



“Government Role in Developing an Interoperability Ecosystem”

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What is *Interoperability*?

The ability of...

People
Organizations
and Systems

... to interact and interconnect so they can efficiently and effectively exchange and use information.

What is the *Interoperability Ecosystem*?

It encompasses...

Technical Interoperability
Organizational Interoperability
Legal and Public Policy Interoperability
Semantic Interoperability

... and the impact of different political, cultural and economic paradigms.



What is the Role of Government?

To Develop the government interoperability ecosystem to facilitate efficient government operation and improve the delivery of government services to its citizens.

To encourage users, industry and those in government to address all aspects of an interoperability ecosystem when pursuing interoperability.



Technical Interoperability.

The ability of a system or a product to work with other systems or products without special effort on the part of the customer.




The Market is Best Suited to Develop Technical Interoperability.

(“The Government at the Standards Bazaar” (17 Stan. L. & Pol’y Rev. 35 (2007)))

The marketplace has many well-developed, long standing means of facilitating technical interoperability.

In general, international trade agreements limit the degree to which governments can mandate technical standards.




In contrast to market participants, government rarely has the resources to fully understand the technology marketplace and is not likely nimble enough to respond to market conditions. Therefore, the risk of *government failure* is significant.

Non-Market Failure or “Government Failure”

Justice Stephen Breyer, prior to joining the U.S. Supreme Court, described ‘government failure:’ regulatory failure occurs because of “mismatches,” the failure “to correctly match the [regulatory] tool to the problem at hand.” Stephen Breyer, *Regulation and its Reform* (1982).

“Government can mis-diagnose the problem that it is attempting to solve and apply the wrong regulatory approach as a result, or even if a problem is correctly identified, government chooses a regulatory tool that is less effective ... than other options.”


Sidney A. Shapiro, *American Regulatory Policy: Have We Found the “Third Way”?*, 48 U. Kan. L. Rev. 689, 698 (2000).



Risk of “Government Failure” in Mandating a Technical Interoperability Solution is High.

Governments can ‘pick the wrong technology’ to be the standard. Victor Stango, Senior Economist, Federal Reserve Bank of Chicago observed: “a policymaker may resolve uncertainty more quickly than would be the case in a standards war but also might be more likely to choose the “wrong” standard.”

Victor Stango, *The Economics of Standards Wars*, 3 Rev. of Network Econ. 1 (Mar. 2004)



Besen and Johnson, two prominent experts on technology standards, argue that when industry is in a period of high innovation and volatility, the likelihood that a government standard will result in inefficient and/or artificial technological decisions is particularly acute.


Stanley M. Besen & Leland L. Johnson, *Compatibility Standards, Competition, and Innovation in the Broadcasting Industry* (1986).



Organizational Interoperability.

To facilitate efficient information exchange and collaboration, an enterprise must have the appropriate mission descriptions, business goals, business processes and organizational and management structures.

Individual employees need to adapt to bring about meaningful interoperability.



Where appropriate, organizational interoperability is an area for heightened government involvement particularly in supporting research and generally encouraging attention to organizational interoperability, and providing the forum for oversight and advice including progress monitoring, assessment and validation of means to achieve organizational interoperability.



Legal and Public Policy Interoperability.

Government Rules, Industry Regulation and Statutory implications
Such as...

Privacy

Intellectual Property

Tax Law

Procurement Policies



Semantic Interoperability.

Users and devices must 'speak the same language' and precisely understand each other.



Effect of Different *Cultural, Political and Economic Paradigm.*

Precepts, norms and perceptions that define a culture, and the political goals and dynamics of the society's government may influence the approach a government , industry or enterprise takes to address interoperability.




Conclusion

Meaningful interoperability demands more than just technical solutions, there must be a healthy interoperability ecosystem.

Stakeholders should leverage their competencies:

The IT industry has many effective, time-tested means to enable technical interoperability.

Government should focus on the aspects of the interoperability ecosystem that need substantial research and support – the often more vexing aspects which are also those with broad social and public policy implication:



- Organizational Interoperability
- Legal and Public Policy Interoperability
- Semantic Interoperability
- Bridging cultural, political and economic differences



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