Electronic Governance and Electronic Government:

Do Politicians and the Internet need each other ?[*]

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Abstract

The "digital revolution" has led to a new level of connectivity between people, programmes, data, and objects. In the wake of this, formerly "autistic" components of the public sector now can become "communicative". This "new accessibility" has created a "new shape-ability" of our public institutions. New concepts for governance have become possible. The author looks into some of them, namely life-event portals as virtual access points to relevant public (and private) services, new opportunities to systematise the government machinery, a hithero unknown transparency of public affairs, a higher degree of innovation triggered by competition now for public agencies too, new challenges and opportunities for the public sector to legitimise its existence and its activities, and some structural changes in the traditional patterns of the public sector. The author concludes with some implications for the roles and functions of politicans.

1. Introduction

We have all heard of the deep influences the Internet will have on most parts of our societies. Great changes are being predicted in the realm of governance and government. Although they will come step by step, their impact is supposed to be severe.

However, it is still very early in the game. The "big bang" - making the Internet technologies available to the broad public via the World Wide Web (WWW) - happened only a very short while ago. We are not sure about its potential for government or about its consequences for society in general. Very often, the proper course of action should still be discussed. There are sound reasons to look ahead at what is probably coming.

A few terminological remarks may be appropriate at the outset. "Governance" will be understood here as a general phenomenon: to agree on values, goals and strategies, to coordinate and to resolve conflicts among people and institutions involved in a certain field of activity. Thus, governance is to be found in all parts of society - in the private realm, in the public sector, in the business world and in the so-called third or non-profit sector. "Government", on the other hand, will be understood here as a special part of governance, namely its application to the public sector. "Electronic governance" and "electronic government" address the challenges caused for governance and government by modern

information technologies. Electronic governance includes the task of state and administration to moderate the transfer of society into the information age. Electronic government means the utilisation of modern information technologies within public institutions.

2. Highlights and potential of modern Information Technology

Of course, it is information technology (IT) which enables the new phenomena called "information society", "digital revolution" or "information economy" and the like. For politicians and public managers it is important to understand fully the character of contemporary IT. This field cannot be left to "experts" - too many political questions are at stake.

Modern IT can be characterised by the fact that our most important communication media - like speech, text and pictures - can be stored digitally in huge quantities in computers, can be processed at extremely high rates, and can be exchanged in electronic networks at the speed of light. During the last few years we have experienced "quantum leaps" in processor speed (e.g., the new Pentium 4 processor manages 1.5 billion switches per second). Therefore, "if-then" relations such as database queries can be dealt with very efficiently. We can now look for the needle in the haystack . We can now demand a lot from computers.

In addition, we have experienced "quantum leaps" in accessibility of human beings (think about email), of computer programs (think about application service providers), of data (think about the Internet as a virtual encyclopaedia), and of smart objects (think about facility management of buildings, sewage systems, etc.). We know that electrons travel at the speed of light (or 7.5 times around the globe per second) but it is only related to modern IT that this potential can be utilised to a great extent because Internet standards like TCP/IP, HTML or XML overcome the many hurdles of incompatibility which are separating numerous installed computer systems. "Here-there" relations can be handled much better.

The point in all these technological developments is that formerly "autistic" components of the public sector now can become "communicative". We are used to the various tiers, branches, agencies and programs which represent the public sector, as being similar to "stovepipes". Although some of these organisational units have intentionally been organised as more or less independent segments, there are many cases where direct communication based on the new boundary-penetrating IT is implemented to improve effectiveness and efficiency of public affairs. Figure 1 shows some direct communication relations between important elements of the public sector (e.g. an employee updates or looks up data: H2D; data surmounting a certain threshold alert a computer program: D2P; a failing traffic light alarms the maintenance company: O2H; or one program activates another under certain conditions: P2P; etc.).

Accessibility that is so drastically improved by modern IT has led to a new situation. The "new accessibility" has created a "new shape-ability" of our public institutions. New concepts for governance have become possible. Former restrictions for the design of organisations are eroding, mainly space, time and hierarchies.

This is why modern IT is called a "key technology" for new arrangements in almost every area of society. Whether health services, education, transportation, business or government - in all these sectors we can observe "social networks" of people and institutions utilising "electronic networks" for modernisation or even reforms of their business.

3. Electronic Government

In the public sector, this phenomenon often is called "electronic government". It means the transformation of public institutions into "cyber-space" - an area without restrictions caused by space, time or hierarchies (an area which is not meant to be lawless, however). We see the main emphasis of electronic governance in general on utilising the IT potential (processor speed, accessibility), especially for boundary-penetrating designs.

It has become popular to describe the relations between partners in the new economy in "X2Y" terms like "B2C" for "business to customer". The hatched matrix elements in figure 2 show electronic government as part of the relations between the four sectors of our societies: citizens (sometimes called the private sector), the public sector, the business sector and the third sector (sometimes called the non-profit, non-government sector). We would like to emphasise that this notion of electronic government reaches far beyond G2C (government to citizen) although this section seems to get most of the attention up to this point.

Our concept of electronic government is broad. Institutionally, it encompasses legislative bodies, executive powers, judicial systems and public enterprises on all tiers (federal, state, local). A broad understanding of electronic government here is necessary if we want to utilise the boundary-penetrating potential of modern IT for improved relationships between the components of the public sector, e.g. for better feedback between the legislative, executive and judicial powers. However, one should also be aware of the fact that to some extent the separation of powers and built-in "cracks" are wanted to hinder the flow of information between institutions. Here, as in other fields of electronic governance, we are confronted with a "battle" between the old and the new and must try to strike the right balance.

Figure 1

The point of the "digital revolution": „Autistic" components of governance can become „communicative"

Accessability	Human beings	Programs	Data	Objects
Human beings	H2H	H2P	H2D	H2O
Programs	P2H	P2P	P2D	P2O
Data	D2H	D2P	D2D	D2O
Objects	O2H	O2P	O2D	O2O

H=Human beings
P =Programs
D=Data
O=Objects

Functionally, the notion of electronic government is broad as well. It includes information (either pulled by users or pushed to them, in accordance with their specified needs), communication (like e-mail, discussion groups or video conferences for tele-cooperation) and transactions (from "intelligent" e-forms with built-in user consultation to electronic application processing and e-commerce, e.g. public procurement and e-commerce by public enterprises). So far, most of the efforts at electronic government have been concentrated on public relations ("brochure-ware"). Thus, most of e-government´s potential for improved information, communication and transformation is still awaiting realisation.

In the following sections, we will elaborate on some implications of electronic government, namely: portals for integrated yet individual access to public institutions; systematisation of the government machinery; transparency of public affairs; competition among public authorities; growing demand for legitimation of public action; and possible changes in the structural patterns of the public sector.

4. Portals

Portals are going to become convenient and individual electronic entry points to public (and other) institutions for citizens, business employees and public servants. However, it is important to realise that the notion of portals is changing. In the early years of web applications, "portals" often were collections of links to related web sites (e.g. the URLs of departments, agencies and other public institutions in a given state). Although, without any doubt such portals do offer useful information, in a certain way they resemble new facades or "Potemkin villages", because behind them the way public institutions conduct their business, remained unchanged most of the time. Very often, web sites are organised for government by departments and not for people by life-situations.

Now, portals are being developed which are browser-enabled workplaces from which one can not only look at web sites but interact with them. These portals are browser-based access points to cyber-space supporting information, communication and transaction projects of individuals like citizens or government employees. In other words, these Internet portals are open "virtual spaces" for information, communication and transactions - crossing jurisdictional and agency boundaries whenever the users are looking for holistic, integrated support for their concerns. We are moving from web presentations to web services. Three-dimensional portals, picturing buildings, rooms, desks, files and the like are applied whenever this type of a user-interface helps clients to find their way.

How important portals of the new kind are for electronic government becomes clearer when we take a closer look at some types and examples. Generally, horizontal and vertical portals are being distinguished. Horizontal portals try to be comprehensive and to cover business, government, education, culture, tourism, health and other areas; so far, only regional implementations are to be found, however. Vertical portals specialise in institutions (like companies, jurisdictions, agencies etc.), in themes (like music, sports, movies, health topics, civic engagement etc.) or in e-commerce (e.g. virtual markets).

Of special interest for electronic government are life-event portals. For certain life situations like building a house, starting-up a business, retirement, the tasks assigned to an employee, etc., these portals offer direct access to relevant laws and regulations, government programs, opportunities, obligations, institutions and persons in charge, forms, applications - for information, communication and transactions. Life-event portals are "virtual single windows" or "virtual one-stop governments". Their purpose is to overcome the complexity of today's public institutions. It is interesting to observe that with portals the traditional separation of public and private activities begins to blur. There is a tendency to integrate in a given life-event portal all information, communication and transaction processes relevant in the respective life situation, regardless of the societal sector to which they belong. This helps to raise the attractiveness of such portals, too.

There is also a strong tendency towards customisation and personalisation of life-event portals. Users can tailor the portal contents to their own individual needs. E.g. "my city hall" would specify the information, communication and transaction interests in accordance with the specific situation of a citizen - home owner, commuter from A to B, parent of school children etc. Or a "taxpayer portal" would contain the individual tax accounts, relevant legislation and court decisions, tax declarations, payments, correspondence, and so on. Public servants would find the information and contacts relevant for them, in so called corporate or enterprise portals. Digital dashboards for managers are another example. User-modelling methods can be applied in order to analyse what users are doing and, based on this, to adapt individual portals.

Intensive efforts are necessary to make our legacy EDP systems compatible and to guarantee reliable, secure and authentic communication, for portals to be able to connect users to their addressees (persons, programs, data or (smart) objects) regardless of institutional or technical boundaries and regardless of their points of entry (via PC, interactive TV, cell phones, kiosks or mediators such as call centres, traditional offices, lawyers etc.). An approach towards inter-operability of IT systems in the public sector, based an standards like XML, is the Electronic Government Framework (sometimes also called GovTalk) which was first announced at the Microsoft Government Leaders Conference in April 2000 in Seattle.

5. Systematisation of government machinery

Although topics such as portals, e-voting or privacy protection get most of the public attention at this time, it is quite possible that even bigger effects of the new accessibility of persons, programs, data and objects will occur inside government machinery. We will see more streamlining of work-flows and redesigning of business processes, more data sharing and knowledge management, more cross-agency transactions through all tiers involved, more networking, tele-cooperation and joined-up government. Since partners, programs, data and objects are easy to access, this potential will likely be utilised. Also, governments need to and will implement enterprise systems just as business is doing, to provide the operative transaction systems that undergrid e-government. Most governments have not begun to do this yet. It will be part of the continuing automation of government, and it will be a big and expensive part yet indispensable for e-government.

Here again we are faced with the question of whether we really want a "seamless" government. In other words, to what extent do we want to make use of the technological potential and to design boundary-penetrating applications? Nevertheless, this will happen to some extent over time and we can expect substantial gains in productivity, economy and efficiency in the public sector.

6. Transparency of public affairs

Due to the special nature of public goods (majority decisions, rule of law, tax-financed etc.) public institutions have always been relatively transparent. However, given the potential of modern IT, the public sector soon will resemble a digital fishbowl. Public programs and tasks, responsibilities, documents and forms, even work-flows, laws, court decisions, commentaries, literature, outputs and outcomes, citizen feedback - all of this and much more can already be found on the web and is available at one´s fingertips. In the future, this information will be even more complete and systematised. Moreover, most of this information now is available to anybody via the Internet. Government´ s former monopoly on collecting, handling and distributing large amounts of information has been broken. Citizens and interest groups can have almost the same information and at the same time as politicians and public officials they voted into office. This might also result in more controversy and instability in government.

On the other hand, this IT potential for transparency supports government in playing its new role as a network moderator more effectively. Due to globalisation and internationalisation, national governments have to share responsibility with supra-national institutions, with other countries, with nongovernmental organisations (NGO) and with multinational business (economic policy, defence, criminality and environment protection are some examples). In addition, due to devolution in many domestic public policy domains, national governments also have to share responsibility with other tiers of governance and again with NGOs and for-profit organisations (e.g. in welfare or health administration). In this situation, the Internet’s potential for improving accessibility to persons, programs, data and objects comes in handy because it can help governments to coordinate, monitor and control such networked public-private-partnerships.

7. Competition for public authorities

Up to now, market pressure which spurs innovation in the business sector, was more or less unknown to the public arena. This situation is about to change, for at least three reasons. One is the previously mentioned transparency of public affairs. It enables anybody to conduct web tests and analyse public authorities` performance. Just one example is the so-called NetIntelligence test of EU government, run periodically by the Amsterdam-Maastricht Summer University. In general, this new kind of benchmarking certainly means rivalry, if not competition, for public authorities.

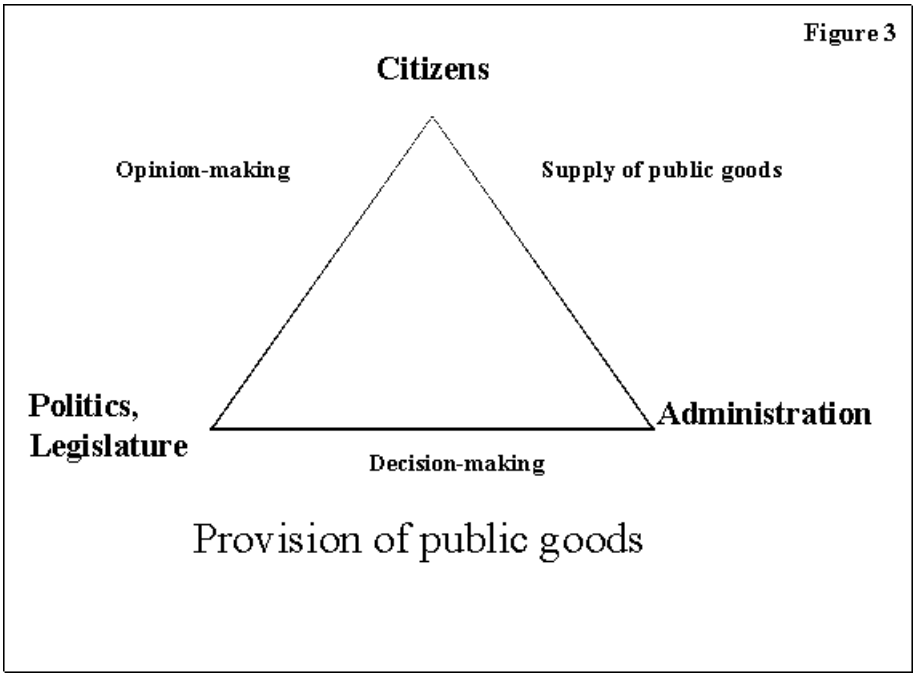
A second reason for competition to be expected for public institutions is that the Internet has made it much easier to establish and coordinate virtual networks. In turn, this means for many organisational units that their services are potential candidates for outsourcing and that they have to compete with other suppliers of such services. Such suppliers could be other government units (domestic and even abroad), business companies or NGOs.

And thirdly, electronic accessibility of public agencies is giving the clients a choice regarding whom to do business with. For example, any city hall in a given state could handle the business of any citizen now, regardless of her or his residence.

Thus, it can be expected for the near future that market pressure will trigger innovation in the public sector.

8. Growing demand for legitimation of public action

Legitimation of public activities is a measure for the degree to which citizens identify themselves with their state and administration. Important factors for this identification are transparency of the public sector, and opportunity to participate in public affairs, as well as effectiveness and efficiency of public institutions. A look at the triangle in figure 3 reveals that each of its three sides offers quite substantial challenges and opportunities for the public sector to legitimise its existence. These are called for but also enabled by the new ways of information, communication and transactions.



Formation of opinions: Opinion making about public affairs in a democracy requires open discussion between citizens and politicians. Will the Internet have a deeper impact here? You only have to look at the degree to which television has influenced politics in order to realise that communication technology does matter. The Internet has some unique properties relevant in this respect: it is interactive, it has made it easy to communicate with others, it puts information at people's fingertips, it is cheap, and it is available anytime and from anywhere. Thus, the threshold for information, communication and participation in terms of time, money and effort invested by the citizens, has been lowered substantially. From this, quantitative and qualitative effects on opinion making in public affairs should be expected. And there are many proofs already on the web: portals dedicated to politics and to all related questions; online minutes of parliamentary debates; pressure groups formed via the Internet (sometimes with remarkable success: in 1998 the draft treaty "Multilateral Agreement on Investment" (MAI) initiated by the Organisation for Economic Development and Cooperation (OECD) had to be withdrawn because of severe worldwide opposition by environmentalists and consumer rights activists, organised and brought to bear via the Internet); direct communication between politicians and citizens; electronic opinion polls, formal hearings and petitions; virtual party conventions; electronic campaigning and even e-voting - to name just a few examples. It seems to be fair to say that the new media for information, communication and transactions certainly will not substitute some sort of a "cyber-democracy" for our parliamentary democracies, but they will add some important new elements to them.

Decision making: Based on the opinion making phase, concrete policies, programs and measures have to be decided upon by the legislature and, in more detail, by public management. To strengthen the primacy of political leadership here has been the concern for quite some time, the New Public Management movement (NPM) being the latest example. Parliaments and public managers, in effect being contractors for public goods and services, must be provided with the proper information. And it is easy to see the impact the Internet is going to have on the preparation, implementation and evaluation of the respective decisions. Again, this IT potential is especially welcome in a period when globalisation and devolution force public institutions to deal with many more players than they used to, making it more difficult to remain in the driver´s seat.

Provision and supply of public goods: Due to tele-administration, public agencies and their services become much more transparent and accessible (24 hours a day, 7 days a week and from anywhere, instead of business over-the-counter between 9 and 5). The quality of service can be improved (e.g. through life-event portals or through electronic notifications of opportunities, deadlines, etc.). User-feedback turns out to be a lot easier and will be applied more often (email systems will play an important role here). Bureaucratic burdens put on the shoulders of business companies and citizens can be reduced (e.g. through better knowledge management by public institutions, enabling them to make better use of digital data instead of asking for them over and over again). Through systematisation of work-flow and data storage in the wake of electronic government, higher productivity on public activities is also expected.

Over time, we will probably see a positive influence of the Internet on legitimation of public affairs. The more people know about the potential of modern IT to produce better means of information, communication and transactions, and the more they see this potential implemented in other organisations, the more they will want to see it applied in the public sector as well. Of course, we know since David Easton: the state reacts to pressure, not to needs - but the pressure on legitimation will grow.

9. Changes in structural patterns of the public sector

The Internet has a non-geographic nature. Therefore, the new accessibility of persons, programs, data and objects implies that the "ground adhesion" of public institutions is reduced. In the wake of the new shape-ability, we will probably see a clearer separation between "production" of public goods and services in the background and their "distribution" in the foreground.

On the distribution side, many more outlets for the retail of public goods and services have become possible than in the past. And these outlets, again, could be run by public agencies, business companies or NGOs. A greater number and variety of access channels to public administration can be expected. On the one hand, there are new ways of tele-administration, enabled especially by the Internet. The media here include PCs and interactive TV at home and at work, cell phones and personal digital assistants (PDA) for "mobile government", and public terminals or kiosks in town halls, libraries, malls, etc. On the other hand, the traditional service channels such as walk-in facilities, phone and mail etc. will not be replaced by electronic media. There are complicated matters, of course, which do not lend themselves to self-service, and there are quite a few citizens who do not have the equipment or the knowledge or the motivation necessary for tele-administration. Unlike private business companies and at least for the foreseeable future, public administration must provide for two access tracks - old ones and new ones, although this will be more expensive. In fact, modern IT enables the public sector even to enlarge the number of "front offices", because any agency or tele-worker connected to the Internet could serve as an access mediator. Moreover, one can expect that most of the old and the new entry points to government will work through portals as they were described above.

While de-concentration seems to be the proper term to describe future developments of foreground administration, background administration or the production side probably will experience a process of concentration. Given the much easier access to experts, they can be separated from administration in the foreground to a greater extent and their expertise can be

shared by more organisations than previously. In the wake of this we will probably also see more tele-cooperation between clients in the foreground and experts in "back offices".

10. Implications for politicians and the Internet - a journey just begun?

Are we prepared for the new accessibility of human beings, programs, data and objects and for the new potential this has for our information, communication and transactions endeavours? The answer more often is "no" than "yes". A brief look at some of the open questions can support this assessment.

Information: Have we decided which information stored in the data bases of our public institutions should be accessible and by whom? Have we adapted our legislation accordingly, e.g. privacy and copyright laws? Have we decided if and which information should be available to the public for free? And, mainly, have we cared enough about the content of all these data resources which now become so easily accessible? To be able to get data at the click of a mouse is a very nice thing, but valuable content p l u s accessibility is the goal we should all be pursuing. And, of course, we need financing strategies for all this to happen. Are fees paid by users acceptable? What about online advertising on web sites of public institutions? Also, we should not forget here that substantial cost savings are possible: In the old economy, marginal costs for dealing with a personal visitor, for writing a letter or for handling a phonecall are about the same for each new instance; in the new economy, however, marginal costs for clients who visit a web site containing the same information are more or less zero.

Communication: Have we organised the handling of citizens´ email sufficiently? Everybody who turns to a public agency or to a politician using this new electronic means should get an answer - quickly. Are our countries (government institutions and the society as a whole) equipped with an IT infrastructure which provides for a wide access to the Internet? And, are we - as citizens, legislators, executives, judges, public servants etc. - qualified to develop and to use today´s IT infrastructures? Of course, we must be aware of a possible "digital divide" and take the necessary measures to avoid it.

Transactions: Are all important public services online? Have we interconnected the diversity of stovepipe systems, are virtual entry points to public institutions available and do we have the respective IT architectures to provide for compatibility of the heterogeneous components (computers, networks, programs and data)? Also, as trust is one of the most critical issues facing the adoption of electronic government we must ask ourselves: is it secure to conduct transactions on the web? Are encryption and verification technologies in place, for instance public key infrastructures? Do we dispose of the legal prerequisites for online transactions (taxation, consumer protection, admissibility of digital signatures etc.)?

Moreover, considering the huge amount of work necessary to redesign large parts of the workflow in our public institutions, a very important question is this: have we equipped our public servants with enough time and authority to commit themselves to electronic government?

So, all in all, electronic governance and electronic government are still infants. To grow up properly they need care - not least by politicians. It seems to be crucial that they moderate a "social dialogue". On the one hand, this is necessary to further the awareness, acceptance and readiness of all people involved. But even more importantly, this social dialogue must address some new fundamental questions raised by the digital revolution: The emerging information society and the new economy both challenge the traditional roles and functions of the three sectors of our societies (state and administration, business and the non profit/non-government sector). The traditional paradigm concerning the division of labour and cooperation between these sectors is undergoing deep changes. One of the phenomena here is the "Internet mentality" of sharing information, peer-to-peer interaction without hierarchies, open source software development, free exchange of ideas, etc. This mentality meets familiar notions of subsidiarity (according to the Maastricht Treaty of the European Union from 1992 this term postulates that "decisions are taken as closely as posible to the citizens") and federalism and resembles the underlying philosophy of the "civil society" (people engage themselves without wanting to cash-in), and it might well be that some of the public goods and services we are used to today will be taken over by the third sector (e.g. in areas like education, health care or social services). But the private economy is also losing business to the civil society (not only software, music, publications and other digital commodities but also products and services which can be easily exchanged in the "shadow economy"). It is especially here that politicians must moderate a social dialogue in order to come up with a concept regarding where we should support and where we should restrict this process of "socialisation" of hitherto public or market goods furthered by the Internet, and to adjust the affected laws and programs accordingly. In other words, here again we find ourselves in the middle of a battle between the old and the new. To control the impact of the Internet on the general concept of public goods (electronic governance) seems to be as important as to promote its influence on the modernisation of the various single public activities carried out by state and administration today (electronic government).

Aggressive leadership is also required to develop cross-border visions and strategies which relate the modernising of public institutions to the IT potential available today. Given the new boundary-penetrating technologies, autonomous approaches by the various departments no longer are sufficient. Central directions and standards are necessary to secure cooperation of the various parts in the public sector required by electronic governance. Public spending also must be made consistent with the strategies for electronic government, and activities not complying with central frameworks should not be funded.

11. Conclusion

In spite of a low performance of the new stock market during the last months and in spite of some disappointments for euphoric prognosticators – the Internet technologies are here to stay. In fact, they are a real breakthrough, e.g. as far as the new level of connectivity between people, programs, data and objects is concerned. Therefore, the public sector should be prepared for great changes. Although they will come step by step – their impact is supposed to be severe. Politicians and administrators must get ready to deal with them.

After all, politicians and the Internet – they need each other badly.

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