

The impact of the ICTs on local power relationships

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Abstract:

This paper is grounded in the empirical reality of a growing use of the ICTs in public administrations. Generally, information- and communication technologies (ICTs) are being introduced in an organization in order to increase operational efficiency, quality, and transparency. But, besides these intended effects, the introduction of the ICTs also leads to substantial changes in the power relationships among all involved actors. This paper therefore studies the implications of ICTs on the changing power relations in local public administration settings.

Keywords: Information and communication technologies (ICTs); public administration; stakeholder; power relationship

1. Introduction

Generally, information- and communication technologies (ICTs) are being introduced in an organization in order to increase efficiency, quality, and transparency. Thus, most research focuses on such issues. However, besides these undisputable gains, the introduction of the ICTs also leads to substantial changes in the power relationships among all involved actors. Consequently, and as a result of ICT enhanced or modified operations, some of the actors will increase their power, while others will lose some of their power. The existing literature does not properly conceptualize and even less so address the issues of power in such contexts. This, however, has to be done if one does not want the public sector to lose some of its power when making use of ICTs.

In this paper we will study this question by focusing on the local level. We work with a stakeholder approach and have therefore identified, at the local level, the relevant stakeholders of a local administration. On the basis of our stakeholder model, we will systematically analyze the change (increase/decrease) of power in the relationships between the administration and the identified relevant stakeholders. We will finally try to assess who wins and who loses power as a result of the introduction of ICTs in particular and of e-government efforts in general. As such, our paper is a contribution to further theorizing the way the public administration adapts thanks to the ICTs.

2. The categories of power

For the classification of power in organizations we refer here to the classification proposed by Finger, Mercier and Brand (Finger, Mercier et al. 2000: 2). According to these authors there are basically three ways of looking at power:

Power as an attribute: according to this approach, actors have different degrees of *power depending upon* their *resources* (e.g., financial power), their reputation (reputational power), or their ideas

(epistemic power). In all three cases, power resides with the individual actor and stems from his/her attributions. Today literature mostly refers to stakeholder theory, whereby multiple actors and multiple goals coexist. In this context the interaction of the various actors with power is becoming increasingly complex. This means that, though the actors still have the attributes of power, their leeway is diminishing parallel to the growing amount of relevant actors.

Power as domination: this approach is grounded in the idea that the organization is basically a "mini-society", i.e., a complex social structure composed of multiple interests and groups representing them. Among these interests some are incompatible, thus inevitably resulting in conflicts. Given this, different actors seek to impose their will upon other actors by using both formal or informal norms and means. However, the means used are less related to the actors and their attributes, than they are to the organizational structures and institutional arrangements. This sociological approach sees *organizational rules and structures* as a means to exert domination of the actors inside the organization.

Power as relation: a third way of looking at power is to locate it in the interface between actors and structure, an approach also called "structuration" theory. Michel Crozier (1963) says, that actors struggle for power, more precisely, they struggle for the ability to define the norms and the rules, which structure the environment they operate in. In doing so, their rationality is quite limited, i.e., significantly surrounded by uncertainty: the *control over* a certain span of *uncertainty* thus equals power. Oppressed actors strive for certainty, which allows them to better strategize, while actors in power try to preserve as much uncertainty as they possibly can. There are two sources of uncertainty, i.e., expertise and hierarchy. For Crozier, power always results from a dialectical process of negotiation among actors on the one hand and between actors and institutional rules and norms on the other. As such, power depends upon the mastery of spans of uncertainty, more precisely upon the depth of uncertainty one can master, upon the pertinence of this uncertainty, as well as upon the degree to which one can manipulate previsibility.

In order to discuss the influence of ICTs on the different approaches of power we will, in the next section, outline our stakeholder model of the local administration:

3. The stakeholders of the local administration

Stakeholder theory is primarily a theory of the private-sector firm. But despite this fact, the insights from this theory can be applied to public sector settings since public management responsibilities begin to resemble private-sector management tasks not only formally but also regarding the emerging network-nature of organizations in both spheres (Scholl 2001: 18). On the basis of an in-depth analysis of literature (e.g. Frey 2003; Riedl 2004) we have identified the following nine stakeholders of a local administration in Switzerland:

1. Citizen: by citizen we mean all functions of a private person, i.e., a user of services, a taxpayer, a voter, etc. This first stakeholder group influences the local administration through elections and votes, but also in their daily interactions with the administration and indirectly through their interaction with politicians. Most likely, the increasing use of the Internet in the population leads to an increased pressure on the administrations to deliver their services online.
2. Business: as basis of economic welfare, businesses influence greatly the political-administrative system and are in constant interaction with it. In the context of e-government, the particular pressure of businesses on administrations arises from the fact, that generally the private sector is technologically more advanced than the public sector, and shows the public sector what is technologically possible. In addition private operators sell products and services to public sector organizations.
3. Other public administrations: the administrations of national (federal) and regional (cantonal) level as well as the other local administrations are – in particular in the federalist system of Switzerland – in daily interaction with the local administration and thus represent one of the most important stakeholders.

4. Politicians: the political actors influence the administrative activities through their decisional and instructional authority. In addition, the question of the (optimal) size of an administration is a political decision and a consequence of the priorities, which politicians assign to a public task. Furthermore civil servants are mostly nominated by politicians and we can observe a large politization of civil servants (certainly due to the relatedness of the tasks). In return, according to Finger and Genoud (Finger and Genoud 2000: 243) "...it is the administration which most of the time defines the terms of the contractual relationship it engages with the executive body. In other words, ..., there is a strong information asymmetry in favor of the administration."
5. Parliament and Justice: the parliament in its function as legislative body of Switzerland as well as the justice, whose decisions are precedent-setting, define the rules and thus the framework for administrative activities, as well as for the interaction with third parties. In return, the administration owns the „institutional memory“, the knowledge of the dossiers, the know-how and the experience. Thus, to the extent that the administration elaborates law propositions, it has power (Blankart 2000: 159).
6. NGO's / IO's / Associations: Non-governmental organizations and international organizations as well as political parties and other interest groups influence through their lobbying the political-administrative system and its decisions. In addition they participate in the elaboration of laws and regulations and thus co-define the framework for administrative activities.
7. Media: administrative employees use media as a source of information. In addition media, in their role as public opinion maker, determine the choice of news and topics. They influence the public opinion and specify through their agenda-setting the importance of each topic. Media also expose dysfunctions in the public sector, especially in the administrations.
8. Foreign countries: the more a state interconnects with the rest of the world, the more its institutions (especially the administrations) have to match the rules and regulations of the foreign countries. In the actual European context, the foreign countries influence greatly the political-administrative system of Switzerland and the pressure for Euro-compatibility increases.
9. Employees: the power of an administration depends largely on the characteristics of its employees and on the relationship between them. Finger describes this fact as follows: The success of an organization is largely dependent upon its ability to maintain control of its participants (Finger 2004: 18). Consequently, employees also have power over the administration. This category also includes the trade unions of civil servants.

All of the above stakeholders are in turn influenced by the actions of the local administration. After having described all involved actors of local power relationship, we can now build our "stakeholder-model of the public administration":

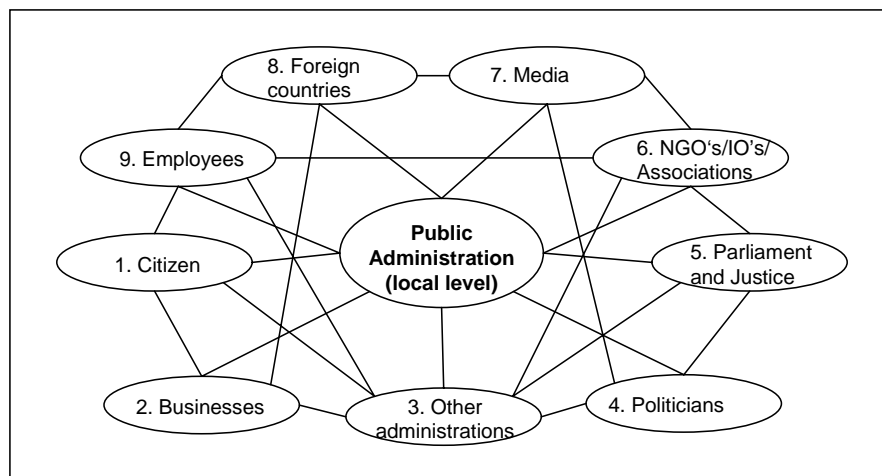


Figure 1: The stakeholder model of the public administration (local level)

In this model we have numerous interrelations between the involved actors. The influence of each stakeholder varies depending on the different factors described above, say the attribute of the respective actor (e.g. resources, reputation, ideas), the organizational rules and structures and the control over uncertainty by each actor in this situation.

4. The characteristics and impact of ICT

In this section we will first describe the impact of ICT on organizations in general. In a second step we will analyze the specific impact of ICT on public administrations. In a third step we will then give an insight in the literature on the impact of ICT on power relationships of organizations and public administrations.

4.1 The impact of ICTs on organizations in general

The introduction of the ICTs, by which we understand hardware, software, storage technology, the Internet and other digital communication technologies, contributes in both private and public organizations generally to an improvement in three critical domains, i.e., efficiency, quality, and transparency (Brücher, Scherngell et al. 2003: 11):

1. Efficiency

Efficiency consists of two elements, i.e., *time* and *cost*. Time efficiency is increased by the ICTs because of:

- Work process acceleration through standardization, digitization, and automation
- Faster information processing
- Accelerated information procurement

Costs efficiency: The introduction of ICTs in an organization generates both costs and benefits that can be summarized as follows (Fichman 2004: 720_04_11, 22):

- On the one hand, we have tangible costs for hardware, software, telecom, services as well as costs for personnel (development, implementation, training). On the other hand, we have intangible costs through lower morale of the employees (automation/responsibility/trust) and costs for the disruption of operations.
 - But there are also benefits resulting from the use of the ICTs: tangible benefits in the form of increased cash flows, increased productivity, lower operational costs, reduced workforce, lower expenses, and lower facility costs. And there are also intangible benefits in the form of organizational flexibility, more timely information, better decisions, organizational learning, employee good-will, job satisfaction, client satisfaction, corporate image.
2. Quality: the use of the ICTs leads to less mistakes than with manual work, to an optimization of the stakeholder (client) benefit through proximity and online-services, as well as to administration-internal knowledge optimization (knowledge management / sharing). Generally the ICTs do not only digitize the existing processes (e.g. movement from paper based to web based transactions), but also transform processes or even lead to the creation of new processes. Thus we distinguish 3 categories of impact of ICT on processes: reproductive, transformative, and disruptive.
3. Transparency: ICTs are enablers for transparency. This consists of transparency of suppliers, prices and availability, as well as organization internal transparency (tracking & tracing). ICTs are also an enabler for the optimization of organizational form: less hierarchy, less bureaucracy, and more flexibility, which improves the overall transparency.

4.2 The impact of ICTs on public administrations

In the previous section we described the impact of the ICTs on organizations in general. In this section we will now outline the specific impact of ICTs on public administrations, which can be categorized as follows:

Legal

The use of ICTs in administrations contains legal implications, since security, privacy and confidentiality issues are concerned. E-Government reforms represent new challenges for lawyers and jurisdiction, since governmental activities are driven by legal framework such as constitutions, laws and regulations. Technology modifies these rules and therefore the use of ICTs for public action requires the adaptation of laws to make e-Government solutions legally binding, in particular in regard to issues such as electronic signatures, electronic documentation, electronic communication, networking of authorities and databases, data protection and data security as well as access to public information.

Structural/Organizational

The ICTs are an enabler for new forms of coordination, control and communication and thus enabler of organizational change. Generally hierarchy in the administration is slowly replaced by network, from bureaucratic (hierarchical) to network (circular) organization. In fact, the reality shows that administrations are organized increasingly in terms of virtual agencies, cross-agency and PPP-Networks. In return, the administration neither deals with the habitual stable and localizable stakeholders anymore, but with volatile and permanently changing networks, e.g. business networks, third-sector networks or citizen networks which are organized in the Internet.

Financial

The introduction of ICTs and e-Government projects are related to high expenditures for IT-investments and maintenance. In return these investments will generate economies by rendering work processes both in front-office and back-office more efficient. Therefore various statistical and mathematical models have already been developed to evaluate the financial impact of ICTs on organizations and of e-Government initiatives on administrations.

Relational

The introduction of new ICT work tools leads to a redistribution of skills and competencies among the internal (employees) and external (stakeholders) actors of the administration. ICTs lead to a redefinition of the operating modes by creating new opportunities and making obsolete old practices. The contact between the different actors becomes timeless and placeless and geographical boundaries loose their importance. The new possibilities of communication lead to a direct and informal contact between the stakeholders and the administration. But, at the same time, the new technological possibilities lead to growing requirements of the stakeholders of the administration, namely regarding the availability, quality, timeness and transparency of public services and the growing use of ICTs tends to increase the digital divide among the stakeholders since an increasingly digital administration favors those with access to computers.

In short, we can say that today everybody agrees on the fact that ICTs have important implications on legal, structural, financial and relational level for the administrations. These implications have been widely described in literature. However, literature on the *relational* implications of ICTs does not properly conceptualize the impact of ICTs on *power relationships*. Thus, we are going to address this issue in the next section.

4.3 The theoretical impact of ICTs on power relationships

Today organizations strongly depend on the expertise of technological specialists (internal and/or external). This dependence gives an important power to those actors since they control an essential resource of the organization. Thus, besides the intended cost, time and quality impact the growing use of ICTs leads also to unintended impacts, such as a redistribution of power among the involved actors. As described above, administrations are more and more organized in networks. But networks vary greatly in structure and in how power and other resources are distributed. One can expect that powerful actors in the network will try to use the ICT to retain or even gain power. In contrast, less powerful actors might use the new technological opportunities to try to restructure the network to be more equitable. These types of power struggles and negotiations characterize the enactment of information technology in public administrations. (Fountain 2001: 82).

Internet can be considered either as a force to increase the responsiveness of government to its citizens or as a means to further empower the state. Internet threatens domination by the state over

information and communication since information systems are vulnerable to white-collar criminals, hackers, and “bugs” or errors in computer programs. Networked connections further increase this vulnerability. But at the same time, paradoxically, IT-systems serve as an instrument of surveillance and control over society (Fountain 2001: 3). Possessing information equals possessing power. Thus, sharing power also means sharing influence and capacity of action.

The introduction of a new work tool (such as the ICT) in an organization represents an important change which inevitably leads to a redistribution of power (Finger 2001): Every transformation in an administration changes the power relationships and causes « political » reactions of the involved actors. In clear, every change in an organization, and the introduction of a new work tool is an important one, generates informally but inevitably a redistribution of resources within the organization according to the competencies, thus a redistribution of power which threatens the status of some actors. Change is likely to change both the formal rules (structures and processes) and informal rules (culture), thus defining the (power) relationships among the actors (Finger 2004: 48).

Reforming and modernizing an administration, as every other organization, is a generator of tension since the individual status and qualifications of every actor become unstable (Brousseau 2002: 8). The structure of a state has a significant effect on economy and civil society. As fundamental modifications in this organization accumulate, so proceeds change not only in the relationships between governing bodies and civil society but also in the relationships within the economy and society.

5. The impact of ICT on power relationships in our stakeholder model

The objective of this chapter is to analyze the different situations in which the ICTs play a role in power relationships. In the previous chapter we outlined the impact of the ICTs on public administrations on the one hand and on power relationships on the other hand. In this section we will now analyze the different situations in which the ICTs play a role in power relationships and try to evaluate the impact on the actors in our stakeholder model. For this purpose we will analyze each stakeholder separately:

1. Citizen

Strengthening of the citizen:

The ICT match the deeper process of societal and cultural transformation, a process that they tend to reinforce. Thus, the introduction of ICT is part, or even supports this transformation of the relationship «citizen-state» to a relationship «consumer-state». The consumer is characterized by a less engaged behavior and more strategic than a citizen. (Finger 2001: 353). Nearly all forms, laws and rules can be downloaded on the administrations' website. This leads to a decreasing information asymmetry between the administration and the citizen.

Strengthening of the local administration:

Information is power: The ability to locate information from anywhere thanks to centralized databases as well as the fact that communication and search costs are virtually zero, increase the power of the administration. In addition, the fact that civil servants can locate all necessary information for each transaction eliminates the previous risk of falsification of documents, when citizen had to collect papers from different administrations and bring them to the administration. The integration of laws, rules and regulations into the information system further increases the power of the administration, since less errors will be made with the evaluation of citizen demands.

2. Businesses

Strengthening of the businesses:

Since most information technology experts are under contract with private firms there will be a growing dominance and influence of private consultants and operators within information-based administration. The designer of the IT-system influence how the system is used. (Guyaz 2001) This situation is unhealthy with a risk of derives and the launching of projects which can be far away from the real needs of the administrations and the users, but corresponding to the vision of the external experts.

In addition, with the outsourcing of IT-tasks administrations loose control, lack technological innovation, loose their strategic advantage and must take into account high „switching-costs“ in case of a change of operator. In addition to this, problems with the security and confidentiality of information emerge. A similar problematic is the “brain drain” of IT specialists from government to the private sector, ironically to firms that specialize in selling digital government solutions to public agencies (Fountain 2001: 203). Private sector vendors of digital government and professional service firms have aggressively targeted the construction and operation of the virtual state as an enormous and lucrative market. Yet, information architecture is more than a technical instrument; it is a powerful form of governance.

The reorganization of the private sector in networks and decentralized units hides some major problems for the administration because those are generally bound on territories. For example for fiscality: In fact, electronic commerce, which profits from the delocalization effect of the taxable services and from the absence of an accounting system, that can be controlled, can increasingly escape the V.A.T.. Most of today's taxes can't bypass physical borders and fiscal sovereignty can only take place within a territory. (Ossipow 2000: 276, 277)

Strengthening of the local administration:

The outsourcing of IT has also positive impacts on the administration. There are cost savings, easier transition to new technologies, the administration can better focus on the core business, the private provide better IT staff and can better handle demand peaks.

3. Other administrations

Strengthening of the other administrations:

As described above, the state becomes increasingly networked through information systems, not only by public-private partnerships, but also by interagency arrangements and intergovernmental agreements that join federal, regional and local administrations. Shared databases are not possible without standardized data. Thus standardization, catalyzed by the Internet, represents a significant rationalization of agency processes. First, standardization renders redundancies across agencies transparent. Second, standardization weakens the rationale for different agencies collect identical data. Third, data standardization suggests new forms of analysis. Fourth, structural changes are inevitable as redundant data collection by different agencies is eliminated. The political battles revolve around which agencies will win and which will lose ownership of the data. (Fountain 2001: 27) However, a centralized database is likely to be under the ownership of a central, federal, administration which means loss of control for the local administration. To ensure the cooperation between the different administrative levels the IT solutions have to be compatible. The central (federal) administration is likely to impose its standards to the lower administrative levels.

Strengthening of the local administration:

Local administrations have more to gain through the access to knowledge of other local administrations than the central administration, since they can use it for benchmark whereas the central administration has no benchmark to do.

4. Politicians

Status quo:

Administrative reforms, such as e-Government initiatives, depend largely on political decisions. In return, administrative reforms also influence and push for political reforms. Therefore, we can observe a situation of status quo between these actors and the power balance remains stable. Finger describes this fact as follows: „...one can anticipate that either administrative reform will be pushing for political reform, thus significantly increasing the power of the administration over politics, or administrative reform will be slowed down, if not stopped, by political foot-dragging.“ (Finger and Genoud 2000: 233)

5. Parliament and Justice

Strengthening of the local administration:

There is a fundamental conflict between the rapid evolving technology on one side and the rigid laws on the other side. The legislative body cannot catch up with the rapid technological evolution when

formulating new laws and rules in order to regulate the newly gained managerial autonomy of the administrations.

“The legislative body, ..., is the main loser of current administrative reforms. Indeed, while the administration and the executive body, ..., acquire substantial decision-making power as a result of the newly gained managerial autonomy, the traditional instruments of legislative control remain the same.”(Finger and Genoud 2000: 243)

6. NGO's / IO's / Associations

Strengthening of the associations:

As described above, the state becomes increasingly networked through information systems, not only by public-private partnerships or intergovernmental agreements, but also by cooperations with NGO's and associations. Thus, administrations give some of their power out to these associations.

7. Media

Strengthening of the local administration:

Previously, the media were an important source of information for administrations. With the rise of the Internet, the traditional ways of communication (one-to-many) are counterbalanced by the new structure many-to-many. Today, the administration doesn't rely anymore on the information of the traditional media, but they can fetch the individualized information in the Internet. Before, every administration had the same information (one-to-many) and the press diffused a kind of common sense (shared values). In addition the Internet offers new possibilities for public job-advertisements directly on the administrations website rather than on traditional media.

8. Foreign countries

Strengthening of the foreign countries:

We already mentioned the pressure of foreign entities in regarding to make processes compatible. The pressure for data standardization and compatibility that match international standards increases this already existing pressure.

9. Employees

Strengthening of the employees:

Computerization has made it possible to combine many excessively specialized positions into enlarged jobs. Computer-based information processing and decision support systems give employees low in hierarchy the ability to make decisions because the rules they are to follow are embedded in software rather than in the decisionmaker. With the Internet, information has been largely individualized and the flow of information becomes largely uncontrollable. Before, mail was distributed through a hierarchy, now information flows horizontally and is hardly controllable. The use of mobile phones reinforces this tendency. Conversations bypass the administration, thus the traces are diluted. (Guyaz 2001)

Strengthening of the local administration:

The employees' liberties are limited by the software and visible to the superiors (ability of IT to monitor, capture and display employee activities). The bureaucratic state moves from direct supervisory control to information based control. ICT allows monitor employees more closely and produce detailed periodically reports of activities. The rules, routines, procedures, knowledge, expertise and problem-solving are formalized and embedded in computer code, thus limiting the power of the employees.

By the same time, some of the employees are being replaced by computers. Much of the routinized information processing that was performed manually before is now handled by computers. IT formalizes the knowledge and know-how of skilled workers and thereby makes it independent of those.

6. Conclusion and final remarks

It appears clearly that the introduction of ICT in local administrations and their relationships is not a neutral thing. It comes to a redistribution of power among the various involved actors. But there is no general rule that describes the overall impact of ICT on local power relationships. In addition, ICTs as such do not diminish power, but they do change the contours of the playing field and some of the rules of the game. We want to show now the shift in the balance of power in our stakeholder model and try to assess the gain or loss (increase/decrease) of power for each actor. Previous to the introduction of ICTs we had a power balance between the administration and the stakeholders:

Citizen					Local administration
Businesses					Local administration
Other administrations					Local administration
Politicians					Local administration
Parliament and justice					Local administration
NGO's / Associations					Local administration
Media					Local administration
Foreign countries					Local administration
Employees					Local administration

Figure 2: Local power balance before

The black parts in figure 2 are the power shares of the local administration, the white parts are the power shares of the stakeholder in question. With the upcoming use of ICT the power balance in our model experiences a shift according to the arguments described in chapter 5 (figure 3):

Citizen					Local administration
Businesses					Local administration
Other administrations					Local administration
Politicians					Local administration
Parliament and justice					Local administration
NGO's / Associations					Local administration
Media					Local administration
Foreign countries					Local administration
Employees					Local administration

Figure 3: Local power balance after

Thus, our stakeholder model contains an underlying tension in terms of power imbalance. The most obvious conclusion is that the introduction of ICTs in our stakeholder model, if not counter-balanced by any control mechanisms, heavily decreases the power of the local administration against the businesses and other administrations.

In order to answer the question, whether the administration, in totally, wins or loses power thanks to the introduction of ICTs we will have, in a next step, to classify by importance each stakeholder by using categories, for example primary, secondary and tertiary stakeholders. According to this classification we will have to weighing the stakeholders and add the individual results in order to obtain a total.

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