

# 3. Public Policy Principles for Driving Digital Quality of Life



**I**nformation technology (IT) is the most important factor driving improvement in a wide array of areas critical for the quality of life for individuals and healthy societies. But by and large, policymakers have not fully appreciated the extent to which IT is driving change and enabling improvements, nor the impact—pro or con—that public policy can have on this development. Though it is beyond the scope of this report to lay out a detailed policy blueprint for IT-enabled change, it is imperative that policymakers around the globe need to follow at least ten key principles if their citizens and societies are to fully

benefit from the digital revolution. To ignore these principles risks slowing down digital transformation and minimizing the benefits of a digital society. The ten key public policy principles are outlined below.

## 1. Look to Digital Progress as the Key Driver of Improved Quality of Life

Progress in a host of policy areas—including health care, transportation, energy, environment, public safety, and the economy—will be determined in part by how well nations develop and deploy IT. Solving surface transportation challenges, for example, will be difficult without the widespread use of IT, whether it is to implement congestion pricing or to provide real-time information on traffic conditions.

Policymakers in all nations should make spurring widespread use of IT a key component of public policy. Given the importance of IT to solving pressing societal problems, it is time that policymakers see IT issues not just as a narrow sideline but rather as a key component of public policy that supplements the government’s three traditional tools of tax policy, government programs, and regulation. In other words, spurring digital progress should become the fourth leg of the government’s stool.

Digital transformation must be put at the front and center of a wide array of public policy areas. IT transformation must become a key component not just of the commerce or telecommunications agencies but of every government agency or ministry. Government officials at all levels should lead by example by leveraging their own IT efforts to achieve more effective and productive public sector management and administration. In addition, they should focus on how their actions can drive digital progress generally in the broader society and economy.

## 2. Invest in Digital Progress

Many of the technologies and applications driving digital progress will be developed by the private sector and purchased by individuals, with little or no role needed for government. But many IT applications are inherently related to core public functions including transportation, education, health care,

public safety, the provision of government services, community development, and the environment. These IT applications must be considered critical areas for increased public investment because they form core components of the new “intangible” public infrastructure that is driving improvements in quality of life. In addition, governments should be investing in research and development (R&D) and supporting private sector R&D to help develop new technologies and applications, including areas such as robotics, large-scale sensor networks, speech recognition and advanced computing.

## 3. Ensure Affordable and Widespread Digital Infrastructure

For the digital revolution to continue, policymakers must invest in renewing and revitalizing the underlying digital infrastructure. This entails not only spurring investment in physical IT infrastructure, but also ensuring that the appropriate and necessary regulations and standards exist to spur, and not hinder, adoption. Thus, for example, policymakers should make adequate spectrum available for wireless innovation by taking measures to open up unused “white spaces.” In addition, policymakers must remain vigilant in ensuring that the components of our digital infrastructure, from global positioning system (GPS) signals to high-speed broadband Internet access, continue to be upgraded and improved.

## 4. Encourage Widespread Digital Literacy and Digital Technology Adoption

The benefits and promise of the digital information revolution are immense. As IT becomes more central to improvements in our lives, it will be important to ensure that the majority of citizens are digitally literate and have access to digital tools so that they can take full advantage of these benefits. In 2008, about 75 percent of American adults reported using the Internet;<sup>1</sup> the comparable percentage in many developing nations is lower. Internationally, there are multiple reasons why the Internet usage rate is not higher, including the affordability of Internet access,

particularly for broadband telecommunications.<sup>2</sup> In developed nations, though, perhaps the most important factor why the Internet usage rate is not higher is a lack of digital literacy.

To succeed in today's economy people at least need basic computer and Internet skills. In the United States, some organizations, like One Economy, have taken steps to encourage digital adoption. And some states, like Kentucky and North Carolina, have stepped up efforts to expand digital literacy and IT and broadband takeup, especially in rural areas.<sup>3</sup> Around the world, various groups are working to improve digital access. Some companies, like Microsoft, have taken significant steps to help build digital literacy.<sup>4</sup> ITC, an Indian technology conglomerate, sponsors a program called "e-Choupal" to provide 6,500 Internet-connected computers in villages across nine Indian states.<sup>5</sup> But national governments need to do more in partnership with the for-profit, nonprofit, and state and local government sectors to spur digital literacy and takeup.

### **5. Do Not Let Concerns About Potential or Hypothetical Harms Derail or Slow Digital Progress**

By definition, all technological innovation involves change and risk, and driving digital progress is no different. As we go forward in an array of areas, policymakers must give adequate concern to issues of privacy, security, civil liberties, and other related issues. But the focus should be on addressing these concerns where appropriate in ways that enable digital progress to rapidly proceed—not on stopping or slowing digital progress as so many advocacy groups and special interests try to do today. In part because of the claims made by some of these groups, and notwithstanding the progress that IT enables, all too often, well-intentioned policymakers are willing to consider laws and regulations that would slow digital transformation and reduce, not improve, quality of life.

### **6. Do Not Just Digitize Existing Problems; Use IT to Find New Solutions to Old Problems**

IT offers powerful new methods for collecting, ma-

nipulating and distributing data; however, IT is a means and not an end. Simply using IT to continue existing practices will not necessarily lead to significantly better results. Thus, educators who merely use IT to replace classroom instruction with equivalent computer-based instruction and do not change their teaching methods, for example, may not see significant increases in students' learning outcomes; on the other hand, educators who use IT to change and improve their teaching methods may see impressive improvements in learning outcomes.

Organizations may find that investing in IT to solve targeted problems not only helps with the targeted problems but also gives them the tools they need to solve additional problems. City governments like Baltimore that collect citywide data, for example, can analyze this information in real time not just to improve deficient city services but also to discover new opportunities for government savings. Policymakers should recognize these benefits of IT, and promote the use of new solutions that harness IT to address existing problems in new ways.

### **7. Create Reusable Digital Content and Applications**

Rather than focusing on creating flashy websites and graphics, government agencies and ministries should concentrate on creating reusable digital content using interoperable standards such as XML. Providing digital data that can be shared and reused multiplies its value many times—and is far more valuable than just building a website that may solve only a small set of problems.

Similarly, government-funded software applications should be developed to meet the needs of multiple users, such as other states or government agencies. One of the major benefits of software is that although the development costs can be high, the marginal costs of producing an extra copy are low. Governments should encourage local governments to create and share reusable applications rather than having each community build a new application on its own. For example, Canada initially developed AlphaRoute, an online adult lit-

eracy application, as a pilot project in Ontario, but now allows any publicly funded literacy and adult education center in the country to use it without charge.

## 8. Collaborate and Partner with the Private and Non-Profit Sectors

Policymakers should encourage collaborations between stakeholders in the public and private sectors. Government cannot provide its own digital solutions to every problem, nor will it always come up with the best solutions.<sup>6</sup> Instead, government should embrace opportunities to partner with the private and non-profit sectors. For example, in the United States, a number of public-private partnerships are working to spur demand for broadband services. One such partnership is ConnectKentucky which is helping to foster demand by providing a variety of services, including the No Child Left Offline project that provides computers and training to disadvantaged populations.

## 9. Lead by Example

When practical, government should be an early adopter of new technology rather than solely relying on industry to lead the way. Through technological leadership, government can play an important role in spurring markets and proving concepts. For example, government agencies can pursue green

IT initiatives by establishing telework policies and creating telework best practices. Similarly, government could lead on promoting digital signatures for e-government applications.

## 10. Nudge Digital

Scholars have shown that using “choice architecture” institutions can encourage or discourage certain group behaviors, such as saving for retirement or eating healthy, by how the decisions are framed.<sup>7</sup> In fact, in a recent book on this subject, authors Thaler and Sunstein popularized the idea that government policy should “nudge” citizens towards good behaviors. Policymakers should recognize the power of this tool in shaping citizen behavior and design public policies that nudge citizens to more digital technologies.

As shown repeatedly throughout this report, digital solutions often provide substantial cost-savings and improve quality and outcomes. For example, imagine all of the savings in energy and paper if by default all personal banking and credit card statements were electronic. If citizens had to opt-out of programs, such as receiving electronic statements, instead of opting in, more individuals would participate. While exceptions still need to be made to provide fair and reasonable access to government services for all citizens, governments should make the default choice digital and not prevent private organizations from doing the same.

## Endnotes

1. Pew Internet & American Life Project, “Demographics of Internet Users,” table with data from the Pew Internet & American Life Project October 24–December 2, 2007 Tracking Survey, Washington, D.C., table updated February 15, 2008 <[www.pewinternet.org/trends/User\\_Demo\\_2.15.08.htm](http://www.pewinternet.org/trends/User_Demo_2.15.08.htm)> (accessed July 27, 2008).

2. Although it’s true that lower income Americans are less likely to own a computer or be online, it is also true that the costs of owning a computer and having online service have fallen significantly over the last decade. It’s now possible to purchase a very adequate computer with monitor—indeed one that just a few years ago would have been seen as a high-end consumer machine—for less than the cost of a 32-inch color (CRT) television. Moreover, is possible to get dialup Internet access for around \$5 a month, with broadband costing more (DSL can cost as little as \$15 a month).

3. North Carolina established its e-NC initiative to use the Internet as a tool for helping people, especially in rural areas, to improve their quality of life. e-NC Authority, e-NC Website <[www.e-nc.org](http://www.e-nc.org)> (accessed July 27, 2008).

4. Microsoft Corporation, Microsoft Digital Literacy Website, 2008 <[www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/default.aspx](http://www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/default.aspx)> (accessed July 27, 2008).

5. Chris Murphy, “What’s Next for India?” (page 5), *InformationWeek*, March 10, 2008 <[www.informationweek.com/news/management/outsourcing/showArticle.jhtml?articleID=206902109&pigno=5](http://www.informationweek.com/news/management/outsourcing/showArticle.jhtml?articleID=206902109&pigno=5)> (accessed July 27, 2008).

6. Robert D. Atkinson, “Turbo-Charging E-Government,” Information Technology and Innovation Foundation, Washington, D.C., September 27, 2006 <[www.itif.org/index.php?id=68](http://www.itif.org/index.php?id=68)> (accessed July 27, 2008).

7. Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness* (Yale University Press, 2008).

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## About the Information Technology and Innovation Foundation

ITIF is a non-profit, non-partisan public policy think tank committed to articulating and advancing a pro-productivity, pro-innovation and pro-technology public policy agenda internationally, in Washington DC and in the states. Recognizing the vital role of technology in ensuring American prosperity, ITIF focuses on innovation, productivity, and digital economy issues.

Technological innovation, particularly in information technology, is at the heart of America's growing economic prosperity. Crafting effective policies that boost innovation and encourage the widespread "digitization" of the economy is critical to ensuring robust economic growth and a higher standard of living. However, as in any new and changing situation, policymakers have varied awareness of what is needed and what will work. In some cases legislators have responded to new and complex technology policy issues with solutions more suited for the old economy. And as the innovation economy has become increasingly important, opposition to it from special interests has grown. Finally, the excitement that the press, pundits and decision makers showed toward the information technology (IT) revolution in the 1990s has all too often been replaced with an attitude of "IT doesn't matter." It is time to set the record straight—IT is still the key driver of productivity and innovation.

As a result, the mission of the Information Technology and Innovation Foundation is to help policymakers at the federal and state levels to better understand the nature of the new innovation economy and the types of public policies needed to drive innovation, productivity and broad-based prosperity for all Americans.

ITIF publishes policy reports, holds forums and policy debates, advises elected officials and their staff, and is an active resource for the media. It develops new and creative policy proposals to advance innovation, analyzes existing policy issues through the lens of advancing innovation and productivity, and opposes policies that hinder digital transformation and innovation.

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