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# **Speyer Definition of Electronic Government**

*Results of the Research Project  
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## **Speyer Definition of Electronic Government**

*Jörn von Lucke and Heinrich Reinermann, Speyer*

“Electronic Government” opens up a previously unknown potential for service orientation, citizen participation, productivity and economic efficiency in the public sector. In line with this, the term “Electronic Government” is becoming increasingly important. However, every day we encounter different interpretations and also misunderstandings. In order to overcome the recurring inaccuracies and ambiguities regarding the scope and content of this term, we would like to propose a **Speyer Definition of Electronic Government**.

### **I.**

We understand **Electronic Government** as the management of business processes in connection with government and administration with the help of information and communication technologies via electronic media. Due to technical developments, we assume that these processes can even be carried out completely electronically in the future. This definition includes the local or municipal level, the regional or state level, the national or federal level as well as the supranational and global level. This embraces the entire public sector, consisting of legislative, executive and jurisdictional bodies, as well as public sector companies.

Electronic Government is about processes within the public sector (**G2G**), as well as those between the public sector and the citizens (**C2G** and **G2C**), the business community (**B2G** and **G2B**) and the non-profit and non-government organizations of the third sector (**N2G** and **G2N**). This network of relationships is illustrated in Chart 1, in which Electronic Government is particularly highlighted.

<b>E-Government</b>	People Citizens	Administration Government	Second Sector Business	Third Sector NPO/NGO
People Citizens	C2C	C2G	C2B	C2N
Administration Government	G2C	G2G	G2B	G2N
Second Sector Business	B2C	B2G	B2B	B2N
Third Sector NPO/NGO	N2C	N2G	N2B	N2N

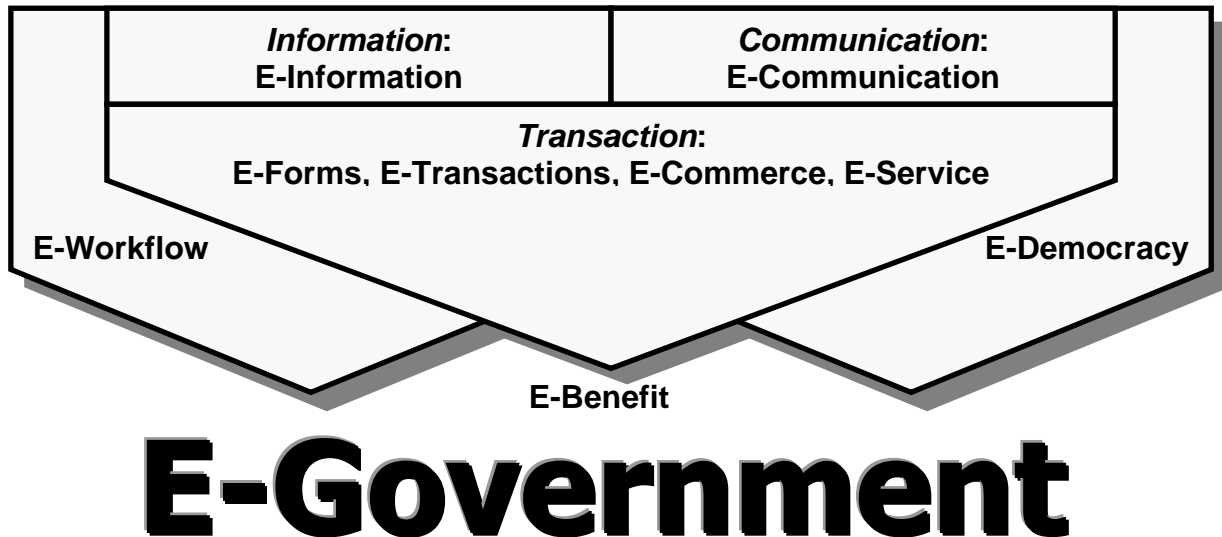
**Chart 1: Electronic Government in an "X2Y" Network of Relationships**

Electronic Government thus encompasses seven of the sixteen possible matrix fields in an X2Y relationship network, in which most investment activities are currently in the fields B2B (business-to-business) and B2C (business-to-consumer). Nevertheless, especially with regard to the development opportunities of Electronic Government, the fields G2G (Government-to-Government), C2G (Citizen/Community/Consumer-to-Government), G2C (Government-to-Citizen/Community/Consumer), B2G (Business-to-Government), G2B (Government-to-Business), N2G (NPO/NGO-to-Government) and G2N (Government-to-NPO/NGO) will become much more attractive for investors from business, government and the third sector in the future.

Electronic Government uses electronic media such as TCP/IP networks (Internet, Intranet or Extranet), other electronic data networks (such as on-line services, value-adding services or interactive television services), voice telecommunications networks (via call centers or interactive voice response systems) or off-line electronic solutions (floppy disks, CD-ROM or DVD). E-Government is still generally limited to the combined use of the World Wide Web (WWW) with electronic mail (e-mail), electronic data interchange (EDI) and database systems tailored to these.

## II.

But there is much more behind Electronic Government than simple computer programs for public administration. This can be seen in the application fields (Chart 2), which are distributed across the various interaction levels (information, communication and transaction).<sup>1</sup>



**Chart 2: Fields of Application of Electronic Government**

(1) Electronic Government includes information services (**E-Information**). These include citizen information systems for the citizens, tourist information systems for the promotion of tourism, business information systems in the context of business development, council information systems to support meetings and councils, specialist information systems in the administration and other knowledge databases. These systems are increasingly developing from static information collections to dynamic and interactive databases.

(2) Many information services are supplemented by communication services (**E-Communication**) with dialogue and participation opportunities. They range from simple solutions such as Internet Relay Chat (IRC), e-mail, web-based discussion forums and chat rooms to complex applications based on audio and video, such as interactive voice response systems or video conferencing systems for telepresence and telecooperation.

<sup>1</sup> Compare Jörn von Lucke: Internet-Technologien in der gesetzlichen Rentenversicherung, Schriftenreihe Verwaltungsinformatik, Volume 21, R. v. Decker Verlag, Heidelberg 1999, S. 95 f.

(3) Electronic Government also includes form solutions (**E-Forms**). These contain all types of electronic forms, starting with HTML or PDF files that can be printed out on paper, filled out by hand and returned by post, but also "intelligent" offline solutions that forward the form data by e-mail or EDI after the data entry is complete, through to online forms that are filled out directly, checked immediately for completeness and plausibility and sent to the recipient immediately with the click of a mouse.

Form solutions are the first step towards online transaction services (**E-Transactions**), another pillar of Electronic Government. In addition to electronic reception, this includes in particular the electronic processing of an application or a request using modern electronic record, workflow and groupware solutions as well as decision support systems. With such systems, record tracking services (trace-and-track) can be established.

Of course, electronic commerce solutions for public administrations (**E-Commerce**) are also included in this context. These fields of application include all forms of electronic marketplaces for the public administration, which could be classified into electronic shop systems, auction systems, procurement systems and exchange systems. In addition, the various electronic payment systems that enable the electronic payment for administrative services or the payment of financial services must be mentioned.

The transaction area of Electronic Government also covers the distribution of official notifications, services and products of public authorities (**E-Service**). This group includes electronic administrative notices, approvals, licenses and permits, but also electronic administrative services (electronic service delivery), the electronic distribution of products (electronic product delivery) and approaches to electronic law enforcement, as far as this is technically possible and legally permissible.

### III.

Spread over all these application areas, electronic representations of conventional workflow business processes (**E-Workflow**) are found, which should be created and linked with each other within and across administrative boundaries. The handling of these processes is supported by systems for document management, registration and archiving, for processing in groups and for process design. However, it is precisely where not only the greatest potentials but also the greatest obstacles to a comprehensive implementation of Electronic Government can be found with uncoordinated interfaces between the various processes and with recurring media discontinuities.

Across all levels of interaction, there are electronic representations of democratic processes (**E-Democracy**). In this context, the use of modern information and communication technologies for citizens' initiatives, parties, politicians, election campaigns up to the organization of elections and referendums, which only represent the formal conclusion of the formation of opinions, should be mentioned. The promotion of new and the strengthening of existing democratic processes through the possibilities of electronic media is certainly another focus of Electronic Government.

### IV.

Electronic Government distinguishes itself in a characteristic way from conventional IT applications in that the media-related "new accessibility" of people (men and women), processes, data and objects is used as the most important determinants of administrative action for cross-border solutions.<sup>2</sup> Such transgressions of borders manifest themselves in new designs that are hardly hindered by space, time and organization as conventional determinants of administrative structures and procedures. Never before has it been possible to contact people so effectively, for example via e-mail or videoconferencing, regardless of place, time or hierarchical level. Never before has it been possible to retrieve or update data anywhere in the world so efficiently. Never before has it been possible to merge programmed processes of any institution so seamlessly.

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<sup>2</sup> Compare Heinrich Reinermann: Electronic Government - Anticipating the Tide of Change, in: Telecooperation, Proceedings of the XV. IFIP World Computer Congress, 31 August - 4 September 1998, Vienna/Austria and Budapest/Hungary 1998, S. 515 f.

And never before have objects equipped with computer chips been able to be integrated across borders into networks for facility management and system control. It should also be pointed out that now some direct relationships between these four determinants (as shown in Chart 3) are possible. For example, data can alert people or objects can trigger processes.

<b>Accessibility</b>	Men & Women	Processes	Data	Objects
Men & Women	M2M	M2A	M2D	M2O
Processes	A2M	A2A	A2D	A2O
Data	D2M	D2A	D2D	D2O
Objects	O2M	O2A	O2D	O2O

**Chart 3: New accessibility of important determinants of administration activities**

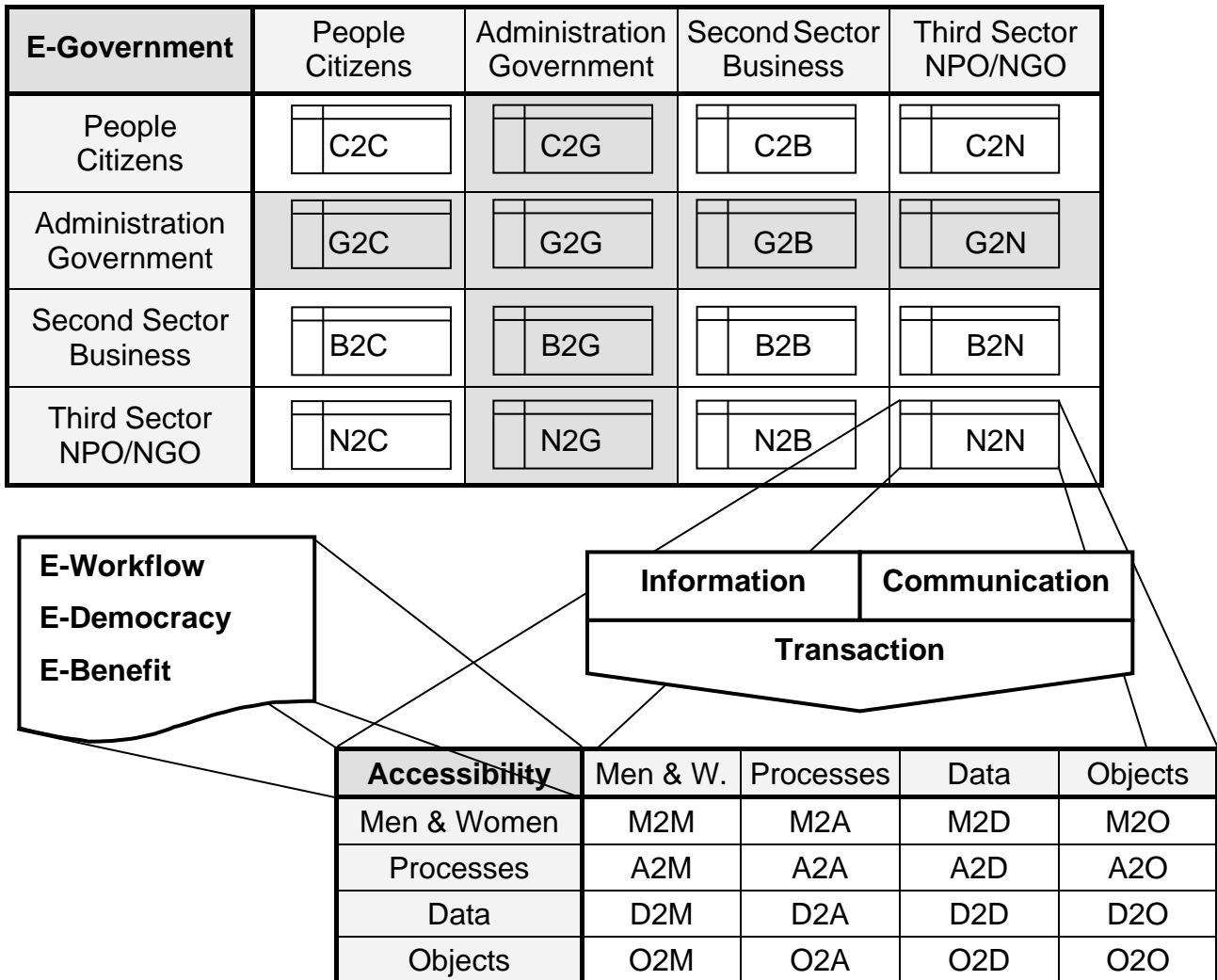
The "new accessibility of people (men and women), processes, data and objects" thus brings about a "new formability, especially of cross-border relations" in the X2Y network of Chart 1. This can be used for Electronic Government by developing a "virtual administration" when mapping these relations to the information space (the so-called "cyber-space"), which overcomes existing institutional boundaries and can thus create added value for the purpose of objectives connected with administrative activities today. These remarks are illustrated and summarized once again in Chart 4.

## V.

Such added values for citizens, business and administration (**E-Benefit**) are crucial for the success of Electronic Government. Only if the public administrative services offered electronically create additional benefits for the users, they will be able to compete with traditionally working methods and structures. In this context, portals for government and administration are worth considering.<sup>3</sup>

<sup>3</sup> Compare Heinrich Reinermann and Jörn von Lucke (Eds.): Portale in der öffentlichen Verwaltung - Internet - Call Center - Bürgerbüro, Speyerer Forschungsbericht, Volume 205, Forschungsinstitut für öffentliche Verwaltung, Speyer 2000.

This additional benefit can be realized in acceleration, service and quality improvement, organizational improvements, cost reduction as well as in an improved legitimation of public activities through transparency and efficiency.



**Chart 4: Significant manifestations of Electronic Government**

Speyer, in July 2000

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