ITM515 STRATEGIC TECHNOLOGY MANAGEMENT

Chapter 5

Timing of Entry

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Contents

Overview

- Increasing returns suggests that timing of entry can be very important
  - A technology adopted earlier may reap self-reinforcing advantages
    - ✓ greater funds to invest in improving the technology
    - ✓ greater availability of complementary goods
  - The same factors that make early entry desirable can often make the technology unattractive
- Entrants are often divided into three categories
  - First movers: the first entrants to sell in a new product or service category ("pioneers")
  - Early followers: early to market but not first
  - Late entrants: do not enter the market until the product begins to penetrate the mass market or later

☞ *What are the pros and cons?*

First-Mover Advantages

- Brand loyalty and technological leadership
  - A long-lasting reputation as a leader in the technology domain help sustain the company's image, brand loyalty, and market share
  - If aspects that customers expect in a technology are difficult to imitate, being the leader can yield sustained monopoly rents
    - ✓ Monopoly rents: the additional returns a firm can make from being a monopolist, such as the ability to set high prices, or the ability to lower costs through greater bargaining power over suppliers

- Preemption of scarce assets
  - Key locations, government permits, access to distribution channels, relationship with suppliers

First-Mover Advantages

- Exploiting buyer switching costs
  - Switching costs: the costs that consumers must bear to switch from a product to another
    - ✓ Procedural costs: Search costs, Learning costs
    - ✓ Financial costs: Purchase costs, Opportunity costs
    - ✓ Psychological costs
  - Lock-in Vs. Lock-out
    - ✓ When switching costs are high, customers can be locked-in
    - ✓ Other products are locked out from the market

- Reaping increasing returns advantages
  - A technology adopted earlier may rise in market power through self-reinforcing positive feedback mechanisms, culminating in its entrenchment as a dominant design.

First-Mover Disadvantages

- Findings from research
  - A historical study of 50 products by Tellis and Golder
    - ✓ Market pioneers have a high failure rate (47%) and a low mean M/S (10%)
    - ✓ Early followers averaged almost three times the M/S of pioneers
    - ✓ The market often perceives first movers as having advantages because it has misperceived who was first

- Reasons for first-mover disadvantages
  - First movers earn greater revenues, but also face much higher costs and uncertainty
  - A later entrant can avoid any mistakes made by the first mover, and exploit incumbent inertia
    - ✓ Incumbent inertia: The tendency for incumbents to be slow to respond to changes in the industry environment due to their size, established routines, or prior commitments

First-Mover Disadvantages

- High research and development expenses
  - Cost of exploration: pay for research that did not result in a commercially viable product
  - Cost of developing production processes

  → Later entrants can save such costs

- Undeveloped supply and distribution channels
  - A new-to-the-world technology often does not have ready-made suppliers or distributors
  - The first mover must either develop and produce its own supplies and distribution service, or assist in the development of supplier and developer markets

First-Mover Disadvantages

- Immature enabling technologies and complements
  - Enabling technologies may not be readily available
    - ✓ Enabling technology: component technologies that are necessary for the performance or desirability of a given innovation
  - Complementary products may not be fully developed

- Uncertainty of customer requirements
  - Facing uncertainty about what customers want and how much they are willing to pay
  - Paying for revision as customer preferences are revealed
  - Requiring customer education efforts

First-Mover Disadvantages

- First movers and followers - Who wins?

Product	First Mover	Notable Follower(s)	The Winner
8 mm video camera	Kodak	Sony	Follower
Disposable diaper	Chux	Pampers Kimberly Clark	Follower
Float Glass	Pilkington	Corning	First mover
Instant camera	Polaroid	Kodak	First mover
Microprocessors	Intel	AMD Cyrix	First Mover
Personal computer	MITS (Altair)	Apple IBM	Followers
Smartphones	IBM (Simon)	Apple Nokia	Followers
Social Network Sites	SixDegrees.com	MySpace Facebook	Followers
Video game console	Magnavox	Atari Nintendo	Followers
Web browser	NCSA Mosaic	Netscape Microsoft (Internet Expl orer)	Followers
Word processing software	MicroPro (Wordstar)	Microsoft (MS Word) Wordperfect	Followers
Workstation	Xerox Alto	Sun Microsystems Hewlett Packard	Followers

Factors Influencing Optimal Timing of Entry

- 1. How certain are customer preferences?
  - Producers and customers face considerable ambiguity about the importance of features of a new-to-the-world technology
  - Less customer uncertainty favors earlier timing of entry
- 2. How much improvement does the innovation provide over previous solutions?
  - Dramatic improvements over previous solutions increases a firm's likelihood of successful early entry
- 3. Does the innovation require enabling technologies, and are these technologies sufficiently mature?
  - If the innovation requires enabling technologies, the maturity of these technologies will influence optimal timing of entry
  - More mature enabling technologies allow earlier entry; less may favor waiting

Factors Influencing Optimal Timing of Entry

- 4. Do complementary goods influence the value of the innovation, and are they sufficiently available?
  - If the firm's innovation requires complementary goods not available on the market, successful entry is unlikely
  - More complementary goods allow earlier entry
- 5. How high is the threat of competitive entry?
  - If there are significant entry barriers, there may be less need to rush to market to build increasing returns ahead of others
  - Earlier entry is required to establish brand image, capture market share, and secure relationships with suppliers and distributors when the threat of competitive entry is high
- 6. Are there increasing returns to adoption?
  - If so, early entry is advisable; allowing competitors to get a head start can be very risky

Factors Influencing Optimal Timing of Entry

- 7. Can the firm withstand early losses?
  - The earlier a firm enters, the more capital resources it may need
  - Firms with significant resources also may be able to more easily catch up to earlier entrants
- 8. Does the firm have resources to accelerate market acceptance?
  - Firms with significant capital resources can invest in aggressive marketing and supplier/distributor development, increasing the rate of early adoption
  - Greater discretion over entering early can be given
- 9. Is the firm's reputation likely to reduce the uncertainty of customers, suppliers, and distributors?
  - Innovations from well-respected firms may be adopted more rapidly, enabling earlier successful entry

Strategies to Improve Timing Options

- Necessary conditions for improving timing options
  - A firm can produce the technology at any point under consideration

  → A firm can develop the technology quickly

  → A firm should have fast-cycle development processes
    - ✓ It not only has a better chance at being an early entrant, but also can quickly refine its innovation in response to customer feedback
    - ✓ It can reap both first- and second-mover advantages

- Strategies for reducing development cycles
  - Strategic alliances (Chapter 8)
  - Cross-functional development teams (Chapter 10)
  - Parallel development process (Chapter 11)