

## Preface

The readings that compose this volume are intended to constitute a survey of many of the most important dimensions of managing information technology in the public sector. This work updates and replaces an earlier volume, *Information Technology and Computer Applications in Public Administration: Issues and Trends* (Idea Group Publishing, 1999). All contributions to the present volume have been substantially revised and updated, and three entirely new chapters replace outdated topics. Essays in Part I address general policy and administrative issues in this arena, while those in Part II are more applied and address information technology skills needed by public managers. Taken together, it is hoped that a contribution is made by these essays toward the knowledge and competencies needed by graduate students of public administration and by practitioners new to this field.

### **PART I: MANAGING INFORMATION TECHNOLOGY IN THE PUBLIC SECTOR**

In “Information Technology and Public Administration: The View from the Profession,” Alana Northrop points out the need for a reader on information technology by reviewing the importance given computing education by MPA programs and practitioners. A survey of leading public administration journals finds general neglect of coverage of computing. Textbooks in the field also barely mention information technology. The chapter suggests that there are six generic skills that need to be taught in public administration curricula, with a seventh one on the horizon.

In “Politics, Accountability, and Governmental Information Systems,” Bruce Rocheleau discusses how central political issues are to information management and illustrates strategies that can be useful in dealing with political issues. Examples are given of how inattention to the political aspects of managing information systems can result in problems and even disasters. Internally, information

managers have to deal with such politically-charged tasks as the structuring of information management, purchasing information systems, managing personnel in this era of digital communication, and struggles over the sharing of information within organizations. External information management issues include demands for online accountability information, the development of websites, issues over access to information, and interorganizational issues including disputes over turf.

In “The Evolution of Information Technology Management at the Federal Level: Implications for Public Administration,” Stephen H. Holden finds that despite some maturation in the literature for managing IT in federal agencies in the last several years, public administration has contributed little to this effort. His chapter analyzes federal IT management literature from several academic disciplines and government documents. The analysis compares federal IT management with a normative model of management maturity, focusing on the strategic objectives for IT and related management approaches. Public administration’s minimal contribution to federal IT management raises profound questions, he argues, whether federal agencies are performing commensurate with public expectations in an information age.

In “The Realities of the Paperwork Reduction Act of 1995: A Government-Wide Strategy for Information Resources Management,” Patricia Diamond Fletcher discusses the strategic management practices required for the use of information and information technologies under the Paperwork Reduction Act of 1995, including electronic government initiatives, homeland security, federal workforce retention problems, and inter/intra-governmental agency data sharing programs and systems. The PRA sets the policy agenda for information resources management in the U.S. federal government and places the guidance and oversight for enacting the PRA in the Executive Office of Management and Budget (OMB). At both levels of guidance and practice, the PRA has had mixed success, since it was initially signed into law in 1980. Fletcher argues that the OMB has not met its statutory responsibilities under the PRA and the federal government is left without a cohesive direction and agenda for information resources management.

In “Mediating the Tension between Information Privacy and Information Access: The Role of Digital Government,” George T. Duncan and Stephen F. Roehrig find that advances in information technology, particularly the Internet, have multiplied the tension between demands for evermore comprehensive databases and demands for the shelter of privacy. In mediating between these two conflicting demands, agencies must address providing access to information while protecting confidentiality, coping with health information databases, and ensuring consistency with international standards. The technical procedures for disclosure limitation involve a range of mathematical and statistical tools. The administrative procedures can be implemented through a variety of institutional mechanisms,

ranging from privacy advocates, through internal privacy review boards, to a data and access protection commissions.

Rounding out Part I, in “E-Government: An Overview,” Shannon Howle Schelin surveys the rapid growth of e-government. Her essay offers an overview of the historical premises, theoretical constructs, and associated typologies of e-government. These typologies posit a framework for understanding e-government, its potential benefits, and its related challenges.

## **PART II: COMPUTER APPLICATIONS IN PUBLIC ADMINISTRATION**

In “Leading Edge Information Technologies and American Local Governments,” Donald F. Norris examines the adoption, penetration and impacts of the adoption of leading edge information technologies in American local governments using data from three nationwide surveys of information technology in local governments and a series of case studies in US cities about the adoption of leading edge information technologies. His principal findings are that American local governments have adopted a range of these technologies and can be expected to do so in coming years, especially in the area of adoption of electronic government.

In “Information Technology as a Facilitator of Results-Based Management,” James E. Swiss discusses IT in relation to results-based management, which encourages planning and target setting to make the organization more proactive; an emphasis on outcomes to make the organization better focused on its mission; quick performance feedback to make the organization more responsive; and continuous process improvements to make the organization better able to serve its clients. These changes are possible only with supporting information technologies, including GIS, EIS, and intranets. Swiss notes, however, that IT can increase management effectiveness only if its role has been carefully designed. Public managers must determine such policy issues as what information would best guide upcoming major decisions; what balance the agency wishes between internal information accessibility versus security; and how best to balance frontline worker empowerment versus the need for organizational uniformity.

In “Computer Tools for Better Public Sector Management,” Carl Grafton and Anne Permaloff survey the wide variety of computer applications routinely used to assist in public management, including word processing, spreadsheet, statistics, database management programs, web authoring software, presentation graphics, optical character recognition (OCR), project planning, and management software as illustrations of the diversity in widespread use.

In "Survey Research, Focus Groups, and Information Technology in Research and Practice," Michael L. Vasu and Ellen Storey Vasu discuss electronic tools for citizen surveys and the integration of computing into survey research and focus groups in research and practice in public administration. Their chapter reviews uses of computers in computer-assisted information collection (CASIC), computer-assisted telephone interviewing (CATI), computer-assisted personal interviewing (CAPI), and transferring survey research methods onto the Web. A second portion of the chapter gives special attention to continuous audience response technology (CART), using as an example a citizen survey focused on economic growth issues.

In "Geographic Information Systems in the Public Sector," T. R. Carr and John D. Burroughs discuss what has been the fastest-growing application of information technology in the public sector outside of e-government itself. Geographic information systems have emerged as significant decision-making tools, and Carr and Burroughs discuss their application at both the planning level and at the management decision-making level. Issues impacting GIS implementation include needs assessment, project planning, access to public records, liability issues, public and private partnerships, dissemination of information, and privacy issues.

In "Electronic Mail in the Public Workplace: Issues of Privacy and Public Disclosure," Charles L. Prysby and Nicole D. Prysby survey the legal questions concerning e-mail in public institutions and agencies. These include both issues of employee privacy regarding e-mail messages and public access to e-mail under applicable freedom of information legislation. While the employer has broad legal grounds for reading workplace e-mail, employees frequently feel that such monitoring is an excessive invasion of their privacy, resulting sometimes in organizational conflict over privacy issues. State laws vary considerably in terms of how they define the types of e-mail messages that are part of the public record, some being far more inclusive than others. Given the uncertainty and confusion that frequently exist regarding these legal questions, it is essential that public organizations develop and publicize an e-mail policy that both clarifies what privacy expectations employees should have regarding their e-mail and specifies what recording keeping requirements for e-mail should be followed to appropriately retain public records.

In "World Wide Web Site Design and Use in Public Management," Carmine Scavo explores the promise and reality of governmental web applications, including bulletin board applications, promotion applications, service delivery applications, and citizen input applications. A survey of 145 municipal and county government websites originally conducted in 1998 was replicated in 2002. These data are used to examine how local governments are actually using the web and to examine the evolution of web usage. The chapter concludes that local govern-

ments have made progress in incorporating many of the features of the Web but that they have a long way to go in realizing its full promise.

Finally, in “Toward an Information Technology Research Agenda for Public Administration,” G. David Garson outlines research questions which form the dimensions of a research agenda for the study of information technology in public administration. The dimensions selected as being the most theoretically important include the issue of the impact of information technology on the distribution of power; the issue of information resource equity and the “digital divide”; the issue of the use of IT as symbolic action; the issue of the impact of IT on discretion; the issue of the impact of IT on organizational culture; the issue of privatization; the issue of decentralization; the issue of remote work; the issue of implementation success factors; the issue of persuasiveness of governmental websites; the issue of regulation of social vices mediated by IT; and selected other regulatory issues.

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