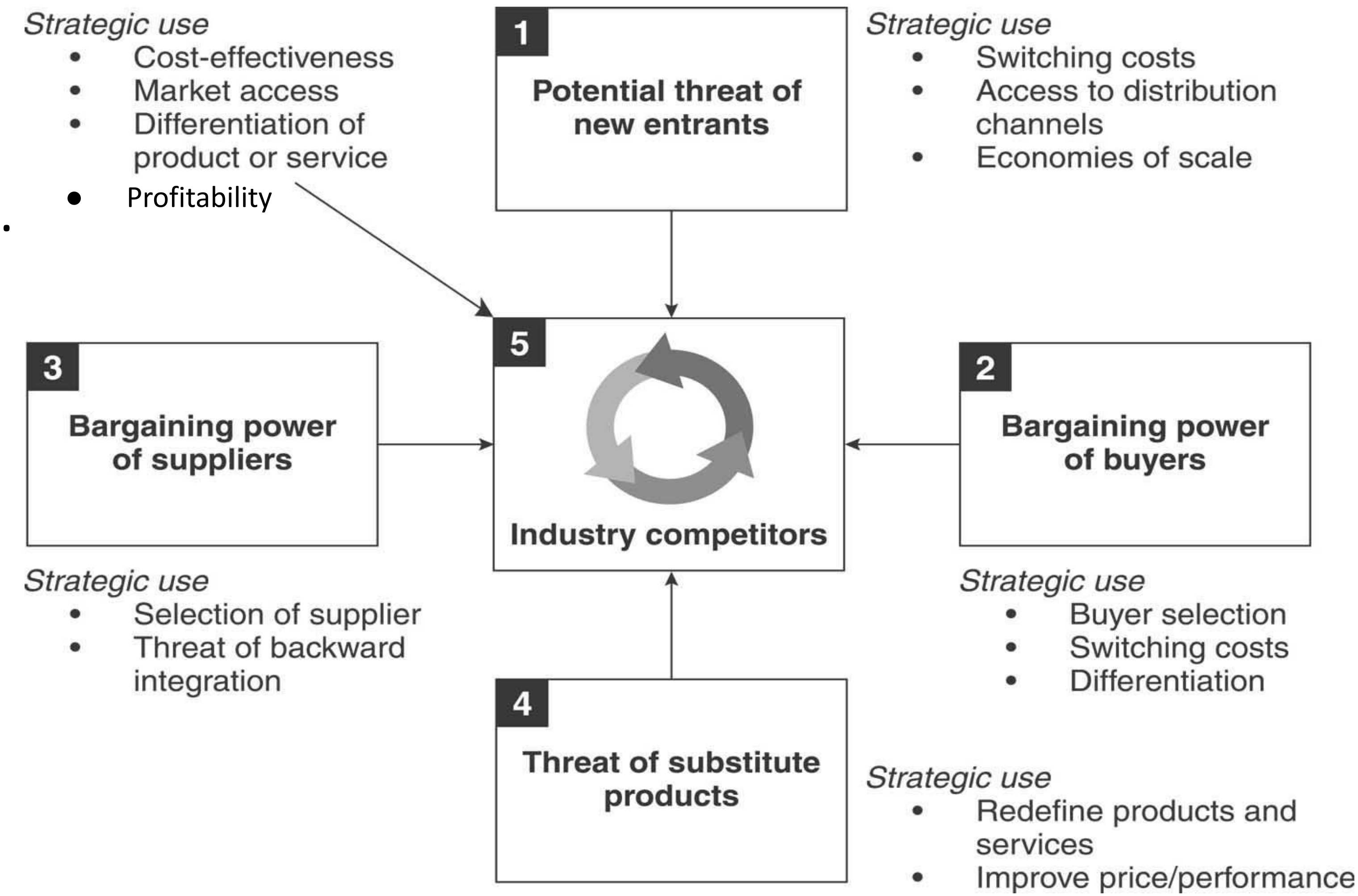
Where to Compete: Competitive Forces



YouTube Video: The Five Competitive Forces That Shape Strategy

Discussion Questions

- What barriers exist for new airlines trying to enter the industry?
- Who are the key suppliers for airlines and how much power do they have over airline costs and operations?
- Do customers have strong bargaining power in this industry? Why or why not??
- In which types of travel (business vs. leisure, short-haul vs. long-haul) are substitutes strongest?
- Why is rivalry in the airline industry often described as "intense"?
- Which of the five forces do you think has the greatest impact on airlines today?

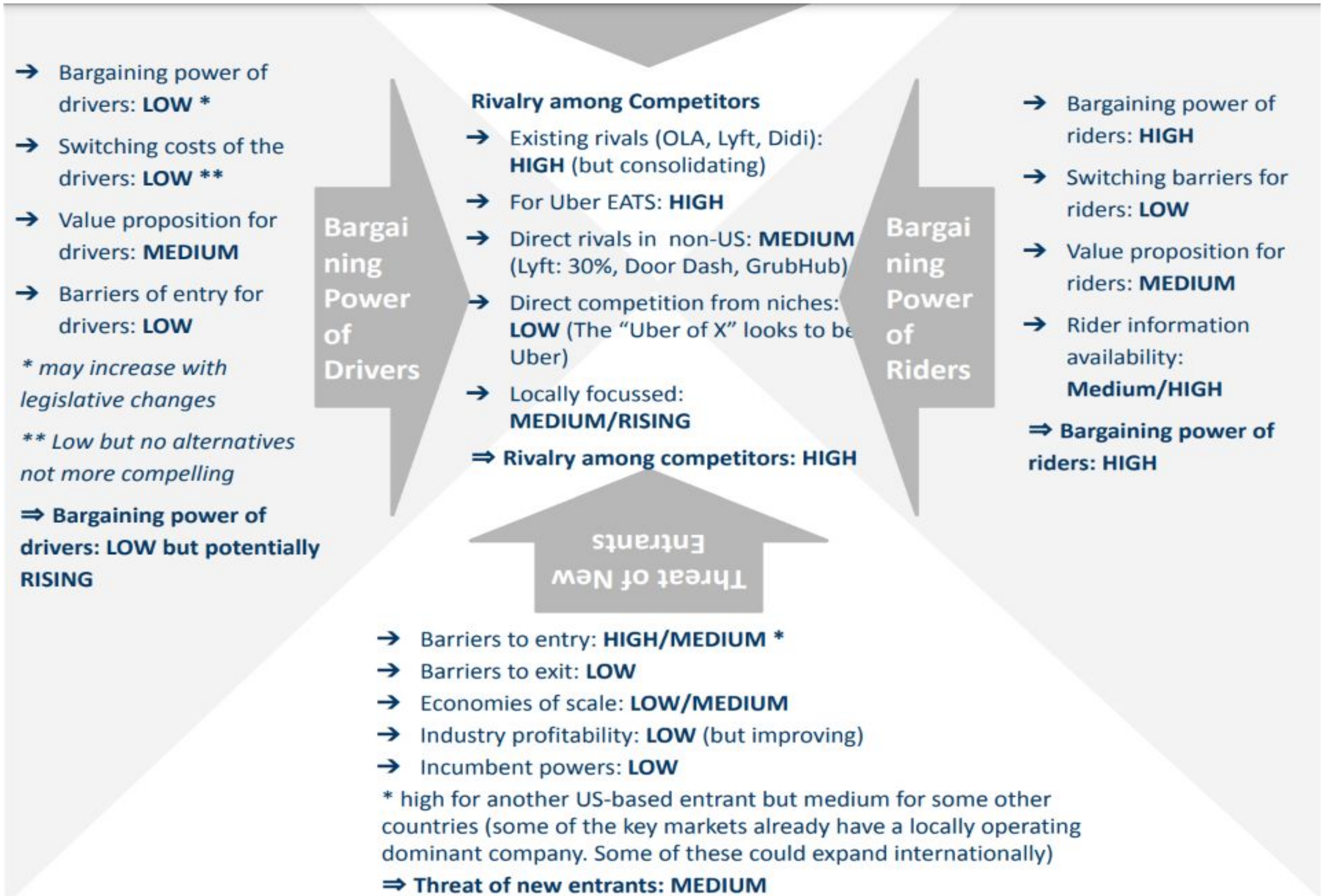
Where to Compete: Competitive Forces

Competitive Force	Implication for Firm	Internet influence on Competitive Force
Rivals within your industry	Competition in price, product distribution, and service	
New Entrants	Increased capacity in industry, reduced prices and market share	
Customer's bargaining power	Reduced prices, demand for better quality service	
Supplier' bargaining power	Increased costs and reduced quality	
Threat of substitute products	Potential returns on product, decreased market share, customer loss	

Source: Based on Corporate Information Strategy and Management, 8e by Lynda Applegate, Robert Austin, F. Warren McFarlan, published by McGraw-Hill, 2008.

Where to Compete: Competitive Forces

- Uber Example



Where to Compete: Barriers

- Supply-side economies of scale
- Demand-side benefits of scale (**network effects**)
- Customer switching costs:
  - Enterprise resource planning (ERP) software is a product with very high switching costs.
- Capital requirements
  - Semiconductor manufacturer vs. corner coffee shop
- Incumbency advantages independent of size
  - Brand, experiences curve
- Unequal access to distribution channels
  - Using e-commerce for direct sales
- Restrictive government policy

Where to Compete: Sources of Switching Costs

- Learning costs
- Information and data
- Financial commitment
- Contractual commitments
- Search costs
- Loyalty programs

Overview Questions

- Of Porter's Five Forces, which force has the greatest influence on whether an industry would be profitable?
- When suppliers are limited or inputs are scarce, which of Porter's Five Forces are at play?
- How is switching cost a barrier to entry?

How to Compete: Choosing Strategy

Target Scope	*Advantage*	
	Low Cost	Product Uniqueness
Broad (Industry Wide)	**Cost Leadership Strategy**	**Differentiation Strategy**
Narrow (Market Segment)	**Focus Strategy** (low cost)	**Focus Strategy** (differentiation)

How to Compete: Analyzing Competitive Forces

Industry Force	Generic Strategies		
	Cost Leadership	Differentiation	Focus
Entry Barriers	Ability to cut price in retaliation deters potential entrants.	Customer loyalty can discourage potential entrants.	Focusing develops core competencies that can act as an entry barrier.
Buyer Power	Ability to offer lower price to powerful buyers.	Large buyers have less power to negotiate because of few close alternatives.	Large buyers have less power to negotiate because of few alternatives.
Supplier Power	Better insulated from powerful suppliers.	Better able to pass on supplier price increases to customers.	Suppliers have power because of low volumes, but a differentiation-focused firm is better able to pass on supplier price increases.
Threat of Substitutes	Can use low price to defend against substitutes.	Customer's become attached to differentiating attributes, reducing threat of substitutes.	Specialized products & core competency protect against substitutes.
Rivalry	Better able to compete on price.	Brand loyalty to keep customers from rivals.	Rivals cannot meet differentiation-focused customer needs.

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How to Compete: Resources and Capabilities

- **Resources** — Reflect the organization's specific assets that are utilized to achieve cost or differentiation from it's competitors
- **Capabilities** — Reflect the organization's ability to leverage their resources in the marketplace

Source: Based on Competitive Advantage, published by Quick MBA.com.

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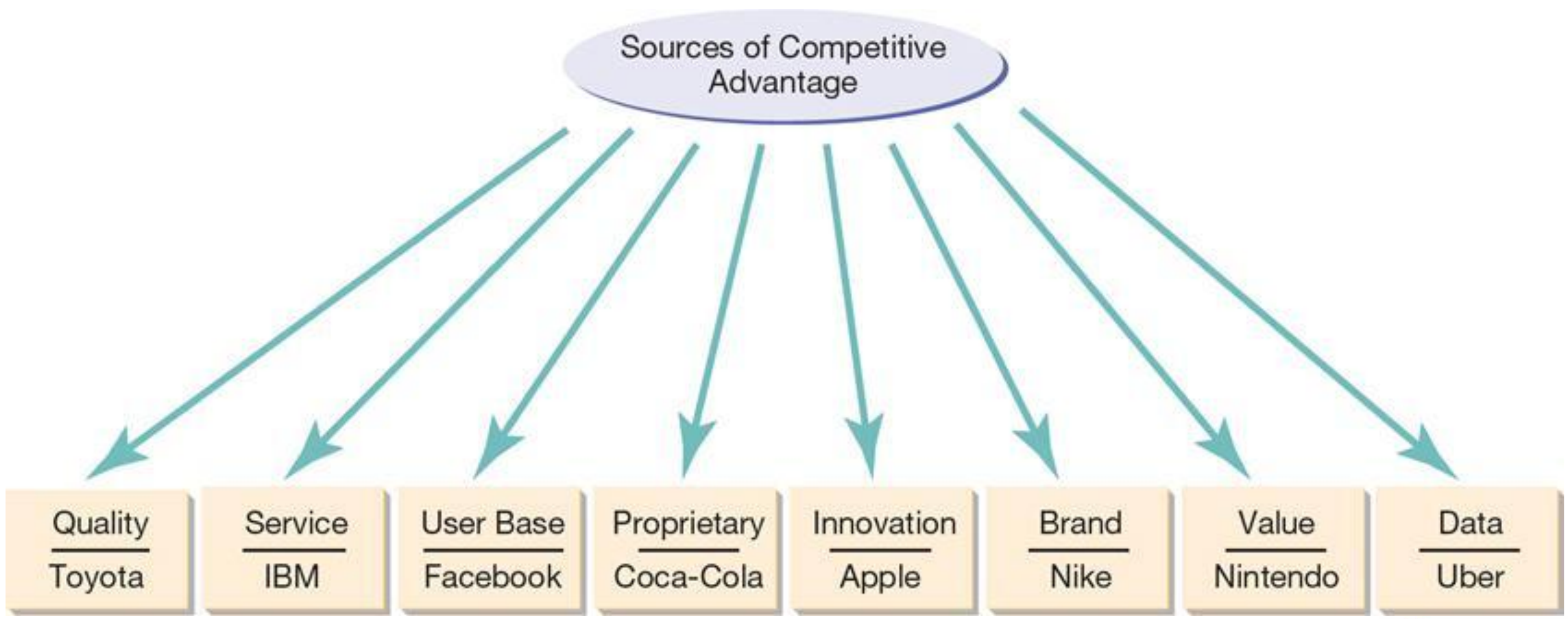
How to Compete: Competitive Advantage

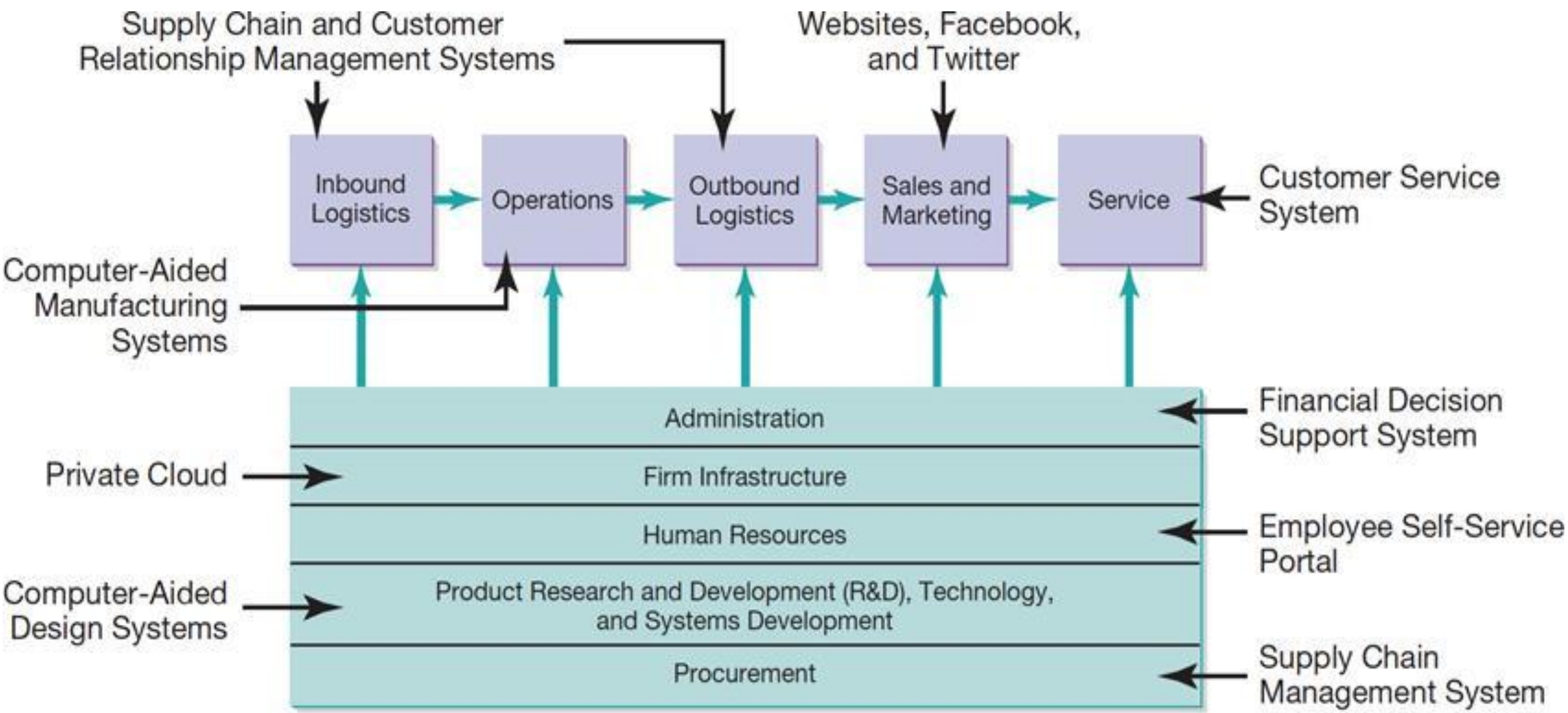
- **Sustainable competitive advantage**: Financial performance that consistently outperforms industry averages.
  - Difficult to achieve due to the rapid emergence of new products and new competitors.
  - Competitors cut costs, prices, and increase features



How to Compete: Analyzing the Value Chain

- Value Chain Analysis
  - The process of analyzing an organization's activities to determine where value is added to products or services
  - To identify opportunities for using information systems to gain a competitive advantage

The Role of IS in Value Chain Analysis



Challenges of Relying on Technology

- Strategic positioning vs. Operational effectiveness
  - **Operational effectiveness**: Performing the same tasks better than rivals.
    - Margin-eroding competition.
    - When offerings are roughly the same, they are commodity.
  - **Strategic positioning**: Performing different activities than rivals, or the same activities in a different way.
  - Technology should create business approaches that are different and difficult for others to copy.

* Michael E. Porter, "The Five Competitive Forces that Shape Strategy," *Harvard Business Review*, January 2008, pp. 86-104..

Challenges of Relying on Technology

- **Fast follower problem** exists when competitors:
  - Watch a pioneer's efforts.
  - Learn from their successes and missteps.
  - Enter the market quickly with a comparable or superior product at a lower cost
- Firms that pioneer in technology are especially susceptible to this problem.

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Disruptive Technology: Characteristics

- **Disruptive technologies** - technologies that create market shocks and catalyze growth
- Two characteristics that make them threatening.
  - Come to market with a set of performance attributes that existing customers don't value.
  - Over time improve to the point where they invade established markets.

Disruptive Technology: Reasons To Fail

- Failure to see disruptive innovations as a threat.
  - Companies do not dedicate resources to developing the potential technology since these markets do not look attractive.
  - Creates blindness by an otherwise rational focus on customer demands and financial performance.
- Start-ups build up expertise quickly.
  - Big firms are forced to play catch-up.
  - Few ever close the gap with the new leaders

Disruptive Technology: What to Do

- Remove short-sighted, customer-focused, and bottom-line-obsessed blinders.
- Increase conversations across product groups and between managers and technologists.
- Build a portfolio of options on emerging technologies
- Continue and increase funding as a technology shows promise.
- Encourage new market and technology development.

Overview Questions

- Who developed the value chain model?
- What are the 5 primary activities of a value chain?
- What is a fast follower problem?
- What are two main characteristics of disruptive technologies?

ZARA: FAST FASHION FROM SAVVY SYSTEMS

Introduction to Zara

- A game-changing clothes giant with a parent company, Inditex Corporation.
- 28 billion euros in net sales worldwide in 2024
- Selling in more than 96 countries
- Over 2,500 stores
- Works with 1,800+ suppliers and 7,800 factories worldwide.
- Produces around 450 million garments a year and releases approximately 500 new designs a week, or about 20,000 different styles a year.
- Zara's warehouse is 5 Million Square feet.
- Uses a blend of technology-enabled strategy.
- Highly vertically integrated.
- Most of its production process is in-house.
  - Almost 50% of Zara's products have manufactured in its Home Spain
- Introduced a sustainability pledge
  - Use entirely "organic, sustainable, or recycled" cotton, linen and polyester by 2025

https://www.inditex.com/en/about-us/our-brands/zara

https://www.thefashionlaw.com/fast-fashion-sustainability-is-about-more-than-the-fabrics/

Rule Breaker: The Conventional Wisdom in Apparel Industry

- Outsourcing production to third-party firms: Firms that use **contract manufacturers** do not own plants or directly employ the workers who produce the requested goods
  - **Advantages**
    - Lower costs and increased profits
  - **Disadvantages**
    - Sweatshop labor, poor working conditions, and environmental abuse
    - Firms face legal action, brand damage, reduced sales, and decreased appeal among prospective employees.
- **Vertical integration:** When a single firm owns several layers in its value chain.

Rule Breaker: Manufacturing and Logistics

- High level of responsiveness:
  - Combination of vertical integration and technology based coordination of suppliers.
    - ***Vertical integration***: When a single firm owns several layers in its value chain.
  - Just-in-time manufacturing.
- The majority of merchandise is produced in-house, leveraging technology.
  - Robots are used to dye and cut fabric
- Inventory optimization models
  - How many of which items in which sizes should be delivered to each specific store.
- Distribution and Delivery optimization
  - Maximum mounted racks and customized sorting machines.
  - Software based truck and airplane delivery scheduling.
- Concept idea to stores in fifteen days.

Rule Breaker: Using Technology to Collect Information

- Custom apps on mobile devices for store managers
- Point-of-sale-system (POS)
  - Used to gather customer input and feedback.
  - Shows how garments rank by sales.
  - Improve the frequency and quality of decisions made by the design and planning teams.

Rule Breaker: Inventory Technology

- Inventory optimization models
- Smart inventory: Security tags are
  - custom made
  - include RFID-technology.
  - attached to all products before sent out to stores
- RFID allows to
  - Know where products are and order on demand
  - To take in-store inventory four times as often as the pre-RFID rate and using one forth the staff

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Rule Breaker: Design

- Customer demand and sales data dictate the designs
- Young and fresh designers from design school.
- Teams are regularly rotated to:
  - Cross-pollinate experience.
  - Encourage innovation.
  - Individual bonuses are tied to the success of the team

Rule Breaker: Stores

- Bestsellers benefit from limited runs:
  - Cultivate the exclusivity of its offerings.
  - Encourage customers to buy right away and at full price.
  - Encourage customers to visit often.
  - Reduce the rate of failed product introductions
- Stores are staffed based on each store's forecasted sales volume

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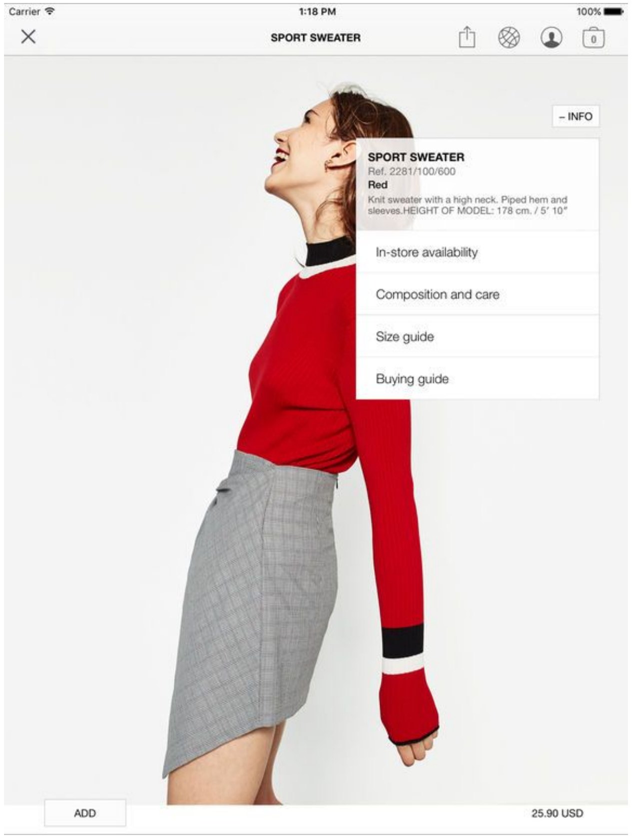
Integrating E-Commerce

- Omnichannel strategy
- The link between online and off-line sales is fluid
  - Online sales are not broken down as a separate category.
- One-third of online orders are scheduled for in-store pickup.
- No evidence that online shopping is cannibalizing in-store sales.



Technology ≠ Systems

- Zara's IT expenditure is less than one-fourth the fashion industry average.
- Targets technology investment
  - At the value chain points with the most significant impact.
    - In contrast with Prada's efforts at its flagship Manhattan store.

Limitations

- Operations' vulnerabilities:
  - Vulnerability to disruptions in the regions of two delivery locations
- Financial vulnerabilities:
  - Sensitive to currency fluctuations since development and manufacturing occur in one country.
- Rising transportation costs.

Discussion Questions

Using Michael Porter 5 Forces Framework analyze Competitive Forces Shaping Zara's Strategy

1. **Competitive rivalry intensity**

2. **Buyer's bargaining power**

3. **Supplier's bargaining power**

4. **Threat of new entry**

5. **The substitute product threat**

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Discussion Questions

- In what ways has Zara's model made the firm a better performer than other competitors?
- How is data captured in Zara stores? How does the firm use this data?
- What role does technology play in enabling the other elements of Zara's counterintuitive strategy? Could the firm execute its strategy without technology? Why or why not?