Chapter 2
Strategy and Technology: Concepts and Frameworks for Understanding What Separates Winners from Losers

The Danger of Relying on Technology

- Firms strive for **sustainable competitive advantage**, financial performance that consistently outperforms industry peers
- Achieving sustainable competitive advantage is not easy
  - Rapid emergence of new products and new competitors
  - New competitors and copycat products cutting costs, prices and increasing features that may benefit customers but erode profits industry-wide

The Danger of Relying on Technology

- Achieving sustainable competitive advantage is more difficult than when competition involves technology
  - The fundamental strategic question in the Internet era:

"How can I possibly compete when everyone can copy my technology and the competition is just a click away?"

The Danger of Relying on Technology

- Two concepts defined by Michael Porter can be useful in achieving sustainable advantage
  - Value chain
  - Five forces
- According to Porter, firms suffer aggressive, margin-eroding competition because they define themselves according to operational effectiveness rather than strategic positioning

The Danger of Relying on Technology

- **Operational effectiveness:** Performing the same tasks better than rivals perform them
- The danger in operational effectiveness is "sameness"
  - This risk is acute in firms that rely on technology for competitiveness
    - Buy the same stuff as your rivals
    - Hire students from the same schools
    - Copy the look and feel of competitor Web sites
    - Reverse engineer their products

The Danger of Relying on Technology

- **Fast follower problem:** Exists when savvy rivals watch a pioneer's efforts, learn from their successes and missteps, then enter the market quickly with a comparable or superior product at a lower cost before the first mover can dominate

Technology can be matched quickly — Rarely a source of competitive advantage

The Danger of Relying on Technology

- Operational effectiveness is critical, but not sufficient enough to yield sustainable dominance over the competition
- **Strategic positioning:** Performing different activities from those of rivals, or the same activities in a different way
- Technology itself is often very easy to replicate, but it is essential to creating and enabling novel business approaches that are defensibly different and can be quite difficult for others to copy

Different Is Good: FreshDirect Redefines the NYC (and surrounding area) Grocery Landscape

freshdirect® Our food is fresh. Our customers are spoiled.

- The New York City–based grocery firm focused on the two most pressing problems for Big Apple shoppers:
  - Selection is limited
  - Prices are high
- The solution it provides
  - Use technology to craft an ultraefficient model that makes an end-run around stores

Different Is Good: FreshDirect Redefines the NYC Grocery Landscape

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- The FreshDirect model crushes costs that plague traditional grocers
  - Worker shifts are highly efficient
  - The firm buys and prepares what it sells, leading to less waste
  - Higher inventory turns
  - Use of artificial intelligence software
  - Use of climate controlled cold rooms to save energy
  - Use of recycled biodiesel fuel to cut down on delivery costs

Different Is Good: FreshDirect Redefines the NYC Grocery Landscape

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- The firm offers suppliers several benefits beyond traditional grocers, in exchange for more favorable terms such as:
  - Offering to carry a greater selection of supplier products by eliminating “slotting fees”
  - Co-branding products
  - Paying in days rather than in weeks
  - Sharing data to improve supplier sales and operations

Different Is Good: FreshDirect Redefines the NYC Grocery Landscape

freshdirect® Our food is fresh. Our customers are spoiled.

- Traditional grocers can't fully copy the firm's delivery business because this would leave them **straddling** two markets

But What Kinds of Differences?

- How can you recognize whether your firm's differences are special enough to yield sustainable competitive advantage?
- **Resource-based view of competitive advantage**
  - The strategic thinking approach suggesting that if a firm is to maintain sustainable competitive advantage, it must control an exploitable resource, or set of resources, that have four critical characteristics
    - Valuable
    - Rare
    - Imperfectly imitable
    - Nonsubstitutable
  - Dense wave division mutiplexing (DWDM)

Powerful Resources

- Being aware of major sources of competitive advantage can help managers:
  - Recognize an organization's opportunities and vulnerabilities
  - Brainstorm winning strategies
- Often a firm with an effective strategic position can create an arsenal of assets that:
  - Reinforce one-another
  - Create advantages that are difficult for rivals to successfully challenge

Powerful Resources: Imitation-Resistant Value Chains

- **Imitation-resistant value chains:** A way of doing business that competitors struggle to replicate and that frequently involves technology in a key enabling role

Powerful Resources: Imitation-Resistant Value Chains

- FreshDirect
  - The elements in FreshDirect's value chain work together to create and reinforce competitive advantages that others cannot easily copy
  - Incumbents would be *straddled* between two business models, unable to reap the full advantages of either
    - **Straddling**: When a firm attempts to match the benefits of a successful position while maintaining its existing position
  - Late-moving pure-play rivals will struggle, as FreshDirect's lead time allows it to develop brand, scale, data, and other advantages that newcomers lack

Figure 2.2 - The Value Chain

Key Framework: The Value Chain

- **Value chain**: Set of interrelated activities that bring products or services to market
- When a firm has an imitation-resistant value chain, it may have a critical competitive asset
- From a strategic perspective, managers can use the value chain framework to consider a firm's differences and distinctiveness compared to rivals
- An analysis of a firm's value chain can reveal operational weaknesses
- Technology is of great benefit to improving the speed and quality of execution

Key Framework: The Value Chain

- Firms can buy software and tools
  - Supply chain management (SCM)
  - Customer relationship management (CRM)
  - Enterprise resource planning software (ERP)

Can be purchased by competitors too

- Potential danger
  - If a firm adopts software that changes a unique process into a generic one, it may have co-opted a key source of competitive advantage particularly if other firms can buy the same stuff

Key Framework: The Value Chain

- Dell stopped deployment of the logistics and manufacturing modules of a packaged ERP implementation – It realized that the software would require the firm to make changes to its unique and highly successful operating model
- Apple adopted third-party ERP software because the firm competes on product uniqueness rather than operational differences

Powerful Resources: Brand

- **Brand:** The symbolic embodiment of all the information connected with a product or service
  - A strong brand can be an exceptionally powerful resource for competitive advantage
  - Consumers use brands to lower search costs
  - How do you build a strong brand?
    - A strong brand proxies quality and inspires trust
  - Technology can play a critical role in rapidly and cost-effectively strengthening a brand

Powerful Resources: Brand

- **Viral marketing**: Leveraging consumers to promote a product or service
- Branding is difficult, but if done well, even complex tech products can establish themselves as killer brands
- Early customer accolades for a novel service often mean that positive press will also likely follow
- Showing up late may mean paying much more to gain attention

Powerful Resources: Scale

- Scale
  - **Scale advantages**: Advantages related to a firm's size
  - Businesses benefit from economies of scale
    - **Economies of scale:** When the cost of an investment can be spread across increasing units of production or in serving a growing customer base
  - A growing firm may gain bargaining power with its suppliers or buyers

Powerful Resources: Switching Costs and Data

- **Switching costs:** Exist when consumers incur an expense to move from one product or service to another
- Sources of switching costs:
  - Learning costs
  - Information and data
  - Financial commitment
  - Contractual commitments
  - Search costs
  - Loyalty programs
- Data can be a particularly strong switching cost for firms leveraging technology

Powerful Resources

- Differentiation
  - Commodities are products or services that are nearly identically offered from multiple vendors
  - To break the commodity trap, many firms leverage technology to differentiate their goods and services
- **Network effects:** When the value of a product or service increases as its number of users expands
- **Distribution channels:** The path through which products or services get to customers

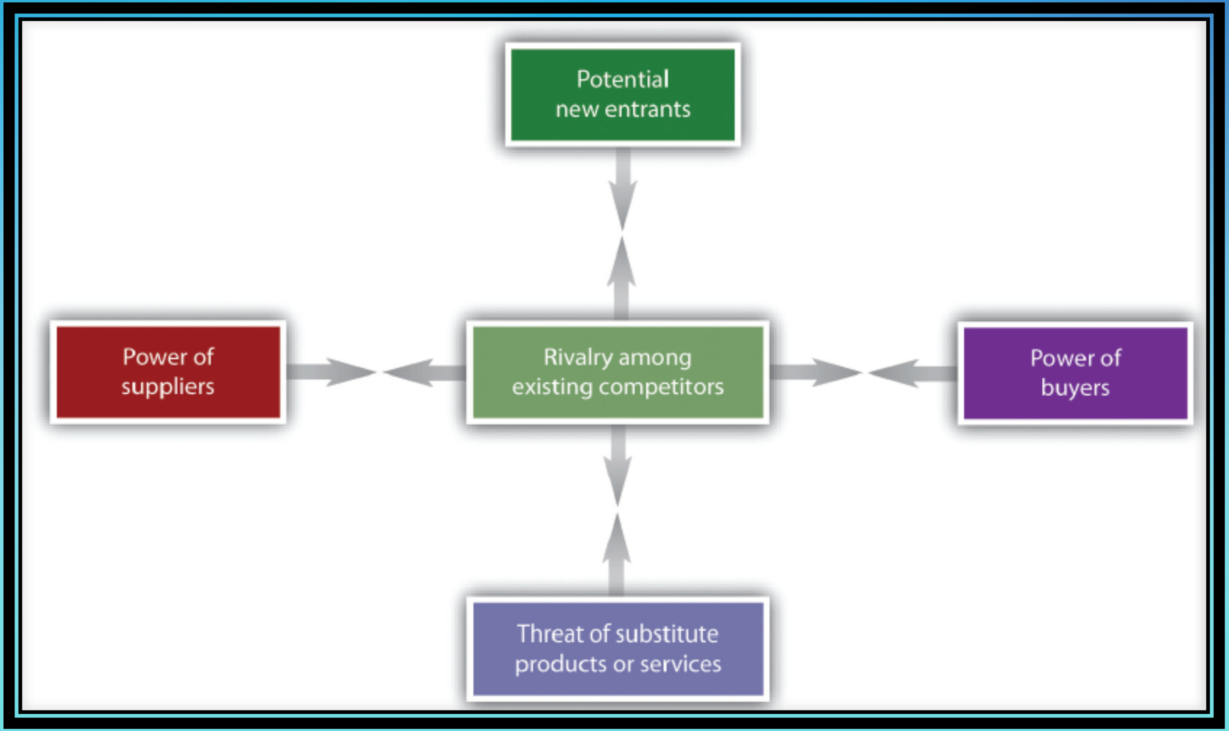
Powerful Resources: Patents

- Intellectual property protection can be granted in the form of a patent for those innovations deemed to be useful, novel, and nonobvious
- Firms that receive patents have some degree of protection from copycats that try to identically mimic their products and methods
- Patents are not necessarily a sure-fire path to exploiting an innovation

Barriers to Entry, Technology, and Timing

- The barriers to entry for many tech-centric businesses are low
- Market entry is not the same as building a sustainable business and just showing up doesn't guarantee survival
- Timing and technology alone will not yield sustainable competitive advantage — Both can be enablers for competitive advantage
- Moving first pays off when the time lead is used to create critical resources that are valuable, rare, tough to imitate, and lack substitutes

Figure 2.6 - The Five Forces of Industry Competitive Analysis



Key Framework: The Five Forces of Industry Competitive Advantage

- In markets where commodity products are sold, the Internet can increase buyer power by increasing price transparency
- The more differentiated and valuable an offering, the more the Internet shifts bargaining power to sellers
  - **Price transparency**: The degree to which complete information is available
- **Information asymmetry**: A decision situation where one party has more or better information than its counterparty