What are the most important impacts of information technologies on the structure and processes of government organizations? Which impacts are already discernible?

1) Greater citizen access to basic information about government programs and initiatives (routine boundary-spanning activities).

2) Greater citizen input to agency and legislative processes (with skepticism about the degree of impact from those communications).

3) Services on-line, where the service is primarily mechanical and where establishing identity is either irrelevant or sufficiently established by an ID number.

4) Online purchase and sales of government services and goods in cases where transactions are market-like rather than eligibility-based.

5) Fusing of agency outreach and political outreach in some cases – the use of agency web sites to tout the agenda of elected officials.

6) Data sharing and integration where pre-existing relationships exist between agencies and where statutory impediments are low/non-existent.

7) Greater agency communication with well-known influentials in the community and members of the “policy network” that comprises the agency’s environment (while not tending to expand the network’s membership).

8) Greater acceptance of biometric data as the basis of identification for executive and judicial action; greater “social” comfort with use of biometric data as the basis of identity.
Which are likely to emerge during the next decade?

1) Central identification systems that rely on biometric data. Once established, such systems will create the basis for expanding e-government services into areas where positive identification is required.

2) Decentralization of government services through subcontracting relationships, relying on biometric identification and centralized, integrated data sources to coordinate services across contractors.

3) Government as central arbiter of identity by creating and establishing biometric databases. Centrally held and managed biometric identity data becomes the basis for gatekeeping and data linking in both the public and private sectors, much as Social Security numbers have transmuted into public and private identifiers over the last seventy years.

4) Deployment of systems that allow for “virtual” face-to-face interactions, in part to extend the scope of on-line service provision to those segments of the population and those services that require synchronous interactivity. These systems create “virtual” waiting rooms” rather than actual ones so that those with “Internet-enabled” homes, places of employment, institutions, etc. may be productive while waiting for service. Accordingly, the physical location of government becomes less important.

5) Greater interagency and state-Federal integration of data, as legal and statutory frameworks evolve.
Reversing the causal arrow, how are public managers and policymakers using information technologies to craft new organizational forms or to make important modifications to present forms? What decision making and problem-solving processes are emerging as the principal means of mutual adjustment?

So far, it appears that state-level information “sharing” initiatives (i.e., those intended to deliver information and services to citizens, corporations, etc. over the Internet) are often driven by the imperatives of the agency and it’s management team, with some input from key stakeholders in the policy network. The degree of citizen input at the state level often seems to be minimal at best. The amount of input from service providers and specific stakeholder groups is greater, but is also subsumed to the organizational imperative to “get digital,” irrespective of whether the agencies have a clear understanding of what they wish to achieve. In essence, there is growing institutional pressure to deploy Internet-based services. Decisions on which services to deploy and when are often personality-driven. “Technology champions” at the top level of agencies or on technical staffs drive initiatives that fulfill personal and professional agendas as much as (or more than) the agency’s agenda.

To some extent, there is evidence that public agencies are using the Internet to democratize the grant and contract processes by announcing opportunities online and registering vendors through Web pages. The degree to which this process is effective is open to question. Funding opportunities may be more broadly announced, but the implicit requirements for many opportunities are still embedded in communications that takes place in face-to-face networks primarily.
Information “seeking” initiatives (i.e., those designed to collect information about the policy environment using the Internet) appear to electronically replicate existing relationships with organizations in the policy environment. Recent case work found no evidence that public agencies use the Internet to widen their circle of “informants.” Instead, the Internet automates the communication process. In fact, the agencies seem to use the Internet to communicate more with the well connected rather than to democratize their information collection. It seems that the Internet has changed little the structure of public organization’s external relationships.

What is the impact of increasing use of information-based, networked forms of organization on the institutional structures? For example, oversight, budgeting, accountability systems -- that regulate governance?

While there is some evidence that electronic dissemination of government information increases the transparency of government and thus enhances public trust in government actions, the relationship between the transparency, efficiency, and use of IT is more complex than sometimes realized. Because most forms of “Internet-enabled” communication are recorded, most are also subject to Federal or state versions of the Freedom of Information Act (FOIA). While Federal executive privilege protects some types of agency communication, many states have no corresponding common law or statutory protection for internal communication. Recent case work in state agencies found growing reluctance to use e-mail or Internet videoconferencing because it was generally assumed the files were subject to FOIA in toto. With reference to communication beyond the agency, senior managers and increasingly mid-level managers are unwilling to use electronic communication for fear of being “FOIA’ed.” One agency head recently called use of FOIA “politics by alternate means” — a tool used by those who oppose certain
policies to get “another bite at the apple.” For this reason, telephone and face-to-face communication were preferred for many types of policy communication. There appears to be growing conflict between the value of efficiency and the value of transparency with respect to Internet communication. Use of the Internet is technically more efficient but may not be politically or professionally more efficient. If this trend is widespread and grows, some of the efficiency benefits of the Internet may be lost due to the asymmetrical treatment of IT-based forms of communication. From an organizational perspective, there is a body of theory that addresses the need for “backstage” areas in organizations, which used to mean private areas in public spaces. Now it seems that public organizations and policymakers more generally need to reconsider the need for a “virtual” backstage for public organizations in order to strike a better balance between efficiency and transparency.

**What perspectives, theories, conceptual frameworks, and methods seem particularly useful for the study of the developmental processes and organization of digital government?** What forms and processes of collaboration between social, policy, and information scientists might further a research agenda for digital government? How might an organization like the National Science Foundation Digital Government Program provide direction, guidance, and incentives for the advancement of high-quality multidisciplinary research?

As the “enacted technology” framework emphasizes, agency use of technology occurs through external and internal negotiation. While much attention has focused on how IT affects agency operations, much less is known about the Internet’s general effect on the constellation of social organizations that attempt to influence legislative and agency decisionmaking generally or with respect to government use of IT specifically. Work in the literature on social movements has studied more broadly the impact of the Internet on interest groups, but much less is known about IT’s effect on industry associations,
lobbying, and other forms of Internet-enabled influence attempts. To understand the political context of e-government, we need a better understanding of e-lobbying.

Most work on the Internet and e-government is liberally spiced with the concepts of “social capital” and “social network.” Both theoretical traditions offer important frameworks upon which to build; both may be fruitfully operationalized through use of network analytic measures and methods. Both are used to study the internal workings of public organizations, the policy environment, and the structure of relationships and contracts that public agencies must manage. However, the number of formal network analyses of policy networks and other political and policy phenomena is still very small; the number that focus on the Internet’s impact on public agencies and their policy environments may be zero. Like many networks, the data to study these phenomena seem to be “impacted.” One role for the program might be to offer incentives and support to create case studies that have both a public and teaching use (through rich description of an instance where information technology is applied) while also creating the much-needed empirical database that could be shared widely.

—R. Karl Rethemeyer