

Technology Adoption in the Mortgage Industry

Industry and market structure determines rate and depth of technology implementation

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Industry is slow to adopt new technology

Technical standards are no exception

- **The mortgage industry has been slow to adopt many “leading edge” technologies. Why?**
 - **cyclical industry**
 - **fragmented industry (lack of capital)**
 - **fragmented vendor (supply) market**
 - **insufficient perceived benefit from new technologies**
 - **inadequate technology vendor marketing/ communications**
 - **lack of industry technology, operations standards**
- **As the industry (demand and supply sides) consolidates, the rate of technology adoption will accelerate.**

Adoption of technology in mortgage industry is uneven and at different points in life cycle

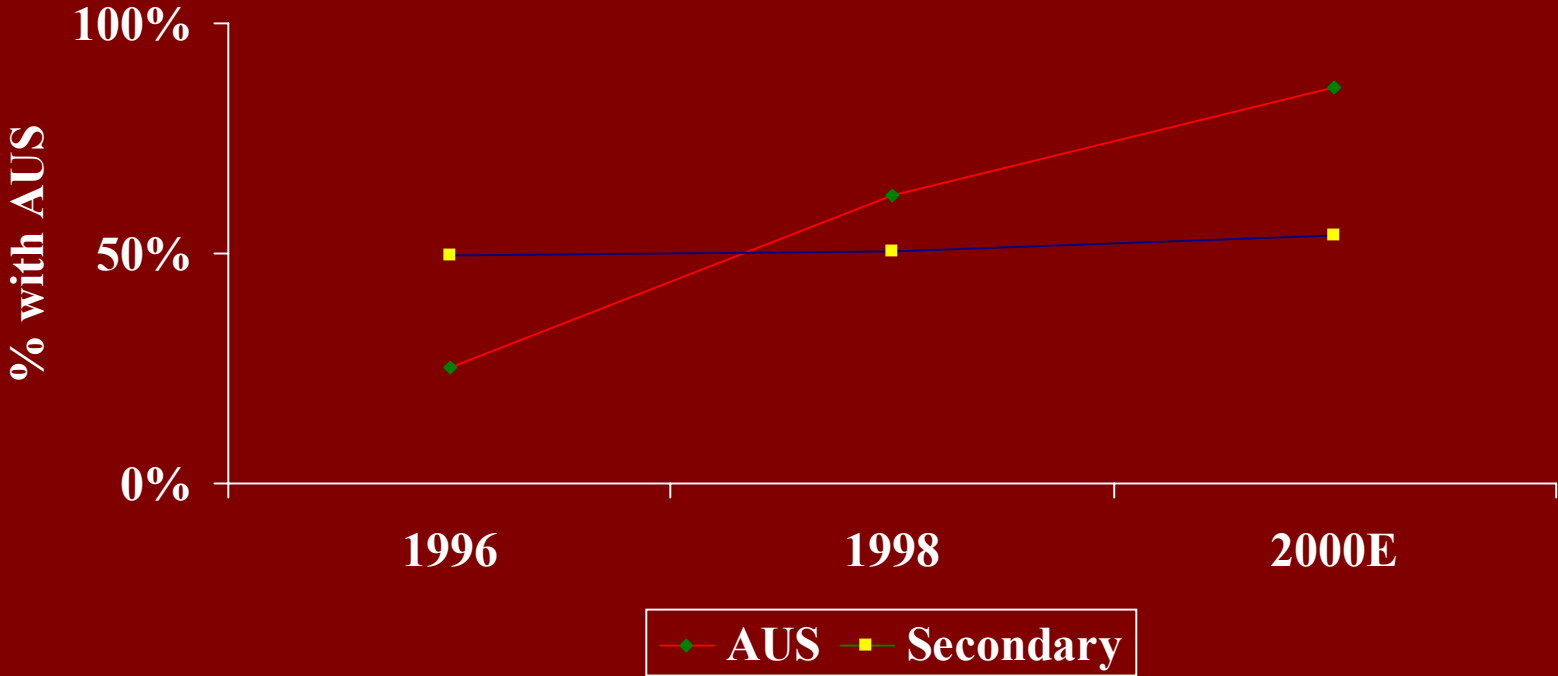
<u>Technology Application</u>	<u>% Firms Implementing</u>
• Automated Underwriting	80%
• Secondary marketing automation	52%
• Automated Risk Management	35%
• Automated (Collateral) Valuation Models	11%
• Electronic Signatures	1%

Diffusion of new developments within industry is a complex process

- Product Attributes
- Features, benefits, substitutes
- Communication
- Marketing, sales
- Promotion
- Positioning, branding
- Market Coherence
- Market structure, linkages

AUS adopted widely and quickly secondary marketing systems adoption stalled

Adoption Rates



AUS market structure more favorable to adoption than secondary marketing systems

AUS market

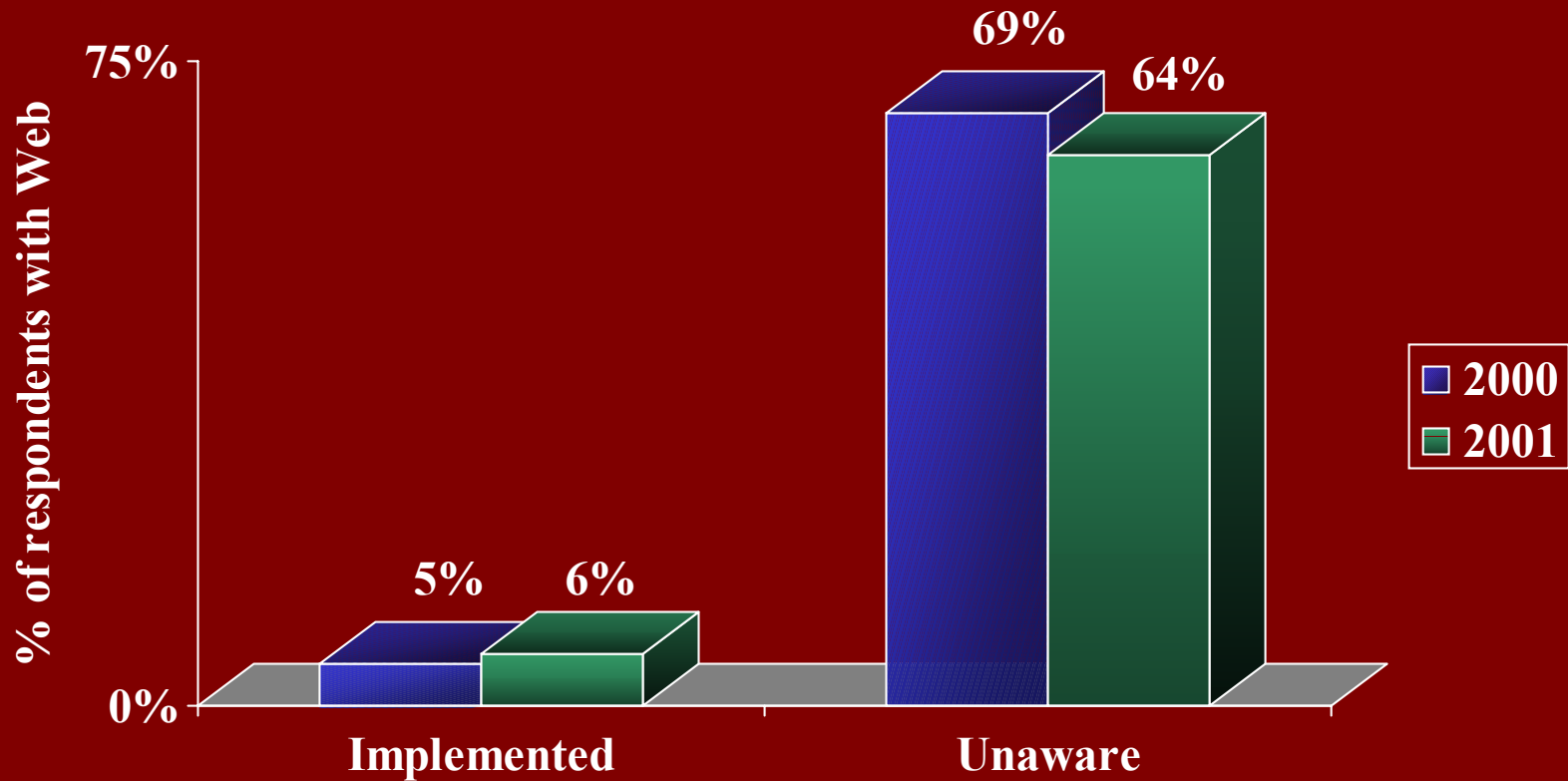
- AUS market dominated by two suppliers
- Dominant AUS vendors (GSE's) are well capitalized
- Linkage between GSE's and market is tight
- AUS product integrated into business relationships
- GSE's communicate widely and regularly with customers

Secondary mktg. systems market

- Secondary marketing systems supply fragmented
- Suppliers tend to be small and not well capitalized
- Linkages to market are fragmented and periodic
- Systems are departmental, but becoming more integrated
- Suppliers use sales, support and trade shows to communicate

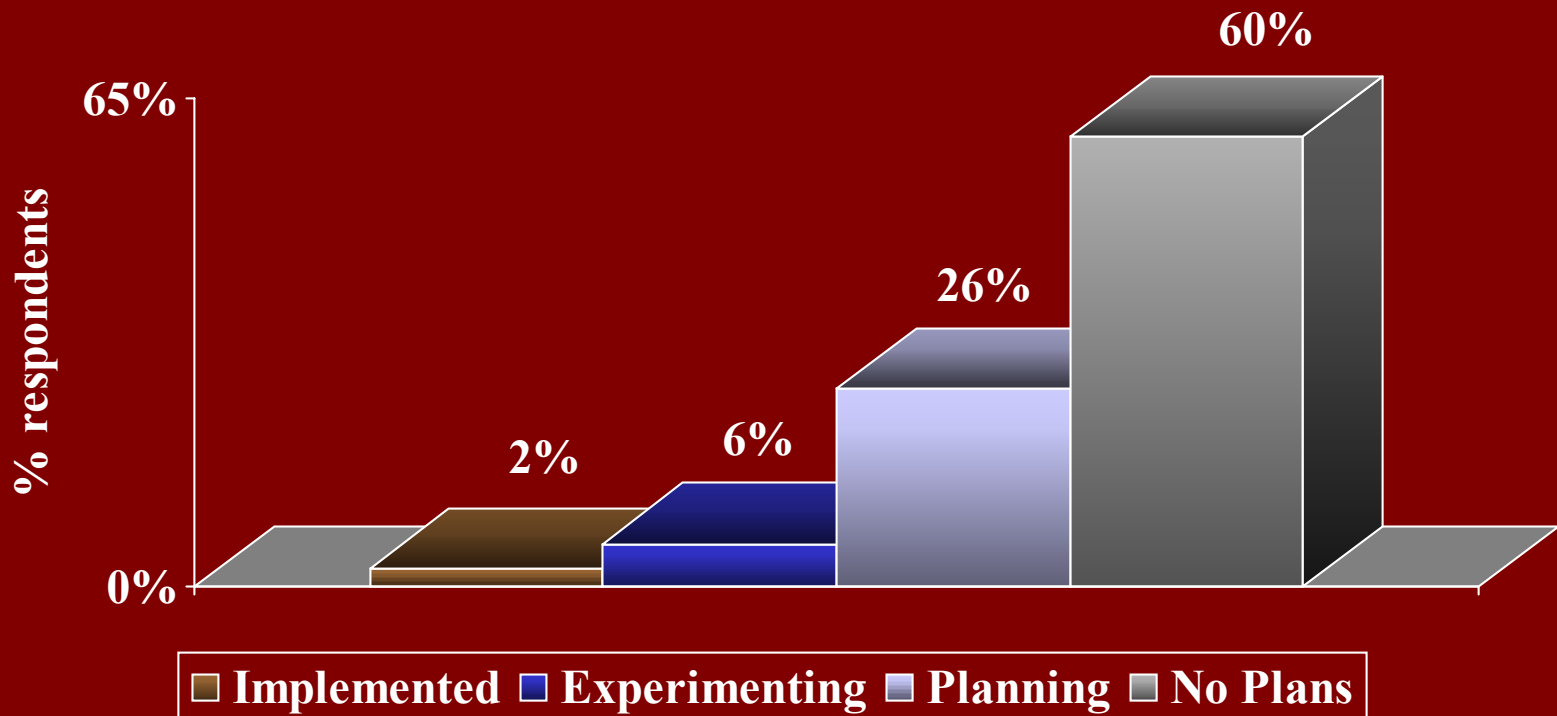
**Laying the Groundwork for eMortgage
A Case of the Industry Slow to Change**

XML Making Modest In-roads Tech Geeks Yet to Communicate Value Widely



E-signatures in Very Early Stages

Status of E-Signature



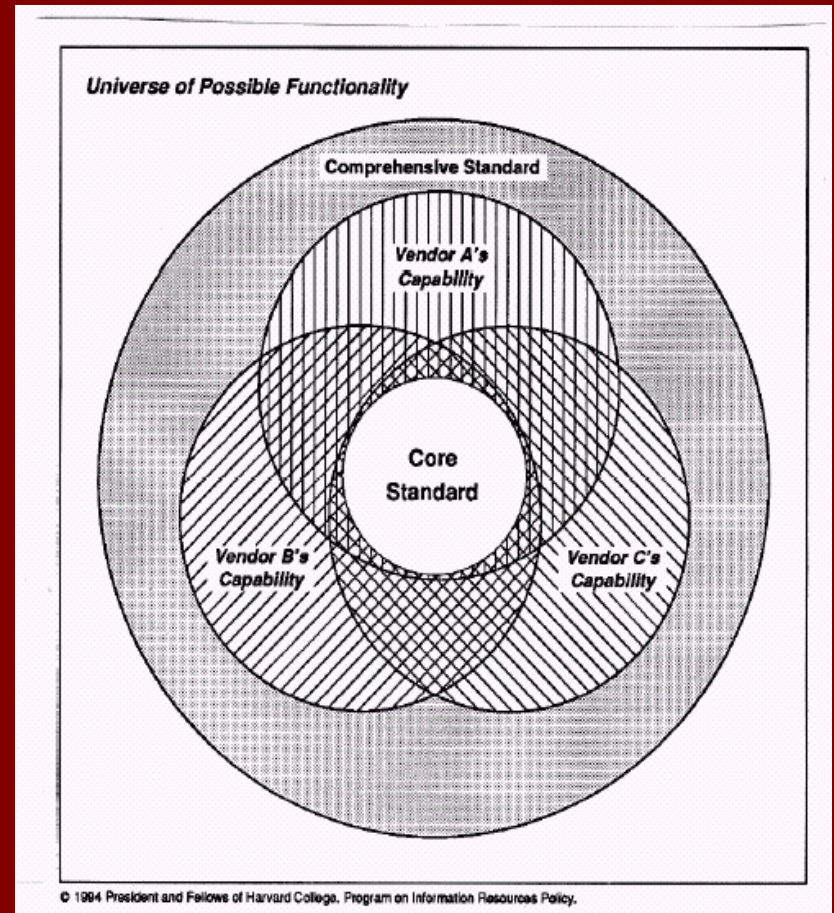
Getting to A Standard

Standards are a good thing – difficult to sell to the industry

- Technology standards could facilitate industry modernization
- Disseminating standards is complicated by difficult structural and communications issues
- Standards need to be marketed in the same way product innovations are sold

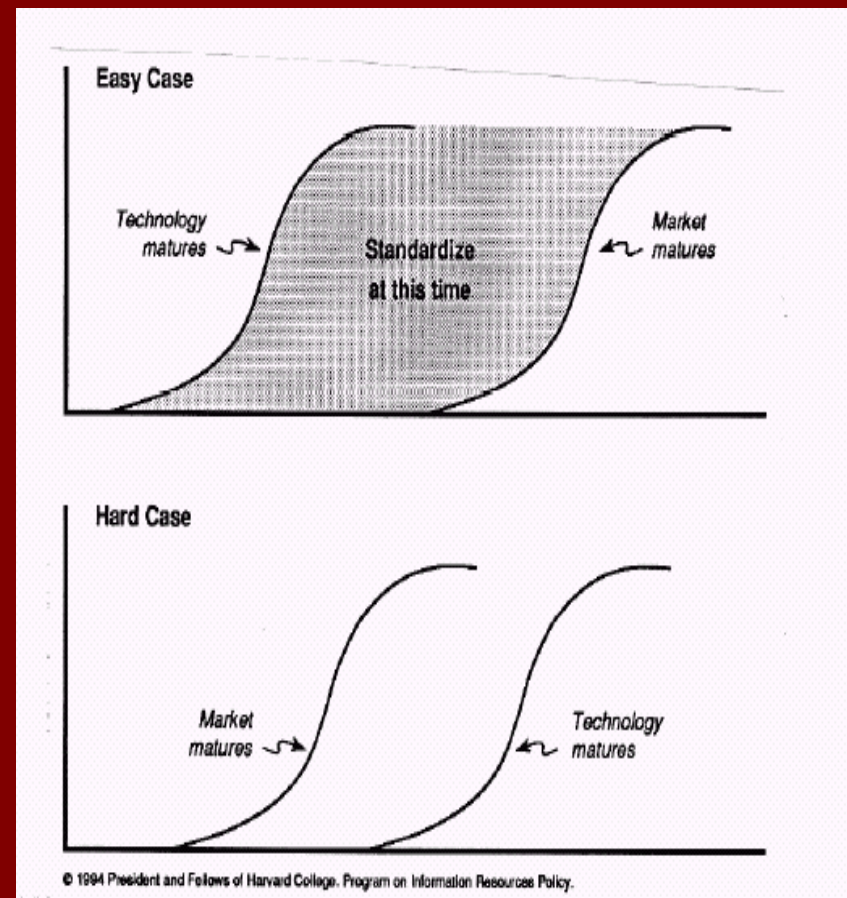
Standards that are too ambitious in scope not adopted readily

- The scope of standards may vary:
 - Core functions supported by all tech vendors
 - Individual layers of a tech function
 - An entire transaction of function set



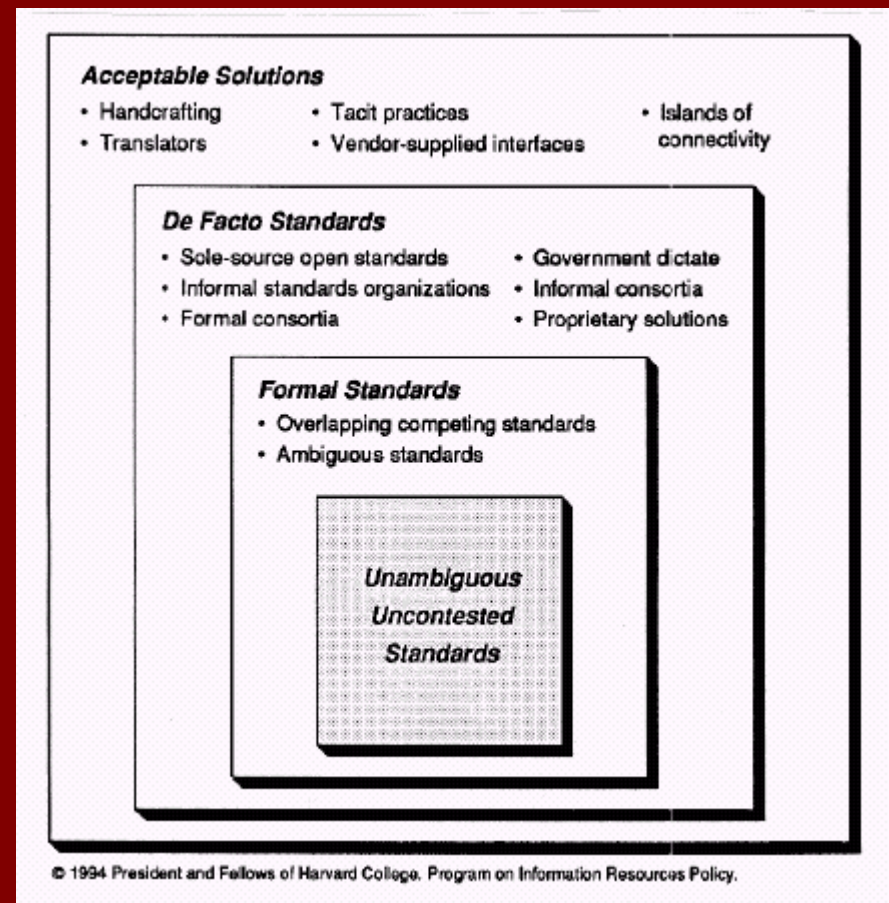
Timing of standards introduction determines adoption by industry

- Timing is critical to successful standards
 - Promulgated too early; frustrates market adaptation
 - Promulgated too late; makes adoption expensive, confusing



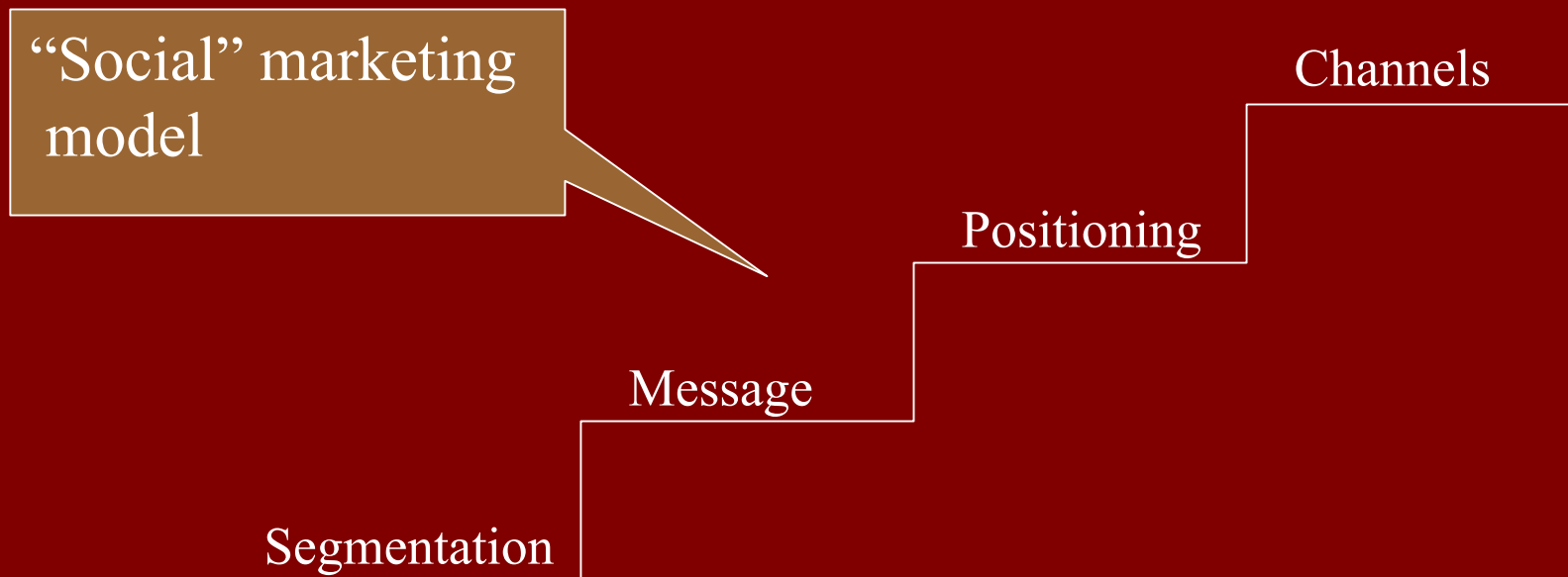
Standards adoption slowed by existence of partial substitutes

- Formal standards have to compete with substitute approaches:
 - Intermediate measures such as data mapping
 - Informal, traditional practices
 - Proprietary solutions



Standards are marketed to project meaningful value to attitudinal segments

Steps to Promote Standards Adoption



Go to www.mortech-llc.com for information on MORTECH

- Annual 360 degree view of the mortgage industry
- Input based on scientific surveys of senior industry decision makers
- Solid and reliable data on the industry and lender segments
- Detail on the most important industry issues and trends
- Fact-based analysis by Jeff Lebowitz, formerly head of strategic planning for Fannie Mae