

Chapter 3

AN OUTLINE FOR THE FOUNDATIONS OF DIGITAL GOVERNMENT RESEARCH

Eduard Hovy

Digital Government Research Center (DGRC) and Information Sciences Institute, University of Southern California, Marina del Rey, CA US (hovy@isi.edu, <http://www.isi.edu/~hovy>)

CHAPTER OVERVIEW

This chapter asks: Is Digital (or electronic) Government (DG) a legitimate new field of research? If so, what aspects of government should be studied, and why? Since DG is obviously an interdisciplinary endeavor, which disciplines can or should play a role, and why? How can they interact? Is it likely that a single integrated language, research methodology, project style, and structure of research paper will evolve, and if so, what might this hybrid look like?

The chapter presents a model in which government is viewed from three perspectives. First, the technological. As a processor of information, government uses the results of ICT research and development, as performed by computer scientists and human factors specialists. This begs the question: which new technologies should be designed and built, and why? Second, therefore, the normative. The idealized (or at least improved) functioning of government, which tends to be the purview of political scientists, ethicists, and legal scholars, must furnish models toward which new ICT and its deployment can strive. In turn, this begs the question: how well does newly-enabled ICT-enriched government actually do? Third, therefore, the evaluative. This involves the challenges of studying the effects of using technology on society and government itself, enterprises that tend to be the domain of some sociologists and public administration researchers, and, within government, of organization management and information systems specialists. The chapter suggests that good research in DG, and good DG research papers, should combine these three perspectives, thereby including in each study all three aspects: technological, normative, and evaluative.

1. INTRODUCTION: A NEW FIELD OF RESEARCH

Digital (electronic) Government concerns the use of digital technology to support and enhance government¹. While its value for society has always been apparent, Digital Government has recently emerged as a distinguishable topic of research for government officials, academics such as computer scientists, political scientists, and others, and commercial vendors of information and communications technology. If it is indeed to become a new research field, some rather interesting questions arise: What areas does it cover, exactly? Why? Which different disciplines does it draw from? What questions do its different researchers (tend to) study? How can they interact? What format(s) and methodologies should researchers adopt?

The process of forming a new multidisciplinary research area requires the development, early on, of a common mode of discourse, which includes at least the following: (somewhat) standardized terminology; commonly agreed-upon criteria for judging the value of research; and effective transfer of results and products across the gaps that divide its component disciplines. Scholl, in his chapter in this volume (Scholl, 2007), provides an excellent discussion of these issues. If this development does not occur, the area remains simply a meeting place where friends talk past one another, and eventually it dissolves.

To date, there have been few attempts to study Digital Government (DG) as a new field of research (for notable exceptions, see (Fountain, 2001; Grønlund, 2004; Cushing and Pardo, 2005), and none that fully describes the emergent field (if indeed it is one) in its own, new, multidisciplinary terms and perspectives. As a field, DG is simply too young.

In order to think about a framework for the new field, this chapter addresses some of the very basic issues that have arisen in the DG community over the past years, taking as approximate starting point the first national DG conference in the USA (dg.o), held in Los Angeles in 1999. The chapter is organized around six basic questions.

First question: What is Digital Government, and, more specifically, what is DG research? Clearly, it involves the use of computers (more broadly, information and communication technology or ICT) in government. Does this mean that every time a government official writes email, or searches the web, he or she is conducting digital government? Somehow, these actions do not seem like DG, nor appropriate as objects of DG research. Perhaps they are simply too mundane. But if so, where does one draw the line? What actions *do* constitute DG, and what topics are legitimate for DG research, and why?

¹ I use the terms *Digital Government* (current in the USA) and *eGovernment* (current in Europe and Asia) interchangeably in this chapter.

Second question: At first glance, it seems clear that DG should involve some computational technology, as well as, obviously, some government agency or service. But what precise role(s) should computer scientists play in DG? Since ICT by no means covers the full extent of DG, how should social scientists and others contribute? Here especially one thinks of the work of political scientists, legal scholars, public administration specialists, organization management theorists, and information systems specialists. Which social sciences form a natural part of the DG research picture? And which other disciplines? Given all these parties, in what ways do they interact? Why? How else can or should they interact?

Third question: What are the basic assumptions behind DG research? What conditions should obtain before one should be willing to devote resources to DG research? Why?

Fourth question: How does DG differ from apparently similar enterprises such as eHealth, eEducation, or eBusiness? What special characteristics does it have (for example, in situations such as crisis response, international (cross-border) problems, and universal access)?

Fifth question: What are the differences between the conception of eGovernment R&D in the EU and Digital Government R&D in the US? Are these differences important? Why did they come about, and what are their effects?

Sixth question: How should DG researchers communicate their research? What is the ideal form and content of a DG research project? Since the various disciplines involved have such different styles of communication, is it possible to define a single general structure for DG research papers?

This chapter provides some observations on these questions, in the hope that this may help clarify the nascent field (if indeed it will become a field), and possibly assist in the development of the ‘theory’ of DG (should this eventually come about).

2. A TRIPARTITE MODEL OF ICT IN GOVERNMENT

One way to address these questions is to elaborate the general process of R&D in Digital Government. For this, three complementary perspectives are helpful: government as an *information processor*; government as a *function*; and government as an *organization*. Each perspective highlights different kinds of questions:

- Use ICT how? Here we search for elucidations of manner and processing

- Why use ICT? Here we search for definitions and descriptions of purpose
- Use ICT how well? Here we search for measures of effectiveness

We discuss each perspective in turn, and then assemble them into a tripartite model of R&D in DG.

Government as information processor. This part of the model is the most apparent in current DG research. From the perspective of Computer Science, a government is just another processor of information, with government officials and/or citizens as users. Therefore we can ask: How does government *function as an information processor*? What information collection, storage, transformation, and dissemination needs exist in the business of government? In what ways can existing ICT be deployed? What new ICT can be developed to assist with the government's information processing needs? These questions are, obviously, of primary interest to computer scientists and human factors psychologists and ergonomists. The answers involve 'hard-core' ICT research in algorithms, data structures, systems, and human-computer interfaces, as well as software and hardware construction and testing.

Government as function. This part of the model is normative. Here we ask: How should government *function in the ideal case*, and how can existing and new ICT be used to help achieve these ideals? What kinds of processes, data, and decisions would improve government? Fundamentally, these questions are based on ethical and legal principles, and on the controls to be exercised in government. This is because government occupies a unique position in society, one that requires the citizen's trust, simultaneously, in the arenas of force (policing, security, and the military), universality (contrary to business, the government has to serve all people equally, even ones in inaccessible places or with debilitating conditions), and privacy (the government has access to sensitive information such as personal finances and perhaps health conditions). These concerns manifest themselves as guidelines for the invention, development, and deployment of ICT for government. The questions in this dimension are of primary interest to practical ethicists, political scientists, and legal scholars. The answers involve studies that can be interpreted normatively to produce desiderata, guidelines, and suggestions for new ICT solutions for better government.

Government as organization. This part of the model is evaluative. Here we ask: How well does or can government *function in practice*, using ICT? Can one find better methods of employing existing or new ICT? Can one improve government effectiveness with new ICT? In this dimension as well, the government occupies a unique position vis à vis the roles of business, health care, education, and other social functions: in the business of governance, government has no competitor! The citizen, as consumer of

government services, has to pay taxes, but has no choices for alternative service providers. Worse, the citizen is not in a position easily to demand any direct accountability. Without such capitalist-like forces to keep them in line, governments have a notorious tendency to become inefficient, bloated, and authoritarian. To counter this, researchers and developers of ICT for government should be especially alert to the potential for inefficiency and waste. The questions in this dimension are of primary interest to the organization and management scholar, the information systems researcher, and the sociologist and social anthropologist interested in government’s practical effect on society. The answers involve measurements that quantify the utility and effectiveness of ICT in government, and that should be of central importance to the developers of such ICT.

Clearly, this tripartite model is a strong simplification. Please note explicitly that the claim is not that normative studies are the exclusive domain of political scientists, legal scholars, and applied ethicists, or that evaluative studies can be performed only by organization and management scholars, etc. Of course each discipline can, and should, have its own view of all aspects of government. But taken on average, the government-as-function disciplines tend to focus on the normative issues and frame their arguments in terms of theories dealing with the good of society, while the government-as-organization disciplines tend to focus on measurements and frame their arguments in terms of improving the here-and-now of government.

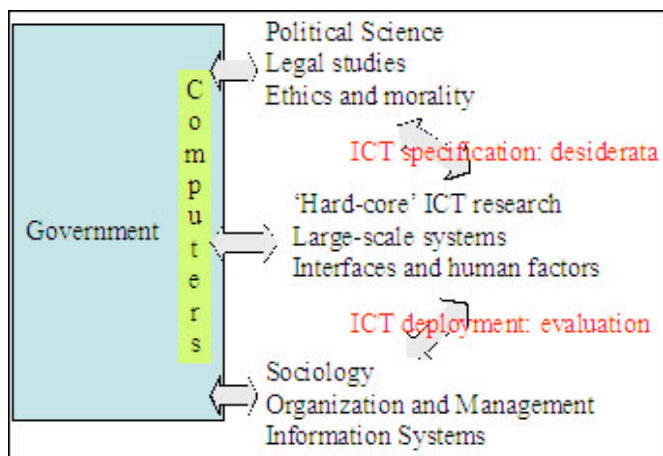


Figure 3-1. Interactions between DG research areas.

Assembling the three parts of the model, the possible types of interaction between the various research areas become apparent. As illustrated in Figure 3-1, normative studies can be interpreted by ICT developers as

desiderata for new ICT systems to be designed and developed in pursuit of ideal (or at least better) government, while evaluative studies can be used by ICT developers as measures for how well their systems are being used in practice.

Conversely, providers of normative studies can investigate the potential for ICT to be useful in realizing the ideal function of government, and providers of evaluative studies can measure the use of ICT for more efficient performance of government. To the extent all these researchers do this work, they are performing Digital Government research.

Researchers may choose to close the grand loop, involving in a single study normative, computational, and evaluative work all together. But most studies are more focused. In the past each discipline tended to study government and ICT independently, with in most cases no cross-discipline feedback, but this situation is rapidly changing, as seen for example in (Gil-Garcia and Pardo, 2006).

This model highlights the limitations of any single-discipline approach. No ICT can be developed without some rudimentary consideration of the kinds of government functioning it is aiming at, and no ICT product can be said to have been completed successfully without at least minimal evaluation of its effectiveness. Similarly, normative studies of the potential of ICT for better functioning of government can never be realistic without some dialogue with ICT specialists about what new technology and processes are truly feasible, and no evaluative studies of the actual use of ICT can be complete if they are not based on an accurate picture, obtained from the ICT developers, of what the technology is capable of doing and was designed to do.

This argument suggests that truly ‘complete’ DG research should involve not only the government partner, but researchers from each major dimension—typically, a team of at least four people, and possibly more. If performed well, the results would represent a model project. But the tripartite model of Digital Government also suggests two smaller R&D collaboration loops:

- Normative+ICT: studies of this kind focus either on how DG practice falls short of society’s needs, or on what new ICT-supported government functioning is desirable and technically feasible, given hypothesized ICT solutions, or even ICT prototypes, without much concern for the efficiency of the procedures in place.
- Evaluative+ICT: studies of this kind focus either on what technology and processes are in use, or on how to improve existing DG practice, without trying to invent fundamentally new ones and new technology.

3. RELATED WORK

Given the very recent emergence of Digital Government and its development into a potentially separate field of study, there is little relevant research on its nature as a field. The principal work available is without doubt (Fountain, 2001), in which some foundational notions implicit in the interaction between government and digital technology are developed. Fountain identifies two views on ICT: as conceived and built for the general case (which she calls *objective technology*) and as designed for a specific situation and deployed (which she calls *enacted technology*). “My framework separates objective technology—Internet, other telecommunications, hardware and software—from enacted technology, the particular designs, applications, programs, and systems developed through negotiation among political and institutional actors” (p. 5). Fountain studies how different organizations within the US government (including the International Trade Data System, a government-wide system for processing international trade; the U.S. Business Advisor, the nation’s first federal government web portal; and the Ninth Infantry Division, the high technology testbed for the tactical Army) select components of objective technology and ‘enact’ them to suit their needs. She continues: “Institutions and organizations shape the enactment of information technology. Technology, in turn, may reshape organizations and institutions to better conform to its logic or systems of rules. New information technologies are enacted—made sense of, designed, and used (when they are used)—through the mediation of existing organizational and institutional arrangements with their own internal logics or tendencies. These multiple logics are embedded in operating routines, performance programs, bureaucratic politics, norms, cultural beliefs, and social networks” (p. 7). In terms of the tripartite model of this chapter, objective technology more closely fits the technology perspective, while enacted technology is the driver of the evaluative perspective. This model complements Fountain’s framework by highlighting the kinds of concerns that arise around the enactment of ICT in government and listing the research disciplines typically associated with them.

Grønlund (2005) presents a theory for eGov information systems drawn from a model of governance derived from a general model of society. He focuses on the effectiveness of government operations, with the intent of providing a general framework within which the evolution of the utility of using ICT in government can be assessed. This work is an excellent example of the evaluative perspective.

Scholl (2007; this volume) discusses the characteristics that provide DG the potential to persist as a research field, and not merely pass in a few years. These include a growing body of data and publications, a unique cluster of research problems, the emergence of a shared vision, and a slowly growing

body of well-known and respected researchers. However, for DG to grow established, he identifies the ways in which the style and topics of DG researchers must adapt. Also in the chapter, Scholl outlines the overlap of DG research with research in Public Administration and Information Systems. But he points out the remoteness of Public Administration research to technology—a point that stands in stark contrast to the tripartite model outlined in this chapter—and the point at which Information Systems research tends to decouple from inquiring about the effects of ICT on the formal and informal organization of government. His conclusion meshes well with the model presented here: no extant discipline covers enough of the concerns of DG to do an adequate job, but DG must stretch in several very different directions to cover all the bases.

More remote areas of study with some relevance for the normative DG disciplines address the semiotics of political systems (especially work in Eastern Europe) and the socio-political effects of technology; see for example part IV of (MacKenzie and Wajcman, 1985), which contains chapters focusing on the military effects of ICT. Echoing Fountain's enacted technology, several authors discuss the political effects of technology, including ICT, when situated within culture and nature; see for example (Michael, 2000). Bijker (1995) provides an excellent overview of studies of technology from socio-historical perspectives. On the technology-oriented front of human factors and ergonomics, the volume edited by Nardi (2006) provides a cognitive model of human-computer interaction that may inform especially the evaluative DG disciplines.

4. ASSUMPTIONS BEHIND DG RESEARCH IN LIGHT OF THE MODEL

One cannot walk into any government office and expect that DG research will be welcomed, will be possible, or will make a difference, no matter how well it has been executed. The following assumptions, published by Delcambre and Giuliano (2005) and used here with their permission, express the preconditions for successful DG research:

1. A substantial number of problems facing government workers are technical enough in nature to be addressed by ICT;
2. There is something unique about government problems that researchers would not come across otherwise;
3. These problems are of sufficient interest and complexity to engage researchers;

4. Government partners can define the problem in terms that researchers can understand;
5. Researchers are willing and able to do the research and (to some degree) the technology transfer;
6. Government partners are willing to adopt and use the R&D results.

The tripartite model frames these preconditions, helping to differentiate those that are more axiomatic from those that do not necessarily always hold, or hold directly. It is not, for example, obvious a priori why Precondition 2 must hold. But in context of the model, one sees that government problems include an ethical/moral dimension within the normative cluster that may be absent, or much less prominent, in other areas of application, such as eEducation or eAgriculture. One could therefore reformulate Precondition 2 as follows:

2'. Government problems suitable for DG research involve some normative aspect, such as the need for privacy, universal service, or accountability, that researchers would not normally encounter in other problems.

Precondition 2 can obviously also be broadened to include the evaluative dimension, though it seems less strong here, since efficiency is also important to other enterprises. But Precondition 3 does speak more directly to the evaluative, for two reasons: (1) the lack of accountability in government offices (relative to commercial enterprises) makes highly desirable that ICT be almost incapable of being used inefficiently (to the extent this is possible), and (2) the requirement of government universality means that even the least computer-literate citizen should be able to use properly the ICT provided for him or her. One could therefore reformulate Precondition 3 as follows:

3'. These problems are of sufficient interest and complexity to engage researchers; specifically, the challenge is to develop ICT solutions that are crafted to minimize user misunderstanding, misuse, and inefficiency.

Precondition 6 has proven to be rather optimistic, after nearly a decade of DG research. But it is almost certainly the case that well-crafted DG research that represents all three the model's dimensions has a much higher chance of being adopted by government employees. One might reformulate Precondition 6 as follows:

6'. Government partners are more willing to adopt and use R&D results that have been carefully designed under the goals of good governance, that have been well crafted, and that have been deployed and tested in

situ to ensure maximal efficiency, than they are to adopt R&D results that exhibit only some of none of these characteristics.

5. THE CHARACTER OF DG AND SIMILAR RESEARCH IN DIFFERENT APPLICATIONS

This section addresses the basic question of how DG differs from apparently similar enterprises such as eHealth, eEducation, or eBusiness, and what special nature it adopts in specific instances of government such as Crisis Response. Since a great deal of literature compares them, this section simply highlights some differences as they pertain to the tripartite model.

ICT-enhanced **government** requires ICT solutions for the following areas primarily: technology to support policy creation; the recording and retrieval of ethical and legal questions; tools for policy enforcement and legal issues; public-government communications; technology for security and privacy; and tools to improve general government data processing efficiency. Its special roles as trusted controller of force and as holder of private personal information make government a primary consumer of normative DG research and ICT developments.

eHealth highlights the areas of data capture, storage, and management; privacy and security; and health-related communications and broadcasting. As for government, eHealth workers are in possession of private personal information and also need normative research.

eBusiness has especial need for technology that facilitates communication; handling of legal issues; and efficient data management. Given how efficiency equates to profit, business has a special need for the evaluative dimension of DG research, but the ethical dimension should not be overlooked.

ICT-enabled **crisis response and management** has the need for ICT solutions in organization structure and management, communication, legal issues, and security and privacy. The time pressure and chaos often present with crises makes efficiency (hence the evaluative dimension of DG research) of prime concern, though the normative aspects of ethics and legality, which become more critical in the long run, also mandate normative studies and solutions.

6. DIGITAL GOVERNMENT RESEARCH IN THE USA AND EU

The two continents' governments have pursued different goals in funding DG research. A brief look at the differences, and their effects, is instructive for understanding the nature of DG research.

The EU's eGovernment R&D program, in its past several frameworks, required that projects involve cooperation between government partners (as users), researchers (mostly in ICT), and companies (typically software companies); for example, for information about FP6 visit (http://europa.eu.int/information_society/activities/egovernment_research/index_en.htm). The program emphasized companies, who were expected to deliver working technology; relatively little effort was devoted to core research in ICT and other disciplines. The results are relatively mature technology at the expense of innovation.

In contrast, in the USA, the National Science Foundation's Digital Government research program (<http://www.digitalgovernment.org/>) required that projects involve cooperation between government partners (as users) and researchers, and (after the first round of funding) that the government partners provide some input in funds or in time. Although the initial cycle of funding focused almost exclusively on ICT research, increasingly social science researchers have been funded as well, notably political scientists. Unfortunately, the absence of funding for companies meant that very little of the research has been transformed into commercial products to date.

With respect to the tripartite model, the EU's model emphasizes the technological and evaluative dimensions, while the DG's model pays somewhat more attention to the normative.

7. WHAT MAKES A GOOD DG RESEARCH PAPER?

It has been a perennial problem in DG-related conferences and journals to specify exactly what structure a good DG research paper should have². Obviously, it should reflect the essence of Digital Government, it should be clear to most scholars in the field, regardless of their specialty/ies, and it should report on innovative and well-executed work. Clearly, the paper should describe the setting: the principal research question being addressed and its contextualization in some government application(s). Also, following standard scholarship practice, it should contain a section on related work, which may appear early or late in the paper, as appropriate.

² The author was program or conference chair for the National Digital Government conferences (dg.o) in the USA for several of the early years, and has first-hand experience of this problem!

But that said, what guidelines exist for authors? At what point do they include too much detail from their own specialty? How much detail is required from other specialties?

Here we can employ the tripartite model as a guide. Following the model, the best DG paper (like the best kind of DG research project) should include some effort from all three dimensions: normative, technological, and evaluative. The normative should express the goals and desiderata; the technical should discuss the ICT; the evaluative should provide effectiveness measures and improvements. It is unlikely, however, that a typical eight-page paper will be able to do all this and still provide enough details in any specific discipline to make a true contribution and not simply be a general summary. Thus the relative amounts of space and levels of detail for the three sections should differ. Exactly what minimal relative percentages are acceptable is up to the personal tastes of the author and the reviewer, and rather depends on the amount of space available and the professional sophistication of the expected readers. One can however imagine some rule such as

- Introduction + problem: 15%
- Related work: 5%
- Principal research dimension: not more than 40%
- Secondary research dimensions: not less than 15% each for each discipline represented
- Conclusion: not more than 5%, typically

This rule is pretty generic, and allocates a reasonable amount of space for each secondary discipline. A project with partners in only two disciplines (say, computer science as the primary discipline and political science as the secondary one) would quite naturally fall short in the evaluative dimension, and the act of writing a paper according to this rule would highlight the need to pay more attention to the missing part. Naturally, this work could be performed by one of the existing partners, but would have to be conducted in accord with the accepted standards and norms of one of the disciplines in the evaluative dimension and be presented in the appropriate style and form.

While enforcing this kind of rule as a strict policy for journals and conferences would, at this time, place quite a burden on DG researchers—they might feel they suddenly have to become experts in at least two other disciplines, or else find the appropriate partners—its gentle introduction, increasingly enforced over time, would prompt DG researchers to learn from one another and would work toward forging a new breed of researcher, skilled in just the relevant aspects of several disparate disciplines. At the

same time, it would help bring about a new genre, the Digital Government research paper.

A few example papers are shown graphically in Figure 3-2 (next page). Acceptable relative amounts are shown in medium gray, unacceptable ones in darkest gray, and borderline ones in lightest gray.

A very interesting survey (Grønlund, 2004) of some 170 research papers published at three major eGov conferences finds that “theory generation and theory testing are not frequent while case stories (no theory, no structured data collection) and product descriptions (no analysis or test) are”. These papers clearly do not adequately represent the various dimensions required for a ‘true’ DG paper. As such, it is hardly surprising that “only a few of the cases where theories are either tested or generated concern the role and nature of government, most concern general organizational issues which could well find a place within traditional Information Systems conferences”. Grønlund concludes that eGov conferences have to begin developing criteria for quality, for both rigor and relevance, for DG (or eGovernment) to develop into a distinct research field.

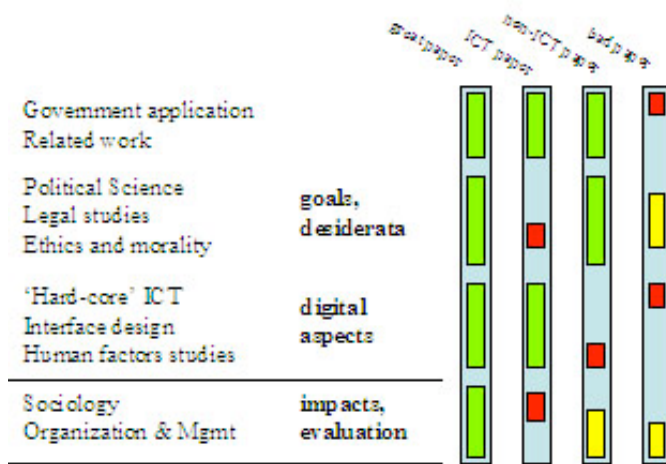


Figure 3-2. Examples of relative amounts of types of material in various genres of DG paper.

8. DG EDUCATION

Many universities today offer DG or eGovernment degree or diploma programs, usually spanning one or two semesters. Most of them are aimed at training government employees who want to learn (a) what’s available in ICT, (b) how to conceptualize a new system for their problem; and (c) how to estimate or measure the likely political, economic, and social impact.

Despite a certain amount of search, however, the author has nowhere yet found a program that reflects in equal depth all three principal dimensions of the tripartite model of DG presented in this chapter. It is perhaps too much to ask of students to become experts in areas as diverse as ICT, political science, law, public administration, information systems, and organization management, to name the principal ones. Is it too much to ask of university staff to create such groupings and offer a really widely multidisciplinary program? Perhaps not, in the near future. A major obstacle is creating a coherent intellectual vision and experience for the students. Hopefully, the model presented in this chapter can help. One way to focus the program is to train students on imaginary case studies involving hypothesized new ICT capabilities, and explore all their various ramifications across the disciplines (see question 2 at the end of this chapter).

9. CONCLUSION

This chapter describes a very simple model of DG that approaches research in DG from three complementary perspectives: *normative* (comprising such disciplines as political science, legal scholarship, and applied ethics), *technological* (comprising ICT and human factors design in its various forms), and *evaluative* (comprising such disciplines as information systems, organizational behavior and management, public administration, and even aspects of sociology). This model is then used to support the argument that fully-rounded DG research should include some aspect(s) of all three dimensions, and that a well-written DG paper should include specified minimal amounts of each dimension, expressed in the style and form of the selected discipline in each case.

An approach such as the one outlined here may assist the DG research community to develop its own methodology, style, and criteria for good work. Such developments may enable the emergence of an eventual theory of Digital Government.

ACKNOWLEDGEMENTS

The ideas in this chapter were developed over several years, and benefited greatly from discussions with Yigal Arens, Larry Brandt, Sharon Dawes, Lois Delcambre, Jane Fountain, Gen Giuliano, and Valerie Gregg; from discussions with Jamie Callan, Hans Jochen Scholl, Stuart Shulman, and René Wagenaar; from DG project collaborations with government partners; and finally from comments by participants at the EU-NSF Digital

Government workshop in Seattle in May 2004, the EU-NSF eGovernment workshop in Delft in November 2004, the NSF-OAS DG planning meeting in Washington in November 2004, the International DG workshop in Atlanta in May 2005, participants at the EGOV conference in Kraków in September 2006, and the eGov seminar at ISI by Prof. Soung Hie Kim and Prof. Byungchun Kim and their group from the KAIST eGovernment Research Center in Korea. My thanks go to all of them.

Funding for the research and meetings that prompted all this thinking about Digital Government was generously provided, over the course of six years and several different projects, by the National Science Foundation's Digital Government program. My grateful acknowledgment to the NSF for this support.

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SUGGESTED READINGS

The books, chapters and papers listed in the *References* section above are recommended reading for anyone endeavoring to understand the foundations of digital government.

ONLINE RESOURCES

- The Digital Government Society of North America (DGSNA) and the European E-Government Society (EGOV-S) are multi-disciplinary societies intended to foster progress in digital government research and e-government initiatives. Among other interesting items, their websites list upcoming conferences at which current research in digital government and issues and progress in e-government initiatives will be presented.
 DGS: <http://www.dgsociety.org/>
 EGOV-S: <http://www.uni-koblenz.de/FB4/Institutes/IWVI/AGVInf/community/egov-s>
- A number of centers have been created to study issues related to digital government. Their websites feature not only upcoming conferences and other events, but also research in current topics. Some of the centers are:
 - The Digital Government Research Center (DGRC), headquartered in the University of Southern California's Information Sciences Institute. DGRC has a focus on information technology research as well as community building: <http://www.dgrc.org/>
 - The National Center for Digital Government, located at the University of Massachusetts, Amherst. The center intends to serve as a clearinghouse for digital government research:
<http://www.umass.edu/digitalcenter/index.php>
 - The Center for Technology in Government (CTG), based at SUNY-Albany. CTG works to develop information strategies for government:
<http://www.ctg.albany.edu/>

QUESTIONS FOR DISCUSSION

1. Read four papers from any recent dg.o or EGOV conference. Identify regions that can be classified into the research paper sections listed in Section 7 above. (It is ok to assign a region to more than one section.) Measure the relative lengths of each section (counting words, or lines), and also the unclassifiable regions, and create a bar chart that compares

the four papers. On the bar chart, draw lines representing minimum acceptable lengths. Rate each paper, and outline the kinds of suggestions you would make to their authors for rounding out their work and improving the balance of their papers. Also analyze the content of the unclassifiable regions. Are these parts necessary for the paper? Should additional sections be added to the list of Section 7, or should the authors perhaps focus their efforts more? Discuss this.

2. Imagine a completely new ICT capability, such as being able to track your application for a dog license as it wends its way through government. Work out its ramifications, within e-government, from all three dimensions of the tripartite model. What would a lawyer, an ethicist, and a politician recommend? What would an organization management researcher, a public administration specialist, and a sociologist investigate? What would a computer scientist build? And don't forget: what would the government officials in question prefer? Where do these perspectives fit together well, and where do they disconnect? Now change the capability just a little, from tracking a dog license to tracking a letter to your elected official requesting action on an issue such as global warming or gun control. How do the work and commentary of each researcher change?