

# A Primer on E-Government

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## OVERVIEW

E-government (electronic government) has become a mainstay in local, state, and federal government. The era of e-commerce and e-business began with the widespread adoption of the Internet in the mid-1990s and today many citizens expect the same responsiveness and access to government services as found in the private sector. According to the 2002 International City/County Managers Association e-government survey, over 73 percent of municipalities with populations larger than 2,500 have Web sites. The 2002 Pew Internet and American Life Project indicates that 58 percent (68 million people) of American Internet users have accessed at least one governmental Web site (Larson and Rainie, 2002).

Although there is widespread interest in the topic, e-government lacks a consistent, widely accepted definition. It is often related to revolutionizing the business of government through the use of information technology (IT), particularly Web-based technologies, which improve internal and external processes, efficiencies, and service delivery. The American Society for Public Administration (ASPA) and United Nations Division for Public Economics and Public Administration (UNDPEPA) have defined e-government as “utilizing the Internet and the World Wide Web for delivering government information and services to citizens” (UN & ASPA, 2001, p. 1). Based on this working definition of e-government, this article seeks to examine the historical premises and typologies of e-government.

## HISTORICAL PREMISES

E-government has evolved from the information technology revolution. Information technology enables new methods of production, increases the flow and accuracy of information, and even may replace traditional standard operating procedures (Landsbergen & Wolken, 2001). Information technology in government has long been acknowledged as a method for improving efficiency and communication (Kraemer & King, 1977; Norris & Kraemer, 1996). Now, IT developments such as electronic mail (e-mail) have changed interpersonal communications to eliminate the constraints of geography, space, and time with profound organizational consequences (Rahm, 1999). The

ability to buy and sell goods and services via the Internet has led to new private sector industries, constituting a new business model that the public sector now seeks to emulate. In addition, IT has promoted globalization, which also changes the environment within which public agencies function (Kettl, 2001).

The main concerns of e-government focus not only on the electronic dissemination of public information arising from traditional agency functions, but even more on reinventing agency processes to fully exploit the potential of information technology. As Fountain (2001) has noted, the reinvention process requires overcoming the rigidities and limits of traditional bureaucratic forms. Specific objectives may include the centralization of public data and the improvement of internal processes and communications (Alexander & Grubbs, 1998).

One of the first comprehensive visions of e-government is found in the 1993 National Performance Review report, *Creating a Government that Works Better and Costs Less: Reengineering Through Information Technology* (Gore, 1993; Kim & Wolff, 1994). This report laid the groundwork for new customer- and client-oriented ways for agencies to engage citizens via technology, involving both improved agency processes and improved methods of delivery. Most reinventing government literature has cited the need to rely on information technology to improve citizen-centric government services (Gore, 1993; Osborne & Gaebler, 1992). Although the reinventing government and e-government movements are related, the prospects are that the focus of public administration on e-government will endure for the foreseeable future, outlasting the reinventing government movement.

The 1995 amendment of the 1980 Paperwork Reduction Act (PRA) was another important milestone in the history of e-government. This amendment offered specific policies on issues associated with managing electronic information, including the establishment of standards, mandates for cross-agency information technology initiatives, and technology investment guidelines (Relyea, 2001). By outlining guidelines for information technology, the amended PRA solidified the government's commitment to improving citizen services via new channels based on technology.

The 1996 Electronic Freedom of Information Act (EFOIA) amendments added a new level of clarity to the issue of electronic records. This amendment extended the

right of citizens to access executive agency records to include access to electronic formats and online information (Relyea, 2001). EFOIA also extended the time limits from 10 to 20 days to prohibit the use of agency backlogs as an excuse for noncompliance with information requests (Hammitt, 1999).

The 1996 Clinger-Cohen Act further heightened the role of information technology in government. It established a chief information officer (CIO) in every agency, making agencies responsible for developing an IT plan. Later, as the e-government movement gained momentum, the existence of the CIO strategic planning structure was an important element facilitating e-government implementation at the federal level.

Also in 1996, Congress passed the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). This act, also known as the Welfare Reform Act, represented one of the first national pushes to incorporate the rhetoric of e-government with the routine services of agencies, specifically the administration of Temporary Aid to Needy Families (TANF). The act required interagency, interstate, and intergovernmental coordination of information technology systems to ensure that no individual exceeded the allotted five-year lifetime cap on assistance (Scavo & Shi, 2000).

In July 1996, President Clinton issued Executive Order 13011, which sought to improve management of information technology at the federal level. It also provided broad support for coordinated approaches to technology application in the executive office (Relyea, 2001). Although this executive order mandated implementation of and adherence to the PRA Act and the Clinger-Cohen Act, it also focused on the alignment of technology goals with strategic organizational goals. The support for interagency coordination of technology is codified in Executive Order 13011. Mandated goal-alignment and technology-investment reviews are included in the directive as a method for reducing the failure rates and cost overruns associated with federal technology initiatives.

More recently, in 2001 the E-Government Act was offered for consideration in the U.S. Senate. This act, approved by the Senate in June 2002, mandated the establishment of an e-government administrator in the Office of Management and Budget, and also provided for considerable financial assistance to spur interagency e-government initiatives. Each of these legislative actions has strengthened the federal government's commitment to e-government.

One of the most significant information technology developments at the federal level occurred after the tragedies of September 11. The attacks against America forced government officials to reexamine their information technology policies, infrastructure, and systems. The newly established Office of Homeland Security and its associ-

ated directives comprise the largest centralization and consolidation effort involving governmental databases in the history of the US. A recent General Accounting Office report (2002) highlights this effort and its challenges by examining the types of necessary data, the amount of data, and the transmission format of the data across vertical and horizontal governmental lines. The report also notes the challenges associated with traditional agency "stovepipes" and the need to move beyond this approach toward a centralized enterprise initiative (p. 8). The lack of connectivity and interoperability between databases and agency technologies is another crucial challenge that must be overcome, it is argued, in order to create a comprehensive infrastructure to deal with issues of terrorism.

Another example of the critical need to centralize and consolidate government information in order to mitigate future terrorist attacks is found in the Chambliss-Harman Homeland Security Information Sharing Act (HR 4598), passed by the U.S. House of Representatives in June 2002. This act mandates the dissemination of critical intelligence information from federal agencies, such as the CIA and FBI, to state and local governments (GCN, 2002). The goal of this act is to further reduce the vertical stovepipes that exist between federal, state, and local governments with respect to information access, and to encourage data sharing across all branches and levels of government in order to foster coordination and collaboration.

Although the effects of September 11 have impacted the use of information technology in the public sector in a variety of ways, there is little doubt that citizen demand for electronic information and services is likely to continue the trend of e-government adoption and expansion. According to the 2002 Pew Internet and American Life Project, Americans continue to use the Internet to access government information, research policy issues, contact elected officials, and participate in e-democracy in increasing numbers (Larson & Rainie, 2002). The number of Americans who have accessed government information online was 68 million in January 2002, compared with 40 million in March 2000. This marked increase further supports the idea that citizen demand for and use of e-government will continue to expand in the future.

## **E-GOVERNMENT TYPOLOGIES**

Although several typologies have been developed to explain the progression of e-government (Layne & Lee, 2001; Moon, 2002), the UN and ASPA definition of the stages of e-government maintains continuity with the working definition set forth at the outset of this essay. It is also important to note that the stages to be discussed do not represent a true linear progression, nor are they

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