

TABLE OF CONTENTS

Preface xvii

Editors' Biographiesxxi

Authors' Biographiesxxix

**UNIT I. FOUNDATIONS OF DIGITAL
GOVERNMENT AND PUBLIC POLICY**

Chapter 1. Foundations of Digital Government 3

By Stephen Coleman

1 Governance and/as Technology4

2 Digitising Governance6

3 Barriers to e-Governance9

4 Governing the e-Public 11

5 Regulating the Behaviour of e-Citizens 12

6 Cultivating the Skills of e-Citizenship 13

7 Managing Interactivity 15

8 What Can Be Expected from e-Governance? 16

 References 17

 Suggested Readings and Online Resources 18

 Questions for Discussion 19

**Chapter 2. Discipline or Interdisciplinary Study Domain?
Challenges and Promises in Electronic Government Research 21**

By Hans J. (Jochen) Scholl

1 Introduction22

2 Would EGR Pass as a “Legitimate” Discipline?23

3 Neighboring “Incumbent” Disciplines: Pub Admin and ISR/CS27

4 Challenges and Opportunities for Cross-disciplinary EGR29

5 EGR on the Continuum between Discipline and Transdiscipline32

6 Concluding Remarks36

 References37

 Suggested Readings and Online Resources40

 Questions for Discussion41

Chapter 3. An Outline for the Foundations of Digital Government Research 43

By Eduard Hovy

1	Introduction: A New Field of Research	44
2	A Tripartite Model of ICT in Government	45
3	Related Work	49
4	Assumptions behind DG Research in Light of the Model.....	50
5	The Character of DG and Similar Research in Different Applications	52
6	Digital Government Research in the USA and EU.....	52
7	What Makes a Good DG Research Paper?	53
8	DG Education.....	55
9	Conclusion	56
	References	57
	Suggested Readings and Online Resources	58
	Questions for Discussion	58

Chapter 4. Lost In Competition?

The State of the Art in e-Government Research 61

By Åke Grönlund

1	Introduction	62
2	Research and Practice	62
3	A Research Maturity Model.....	66
4	Findings.....	74
5	Conclusions and Discussion	80
	References	81
	Suggested Readings and Online Resources	82
	Questions for Discussion	83

Chapter 5. e-Democracy and e-Participation Research in Europe 85

By Ann Macintosh

1	Introduction	86
2	Current Research and Practice	88
3	The Research Landscape.....	94
4	Conclusion and Future Research Direction	98
	References	100
	Suggested Readings and Online Resources	101
	Questions for Discussion	102

**Chapter 6. Introduction to Digital Government Research
in Public Policy and Management..... 103**

By Sharon S. Dawes

1	Introduction	104
2	Case Studies	107
3	Discussion: Six Public Policy and Management Considerations for Digital Government.....	109
4	Conclusion	122
	References	122
	Suggested Readings and Online Resources	124
	Questions for Discussion	125

Chapter 7. Privacy in an Electronic Government Context 127

By Priscilla M. Regan

1	Introduction	128
2	Overview	129
3	Conclusions	136
	References	136
	Suggested Readings and Online Resources	138
	Questions for Discussion	139

Chapter 8. Accessibility of Federal Electronic Government..... 141

By Shirley Ann Becker

1	Introduction	142
2	Types of Disabilities	143
3	Government Involvement	145
4	Section 508 Accessibility Standards	146
5	Web Assessment Guidelines	147
6	e-Government Compliance	150
7	Conclusion	151
	References	152
	Suggested Readings and Online Resources	154
	Questions for Discussion	155

**Chapter 9. The Current State of Electronic Voting
in the United States 157**

*By Paul S. Herrnson, Richard G. Niemi, Michael J. Hanmer, Benjamin B.
Bederson, Frederick G. Conrad, and Michael W. Traugott*

1	Introduction	158
2	Literature Review.....	159

3	Usability Studies	165
4	Conclusion	174
	References	175
	Suggested Readings and Online Resources	178
	Questions for Discussion	180

Chapter 10. e-Enabling the Mobile Legislator..... 181

By Angus Whyte

1	Introduction.....	182
2	European Elected Assemblies and e-Governance.....	184
3	e-Representative: Mobilising the Legislator?	187
4	Conclusion	193
	References	197
	Suggested Readings and Online Resources	198
	Questions for Discussion	199

UNIT II. INFORMATION TECHNOLOGY RESEARCH

Chapter 11. History of Digital Government Research in the United States 203

By Lawrence E. Brandt and Valerie J. Gregg

1	Introduction.....	204
2	Literature Review and Overview of the Field.....	206
3	Case Studies	208
4	Conclusions and Discussion	211
	References	214
	Suggested Readings and Online Resources	215
	Questions for Discussion	217

Chapter 12. Data and Knowledge Integration for e-Government..... 219

By Eduard Hovy

1	Introduction.....	220
2	Overview of the Field	221
3	Two Examples.....	224
4	Conclusion	228
	References	229
	Suggested Readings and Online Resources	230
	Questions for Discussion	231

Chapter 13. Ontologies in the Legal Domain233
By Tom Van Engers, Alexander Boer, Joost Breuker, André Valente, and Radboud Winkels

1 Introduction234

2 Ontologies and Meaning236

3 Legal Knowledge237

4 Ontologies as Knowledge Management Tool.....239

5 Ontologies Versus Epistemological Frameworks.....242

6 Quality of Ontologies.....253

7 Conclusions256

References258

Suggested Readings and Online Resources259

Questions for Discussion260

**Chapter 14. Public Safety Information Sharing:
An Ontological Perspective.....263**
By Siddharth Kaza and Hsinchun Chen

1 Introduction264

2 Literature Review.....264

3 Case Studies272

4 Conclusion276

References278

Suggested Readings and Online Resources281

Questions for Discussion282

**Chapter 15. Collaborative Cyberinfrastructure
for Transnational Digital Government.....283**
By Maurício Tsugawa, Andréa Matsunaga, and José A. B. Fortes

1 Introduction284

2 Overview and Review of Relevant Approaches285

3 Application of Machine Virtualization to TDG and a Case Study292

4 Conclusions299

References301

Suggested Readings and Online Resources303

Questions for Discussion304

**Chapter 16. Semantics-Based Threat Structure Mining
for Homeland Security307**
By Nabil R. Adam, Vandana P. Janeja, Aabhas V. Paliwal, Vijay Atluri, Soon Ae Chun, Jim Cooper, John Paczkowski, Christof Bornhövd, and Joachim Schaper

1	Introduction	308
2	Semantics Driven Data Mining	310
3	Enhanced Semantic Graph	312
4	Threat Structure Mining	317
5	Semantics-Based Threat Structure Mining (STM) Prototype System	320
6	Related Work	324
7	Conclusion and Discussion	326
	References	327
	Suggested Readings and Online Resources	328
	Questions for Discussion	329

Chapter 17. Identity Management for e-Government Services.....331

By Fabio Fioravanti and Enrico Nardelli

1	Introduction	332
2	Status of National Electronic Identity in Europe	334
3	A Cooperative Federated Architecture for Identity Management	344
4	Conclusion and Discussion	350
	References	350
	Suggested Readings and Online Resources	351
	Questions for Discussion	352

Chapter 18. Feature Integration for Geospatial Information: A Review and Outlook.....353

By Peggy Agouris, Arie Croitoru, and Anthony Stefanidis

1	Introduction	354
2	Spatial Integration	355
3	Spatiotemporal Integration	359
4	Spatial and Spatiotemporal Queries	363
5	Concluding Remarks	370
	References	370
	Suggested Readings and Online Resources	374
	Topics for Additional Discussion	375

Chapter 19. Geoinformatics of Hotspot Detection and Prioritization for Digital Governance377

By G.P. Patil, Raj Acharya, Amy Glasmeier, Wayne Myers, Shashi Phoha, and Stephen Rathbun

1	Introduction	378
2	Literature Review: Fundamental Methodologies and Computational Techniques	378

3	Illustrative Applications and Case Studies	387
4	Conclusion	392
	References	393
	Suggested Readings and Online Resources	393
	Questions for Discussion	394

Chapter 20. Geoinformation Technologies to Support Collaborative Emergency Management395

By Sven Fuhrmann, Alan MacEachren, and Guoray Cai

1	Introduction	396
2	Overview of the Field	397
3	Case Studies	402
4	Discussion	413
	Acronym Table	415
	References	415
	Suggested Readings and Online Resources	419
	Questions for Discussion	420

Chapter 21. Sustainable Cross-Boundary Information Sharing421

By Theresa A. Pardo, J. Ramon Gil-Garcia, and G. Brian Burke

1	Introduction	422
2	Interorganizational Information Integration	422
3	Study Methodology	426
4	Informational Integration in Criminal Justice and Public Health	427
5	Main Lessons	429
6	Taking Action	432
7	Conclusion	435
	References	435
	Suggested Readings and Online Resources	436
	Questions for Discussion	438

Chapter 22. UrbanSim: Using Simulation to Inform Public Deliberation and Decision-Making439

By Alan Borning, Paul Waddell, and Ruth Förster

1	Introduction	440
2	The UrbanSim Project: A Case Study	446
3	Conclusion and Future Work	460
	References	461
	Suggested Readings and Online Resources	462
	Questions for Discussion	463

UNIT III. CASE STUDIES

Chapter 23. Taking Best Practice Forward 467

By Helene Gieber, Christine Leitner, Gerti Orthofer, and Roland Traunmüller

1	The eEurope Awards: Promoting Best Practice.....	468
2	The eEurope Awards Process	468
3	The eEurope Awards Process e-Government 2005	469
4	The Selection Process	470
5	Themes and Winners of the e-Government Awards 2005.....	471
6	Lessons Learned from the e-Government Awards 2005	475
7	The Challenge of Using Good Practice	478
8	Finding Suitable Model Cases	478
9	A Framework for Evaluating Feasibility	479
10	Collective Learning Processes and Transfer Mechanisms	481
11	The Future: Proceedings to Higher Order Model Solutions.....	483
	References.....	484
	Suggested Readings and Online Resources	485
	Questions for Discussion	485

Chapter 24. ePetitioning in the Scottish Parliament 487

By Ann Macintosh, Nick Adams, Angus Whyte, and Jim Johnston

1	Introduction.....	488
2	Literature Review.....	489
3	ePetitioning in Scotland	491
4	Conclusion and Discussion.....	498
	References.....	499
	Suggested Readings and Online Resources	500
	Questions for Discussion	501

Chapter 25. Citizen Access to Government Statistical Information 503

By Alan F. Karr

1	Introduction.....	504
2	Broad Access.....	506
3	Researcher Access.....	515
4	Distributed Data	524
5	Conclusion: Thoughts about the Future.....	525
	References.....	527
	Suggested Readings and Online Resources	528
	Questions for Discussion	528

Chapter 26. Infectious Disease Informatics and Syndromic Surveillance531

By Daniel Zeng, Hsinchun Chen, and Ping Yan

1	Introduction	532
2	Infectious Disease Informatics and its Major Technical Components	533
3	Syndromic Surveillance Systems.....	538
4	IDI and Syndromic Surveillance System Case Studies	547
5	Concluding Remarks.....	552
	References	553
	Suggested Readings and Online Resources	557
	Questions for Discussion	558

Chapter 27. Supporting Domain-Specific Digital Libraries in Government: Two Case Studies.....561

By Mathew Weaver, Lois M. L. Delcambre, Marianne Lykke Nielsen, Susan Price, David Maier, and Timothy Tolle

1	Introduction	562
2	Literature Overview	565
3	The Metadata++ Digital Library	566
4	The Software Architecture for Metadata++	571
5	Our Current Project.....	576
6	Discussion	577
	References	580
	Suggested Readings and Online Resources	582
	Questions for Discussion	583

Chapter 28. Business-Technology Alignments in e-Government: A Large-Scale Taiwan Government Electronic Record Management Systems Study585

By Fang-Ming Hsu, Paul Jen-Hwa Hu, and Hsinchun Chen

1	Introduction	586
2	Background Overview	588
3	Literature Review and Motivation	589
4	Research Framework and Propositions.....	593
5	Study Design and Data Collection	599
6	Analysis Results and Discussion	601
7	Summary	608
	References	610
	Suggested Readings and Online Resources	612
	Questions for Discussion	613

Chapter 29. Research and Development of Key Technologies for e-Government: Case Studies in China.....615

By Chunxiao Xing, Jijiang Yang, Wei He, Yong Zhang, and Chen Chen

1	Introduction	616
2	GIA: Government Informatization Architecture	621
3	Government Information Catalog and Exchange System.....	626
4	MEDW: Macro-Economy Data Warehouse	632
5	MEANS: Model of Examination and Approval on Network	637
6	Conclusions	643
	References	643
	Suggested Readings and Online Resources	644
	Questions for Discussion	645

Chapter 30. New Zealand's 2006 Census Online: A Case Study647

By Rowena Cullen

1	Introduction	648
2	Literature Review	649
3	Setting up the Project	652
4	Managing the Project	658
5	The Public Response	664
6	Lessons Learned, Changes Advocated	665
	References	668
	Suggested Readings and Online Resources	669
	Questions for Discussion	670

Chapter 31. Multidisciplinary e-Government Research and Education as a Catalyst for Effective Information Technology Transfer671

By Bienvenido Vélez-Rivera, Manuel Rodríguez-Martínez, Walter Díaz, Mario Núñez-Molina, and Pedro I. Rivera-Vega

1	Introduction	672
2	Some Socioeconomic Barriers to the Deployment and Utilization of e-Government Initiatives in Mayagüez, Puerto Rico	673
3	Methodology	675
4	Results	676
5	Discussion	681
6	Deployment of e-Government Information Systems to the City of Mayagüez.....	682
7	Description of Specific e-Government Systems	688
8	Summary	693

References	693
Suggested Readings and Online Resources	694
Questions for Discussion	695
 Chapter 32. A Hybrid e-Government Model:	
Case Studies in Shanghai	697
<i>By Pengzhu Zhang, Xiaoning Mao, Xieping Tang, and Daniel Zeng</i>	
1 Introduction	698
2 Shanghai and its e-Government Initiatives	700
3 Case Study I: “China Shanghai”	701
4 Case Study II: Qingpu’s Administrative Service Center	706
5 Case Study III: A G2C “Letters-and-Visits” Information System	712
6 Concluding Remarks.....	715
References	717
Suggested Readings and Online Resources	717
Questions for Discussion	718
 Author Index	719
 Subject Index	721