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INTRODUCING e-GOV: HISTORY, DEFINITIONS, AND ISSUES

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ABSTRACT

The e-Gov field (also called Electronic Government, Digital Government, Electronic Governance, and similar names) emerged in the late 1990's. Since then it spurred several scientific conferences and journals. Because the field grew considerably in size, both its contents and position with respect to other research fields and disciplines need to be explained and discussed. What is e-Gov? What is e-Gov research? What does it mean for the field of Information Systems? This paper briefly sketches the short e-Gov history and current status, and discusses the content of the field as it appears in current research. We conclude with a discussion of e-Gov as a research field of interest both as a new application area for IS theories and methods and as a source of new insight.

Keywords: electronic government, governance

I. INTRODUCTION

The e-Gov (Electronic Government or Electronic Governance) field¹ emerged in the late 1990's as a context within which to share experiences among practitioners. Over the past few years e-Gov gave rise to several conferences with more and more scientific content. Some specialized journals now appear. Because the field grew to considerable size, both its contents and position with respect to other research fields and disciplines needs to be explained and discussed. What is e-Gov? What is e-Gov research? What does it mean for the field of Information Systems?

¹Synonyms for e-Gov include digital government, one-stop government, and online government. While digital government is the most commonly used term in the US, electronic government is most common elsewhere. In this paper we broadly cover the development irrespective of the term used.

A scientific field is usually characterized not just by a common object of study, but also a by set of theories which can be used to understand the study objects of the field, and a set of preferred methods and/or general methodological practices and understandings of what to investigate and how. While these understandings are usually not undisputed, they still serve as ingredients of, if not homogenous, at least to a large extent shared culture of the field [King and Lyytinen, 2004]. Because e-Gov is new and, as we shall see, consists of a partially new combination of scientific disciplines and a vast area of practice, explaining the field is still difficult. In this paper we define e-Gov in terms of current practice – who are e-Gov researchers and what are they researching? – and in terms of the practice the research refers to.

Our object of study, “government”, is made up of a large number of organizations and many different kinds of processes. It is not necessarily intuitively apparent what a small village in France and the federal US government in Washington share in terms of process rationalization potential. The substantive domains in which government agencies work also differ considerably, from road construction to social welfare to schools to railroads to military defense. While political science and public administration developed a range of conceptual approaches and empirical foundations about public enterprises, the thesis to be examined here is how the rise of information systems in government provides an opportunity for IS researchers and practitioners to extend their contributions to management and society.

OUTLINE OF THE ARTICLE

After a brief sketch of the short e-Gov history, including publication outlets and literature in the field (Section II), and a discussion of the content of the field (Section III) we go on to define the field implicitly in two steps. First, we discuss the outer boundaries by displaying various definitions and relating them to governance (Section IV). Second, we define the core by considering salient issues for practitioners which impact research (Section V). We conclude with a discussion of e-Gov as a research field that is interesting both as a new application area for IS theories and methods and as a source of new insights (Section VI).

II. E-GOV HISTORY

The term e-Government (e-Gov) emerged in the late 1990s, but the history of computing in government organizations can be traced back to the beginnings of computer history. A literature on “IT in government” goes back at least to the 1970s [Kraemer, et al, 1978, Danziger and Andersen, 2002]. This literature concerns IT use within government, while the recent e-Gov literature more often concerns external use, such as services to the citizens [Ho, 2002]. While some earlier e-Gov computer issues, such as office automation, may not be highly relevant to research today, many issues are, for example decision making, service processes, and values. As we shall see in Section IV, all definitions of e-Gov go beyond services to the citizen to include organizational change and the role of government. Therefore, the two strands of literature need to be considered together as the basis of the e-Gov field.

ORIGIN

Just like the term e-Commerce, the term e-Government was born out of the Internet boom. However, it is not limited to Internet use or publicly accessible systems for direct use by customers or citizens. e-Gov started as a practitioner field, basically convening practitioners struggling to meet the new challenges of the Internet medium by implementing new systems creatively. For example, in the United States the (then) Vice President Gore led the National Performance Review, which placed a strong emphasis on the role of e-government in federal services [Gore, 1993; Salem, 2003].

CONFERENCES

Not surprisingly, then, most conferences so far are practitioner-oriented. Many conferences gather practitioners only, and invite researchers only as guest speakers². Other conferences invite academic papers but try to attract a mixed audience (e.g., the European DEXA E-GOV (www.dexa.org), the US Digital Government (<http://www.diggov.org/>) and the European Conference on e-Government (ECEG,<http://www.academic-conferences.org/eceg2005/eceg2005-home.htm>). Yet other conferences, or sections thereof, focus on research knowledge exchange only. This group includes smaller workshops that meet regularly such as IFIP WG 8.5 (International Federation of Information Processing) and EGPA, the European Group of Public Administration. For over a decade the last two arrange annual conferences on several e-Gov themes. Many large, broadly themed conferences such as HICSS, ECIS, IFIP's I3E (E-Commerce, E-Business and E-Government, <http://www.informatik.uni-trier.de/~ley/db/conf/i3e/>), AMCIS, and the Bled eConference, (<http://www.bledconference.org/>), which were held in the past one to four years, added e-Gov sections.

More recently new concepts appeared that draw on the popularity of new technology. For example, in 2005 we will see the first European, Asian, and American conferences about m-government, where "m" refers to mobile technology (<http://www.icmg.mgovernment.org/>).

Worth mentioning specifically, although they do not focus on e-Government only and are fundamentally political rather than scientific, are the World Summit on the Information Society (<http://www.itu.int/wsis/>) and the preparatory World Forum on the Information Society and WITFOR (World IT FORum), sponsored by UN and UNESCO respectively (and many other actors) and serving to enhance the interest in e-Gov (among other things) in a global perspective.

JOURNALS

Dedicated e-Gov Journals were founded in 2004 and 2005, including e-Government Quarterly (eGQ), International Journal of Electronic Government Research (IJEGR), and Journal of E-Government (JEG). e-Gov papers were, of course, being published in academic journals prior to that. They appeared in several journals in neighboring fields such as e-commerce and government, often as special sections. They also appear in established journals in the social sciences.

There is some discussion about the size of the field. A search by Norris and Lloyd [2004] for e-Gov journal articles published between 1994 and 2004 found only 40 articles about e-government published (or soon to be published) in refereed journals. Another search by Andersen and Henriksen [2005] found 167 papers for the period of 1998-2003. Both figures may be an underestimation of the size of the field, as many articles about e-Gov may not use that specific term (political science articles often do not, for example).

E-GOV LITERATURE

A large number of publications appear outside of scientific journals and conferences. We now present this literature, which is mainly of a practical nature.

A huge number of e-Gov projects are undertaken in most countries around the globe. Many attempts are made to assess e-Gov development based on these projects. Analyses cover both geographical areas and various topics. There is a distinction in production, as most scientific papers cover developments in the industrialized world whereas the developing world is largely covered by research and development sponsored by major organizations such as the World Bank and UN. These two strands of development are merging, and will most likely continue to do so as

² For example, conferences arranged by G8, Telecities, and national associations of municipalities

technology rapidly spreads across the globe and as experiences from early trials can be disseminated. In this subsection we therefore do not distinguish between them. The following discussion is designed only to indicate the scope of literature in the field. We do not claim to be complete or even to cover the most important publications.

Surveys

Several surveys cover e-Gov projects. These surveys can be found at several portals on the Internet.³ Many of these studies are showcases, some are just directories, but a number of studies attempt analysis. Many of these studies are qualitative detailed case studies of successful e-Government projects [Devadoss, Pan, and Huang, 2002; Ke and Wei, 2004; Golden, Hughes, and Scott, 2003].

Benchmarking

A number of more or less recurrent benchmarking studies cover geographic areas such as the EU, the US, and worldwide (e.g., [Accenture, 2004; UNDESA, 2003a; West, 2003]). These studies cover issues ranging from implementing services to multidimensional “e-readiness” indexes [UNDESA, 2003; IBM and EIU, 2002; EIU, 2004; WEF, 2003]. An example of e-readiness studies is the series of 10 papers on Globalization and E-Commerce published as Volume 10 of Communications of AIS in 2003.

Critical Studies

Critical studies focus on, e.g., how and when to measure success (e.g., De, [2004], discusses 1st and 2nd order effects – immediate and long-term), and on the connection between e-Gov development in the service area and economic and democratic development (e.g., [De, 2004]; [ZDNet IndiaNews, 2004]; [Booz Allen Hamilton, 2001]; [Accenture, 2003]).

Different studies use different measures of e-Government activity because they focus on different aspects. Examples include public sector use of the Internet and other digital devices to deliver services and information [West, 2004], governments providing information about services, as well as the ability to conduct government transactions, via the Internet [Accenture, 2004], and the application of information and communications technology (ICT) to transform internal and external relationships [UNDESA, 2003a].

Handbook and Other Literature

A body of handbook literature is based on cases and assessments. Handbooks exist for managing e-Gov projects in general [Grönlund, 2001], for developing countries in particular (e.g., [CDT, 2002]) and for particular kinds of efforts, such as local community telecentre building (e.g., [Jensen and Esterhuysen, 2001]).

Sponsored e-government literature series, such as the one undertaken by the IBM Institute on Electronic Government [IBM, 2004] also exist.

A growing scientific literature within IS is assessed in various ways by e.g. Andersen and Henriksen [2005], Grönlund [2004] and Norris and Lloyd [2004].

As this brief review shows, many outlets publish e-Government articles. What, then, is e-Government about? What is the content that motivates the many institutionalization efforts?

³ See Appendix I.

III. E-GOV CONTENT

Defining the content of the e-Gov field can be done in different ways. Andersen and Henriksen [2004] identify various themes found in the literature. Grant et al. [2005] offer a comprehensive empirical definition by mapping out all kinds of work done within the field. Grönlund [2004] and Norris and Lloyd [2004] are concerned with the nature of the research in terms of methods used. Another way is to consider the calls for papers and proceedings from the multitude of conferences that exist today. Doing so we find not only a very wide range of topics but also many topics that are in other more established niches. Using just one, but a representative, conference call as an example to illustrate papers for existing niches (Table 1), we find that, for example, number 5, 7, 8, 9, 10, 11, and 12 are examples of such topics. Further, some topics are self-generated by the very nomination of “a field” of e-Gov (including 3, 6, 13 and 14).

Table 1. Call for Papers for *DEXA EGOV 2005*

1. Frameworks and guidelines for e-Government and e-Governance
2. e-Government policies, strategies and implementation
3. Methods and tools for e-government research
4. Participation, e-democracy and e-voting
5. One-stop government, electronic service delivery, mobile services
6. International and regional projects, case studies and best practice
7. Administrative process design and change, collaborative activities, legal interpretation
8. Trust and security: provisions and instruments
9. Knowledge management, public information, decision process support
10. Interoperability and standards, semantic standardisation
11. Change management and new organisational arrangements: public-private-partnerships, virtual teams
12. Legal, societal and cultural aspects of e-Government
13. International dimensions: cooperation, comparisons, networks
14. Teaching e-Government

Source: http://falcon.ifs.uni-linz.ac.at/news/cfp_e-Government2005.html

Rather few topics in Figure 1 directly distinguish e-Gov from other areas and mark e-Gov with salient defining features. Number 1, 2 and 4 may be such.

The list in Table 1 covers a large number of topics, ranging from technical (e.g., security) to organizational (e.g., knowledge management), social (e.g., participation), economic (e.g., public-private partnerships) and societal (e.g., democracy and law). Many of these topics already have their own journals and conferences in other disciplines, such as law and computer science. One may ask why e-Gov conferences should attract such papers. This question motivates inquiry into what triggers such a variety of topics being grouped together. This motivation comes from a number of sources. One is what we call the “outer boundary” of e-Gov, that is, the definitions that are used in the field of practice that e-Gov research reflects. Another is what we call the “inner core”, that is, the current e-Gov research practice; the issues on which e-Gov researchers focus.

IV. OUTER BOUNDARY – E-GOV DEFINITIONS

Of the definitions of e-Gov, the dominant ones emerged from fields of practice. Around the turn of the millennium, governments across the globe set up definitions as basis for national strategies to achieve excellence based on use of Internet technology. Grönlund [2002] reviews some of these and find them similar and typically explicitly mentioning three goals,

1. more efficient government,
2. better services to citizens, and
3. improved democratic processes.

These definitions still remain, as they are implemented in official documents and government reform programs. Over the past few years, in many countries the rhetoric about improved democratic processes was played down a bit in practice and in definitions. One example to illustrate this change in emphasis is the US 2002 E-Government Act, defining e-government as

“the use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to

a) enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities or

b) bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation;”

[U.S. Congress, 2002].

That set of definitions was complemented with various definitions crafted for specific more limited purposes, often by researchers. Some of these definitions limit the field to make it more easily operationalized in some technical or reorganization project, or for research purposes. For example,

1. by discussing “self-service” in a technical manner, avoiding organizational issues involved with producing such services, or
2. by talking about “e-voting” without addressing context of democratic processes in which voting is embedded.

Other definitions are designed to address the broader development towards “better government”. Better government definitions are typically being created by supranational organizations concerned with development, research, or international cooperation. Because in this section we are interested in the total realm of e-Gov, the outer boundaries of the field, we start by considering some of these.

What all recent definitions by major organizations share is that they

1. acknowledge the need for organizational reform to go hand in hand with technology implementation, and
2. focus on the role of government in society, that is, governance (discussed below).

Three sample definitions illustrate these ideas.

“E-Government refers to the use by government agencies of information technologies that have the ability to *transform relations* with citizens, businesses, and other arms of

government. These technologies can serve a variety of different ends: *better delivery* of government services to citizens, *improved interactions* with business and industry, *citizen empowerment* through access to information, or *more efficient government management*. The resulting benefits can be *less corruption*, increased *transparency*, greater *convenience*, *revenue growth*, and/or *cost reductions*" [World Bank, 2004; italics added by author]

E-Government is...

"The use of ICTs, and particularly the Internet, as a tool to achieve better government" [OECD, 2003, p 23]

The e-Gov efforts by the European Union are based on the definition:

"e-Government is the use of Information and Communication Technologies in public administrations combined with organisational change and new skills in order to improve public services and democratic processes" [EU, 2004].

These definitions are about governance rather than government. This distinction is since long made in political science but IS research, and indeed e-Gov practice, tends to use confusing definitions. In short, e-Government refers to what is happening within government organizations (in IS research the term is often used restricted to those government organizations that provide services to citizens or companies). e-Governance, on the other hand, refers to the whole system involved in managing a society. The system includes activities not only by government organizations but also companies and voluntary organizations, and – often forgotten! – citizens. Moreover, it features the processes and flows of governance, dimensions that are critical to understanding the context of information systems deployment and use [Atkinson, 2003] For these reasons, e-Governance is a preferable term for use when considering IS applications to the public sphere. Clearly IT and information systems are at work in all the above activities.

While

"Government's foremost job is to focus society on achieving the public interest [...]. Governance is a way of describing the links between government and its broader environment - political, social and administrative" [Riley, 2004].

Another way of describing the difference is that while government is about certain specific activities with a short-term perspective, governance is about processes and outcomes in the long run. Table 2 illustrates this difference by pairing concepts that belong together but put the emphasis on either of these two ideas. For example, while "rules" are what governments set up, "goals" are why they do it and "performance" is how they will be evaluated.

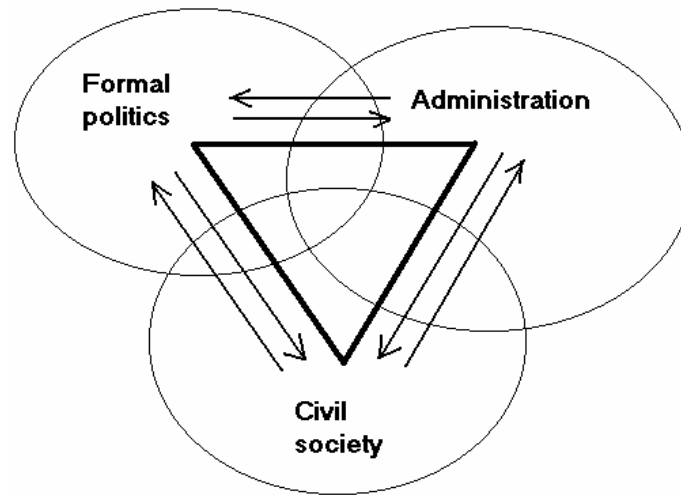
Table 2. Government Compared to Governance

GOVERNMENT	GOVERNANCE
superstructure	functionality
Decisions	processes
Rules	goals
Rules	performance
implementation	coordination
Outputs	outcomes
e-Government	e-Governance
electronic service delivery	electronic consultation
electronic workflow	electronic controllership
electronic voting	electronic engagement
electronic productivity	networked societal guidance

Source: [Riley, 2004]

In e-Gov research, political scientists tend to use the term governance, while IS researchers tend to use government. This appears a little odd as IS researchers in private sector contexts are much concerned with processes and outcomes. It is also an unfortunate practical problem, as most conferences, journals, and research sponsors – and consequently also most researchers – use the term e-Government, even when they actually discuss governance or take a governance perspective. This definitional confusion is perhaps one we will need to live with as the term e-Government seems to be quite well established, and as the e-Gov research area appears to be dominated by IS researchers [Andersen and Henriksen, 2005; Grönlund, 2004]. Here we simply use “e-Gov” to cover all pertinent research.

Following from this distinction is that talking about governance or government makes a big difference in terms of what information systems count as e-Gov systems and hence what people should be considered users. Figure 1 illustrates this difference by using a textbook model of society as consisting of three distinct but interrelated spheres, the political sphere, the administrative sphere, and civil society. All are mutually dependent by a large number of relations, but are each distinct in many ways, including legal status, culture, and modes of operation.



Arrows indicate influence, circles indicate domains of control. Intersections indicate “transaction zones” where control is negotiated by, e.g., lobbyists and media on the left-hand side, intermediary service deliverers on the right-hand side and professional interaction in government boards and committees on the top side. (Adapted from [Molin et al, 1975; p. 16])

Figure 1. Basic Spheres and Relations in a Democratic Government System

Governance obviously concerns all three spheres, while government can be taken to mean either just the administrative one or the political and administrative in combination. While all the e-Gov definitions from major constituencies referred in this paper rather discuss e-Governance, other more limited definitions exist. For example, OECD [2003] distinguishes among four types of definitions:

1. “Internet (online) service delivery and other Internet-based activity such as e-consultation” (that is, mainly the transactions between government administration and citizens in the right-hand side of the figure).
2. “E-government is equated to the use of ICTs in government. While the focus is generally on the delivery of services and processing, the broadest definition encompasses all

- aspects of government activity” (that is, mainly the right-hand side of the figure but with more focus on Administration).
3. “E-government is defined as a capacity to transform public administration through the use of ICTs or indeed is used to describe a new form of government built around ICTs. This aspect is usually linked to Internet use” (that is, mainly the Administration sphere and the processes linking administration and formal politics)
 4. The OECD’s own definition, “The use of ICTs, and particularly the Internet, as a tool to achieve better government” [OECD, 2003, p 23] clearly concerns the whole figure as “better government” must be measured from outside, what good it does for (civil) society.

Even though different in scope, the definitions are unanimously socio-technical: organizational change, skills, and technology together are the key to success. The definitions are not only based on the ambitions of the respective organizations but also empirically on experiences and research from successes and failures of a large number of projects, in developed as well as developing countries (see, e.g., the handbook literature in Section II).

Plotting the definitions on the e-Gov domain as defined above, we find that they are related to different parts of Figure 2.

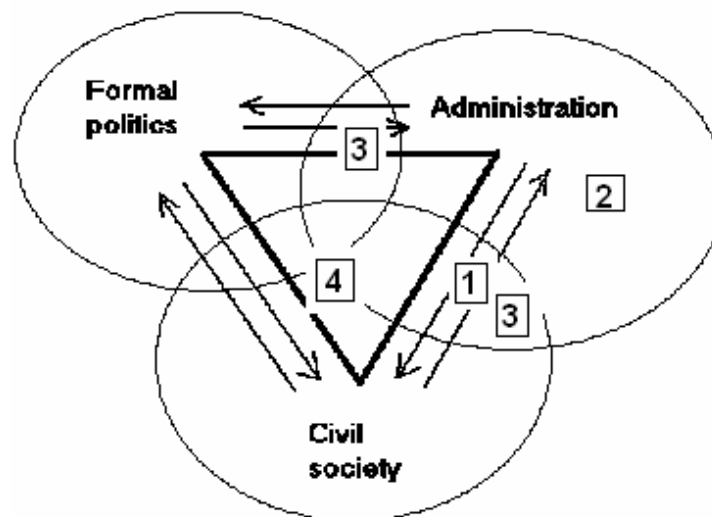


Figure 2. Different e-Gov Definitions Plotted on the e-Gov Domain

The positioning of the definitions in different areas of the e-Gov domain is at least partly the result of researchers from different field being engaged, using their traditional areas of expertise, research questions, and empirical interests. e-Gov research is not only multidisciplinary when seen as a field, so are also individual conferences. This finding can be illustrated by the Grönlund [2004] examination of papers at three major e-Gov conferences (Table 3).

Though IS and IT researchers (where we include business administration) dominate, the considerable number of papers with public administration origin should be noted.

Another way of illustrating the multidisciplinary nature of the field is plotting disciplines on the e-Gov domain. As shown in Figure 2, several disciplines are interested in each part of the domain. For example, using definition 1, relevant disciplines include (at least) informatics, psychology, and economics. Definition 2 involves at least economics, management sciences, and informatics/IS. Definition 3 involves at least political science, management sciences, and informatics/IS, and Definition 4 involves at least political science, sociology, and informatics

Table 3. Papers at DEXA e-Gov, ECEG, and HICSS 2003 Conferences by Affiliation of First Author

	Disciplines	No of papers
Social sciences	Business administration	17
Social sciences	Law	12
Social sciences	Public administration, government, and social studies	19
Social sciences	Library sciences	2
Social/technical	Informatics/Information systems	45
Technical	Technology, computer science	20
Other	Government professional	4
	Not mentioned	50

Source: [Grönlund 2004, p 184]

One important but so far largely ignored issue is that the different definitions lead to different performance measures. Table 4 gives some examples, but clearly there are many more. (IS) e-Gov research is very often focused on issues directly concerned with implementation of technical systems, such as those pertaining to the first definition. Clearly, measurements can be more easily designed for the first definition than for the 4th, however, definition four scores higher on relevance from a governance perspective because it assesses outcomes rather than activities.

Table 4. Examples of Performance Measures Relevant to the Different e-Gov Definitions.

	Definition	Example measures
Def. 1	Internet (online) service delivery and other Internet-based activity	online presence, cost cuts, access
Def. 2	E-government is equated to the use of ICTs in government. While the focus is generally on the delivery of services and processing, the broadest definition encompasses all aspects of government activity	Productivity as measured by specified tasks, e.g., service delivery
Def. 3	E-government is defined as a capacity to transform public administration through the use of ICTs or indeed is used to describe a new form of government built around ICTs. This aspect is usually linked to Internet use	implementation of strategy, degree of political control over public administration
Def.4	“better government”	improved interaction with business and industry, increased transparency, reduced corruption

The issue of different performance measures is not only a problem of how large a system one considers, it is also a matter of values. In agreement with the definitions discussion, clearly e-Gov can be studied with several kinds of values in mind, including economic, social, and political.

This review shows that influential definitions of e-Gov today include contextual and societal aspects – governance – and hence go beyond single government organizations and indeed government as a whole. The consequence of this analysis for research is that e-Gov is a new domain with new issues to study beyond traditional IS. Clearly information systems pervade all parts of the domain. Furthermore, as Table 4 indicates, rigor and relevance come in somewhat different contexts depending on definition than in traditional IS settings. Good performance as measured using definition 1 may not only conflict with but indeed contradict good performance as measured using definition 4. This observation is a classical example of system analysis, the risk of sub-optimization, and one IS researchers on e-Gov at least must be aware of. It is also an important observation for those who believe that IS e-Gov research should avoid becoming trapped inside Definition 1, both from the perspective of being able to interact with and learn from other disciplines who use broader definitions and from the perspective of being faithful to the IS tradition of applying systems perspectives to information technology and systems.

V. INNER CORE – E-GOV ISSUES, AND THE ROLE OF IS

The previous section showed that e-Gov practice and research cover a large domain. But of course not everything within that domain is a research issue, and not all of those are necessarily e-Gov research issues. Defining e-Gov as a specific research field involves at least three limitations. These limitations are:

1. *Exclusive* – what, if any, issues are there that would be best off discussed in a distinct field? An e-Gov example could be that new combinations of disciplines are required beyond what is traditionally within the IS field.

2. *Government focused* – what issues are special for the combination of IT and government/governance, that is, that do not concern any organization? For e-Gov, this focus includes a government context which in some theoretical way can be distinguished as special. For example, “leadership” could to some extent be imported from corporate leadership studies but would have to be considered also in the context of a democratic decision making system. Interoperability among departments would need to include not only technical issues and data integrity/definitional interoperability (these are problems for any organization), but also privacy considerations discussed in terms of the nature of the relation between government and citizens.

3. *e-Gov analytical* – a government context, even if well defined, is not enough. The role and methods of government need to be discussed in the light of the “e”. What are the implications of IT design and use? Government in its current implementation cannot be taken as a given – because then IT would not matter - but “e” is in fact one of the problems in the current e-Gov discourse [Snellen, 1995; Zouridis and Thaens, 2002]. Issues such as integration and reorganization are typically discussed without reference to the principles and the history that resulted in government becoming precisely what it is today. The discussion about various models for government typically takes place in the political science field. The discussion is rather on a very aggregated level, concerned with national political institutions and principles. Political science theories often ignore the dynamics of organizational environments. They usually do not deal with users/citizens in practice, and they ignore IT. Just how the infrastructure affects organization is little discussed. It is sometimes implied that only political decision is important. While true in a trivial sense – government organization is decided politically – there is no doubt that the current democratic systems maintain a relation to the infrastructure of the industrial society. It is therefore likely that democracy in the information society is somewhat different and that the technological infrastructure and tools will make a difference. While most would agree to that statement, the e-Gov literature contains little about just how this happens. Conversely, while IS research is indeed often concerned with users in practice, commonly used theories in IS contain limitations when trying to apply them to understand government and governance. For example, these theories often decontextualize actors by taking them out of a historical and

systemic perspective (Actor Network Theory) and depolitize government (Institutional theory, Large Systems Theory). Of course, some theories do not contain these particular weaknesses and can be (and have been) used both in IS and in more general discussions of society (e.g., Institutional theory [Giddens, 1984]). In the recent debate⁴ on the nature of the IS field (“IS Core”), at least some voices were raised in warning of defining the “IS Core” too tightly precisely because the growing field of IT use in government provides new challenges [Myers, 2003]. It is our contention that defining IS broadly would be fruitful for both the IS as a whole and for the e-Gov field. The discussion in the rest of this section will hopefully clarify this view, at least to some extent.

E-GOV DEFINING ISSUES

The previous section discussed e-Gov definition largely stemming from practice. Another way of defining the e-Gov field is to consider what e-Gov researchers actually study. Previous attempts to assess what e-Gov research is all about include Andersen and Henriksen [2004] who arrive at four “themes”:

1. Conceptualization of e-government,
2. The Governmental role in technology diffusion,
3. a Governmental administrative eService focus, and
4. Democracy and involvement of citizens.

Anderson and Henriksen create their categories inductively by coding the content of 110 journal papers.

In Table 5 we create another classification to illustrate how e-Gov research relates to various aspects of governance we discussed above. Table 5 is constructed the following way. Papers from three major e-Gov conferences – DEXA e-Gov, ECEG and HICSS – were classified by title, keywords and contents into several “themes” (based on [Grönlund, 2004]). These themes were associated with four important aspects of governance:

1. a systems perspective – all government agencies together rather than individual organizations or subsets of government organizations,
2. the governance system, as discussed above,
3. social, or rather societal as they concern general principles rather than individuals, aspects, and
4. the relation between government and governed, a typical theme in political science.

Table 5 illustrates how what researchers do relates to a governance perspective. It does not say that all these researchers take a governance perspective, just that e-Gov research (1) includes these issues and (2) they have implications for governance.

Some of the issues in Table 5 have been on the agenda for some time, some are “emergent issues” triggered by events in the environment. Still other issues did not yet make it onto the e-Gov research agenda by the time the sample was taken in 2003. The major themes of Table 5 that stand out as recently most highlighted are:

1. *Security and Infrastructure*. The events of September 11th sent aftershocks through many industries and research communities. IS is no exception—and within IS, the interest in security and critical infrastructure is emerging as an important area of study. Such research ranges from large scale modeling efforts underway at National Laboratories (such as at Sandia Labs) in the U.S. to more localized examples of emergency response (see [Tuoff, 2002]).

⁴ See Communications of AIS, Volume 13, Articles 30 to 42 published in November 2003.

Table 5. Research Themes Aggregated from Three Major e-Gov Conferences in 2003: DEXA e-Gov, HICSS, and ECEG.

Fields	Themes
Government in a systems perspective: all government organizations together	Reorganization
	Infrastructure
	Efficiency, rationalization
	Self-service
	eCommerce-inspired systems
	Interoperability,
	Standards
	Ontologies
	change management
	Legal environment
	Process management/process remodeling
The governance system	Outsourcing
	Value-added services by 3 rd parties
	virtual communities
	community network
Social aspects of e-Gov: “Society, the home of all people”	Universal access
	Design for all
	(Bridging) digital divides
	e-democracy
	Participation
The relation between government and governed	User value / citizen satisfaction
	Societal value (effectiveness)
	CRM
	Call centers/service centers
	The role of civil servants
	Governing the Internet
	eService models, government business models
	Voting
	Control, security, surveillance, privacy

2. *Citizen Satisfaction with e-Governmental Services.* This theme builds on the macro-trend of customer-centric businesses. While much is written in the private sector about customer relationship management, a similar set of issues need to be addressed within an e-government context.

3. *The Use of IT for Regional Development.* Appealing again to macro-trends, from a global perspective there has been much interest in using ICT to facilitate economic and social gains in developing countries. Even within developed countries, critical issues of access are being addressed [Horan, Arguelles, and Worthington, 2004].

Clearly classifications like this one can be made in different ways. We provided Table 5 to illustrate the importance of a governance perspective by mainly two arguments:

1. e-Gov practice defines e-Gov in terms of the governance system
2. e-Gov researchers study a large set of issues which contain implications for governance whether or not the researchers actually realize that or for some other reason take a more

narrow view of their objects of study. Thus, e-Gov is a valid new context for these issues even though many of them are published in other disciplines and can be considered in other contexts.

VI. CONCLUSIONS

This brief introduction shows e-Gov as a large practice. Numerous publications are available in the practitioner field. The academic field includes numerous conferences, a handful of new journals, and publications in established journals with a more general scope. e-Gov is, however, an immature research field because of novelty, unclear definitions of the scope and core, and a necessary but not yet fully developed multidisciplinary.

Most definitions in the field of practice take a governance perspective. Even if each piece of research does not need to do that, we argue that the e-Gov field as a whole should in order to reflect the practitioner field and to make contributions to practice.

e-Gov is a potentially fruitful research field. It extends all contributing disciplines in some way. It is not just the least common denominator of established research fields. For IS, this extension includes the concept of governance⁵, which brings new analytical dimensions and new variables to IS research, and the integration of ideas from public administration, political science and (in new ways than before) sociology. As IS grapples with the substantial changes in the field (such as employment trends due to the rise in global outsourcing), it is important to recognize those areas that warrant practitioner and research attention.

In conclusion, we believe e-Gov is a budding field that is interesting both as a new research area for IS theories and methods and as a source for IS practitioner contribution and use.

Editor's Note: This article was received on February 2, 2005 and was published on May __, 2005. It was with the authors for approximately one month for one revision.

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EDITOR'S NOTE: The following reference list contains the address of World Wide Web pages. Readers who have the ability to access the Web directly from their computer or are reading the paper on the Web, can gain direct access to these references. Readers are warned, however, that

1. these links existed as of the date of publication but are not guaranteed to be working thereafter.
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3. the authors of the Web pages, not CAIS, are responsible for the accuracy of their content.
4. the author of this article, not CAIS, is responsible for the accuracy of the URL and version information.

⁵ Governance of the IS function is a separate area that is receiving practitioner and research activities. It is not covered in this paper

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APPENDIX I. A LIST OF PORTALS WITH DESCRIPTIVE AND ANALYTICAL REPORTS ON E-GOVERNMENT

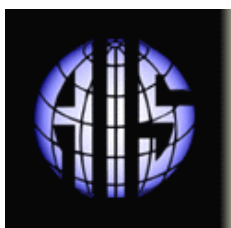
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eGovLinks (<http://www.egovlinks.com>)
SOCITM e-Government Index (The Society of Information Technology Management) (<http://www.socitm.gov.uk/egovindex/policy.htm#strategies>)
Development Gateway (<http://www.developmentgateway.org/>)
UNPAN (United Nations Online Network in Public Administration and Finance) (<http://www.unpan.org/egovgovernment.asp#digital>)
Egov.it (<http://www.egov.it>)
Digital Governance (<http://www.cddc.vt.edu/digitalgov/gov-menu.html>)
Stanford Africa internet directory and Stanford University library's Africa pages: <http://www-sul.stanford.edu/depts/ssrg/africa/elecnet.html>
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