

Lecture Note I-8 Cooperation and Compatibility

- Standard and competition game
- Standard setting tactics

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How Standards Change the Game

- Expanded network externalities
 - Make network larger, increase value
- Reduced uncertainty
 - No need to wait
- Reduced consumer lock-in
 - Netscape's "Open Standards Guarantee"; MS's XML
- Competition *for* the market v. competition *within* the market
 - Shift from an early battle for dominance to later for market share

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How Standards Change the Game (cont')

- Competition on price v features
 - Reduce product differentiation, commoditized products
- Competition to offer proprietary extensions
 - Strong incentives for suppliers to differentiate by developing proprietary extensions (standard extension)
- Component v systems competition
 - With interconnection, can compete on components

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Who Wins and Who Loses?

- Consumers
 - Generally better off
 - But variety may decrease
- Complementors
 - Generally better off
 - May sever brokering role
 - Example: Impacts of DVD standard on distributor Blockbuster
 - Gain from sells a complement to DVD
 - Threaten from new channel of distributions

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Who Wins and Who Loses? (cont')

- Incumbents
 - May be a threat
 - Strategies
 - Deny backward compatibility
 - Introduce its own standard
 - Ally itself with new technology (e.g. Sony and Philips on DVD)
- Innovators
 - Technology innovators collectively welcome standards
 - If the group benefits, there should be some way to make members benefit
 - Small players may especially welcome a standard

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Formal Standard Setting

- Fundamental principle
 - *Essential* patents must be licensed on "fair, reasonable and non-discriminatory" terms
- ITU (International Telecommunications Union)
 - 1865, now UN agency
 - Notoriously slow
- Organization
 - Independent professional body: IEEE (Institute of Electric and Electronic Engineers)
 - Government body: NIST (National Institute of Standards and Technology)
 - Unofficial groups
 - ACM- SIGART (artificial intelligence), SIGCOMM (data communication), SIGGRAPH (computer graphics), SIGIR (information retrieval)

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Tactics in Formal Standard Setting

- What is your goal?
 - National or international?
 - Protecting your interests?
- What are others goals?
 - Do they really want a standard?

Tactics in Formal Standard Setting (cont')

- Don't automatically participate
 - If you do, you have to license
- Keep up momentum
 - Continue R&D while negotiating
- Look for logrolling
 - Trading technologies and votes
- Be creative about deals
 - Second sourcing, licensing, hybrids, etc.

Tactics in Formal Standard Setting (cont')

- Beware of vague promises
 - “reasonable” royalty commitment from holders of key patents
- Search carefully for blocking patents
 - Patents held by non-participants
- Preemptively build installed base
 - Achieve stronger negotiating position

Building Alliance

- Assembling Allies
- Interconnection among Allies
- Negotiating a Truce
- Alliances in Action

Assembling allies

- Partners of Allies
 - Customers, suppliers, rivals, and complementor
- Assembling allies
 - Pivotal customers should get special deals
 - MS give IE users free access to *Wall Street Journal*
 - But don't give your first customers too big an advantage
 - Offer temporary price break
- Who bears risk of failure?
 - Usually ends up with large firms
 - But bankruptcy favors small firms
 - Government is even better!
 - Smart cards in Europe (mandated for pay phone)

Interconnection among Allies

- Presence of strong **network externality**
- Become more strategic once networks began to compete against each other over the same routes :**side by side networks rather than end to end networks**
- In you control a key interface or bottleneck, you should open it up but on you own terms and conditions
 - Reduce the risk to lost control over the network over time
 - Eg. Sun's Java (Microsoft “improve” Java working only on windows)

The standards game

		Player B	
Player A		Willing to fight	Wants standard
	Willing to fight	War	Attempt to block
	Wants standard	Attempt to block	Voluntary standard

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Negotiating a truce

- Maximizing Return
 - Do the benefit-cost calculation
 - How to divide a larger pie?
 - Your reward = Total value added x your share
- Cooperation between Netscape and Microsoft
 - Open Profiling Standard
 - VRML
 - SET

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Alliances in Action

- Alliance Examples
 - Xerox - Ethernet (Metcalfe). DIX Coalition
 - Ethernet beat IBM token ring and becomes LAN standard
 - Adobe - PostScript (Warnock) and PDF (portable document format)
 - Microsoft - Active X

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Managing Open Standards

- Standard is in danger if it lacks a sponsor
 - Example: Unix
 - AT&T invention by accident
 - Gave away source code to EDU
 - 1993 Coalition: Novell purchased rights for \$320 million and gave name to X/Open
- Open standards can be hijacked by companies seeking to extend them in proprietary directions
 - Example: SGML and XML
 - Multiple dialects being promulgated

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Summary

- Competition requires allies
- Standard affects competition in several predictable ways
- Standards benefit consumers and suppliers, at expense of incumbents and sellers
- Formal standard setting adds credibility
- Find natural allies
- Before a battle, try to negotiate a truce
- Try to retain control over technology, even when establishing an open standard

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