College of Management of Technology

EPFL

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

FINGER, Matthias; ROSSEL, Pierre

From e-government to e-governance: implications for technology management

Abstract

Our paper draws upon concrete research cases to show: firstly, how the approach, the perspective and the representational framework of eGovernment initiatives influence the nature of the changes taking place and, as too many problems remain unaddressed, why there is an urgent need for a more convincing and robust supportive scheme to qualify progress being made in this area of activity; secondly, how technology is in the middle of this uncertain development and what the options and potential impacts linked with it are. Based upon this observation, we fourthly want to show that an eGovernance approach of eGovernment applications may help explore solutions and new institutional arrangements, closer to the expectations that the eGovernment concept is supposed to convey, at least in the medium term. In a management of technology perspective, this conceptual move makes a crucial difference, and in our paper, it is supported by specific fieldwork evidence.

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1. MODELS AND REPRESENTATIONS OF THE TECHNOLOGY'S ROLE DO MAKE A DIFFERENCE

Technology is at the same time a domain, a factor, a process, a product or an asset, according to the perspective which one wants to emphasise its role for, the context from which meaning must be built or specific needs be asserted. In any case, it is an indispensable reality and has to be represented in some way, or more accurately said, modelled, in order to make best use of it and eventually steer its development and key impacts. Representations, models or theories, either to define the attributes of technology and how they are at work in the effort of a particular organization or policy, or to evaluate its productivity in order to harness it better in concrete situations, are directly tied with its development pattern and the combination of human and material resources in this endeavour. The area of e-government, often taken in the rather narrow sense of e-administration, or on the contrary, in a broader view, of e-governance, just like any other areas of activity, fits this observation. In this paper, on the basis of combined empirical and theoretical inputs, we will demonstrate that a new paradigmatic shift is to be considered in this matter, which can provide highly stimulating insights and most certainly, lead to quite different outcomes in terms of organizational effectiveness and user empowerment.

2. E-GOVERNMENT, A CONSENSUAL PERSPECTIVE

eGovernment is the area of incorporation of information and communication technologies (hereafter, ICTs) to promote 1) a better and more efficient administration, 2) more effective inter-administration and administration-enterprise relationships and 3) citizen-empowering servicing and access to political decision-making. In most policy declaration, this triple objective appears to be a basic "mean" claim, with some differences here and there, that are marginal for our discussion. The main problems are: 1) to decide how this building process is going to be done, as it involves significant investment and also some non negligible impacts on the way government operates and 2) how to evaluate the performance of the change taking place. Both these constitutive aspects are model-dependant and tend to generate new and fundamental debates, not to mention significant resistances. We say here "tend to", as until recently, the original Gartner model (2000, 2002) served to put nearly all eGovernment efforts into a unique, acknowledgedly relevant perspective. Basically, the idea was that administration had to be gradually transformed, becoming capable of making increasingly pervasive use of ICTs in order to gradually achieve eGovernment's triple goal (hence, for instance the "7/7, 22/24" concept, suggesting that administrative access could become permanent). The steps depicted by the model have been also used to measure the development stage of countries against one another in terms of how each one was incorporating into the Information Society.
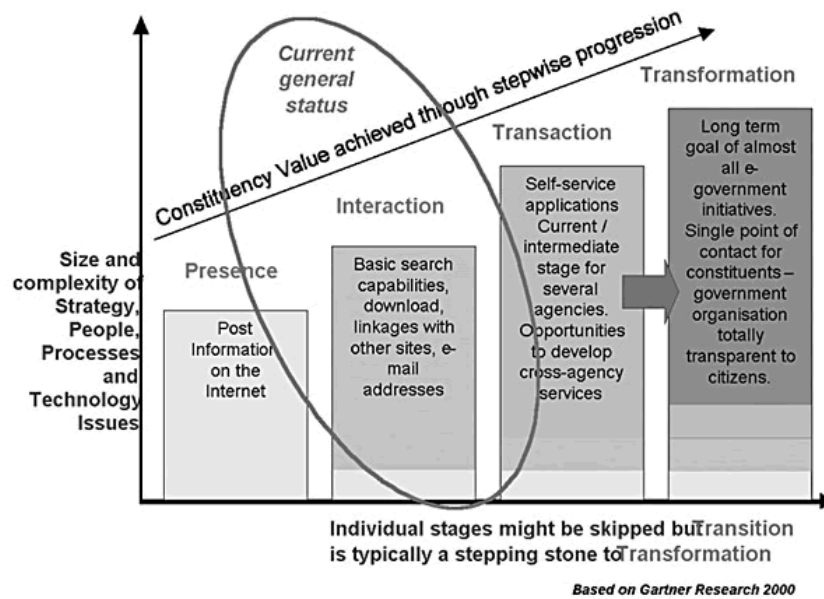
Table 1. The Gartner maturity model.

In this model, the basic building blocks are the various stages of progression and the underpinning reference of this incoming reality, the web portal, through which a particular administration delivers either information or more interactive forms of services. For those portals, standard technology solutions apply and administrations or government agencies outsource this to renowned firms, either for "closed" or open source applications. In both cases, customization efforts depend upon the size or level of the administration (and therefore its investment capability) and occasionally also, the political determination demonstrated (see for that the cases of Austria, Estonia, UK, Canada), or in a more mundane manner (more frequent in the cases of regional or municipal developments), upon an inspired ICT middle manager.

This vision looks therefore rather simple to capture and evaluate in its various stages and the way to measure administrative performance along the way, just the same, seems straightforward. Benchmarking countries or regions does not pass anymore by the "have/have not" indication of the early statistics on the development of the Information Society, but through more elaborate concepts such as "eReadiness" (originated by such prominent players as CID Institute at Harvard or McConnel International[1] or "sophistication", much praised by CapGemini, for instance to evaluate country level of progression in e-administration. This last approach involves some 20 factors taken into consideration, 12 user/citizen-oriented, 8 enterprise-oriented, all giving some indications on the ongoing progress in making efficient if not even effective move towards the triple goal of eGovernment excellence.

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[1] To see a comparative evaluation of eReadiness models, see Bridges.org report on http://www.bridges.org/publication/128

3. A FEW IMPORTANT UNANSWERED OR EVEN UNADDRESSED QUESTIONS

In spite of a heavy convergence in the development of eGovernment in most OECD countries (and in spite of the fact that OECD itself remains often more open to doubts and new explorations than its members), a series of questions must be raised:

- Firstly, what do these models allow in terms of measuring?[2]

- Secondly, how can we ascertain the reality behind the figures, in particular in presence of complex indicators like "eReadiness" or "sophistication"?

- Thirdly, why and how does this account for eGovernment development, specifically, and not the numerous other developments and processes taking place at the same time in the targeted territories? In other words, are we talking of the precisely identified impact of eGovernment on the economy and society at large or about different overlapping Information Society phenomena?

The way to cope with these questions sends us back to the role of models and representations. In particular, we suggest that however practical, much used and recognized, the stage model hindered so far the possibility to put e-Government developments in their dynamic perspective. In particular, it fails to explain how new capabilities can be targeted, invested upon and finally implemented, thus constructing an increasingly broader platform for inter-actor communication and servicing. The stage model, in this sense, reflects implicitly some inadequacy or at least some fundamental incompleteness. In particular, it is explicitly dedicated to tracing and tracking the stages of administrative development on the basis of a very few factors, if not one principle only. It focuses on the proportion of the actual administration servicing which is carried out on-line, with a distinction between, on the left hand part, services characterized by information-delivery and on the right-hand part, services which involve interactions and full and transparent access of citizens to administration and government activity. The goal is progressive[3] and noble, but the means proposed to achieve it (on-line interactions) seems to convey almost miraculous virtues. The model builds upon a technology-as-a-tool approach, thus failing to represent important relations and structural effects, underpinning ICTs' real impact for public as well as private organizations, at least in its construction dynamics (see previous footnote's comment). Our goal, first through fieldwork and then a more theoretical analysis, is to emphasize some key features of this full-fledged reality, very much part of the building of the Information Society, that on the contrary of the stage model, implies that technology be managed, in the broad sense, instead of simply be in-sourced.

In technology terms, this straightforward building of eGovernment potential draws upon the creation of portals (according to de facto standards), connected to typical office applications, databases, electronic forms, all features supported by some security measures, and for the right-hand side of the

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[2] In parallel with the EU-funded project eGEP (still underway) on how to measure eGovernment performance, we have ourselves raised a few critical issues on possible contradictions between: 1) front-office and back-office requirements or benefits, 2) short-term (quick wins) and long-term goals (an horizon where no newly created and hidden loss can be discreetly dispatched) and 3) between administrative-centered gains and benefits for other stakeholders, enterprises, administration users or citizens (these two categories not being synonyms to one another, of course). See for that Rossel and Finger (2005).

[3] This is probably the most important weakness of the Gartner model: there is not indication as to how the achievement of the initial stages can lead to the coming in to force of the later stages.

Gartner model, linked to ERPs and dedicated applications (tax, GIS, etc.), making portals the gates to more sophisticated public services. They all belong to a translation scheme of existing services into electronic form, or change of the first order[4]. However, ICTs, and this is in phase with the Lisbon process formulated in 2000, have a triple nature: 1) they are tools for process monitoring and access to new organizational efficiency and productivity gains, recently (from the 90s on) reinforced with versatile communication capabilities; 2) they encompass a structural effect on society changing it in depth towards higher forms of productivity and ideally also, of transparency (tracing and tracking) and accountability, and finally, with the idea of making the best of the combination information processing and knowledge management, of diversified networking options; 3) they are produced and implemented, finally, through a quite important variety of technological forms and technological eco-systems (home multimedia, industrial tracing and tracking, mobile telephony by-products, etc.), constantly re-innovated and hybridized, constituting an industrial domain of its own. All three aspects, in most concrete applications, interrelate in some way, although most users tend to see the tool dimension as predominant.

For short-term goals, which consist mainly of the electronic translations of existing services, this efficiency-driven view on ICTs looks almost adequate and in full support of the Gartner model. For effectiveness issues and the promotion of values such as openness, local creativity and transparency-accountability, the problem is quite different as much more regulation, inter-actor negotiation and coordination (which must then include non State actors) is needed. Beyond this service-delivery approach characterizing the first three stages of the Gartner model (of which we have also seen that the fourth stage should not be envisaged as an automatic derivative), we enter the area of eGovernance, an activity placing all stakeholders in the same perspective (collective problem-solving and eventually institutional adaptations), in which ICTs are used to improve governance mechanisms (governance "with" ICTs), but also have to be regulated in all their dimensions through effective governance schemes (governance "of" ICTs). As a general principle, processes, organizations, value chains and institutional forms have to be rethought in terms of the effectiveness criteria. Even ICTs taken as mere tools for enhanced efficiency are generating pressures for such changes. Let us see, in concrete configurations, how these problems and levels can be handled.

4.   SOME LESSONS FROM FIELDWORK

In terms of fieldwork, always a necessary basis to develop theoretical assumptions and modeling, we have carried out 1) a comparative research within the COST A14 project on Government and democracy in the Information age, a study involving 3 cities (Bologna, Issy-les-Moulineaux and Tampere) and 3 countries (Estonia, Ireland and France)[5], but also, 2) within the MIR-CdM-EPFL team activities, researches and publications related to Morocco, Ghana, Senegal, Uganda, Rwanda, and ongoing study questions involving Borgogna, Geneva Canton, Cape Town area, among others. Just to illustrate what lessons and new questions fieldwork can bring about, in this constructive quest for

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[4]   At MIR-CdM-EPFL, we have suggested to distinguish between a Change I type of transformation, merely characterized by the digitization of existing services, and a Change II type, involving substantial process, organizational or even institutional redesign as a necessary condition or co-evolution to make best use of ICTs.

[5]   Buser, Cotti, Rossel and Finger (2003).

emphasizing transformations that go beyond mere digitization of services, let bus see the comparative balance between the cities of Issy-les-Moulineaux and Tampere[6]:

Functions

The following chart gathered the different services available in the two different cities. Its aim is to give an overview on the types of services developed, but also to indicate the similarities and differences between the two projects, regrouped in three categories: the classical administration procedures, the new services developed through the innovative use of ICT and new services addressing citizen participation to the political life of the city, the last two ones involving some form of changes in organization, everyday life patterns and political culture.

Table 2. Comparative view of eGovernment/eGovernance Issy-les-Moulineaux and Tampere.

Implemented services		Issy	Tampere
Administration processes	Access to information and adm. data	X	X
	Online filing application	X	X
	Online registration	X	X
	Tele-services (evolving list)	X	X
Specific services to the citizens	Smart card		X
	Payment by internet		X
	Payment by SMS	X	X
	Interactive location maps	X	X
	Online booking of services	X	
	Access to library	X	X
	Free access to online services	X	X
	Online access to kindergarten	X	
Citizen's involvement services	On-line access to municipality meetings	X	
	Electronic votes	X	X
	Access to elected representatives	X	X

This is only a rough evaluation that only an in-depth analysis of actual use could improve. For instance, the administration processes (mainly: access to information, online filing application, online registration and integrated tele-services) are common features of both cases, but the level of integration is not equal either between them or within the different administrative units of the cities. These common procedures can still be considered as being "in development" as none of the cities have yet achieved the transformation of the whole administration. They both tried to offer a simpler approach to administration sources and functions where the user should be able to find the wanted information directly, without having to decipher first the sometimes complex organisation of administration. The wave of various new services follows a similar (access to libraries, free public

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[6] As for 2002-2003, but although some of these features have somehow evolved, the illustrative value of the example still stands.

Internet access premises or interactive location maps) are services that municipalities have all offered to their citizens. A recent trend (but close to what can be observed elsewhere), is for instance promoting the use of integrated IT and phone technologies, like as SMS, to pay for different services such as parking places, for instance[7]. The tools concerning political tasks or processes like elections or consultation of municipal meeting debates are still in a trial phase and perceived as complementary to traditional consultation.

Interactions

Part of the evolution towards technology-and-service expansion has to do with the increase of interactions, still limited to a few functioning cases in the actual administrative procedures (subject to grow year after year), but already quite installed in the local culture for queries and political question-and-answer provisions. Basically both cities are targeting a new form of citizen's behavior for which current services or involvement in political decision-making processes are to be considered as the initial steps. Periodic surveys or polls play an evaluating role for this collective learning, ICT-supported series of activities. One could consider the two urban settings as labs, but the now more than two-million on-line accesses to municipal services per year in Tampere and other similar indications acknowledge for an effective ongoing construction towards a "normal" ICT-aided situation. The other way around, one could say that the experimental nature of what is happening in the two cities is to be envisaged as a mundane, installed form of improving life for all. Interactions are developing in all aspects (administration procedures, on-line service accesses, political debate participation) as a standard channel for eGovernance progress.

The rationale behind these developments is to offer to citizens / users/ customers better access to state or city information and services, in a complementary use of traditional form, including face-to-face, and electronic communication. Even if the finality of the process influenced by an ideal goal of complete substitution, it aims mainly at simplifying exchanges for and between the citizens as well as the administrative employees, on a complementary mode. The citizens do not always need to know how the data are processed but in some cases like in the city of Tampere, they can follow on-line the progress of their case. The city of Issy-les-Moulineaux provides only a phone number, which allows accessing every service of the city.

Governance

Political will to go for real governance schemes is demonstrated in a quite proactive and multifaceted way: direct involvement of private companies (for outsourcing, collaboration, image, project promotion, research or income increase), addressing outside workers's sensitivity and behavior (in particular in the case of ILM), project ties with academic research institutions (mainly in the case of Tampere), and in both cities, various forms of internal facilitated participation in civil life for the citizens, including an important of reengineering of administration workflow and procedures (Tampere), and a decentralization effort at district level in ILM. Resistances from all types of actors are part of the learning curve and suggest corrections and improvements. The eGovernance setting of

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[7]   Regarding new technologies both cities are expecting mobile phone to become the next e-government interface by using SMS and code to receive information but also to ask and book services or paying fees and maybe in a close future, taxes.

the two cities is more a working platform within a more general evolution concerning the transformation of the State than a convincing achievement per se.

As a matter of fact, promotion of goals and image, debates on ongoing or future experiments, quest for national resonance and international attention, yet developing strong channels for local citizen's involvement and decision-making participation, in connection with private businesses and academia (Tampere) is a starting configuration to foster communication and political interactions between a large array of socio-economic actors. Given the short historical background of such endeavor, we may consider that these pioneering attitudes of Issy-les-Moulineaux and Tampere are either exceptions, little likely to be imitated or expanded any further once passed a certain lapse of time more marked by fashionable ideas than the matching of real democratic needs, or the first steps of a general trend. Although we have no definitive conclusions on this problem, our study in six cities or countries as well as other research involvements at European or international since then, we are inclined to consider that governance tracks developed by the two cities are indications of a learning process which could become quite general (we do not say universal, for the moment, because of digital divide limits at planetary level).

	ILM	**T**
Economic motivation	Attract companies ⇩ Create an stimulating environment, a culture	Develop a leading sector ⇩ Set up programs for multi-angle effects, lab-minded
Administration re-engineering	Partial, responsive, evolving	Important, responsive, committed
Services to the residents/citizens	**Globally equivalent** Vast array of tools, services and access points	Vast array of tools, services and access points
Citizens' involvement in political participation	Multi-dimensional citizen involvement	Multi-dimensional citizen involvement
Accompanying measures so as to address regional, national and internat. issues	○ Villes Internet (France) ○ The Global cities dialogue initiative (international)	○ Regional ties, partnerships with high-level research institutions ○ Consulting-testing-researching role for companies anywhere

Table 3. General comparison of Issy-les-Moulineaux and Tampere e-governance scenarios.

Globally speaking, and although an in-depth appraisal should account for demonstrated and documented services in terms of performance as well as user perception, one can see that when it comes to determine how far or rather said how deep the changes taking place have gone, whether mere digitization, quick wins or on the contrary important cultural and organizational transformations, one could say that the engaged processes are in the first half or even in several domains, in their early stages. As for critical, priority shifts (rather changes of the second order, more transformative than merely "translative", institutionnally speaking), in-depth fieldwork should provide more accurate and

updated information, but they are sometimes non started at all. Given the fact that we present here the comparative balance of two cities among the most committed in the Information society, this shows the collective trajectory that still has to accomplished. The key questions, at this level, are in particular: in order to go further, in which direction should decision makers look and more broadly, what new priority targets the stakeholders of such pioneering situations should consider?

5. BACK TO THE NEED FOR MORE INSPIRING MODELS

First we try to put all services and application changes envisaged in our various fieldwork situations in an eGovernance perspective, as a key interfacing space, and not just the expression of an enhanced efficiency of public administration.
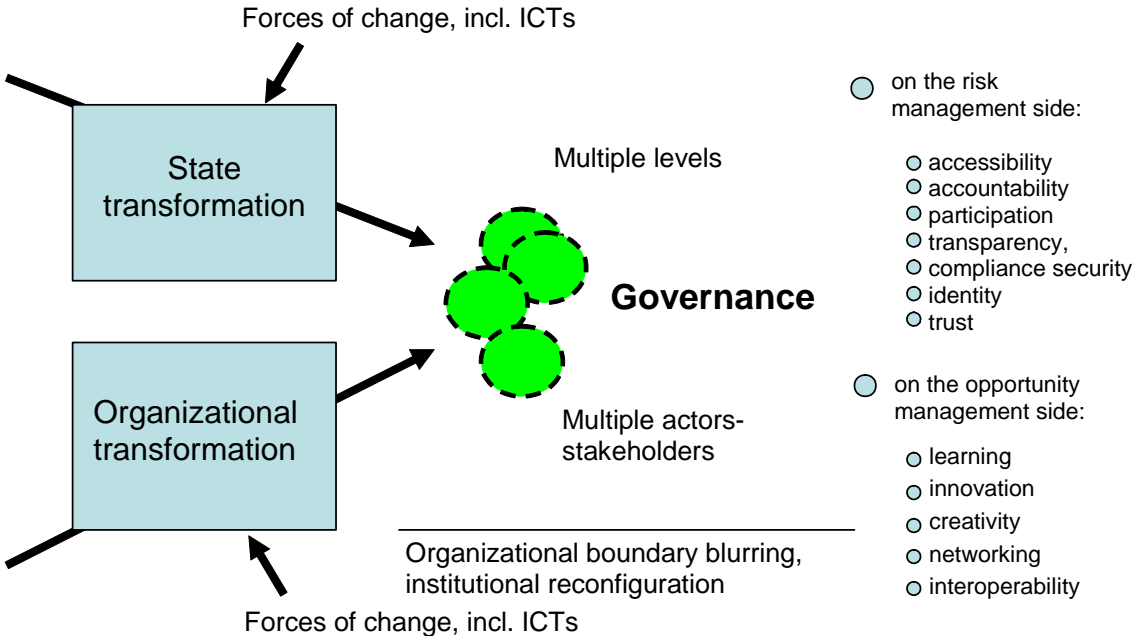

Table 4. The eGovernance transactional space.

eGovernance is as much horizontal as vertical, eGovernment being the emanation of one of the stakeholders. eGovernance is defined by the process of how we solve problems among different actors, at different levels with ICTs but also concerning ICTs as being precisely part of the problems to tackle. eGovernance is a broad confrontational space (not only transactional, as some suggest), having historically emerged with globalisation, overall competitiveness and ICTs, in which technologies are sometimes the supportive tools, but also, on other occasions, the issues to be dealt with, all these efforts shaping our society making the best of the various local or more global pressures that emerged these last 20 years and already envisaged in the introduction.

6. CONCLUSION

eGovernance, namely the governance activity supported by ICTs, but also "of" ICT developments, imply, in management of technology terms, several challenges like deciding between a "closed" or "open policy in software acquisition, aligning as best as possible the operational and the strategic perspective of the organization, and finally combining efficiency-driven efforts and effectiveness- and value-driven endeavours. Needless to insist too much, at this point, that the latter is not the automatic derivative of the former. Organizations, thanks to ICTs, may become more efficient (a destiny which is not at all automatic!), but their effective choice-making and usage patterns, along with re-organizational changes, may be even more important (when to buy, who to hire, what new market segment and customer base to address, priority setting, etc.). Thus the policy-making issue is tightly entangled with a strictly technology management of eGovernment tools in an always-difficult-to-master dialectical tension, punctuated with a series of potentially killing deadlines (linked to when precisely to make specific innovative moves or engineer strategic alliances, for instance).

In an attempt to advocate a "muddling through approach" rather than an idealistic one, and in this supported by our fieldwork evidence, we can summarize our analysis by saying that not all e-administration developments matter the same, and that priority should be given to:

1. those services or interfaces which serve the most intensive clients of the administration (impact-oriented);

2. those services or groups for which the learning curve can have a spill-over impact on other domains or activities (triggering a collective progression);

3. those services which innovate, thanks to a niche feature or a new technology, and deliver or facilitate problem solving of a new kind (pilot activity), conveying some strategic potential.

In addition, these recommendations mean that for each technological implementation, for each e-service delivered, beyond their obvious instrumental level, there is an organizational and institutional dimension, more governance-oriented, to be taken care of, in which ICT deployment must be defined within the framework of a policy-compliant and knowledge management-effective perspective.

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