Unit 8: Strategies for Information Industries

Background

- Incumbent supplier may prefer to see a new technology die from lack of standardization, hoping to prolong its profits from older technology

- Some companies have no interest in seeing a successful standard emerge
  - We should be careful of these companies

How standards change game

- *Expanded Network Externalities*
- *Reduced Uncertainty*
- *Reduced Consumer Lock-In*
- *Competition for the Market vs Competition in the Market*
- *Competition on Price versus Features*
- *Component versus Systems Competition*

How standards change game

- ***Expanded Network Externalities***
  - Standards enhance compatibility, or interoperability and generates greater value for users by making the network larger.
  - Either way, the larger network is a real boon to consumers.

- ***Reduced Consumer Lock-In***
  - If the standard is truly open, consumers will be less concerned about lock-in because there will be options that are available in other brands too.

How standards change game

- ***Reduced Uncertainty***
  - Standards reduce the technology risk faced by consumers.
  - Accelerates acceptance of a new technology.
  - In contrast, with incompatible products, consumer confusion and fear of stranding may delay adoption.

How standards change game

Competition for the Market vs Competition in the Market

- standards reduce lock-in, they shift the locus of competition from an early battle for dominance to a later battle for market share

- Instead of competing for the market, companies compete *within* the market, using the common standards

How standards change game

- ***Competition on Price versus Features***
  - Standards shift competition away from features and toward price, for the simple reason that many features are common across all brands

  - Differentiation helps to compete on price in this case

How standards change game

- ***Component versus Systems Competition***
  - Standards shift the locus of competition from systems to components.

  - A company can do well making the best or cheapest television, even if it sells no VCRs. Similarly, a different company can profit by selling stereo speakers, even if it makes no receivers or CD players

WHO WINS AND WHO LOSES FROM STANDARDS

- ***Consumers***

  - Consumers generally welcome standards: they are spared having to pick a winner and face the risk of being stranded

  - enjoy the greatest network externalities in a single network

  - Downside:
    - Loss of variety

WHO WINS AND WHO LOSES FROM STANDARDS

- **Complementers (Sellers of Complementary product)**

  – Sellers of complements welcome standards, so long as their products comply with the standard

  – AOL sells Internet access, a complement to modems. AOL benefits from the use of standardized, high-speed modems in that AOL itself does not need to maintain separate banks of modems with different formats

WHO WINS AND WHO LOSES FROM STANDARDS

- **Incumbents**

  - Product standards for new technologies can pose a grave threat to established incumbents.

  - After all, if standards fuel the positive feedback cycle and help launch a new technology, they can easily cannibalize sales from an older technology.

  - Incumbents have three choices.
    - First, deny backward compatibility to would-be entrants with new technology in the hope of blockading entry altogether, thereby extending the life of its own technology.

WHO WINS AND WHO LOSES FROM STANDARDS

- Second,
  - An incumbent can rush to introduce its own new generation of equipment, perhaps with the unique advantage of backward compatibility, to win a standards war.

- Third : Alliance
    - An incumbent can ally(join with other organization or person) itself with the new technology, hoping to benefit from its established brand name, an expanded market, and perhaps from royalty and technology licensing income

WHO WINS AND WHO LOSES FROM STANDARDS

- Innovators

  - Collectively tend to welcome standards, because standards typically expand the total size of the market and may even be vital for the emergence of the market in the first place.

  - Whenever a group of innovators collectively benefit from a standard, there is always *some way for them to structure an agreement in support of that standard*

TACTICS IN FORMAL STANDARD SETTING

- Formal Standard
  - Set by a recognized body , like IEEE, ITU, etc.

- Once we have assessed the strengths and objectives of the other players, we should apply the following principles of strategic standard setting:

- **Don't automatically participate. If we can follow a control strategy**
  - organize an alliance outside the formal standard-setting process
  - we can retain more control over the technology and the process

- **Keep up our momentum.**
  - Don't freeze our activities during process of standard setting
  - keep up your R&D efforts, and
  - prepare to start manufacturing.

- **Be creative about cutting deals**

  – Figure out what key assets you bring to the table

  – Use the assets to assemble a coalition or to extract favorable terms when you pick sides

  – Consider low-cost licensing, second sourcing, hybrid standards, grant backs of improvement patents, and commitments to participate in future joint development efforts

  – make your moves at times when you can make a difference

  – Look for mutually beneficial deals

- **Beware of vague promises**
  - Don't count on vague promises of openness made early on
  - In the ITU, for example, individual companies are expected to support whatever position the State Department takes on behalf of the United States, since the department consults first with the industry. As a result, companies lose the ability to stop or steer the process once national positions are set

- **Search carefully for blocking patents.**
  - Beware of picking a standard that will require using a patent held by a company not participating in the standard-setting process.

  - Suppose a standard is selected, production begun, and positive feedback is achieved. Then a company that did not participate in the standard-setting process suddenly appears and asserts that everyone complying with the standard is infringing on a patent held by that company

- **Consider building an installed base preemptively.**
  - Establishing manufacturing sources and building an installed base to strengthen our bargaining position.

  - This can be done through excessive marketing and product supply

  - This is risky, and not always possible, but it can are akin to moving our troops into a stronger position while negotiating for peace.

Waging a Standards War

Standard war

- Often, a standard is created by a trusted standards organization such as the International Organization for Standardization (ISO), instead of one single company.

- Many would argue that it is instead a specification or a common procedure.

- Standard usually stands for a common definition of a format or an operation, as such giving a benefit to the users of that standard, who can rely on the defined specification.

CLASSIFICATION OF STANDARDS WARS

- A critical distinguishing feature is the magnitude of the switching costs, or more generally the adoption costs, for each rival technology.

- We can classify standards wars according to how compatible each player's proposed new technology is with the current technology.

- **Rival evolutions**
  - If both your technology and your rival's technology are compatible with the older, established technology but incompatible with each other, we say the battle is one of *rival evolutions.*
  - *Competition between DVD* and Divx (both of which will play CDs), fit this pattern.

- **Evolution versus revolution**
  - If your technology offers backward compatibility and your rival's does not, we have evolution versus revolution. The evolution versus revolution war is a contest between backward compatibility: evolution, and superior performance: revolution.

CLASSIFICATION OF STANDARDS WARS

- *Revolution versus Evolution*
  - Your technology is incompatible but rival's technology is compatible

- *Rival revolutions*
  - If neither technology is backward-compatible we have *rival revolutions*
  - The contest between Nintendo 64 and the Sony PlayStation

Table 9.1. Types of Standards Wars

Your Technology	Rival Technology	
	Compatible	*Incompatible*
Compatible	Rival evolutions	Evolution versus revolution
Incompatible	Revolution versus evolution	Rival revolutions

KEY ASSETS IN NETWORK MARKETS

- **Control over an installed base of customers.**
  - An incumbent firm, like Microsoft, that has a large base of loyal or locked-in customers, is uniquely placed to pursue an evolution strategy offering backward compatibility. Control over an installed base can be used to block cooperative standard setting and force a standards war

- **Intellectual property rights.**
  - Firms with patents and copyrights controlling valuable new technology or interfaces are clearly in a strong position.
  - The core assets of Sony and Philips in the CD and DVD areas were their respective patents.
  - Software copyrights that can be used to block compatibility can be highly valuable.

- **Ability to innovate.**

  - Beyond your existing IPRs, the ability to make proprietary extensions in the future puts you in a strong position today.

  - If you have a crackerjack R&D group, it may be worth some current sacrifices if you think you can outrun your competitors in the long haul.

  - Hewlett-Packard's engineering skills are legendary in Silicon Valley; it is often in HP's interest to compromise on standards since it can out-engineer the competition once the standard has been defined, even if it has to play some initial catch-up.

- **First-mover advantages.**

  - If you already have done a lot of product development work and are farther along the learning curve than the competition, you are in a strong position.

  - Canon created the personal laser printer market and has continued to dominate the manufacture of the engines in laser printers to keep costs lower and quality higher than its competitors.

- **Manufacturing abilities.**
  - If you are a low-cost producer, owing to either scale economies or manufacturing competence, you are in a strong position.
  - Cost advantages can help you survive a standards war or capture share competing to sell a standardized product.

  - Rockwell has lower costs than its competitors in making chipsets for modems. These companies benefit from open standards, which emphasize the importance of manufacturing skills

- **Strength in complements.**
  - If you produce a product that is a significant complement for the market in question, you will be strongly motivated to get the bandwagon rolling.
  - This, too, puts you in a natural leadership position, since acceptance of the new technology will stimulate sales of the other products you produce.

- **Reputation and brand name.**

  - Reputation and brand name are especially valuable in network markets, because it's not enough to have the best product; you have to convince customers that you will win.

  - Previous victories and a recognized name count for a lot in this battle.

  - Microsoft, HP, Intel, Sony, and Sun each have powerful reputations in their respective domains, giving them instant credibility

TWO BASIC TACTICS IN STANDARDS WARS

- *Preemption*

- *Expectations Management*

TWO BASIC TACTICS IN STANDARDS WARS

1. Preemption

– Build an early lead, so positive feedback works for you and against your rival.

– The first firm to gain significant experience will have lower costs and can pull even farther ahead.

– Either way, the trick is to exploit positive feedback.

– With network externalities, the positive feedback comes on the demand side; the leader offers a more valuable product or service.

TWO BASIC TACTICS IN STANDARDS WARS

- One way to preempt is simply to

Be first to market.

- Product development and design skills can be critical to gaining a first-mover advantage.

- But watch out:

  - Early introduction can also entail compromises in quality and a greater risk of bugs, either of which can doom your product

TWO BASIC TACTICS IN STANDARDS WARS

- Another way to preempt is **<u>Aggression</u>**

  - Be aggressive early on to build an installed base of customers.

  - Find the "pioneers" (aka gadget freaks) who are most keen to try new technology and sign them up swiftly. Use penetration pricing to build an installed base.

  - Use discounting to attract large, visible, or influential customers

  - In some cases, you can go beyond free samples and actually *pay people to take your product*
    - Danger is that someone will accept payment for "using" your product but then not really use it

TWO BASIC TACTICS IN STANDARDS WARS

- Before you give your product away or pay customers to take it, you need to ask three questions.

    – If you pay someone to take your product, will they really use it and generate network externalities for other, paying customers?

    – How much is it really worth to you to build up your installed base? Where is the offsetting revenue stream, and when will it arrive?

    – Third, are you fooling yourself? Beware the well-known winner's curse, in which the most optimistic participant wins.

TWO BASIC TACTICS IN STANDARDS WARS

2. Expectations Management

- **Vaporware** ; a classic tactic aimed at influencing expectations:
  - Announce an upcoming product so as to freeze your rival's sales.

- Drawing the line between "predatory product pre-announcements" and simply being late bringing a product to market is not so easy.

- Missed launch dates, creates anti-trust issues

- Microsoft's stock took a 5.3 percent nosedive in late 1997 after announcing a delay in the launch of Windows 98 from the first to the second quarter of 1998.

TWO BASIC TACTICS IN STANDARDS WARS

- The most direct way to manage expectations is by assembling allies and making grand claims about your product's current or future popularity.

- Microsoft claimed that its word processing software was the most popular in the world.
  - WordPerfect even filed a court complaint against Microsoft

- Barnes & Noble did the same thing to Amazon, arguing that its claim to being the "world's largest bookstore" was misleading.

Capstone Case:

Microsoft vs Netscape
Battle of the Browsers

CAPSTONE CASE; MICROSOFT VERSUS NETSCAPE

- Battles of the browsers

- In one corner
  - Netscape Communications
  - Company that popularized the very idea of an Internet browser: the Internet pioneer

- In the other corner
  - The mighty Microsoft
  - Heavyweight of high tech: the world's largest software supplier, and dominant on the desktop

CAPSTONE CASE; MICROSOFT VERSUS NETSCAPE

- When Microsoft went on the attack, Netscape had a far superior product and a substantial installed base of satisfied users.

- Microsoft, however, had its brand name, a history of dominating one software application after another, control over the underlying operating system, and seemingly limitless financial resources at its disposal.

CAPSTONE CASE; MICROSOFT VERSUS NETSCAPE

- First, there appears to be little by way of training needed for someone to effectively use a browser.

- One of the attractions of the Netscape Navigator is that many people find it simple and intuitive.

- Navigator relies on HTML, which is quite open, and bookmark files are easily transferred between browsers.

- So individual switching costs are not large.

CAPSTONE CASE; MICROSOFT VERSUS NETSCAPE

- So far at least, either brand of browser can view the vast majority of Web pages with equal effectiveness.

- Some observers have expressed concern that Microsoft will find a way to strengthen the network externalities, through control over software for servers, if and when it has a stronger position on the client/ browser side.

- If Microsoft is able to get the majority of servers to display material in a superior fashion for the Internet Explorer, strong positive feedback might kick in.

- However, the most popular product in the Internet server market is Apache, which enjoys a 47 percent market share and is completely open. Microsoft and Netscape servers have 22 percent and 10 percent of the market, respectively.

CAPSTONE CASE; MICROSOFT VERSUS NETSCAPE

- An unusual but handy aspect of the browser market is that market shares can be measured in terms of *usage rather than purchases of the product,* since Web sites can determine the browser used by a visitor
    - The "active" installed base is what matters

- The browser wars involve rival evolutions.

- So far at least, both browsers are compatible with existing hardware and software systems.

- Most of the action involves four of the tactics for waging a standards war that we have discussed above:

- (1) preemption,
- (2) penetration pricing,
- (3) expectations management,
- (4) jockeying for allies

- ***Preemption***
- Netscape enjoyed a big head start with Navigator, which was introduced
- in 1995. Microsoft licensed the original source code for Mosaic from
- Spyglass and rushed Internet Explorer to market. Microsoft's haste
- showed, and Internet Explorer was widely regarded as a joke until
- Internet Explorer 3.0 was released in August 1996. By that time, many
- firms and individuals had already installed Netscape Navigator. With
- technology moving so rapidly, however, and in the absence of substantial
- consumer lock-in, an ongoing race developed to bring out new and
- improved versions ahead of the competition. As in other software categories,
- sales surge with the release of a new version, then drift until the
- cycle repeats itself.

- Once a user has downloaded one browser, there is little reason to use another unless it offers superior functionality.

- Preemption can still occur if one browser supplier obtains exclusive
- rights to have its browser on that OEM's desktop, or if the OEM is given
- an incentive not to load the rival browser on its machines. So far,
- browser software does not occupy so much disk storage space as to
- crowd out another browser, and antitrust oversight makes it risky for
- Microsoft to sign exclusive deals with OEMs.