Recognizing Lock-In

- Measure switching cost
- Classification of Lock-In
- Lock-in cycle

What's the Difference?

- Durable investments in complementary assets that are specific to that brand of machine (e.g. hardware, Software)
- Dynamics:
  - Supplier wants to lock-in customer
  - Customer wants to avoid lock-in
- Basic principle: Look ahead and reason back

Examples

- Bell Atlantic's digital switch equipment
  - Competitors: AT&T, Northern Telecom and Siemens
  - Final Decision: Bell Atlantic invested $3 billion in AT&T's S5S digital switch which used proprietary operating system
  - Large switching costs to change switches
    - Recognize all Toll-free $8 million
    - Offer voice dialing $10 million
    - 30~40% switch related revenue
  - Computer Associates
    - Leading supplier of software that work with IBM's MVS and VSE/ESA
    - The third largest software company (behind MS and Oracle)
    - Rival: Legent corporation

Small Switching Costs Matter

- Example
  - Phone number portability
  - Email addresses
- Emergence of new business model: Hotmail
  - Advertising, portability
- New service: ACM, CalTech
  - Offer email forwarding as a way to avoid address lock-in
  - Keep in with members and alumni
- Evaluation: Compare switching costs to revenue on a per customer basis

Valuing an Installed Base

- Total cost of switching = costs the customer bears + costs the new supplier bears (from the perspective of the new supplier)
  - Customer C switches from A to "same position" with B
  - Total switching costs = customer costs + B's costs
- Example
  - Switching ISPs costs customer $50 new ISP $25
  - New ISP make $100 on customer; induce switch
  - New ISP makes $70 on customer; don't induce switch
Analytics of Switching Cost

- Market structure
  - Perfectly competitive market with many identical firms
- Parameter:
  - p: price
  - c: ISPs’ marginal cost
  - s: customer’s switching cost (cost to change ISP)
  - d: discount for switching
  - r: interest rate (monthly)

Competitive market equilibrium

- Customer’s decision
  - No difference
  \[ \begin{align*}
  \text{switched:} & \quad (p-d) + p/r + s = p + p/r \\
  \text{Not switched:} & \quad \text{profit per customer} = \text{total switching costs per customer}
  \end{align*} \]
  - ISP’s decision
    - Zero profit
    \[ \begin{align*}
    d &= s \\
    p - c - s &= \frac{p - c}{r}
    \end{align*} \]

Profits & Switching Costs

In General:

- Profits from a customer = [total switching costs] + [quality/cost advantages]
- In commodity market like telephony
  - profit per customer = total switching costs per customer
- Use of this rule of thumb
  - How much to invest to get locked-in base
  - Evaluate a target acquisition (e.g., Hotmail)
  - Product and design decisions that affect switching costs

Classification of Lock-In

- Contractual commitments: Compensatory or liquidated damages
- Durable purchases: replacement, declines with time
- Brand-specific training: rises with time
- Information and data: rises with time
- Specialized suppliers: may rise
- Search costs: learn about alternatives
- Loyalty programs: rebuild cumulative usage

Contractual Commitments

- “Requirements contract”:
  - Purchase supplies from one supplier
  - Minimum order size commitment
  - Guarantee (price, quality)
- Beware of “evergreen contracts”:
  - Automatically renew sixty or ninety days before initial ending date

Durable Purchases

- Aftermarket sales (supplies, maintenance)
- Depends on (true) depreciation
- Usually fall with time
- Watch out for multiple pieces of hardware
  - Supplier will want to stagger vintages
  - Contract renewal
- Technology lock-in v. vendor lock-in
Brand-specific Training

- How much is transferable?
- Example: Software
- Competitors want to lower switching costs
  - Eg. Help systems
    - Borland Quattro Pro aimed at Lotus 1-2-3
    - Word aimed WordPerfect
- Customers desire to standardize all of their equipment by using a single vendor
  - Eg. Fleet commonality

Information & Databases

- Information and database grow over time
- Lock-in to grow stronger with time
- Vendors’ strategies: raise or lower consumers’ switch cost and capitalize on the crucial distinction between proprietary and standardized formats
- Consumers’ strategy: keep control of information and databases by using standardized formats and interfaces

Specialized Suppliers

- With specialized equipment, the switch costs depends on the ability of new suppliers to offer comparable equipment when needed in the future
- Examples
  - NASA’s suppliers, advertising, legal, accounting firms
- Purchasers’ strategy: Dual sourcing
  - IBM (Intel and AMD)

Search Costs

- Especially, Mass market
- Transactions cost in finding new suppliers
  - Psychological costs, time and effort to find a new supplier, risk cost
- Also costs borne by the new supplier
  - Promotion, closing deal, setting up account, credit risks
- Example: Credit Cards
  - Costly to attract new accounts
  - Danger of adverse selection
  - $100 million in receivables would be worth about $120 million
  - Market valuation of “loyalty”

Loyalty Programs

- Constructed by firm
  - Frequent flyer programs
  - Frequent coffee programs
- Personalized Pricing
  - Gold status in airline
- Affiliation
  - Amazon Associates Program
    - Referral fee: 5-1/8 %
  - B&N’s Affiliates program
    - Referral fee: 7 %
  - Add nonlinearity?
    - Cumulative referrals
    - Give playoff only after some milestone

Lock-in cycle

1. Brand Selection
2. Lock-In
3. Entrenchment
4. (Free) Sampling
Summary

• Switching costs are ubiquitous
• Customers may be vulnerable
• Value your installed base
• Watch for durable purchases
• Be able to identify 7-types of lock-in