



Policies and IT Technologies: A Puzzle of Two Pieces

Starting with this issue, a new public policy technology track will appear in each installment of *IEEE Internet Computing* in 2006. This track will explore the relationships between IT technology deployment and policies along with the policy-related factors that affect the deployment of specific technologies. In this installment, the authors describe their vision of what to expect in future issues and issue a call to arms to build a like-minded community.

This issue of *IEEE Internet Computing* marks the beginning of a new track on IT technology policy for the magazine. With this track, readers can look forward to at least one article per issue that will delve into current perspectives on public policies in a variety of domains, including healthcare, education, e-commerce, law, and business.

We hope this track offers thought-provoking ideas and approaches of interest not only to IT specialists, but also to decision-makers and policy researchers. This broader reach could open a wider discussion of technology challenges and legislative approaches, thus leading to more innovative, efficient, and citizen-friendly telecommunications policies.

What Is “Policy”?

As IT technologies become increasingly pervasive in every aspect of our society, it's important that adequate policies regulate their use. We might see policies developed to address issues arising from

the use of new technologies or applications, for example, such as RFID-based systems, sensors, voice over IP, municipal Wi-Fi, or online gambling. In many cases, traditional ideas, such as the notion of personal identity, aren't the same in the cyberworld as they are in the real world – digital identity, for instance, extends the conventional notion of identity by supporting the digital representation and management of an individual's identifying information, such as social security or medical record numbers.

Further complicating the issue, policies that already regulate certain aspects of society such as privacy, security, and equal protection under the law can differ from country to country – different nations have different penalties for cyber-crimes, for example. We thus need IT technology that's flexible enough to meet the diversified requirements of different policies already in place.

The word *policy* isn't a tightly defined concept – it's a highly flexible one, used in

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various ways depending on the context. *Merriam-Webster's Dictionary* has several definitions:

- a definite course or method of action selected from among alternatives and in the light of given conditions to guide and determine present and future decisions;
- a specific decision or set of decisions designed to perform such a course of action;
- such a specific decision or set of decisions together with the related actions designed to implement them; and
- a projected program consisting of desired objectives and the means to achieve them.

Clearly, this gives writers and researchers plenty of latitude to examine technological problems through the lens of legislative solutions.

New Legislation

The municipal Wi-Fi currently being implemented in Philadelphia and San Francisco has already created a flurry of bill-writing in state and federal

legislatures.^{1,2} The installment raises an interesting question: Is a US\$5 per month DSL connection a basic “right” for someone living in a poor neighborhood, or is it an intrusion of government in business affairs. Internet voting is practically impossible to implement in many developed nations, but is this a technical problem, or is it because of unequal deployment of Internet technology among the poor?

A policy is a set of coherent decisions with a common long-term purpose. When governments, companies, or other entities make decisions concerning the adoption of specific solutions on purely technical or purely social grounds, the individuals or other social entities affected by these solutions complain that there is, in fact, no policy.

Synergies and Opportunities

The definitions listed earlier emphasize that a policy is a set of decisions together with a set of actions coherently implementing these decisions. However, mismatches often arise between what a policy mandates and what current IT applications can actually enforce. As a simple example, consider a privacy policy stating that certain data will be removed after 30 days from a given database system. Although this policy would seem very simple to enforce, ensuring that a piece of data is actually removed from the system is not so simple. Another complicating factor is compliance: how can we provide assurance that a system actually complies with a policy? Addressing such problems requires us to have articulated solutions that encompass a variety of techniques and tools. We also need methodologies and techniques that support the auditing processes that detect policy violations.

The process of developing and deploying a policy is often complex and continuous, possibly requiring the involvement of several individuals. It's natural to ask whether IT technology can help such a process, but strangely enough, this topic hasn't been widely investigated. However, we see today the emergence of systems that support collaborative applications. In a sense, developing and deploying a policy is a collaborative decision-making process and, as such, it can exploit technologies developed for collaborative applications and decision-support systems. Because policy-making is often a knowledge-intensive process, IT technology that deals with knowledge management — such as ontologies, for example — is also relevant here.

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We hope this new space will present some practical issues that demonstrate the nexus of policy and technology. We'll delve further into several far-reaching questions in future issues: how soon should the US be a fully broadband nation? What can we learn from Japan's experiences in broadband proliferation or from Estonia's e-voting implementations? You can help us throughout the year in many ways:

- Let us know the policy issues that are important to you.
- Tell us about late-breaking, significant stories in your region such as municipal Wi-Fi legislation; we'll try to cover them as quickly as possible.
- Write a piece for us (just send an email to either one of us about the topic you're interested in covering).

Together we can develop a forum that informs and updates all our readers. ☐

References

1. J. Krim, "Angry BellSouth Withdrew Donation, New

Orleans Says," *Washington Post*, 3 Dec. 05, p. D01.

2. S. Lawson, "Law May Snag Philadelphia Wi-Fi Rollout," *Macworld*, 23 Nov. 04; www.macworld.com/news/2004/11/23/philadelphia/index.php?lsrc=mcrss-1104.

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January-February
IT Best Practices

March-April
Service-Oriented Architectures
and Computing

May-June
IT Innovation and Evolution

July-August
Warehousing, Mining, and
Managing Data

September-October
IT Metrics

November-December
Managing Networks
and Systems—Tools
and Strategies

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