ITM515 STRATEGIC TECHNOLOGY MANAGEMENT

Chapter 13

Crafting a Deployment Strategy

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Contents

Overview

- Importance of deployment strategy
  - A large part of the value of a technological innovation is determined by the degree to which people understand and use it
  - Deployment strategies can influence the receptivity of customers, distributors, and complementary goods providers
- The effective deployment strategies accelerate adoption by
  - reducing uncertainty about the product
  - lowering resistance to switching from competing goods
- Five key elements of deployment are
  - Launch timing, Licensing and compatibility, Pricing, Distribution, and Marketing

Launch Timing

- Strategic launch timing
  - Taking advantage of business cycle or seasonal effects
    - ✓ e.g. video game consoles are always launched just before Christmas
  - Positioning products with respect to previous generation of related technologies
    - ✓ If introduced too early, customers who recently purchased the previous generation product are reluctant to replace it
    - ✓ If introduced too late, the company can lose its image as a technological leader and their customers by earlier entrants
  - Ensuring that production capacity and complements are available
    - ✓ e.g. various games should be available at the launch of video game consoles

Launch Timing

- Optimizing cash flow Vs. Embracing cannibalization
  - Cannibalization: when a firm's sales of one product (or at one location) diminish its sales of another (or another location)
  - Optimizing cash flow (Delaying introduction)
    - ✓ A firm will often delay introduction of a next generation product if its product is profitable
    - ✓ It may enable competitors to achieve a significant technological gap; customers may abandon the firm's technology
  - Embracing cannibalization
    - ✓ Willingly cannibalizing its existing products with advanced products can make it difficult for competitors to gain a technological lead
    - ✓ Providing incentives for existing customers to upgrade to the newest models can remove any incentive customers have to switch to competitor's products
    - ✓ e.g. iPhone, iPad, Mac Air

Licensing and Compatibility

- Risk of protecting a technology too little
  - Fall in the price of the technology
  - Less incentive to further develop the technology
  - Underlying platform fragmented, resulting in loss of compatibility

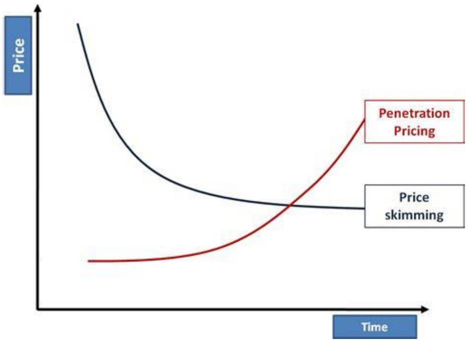
- How compatible to be with products of others
  - If firm is dominant, generally prefers incompatibility with others' platforms but may use controlled licensing for complements
  - If firm is at installed base disadvantage, generally prefers some compatibility with others and aggressive licensing for complements

Licensing and Compatibility

- Whether to make product compatible with own previous generations
  - Backward compatibility
    - ✓ When products of a technological generation can work with products of a previous generation
    - ✓ May cause the firm to forfeit some sales of complementary goods for the new generation
  - If installed base and complements are important, backward compatibility usually best
    - ✓ Can leverage installed base and complements of previous generation
    - ✓ Can link generations through time and prevent competitors from having a window to enter the market
    - ✓ Can be combined with incentives to upgrade
    - ✓ e.g. MS windows
  - Backward compatibility can be at odds with the firm's technological objectives
    - ✓ e.g. iPhone 7 without the analog headphone jack.

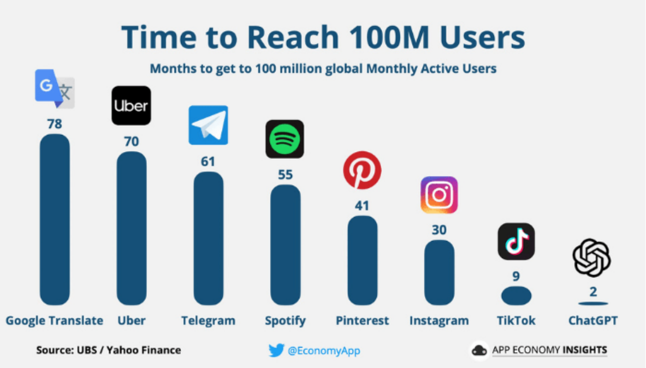
Pricing

- Typical pricing strategies for new innovations
  - Maximize current profits: Market skimming strategy (high initial prices)
    - ✓ Signal market that the new product is a significant innovation offering a substantial performance improvement over existing ones
    - ✓ Recoup initial development expenses (assuming there is high demand)
    - ✓ Attracts competitors to the market and may slow adoption
  - Maximize market share: Penetration pricing (very low price)
    - ✓ Accelerates adoption, driving up volume and production costs down
    - ✓ Requires large production capacity be established early
    - ✓ May lose money on each unit if the price is less than variable costs
    - ✓ Common strategy when competing for dominant design



Pricing

- Strategies for manipulation of customer's perception of price
  - Free initial trial model
    - ✓ Delay paying the purchase price by offering a free trial for a fixed time
    - ✓ Useful when customer face great uncertainty
  - Razor and blade model (Gillette model)
    - ✓ Platform is cheap or for free but complements are expensive
    - ✓ e.g. Laser print + Toner
  - "Freemium" model
    - ✓ The base product is free, but additional features or capacity have a price
    - ✓ e.g. Youtube, Dropbox, ChatGPT, etc.



Distribution

- Selling Direct Vs. Using Intermediaries
  - Selling direct
    - ✓ Gives firm great control over selling process, price, and service
    - ✓ Enable the firm to capture more information about customers and facilitate customization
    - ✓ Can be expensive and/or impractical
  - Using intermediaries
    - ✓ Manufacturers' representatives: independent agents that may promote and sell the product lines of one or a few manufacturers
      - Useful when direct selling is appropriate but the manufacturer does not have own direct sales force for all markets
    - ✓ Wholesalers: firms that buy manufacturer's products in bulk then resell them (typically in smaller, more diverse bundles)
      - Pool larger orders from a large number of manufacturers and sell a wider range of goods in small quantities to customers
      - Handles transactions with retailers and provides transportation
    - ✓ Retailers: firms that sell goods to public
      - Provide convenience for customers
      - Enable on-site examination and service

Distribution

- Selling Direct Vs. Using Intermediaries
  - Original equipment manufacturers (OEMs)
    - ✓ A company that buys products (or components) from other manufacturers and assembles them or customizes them and sells under its own brand name
      - Aggregates components from multiple manufacturers
      - Provides single point-of-contact and service for customer
  - Disintermediation
    - ✓ When the number of intermediaries in a supply channel is reduced
    - ✓ e.g. online investing enables customers to bypass brokers
  - Factors for determining whether and what types of intermediaries the firm should use
    - ✓ How does the new product fit with the distribution requirements of firm's existing product lines?
    - ✓ How numerous and dispersed are customers, and how much product education or service will they require? Is prepurchase trial necessary? Is installation or customization required?
    - ✓ How are competing products or substitutes sold?

Marketing

- Major marketing methods
  - Advertising
    - ✓ Requires effective message and effective media that conveys message to appropriate target market
    - ✓ Must strike appropriate balance between entertainment or aesthetics (to make memorable) versus information content (to make useful)
  - Promotions
    - ✓ Samples or free trial
    - ✓ Cash rebates after purchase
    - ✓ Including an additional product (a "premium") with purchase
    - ✓ Incentives for repeat purchase
    - ✓ Sales bonuses to distributor or retailer sales representatives
    - ✓ Cross promotions between two or more non-competing products to increase pulling power
    - ✓ Point-of-purchase displays to demonstrate the product's features

Marketing

- Major marketing methods
  - Publicity and Public Relations
    - ✓ Attempt to generate free publicity and word-of-mouth (e.g., mention in articles, television programs, etc.) or produce own internally generated publications
    - ✓ Sponsoring special events (e.g. sporting events, competitions, conferences), contributing to good causes (e.g. charities), exhibiting at trading associations
    - ✓ Viral marketing: attempt to capitalize on social networks by "seeding" information to well-connected individuals
      - Sending information directly to targeted individuals in effort to stimulate word-of-mouth advertising
      - Leveraging the fact that people are more receptive to information coming from personal contacts

Marketing

- Tailoring the Marketing Plan to Intended Adopters
  - Innovators and Early Adopters
    - ✓ Looking for advanced technologies offering a significant advantage, willingly taking risks and paying high prices, and accepting incompleteness in the product
    - ✓ Responding to marketing that offers significant technical content and emphasizes leading-edge nature of product
    - ✓ Need media with high content and selective reach
  - Early Majority
    - ✓ Looking for useful technologies, avoiding risks, and paying reasonable prices
    - ✓ Responding to marketing emphasizing product's completeness, ease of use, consistency with customer's life, and legitimacy
    - ✓ Need media with high reach and high credibility
  - Late Majority and Laggards
    - ✓ Responding to marketing emphasizing reliability, simplicity, and cost-effectiveness
    - ✓ Need media with high reach, high credibility, but low cost

Marketing

- Tailoring the Marketing Plan to Intended Adopters
  - Chasm
    - ✓ A big crack between early adopters (technological enthusiasts or visionaries) and early majority (pragmatists)
    - ✓ Sales drop off as the early adopter market is saturated and the early majority market is not yet ready to buy
    - ✓ Need for formulating effective strategy to cross the chasm for high-tech products