

Strategic Responses to Standardization: Embrace, Extend or Extinguish?

Joel West
College of Business
San José State University

Jason Woodard
School of Information Systems
Singapore Management University

Keeping, Bending, or Changing the Rules:
Interfirm Interaction in Standardization
Academy of Management, August 10, 2009

Overview

- Standards strategy involves more than a binary choice to fight or cooperate
 - What firms say (public positioning) vs. what they do with the underlying technology
- This work-in-progress study:
 - Explores the structure of partial compatibility
 - Examines Microsoft's responses to 8 external technologies between 1990–2005

Motivating example: Sun's Java

- 05/95: Sun announces Java, Microsoft shuns it
- 12/95: MS will license, optimize for Windows
- 03/96: “Building interoperability” to MS ActiveX
- 10/96: MS J++ tool “might break” compatibility
- 02/97: Sun launches “100% Pure” campaign
- 04/97: JFC vs. AFC; MS goal: “fragmentation”
- 09/97: MS IE 4.0 ships without key Sun APIs
- 10/97: Sun sues Microsoft for breach of contract

Plus ... Two formal standardization efforts (Egyedi 2001), new governance model, open-source licensing, product market competition (Garud et al. 2002), and more ...



3

Our focus: Partial compatibility

- Unintentional
 - Incomplete or rapidly changing specification
 - Lazy, sloppy, rushed implementation
- Deliberate
 - Subsetting: Selective implementation
 - Supersetting: Incompatible extensions

Unintentional incompatibility may be expected, but we focus on deliberate *strategic choices*



4

Compliant? More or less ...

- Subsetting 
 - Reduce cost, protect proprietary alternatives
 - Examples: OSI, POSIX, DCE, CORBA
- Supersetting 
 - Provide specialized functionality, gain lock-in
 - Examples: HTML, WebDAV, XML dialects

(Some standards are *designed* to be subsetting or supersetting, making “compliance” a tricky concept)

Microsoft as a strategic innovator: “Embrace, extend, extinguish”

“So [on] the Internet, the competition will be kind of, once again, **embrace and extend**, and we will embrace all the popular Internet protocols.

Anything that a significant number of publishers are using and taking advantage of we will support. We will do some extensions to those things.”

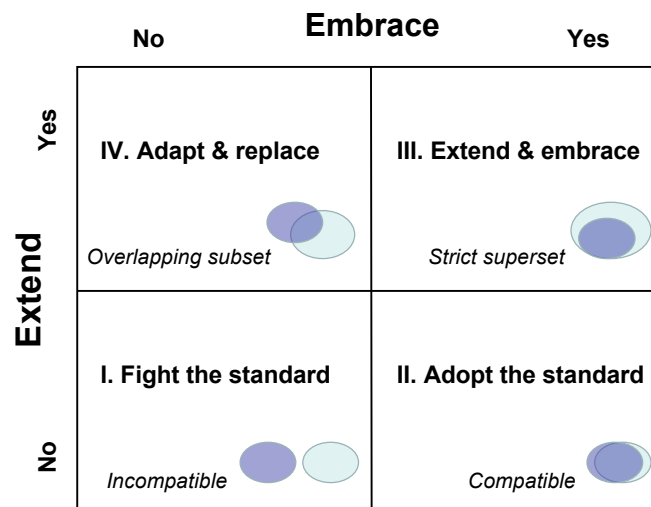
– Bill Gates, December 7, 1995

<http://www.usdoj.gov/atr/cases/exhibits/502.pdf>

Wide range of strategic choices

#	External Standard	Microsoft Standard	Outcome
1.	JavaBeans	ActiveX	MS rejected in favor of own standard; both survived
2.	CIFS, SMB2	SMB	MS adapted external technology, which became <i>de facto</i> standard
3.	Kerberos, LDAP	Active Directory	MS extended external standards; both survived
4.	OpenDoc	OLE	MS rejected in favor of own standard; external one failed
5.	SMTP, POP, IMAP		MS adopted external standard
6.	CORBA, EJB	COM+	MS rejected in favor of own standard; both survived
7.	Java	C#	MS shifted from external to own standard; both survived
8.	HTML, CSS, JavaScript	DHTML	MS extended external standards; some extensions became standardized, others were dropped
9.†	TCP/IP		MS adopted external standard
10.†	HTTP, SSL		MS adopted external standard
11.†	DCE/RPC	DCOM	MS created own standard based on external technology; both survived but MS dominated
12.†	Java, JNI	J/Direct, Visual J++	MS extended external standards but substituted some of its own technologies; external ones survived

Straw theory: Orthogonal decisions



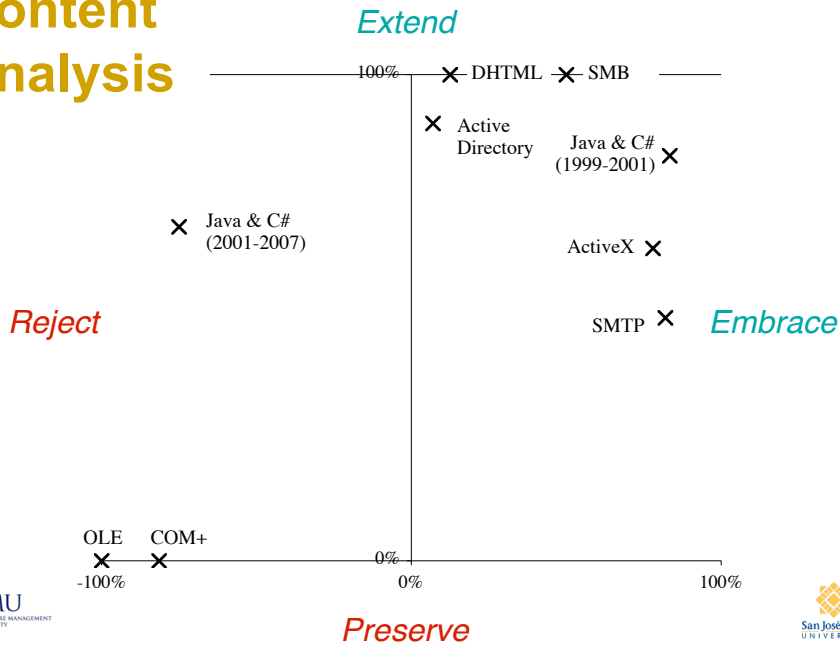
Research questions

- Supposing that firms have two choices:
 - Embrace (or not) an external standard
 - Extend (or not) such a standard
- We ask:
 - Are these choices separate or interrelated?
 - If they are related, how and why?
 - What factors influence them?

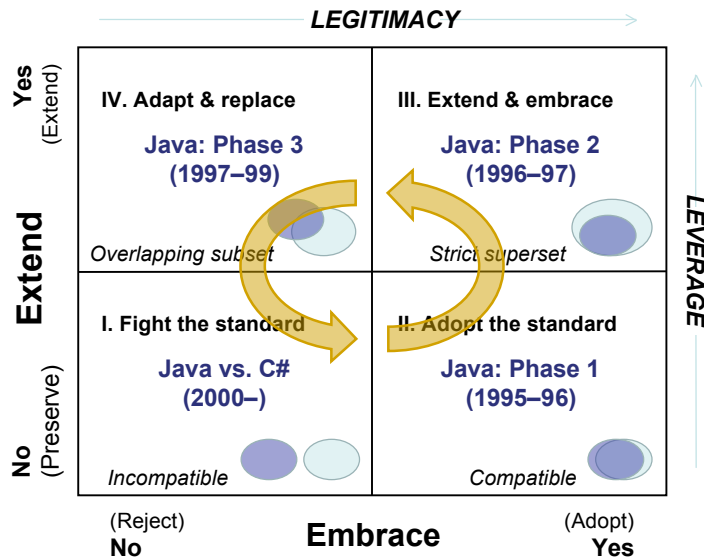
Data

- Domain
 - Microsoft's response to external standards
 - Mainly Internet-related (1990–2005)
- Content analysis
 - 76 technology news articles across 8 cases
 - Code ± 2 for embrace/reject, extend/preserve
- Detailed analysis of Java-related cases

Content Analysis



Dynamics: Java and C#



Preliminary conclusions

- Standards are both social and technological artifacts
 - Tacit or explicit agreement between parties
 - Design (rules) for system components
- Goals of standardization are in tension
 - Legitimacy (public image as a “good citizen”)
 - Leverage (architectural control / lock-in)

Limitations and future research

- Content analysis dataset is incomplete
 - Would like more cases, better sampling
 - Some cases only yielded a few articles
 - No data confirming “not extend” (preserve)
- Standard disclaimers on detailed case
 - Especially generalizability

Thank you!

- Thoughts / comments / criticisms welcome
 - Jason: jwoodard@smu.edu.sg
 - Joel: joel.west@sjsu.edu