

# PUBLIC ACCOUNTABILITY IN THE INFORMATION AGE

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**Abstract.** *This paper summarizes empirical findings on the influence of information and communication technologies (ICTs) on organizational, professional, political, legal, and administrative accountability. ICTs both enforce and challenge these traditional accountability arrangements, and call for new forms of accountability. We conclude that the information age requires an new conceptualization of accountability which focuses on governance instead of government.*

## 1. Introduction

Governments use information and communication technologies (ICTs) to improve service to citizens and enhance their input in policy processes. Furthermore, ICTs can play an important role in government accountability. ICTs can be used to support traditional forms of public accountability but may also facilitate new forms of accountability. In this paper we will explore the ways in which governments can be held accountable in the information age.

In the first part of this paper (sections 2 and 3) we will discuss the key concepts of this paper: ICTs and public accountability. ICTs have certain characteristics that tend to influence government practices but do not determine the outcomes. We will define accountability as institutionalized practices of account giving and present a typology of five types of accountability (organizational, professional, legal, administrative, and political).

The second part of this paper (sections 4 to 9) summarizes major empirical findings on the influence of ICTs on these types of accountability. We assume that governments in the information age are confronted with the same

accountability arrangements as ‘paper governments’ and discuss the impact of the changes in government on these accountability arrangements.

We will end this paper (section 10) with a discussion of the concept of public accountability. We argue that the information age requires a new conceptualization of public accountability. We need to consider public accountability in the perspective of the network society.

This paper is mainly based on research in the Netherlands and illustrations from the Dutch context are used to illustrate changes in public accountability. We contend that these changes are not just a Dutch phenomenon. A comprehensive review of international literature will prove whether these changes are also taking place in other countries.

## **2. Information and communication technologies**

Information and communication technologies are used to support the key functions of government. Database systems, workflow management systems, e-mail systems and web technology systems are all used to support government operations, engage citizens, and provide government services. ICTs are both used *within* government organizations and in the contacts between the organization and the ‘*outside world*’ (citizens, companies, other organizations). It does not seem to be an exaggeration to state that most government organization could not function without ICTs.

These various information and communication technologies are integrated in complex information systems. Databases are for example connected to websites and workflow management systems use the facilities of office systems. In an analytical way, however, different qualities of separate technologies can be identified. Zuboff makes a distinction between ‘intrinsic’ and ‘emergent’ qualities.[1] Orlikowski indicates that these ‘intrinsic qualities’ are not neutral: they facilitate certain actions whereas they might hinder others.[2] Workflow management systems, for example, facilitate standardized processing of documents but may make it more difficult to deal adequately with exceptional cases. According to their ‘intrinsic qualities’, three types of information and communication technologies can be distinguished:

- Societal ICTs facilitate openness and may hinder the formation of boundaries between organizations and countries. Examples are the World Wide Web and Usenet.
- Organizational ICTs facilitate central steering and may hinder the handling of non-standard cases. Examples are ERP systems and workflow management systems.
- Personal ICTs can be used to support the work of individual employees but may hinder central oversight. Examples are e-mail applications, text editors and mobile telephones.

The characteristics of these technologies are not deterministic.[1][2] Societal technologies, such as web technology, can be used within organizations and organizational technologies, such as database systems, can be used by individuals. Nevertheless, these technologies have acquired different characteristics through processes of technological and social construction. Technologies tend to have different effects on public accountability because of their differences.

### **3. Public accountability: a key concept in public administration**

As we see it, ‘public accountability’ refers to institutionalized practices of account giving. Accountability refers to a specific set of social relations that can be studied empirically. This raises taxonomical issues: when does a social relation qualify as ‘public accountability’? Which are the elements that have to be present in order to include a social relation in our set of institutionalized practices of account giving?

Accountability is usually defined as a social relationship in which an actor feels an obligation to explain and to justify his conduct to some significant other.[3][4] This relatively simply defined relationship contains a number of variables. The actor, or *accountor*, can be either an individual or an agency. The significant other, which we will call the *accountability forum* or the *accountee*, can be a specific person or agency, but can also be a more virtual entity, such as, in case of devout Christians, God or one’s conscience, or, for public managers, the general public.

The relationship between the actor and the forum, the account giving, usually consists of at least three elements or stages. First of all, the actor must

feel obliged to inform the forum about his conduct, by providing various sorts of data about the performance of tasks, about outcomes, or about procedures. Often, particularly in the case of failures or incidents, this also involves the provision of justifications. This then, can prompt the forum to interrogate the actor and to question the adequacy of the information or the legitimacy of the conduct. This is the debating phase. Hence, the close semantic connection between ‘accountability’ and ‘answerability’. Thirdly, the forum usually passes judgment on the conduct of the actor. It may approve of an annual account, denounce a policy, or publicly condemn the behavior of a manager or an agency.

In passing a negative judgment the forum frequently imposes some sort of sanctions on the accountor. These sanctions can be highly formalized, such as fines, disciplinary measures or even penal sanctions, but often the punishment will only be implicit or informal, such as the very fact of having to give an account in front of television-cameras, or of having your public image or career damaged by the negative publicity that results from the process.

The obligation that is felt by the accountor can also be both formal and informal. Public managers will often be under a formal obligation to give accounts on a regular basis to specific forums, such as their superiors, supervisory agencies, or auditors. In case of unpleasant incidents or administrative deviance, public managers can be forced to appear in court or to testify before parliamentary committees. But the obligation can also be informal, or even self imposed, as in the case of press conferences, informal briefings, or public confessions.

Finally, the conduct that is to be explained and justified can vary enormously, from budgetary scrutiny in case of financial accountability, to administrative fairness in case of legal accountability, or even sexual propriety when it comes to the political accountability of Anglo-American public officials.

In the daily life of modern public managers operating in a democratic system, there are at least five different sorts of forums that they may have to face up to, and therefore also five different types of potential accountability relationships, and five different sets of norms and expectations:<sup>1</sup>

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<sup>1</sup> These forms are adapted from [5], [6] and [7].

- Organizational accountability
- Professional accountability
- Political accountability
- Legal accountability
- Administrative accountability

In public administration managers have to deal with all these types of accountability. The introduction of ICTs in government organizations, however, has led to changes in the functioning of government. These changes have influenced existing accountability arrangements. ICTs have influenced these five accountability relationships in different ways. In this paper, we will have a look at the five accountability relationships and describe the influence of ICTs.

#### **4. Organizational accountability in the information age**

*Accountability to superiors.* The first, and most important accountability relation for public managers is organizational. Their superiors, both administrative and political, will regularly, sometimes on a formal basis, such as with annual performance reviews, but more often in daily informal meetings, ask them to account for their assignments. This usually involves a strong hierarchical relationship and the accounting may be based on strict directives and standard operating procedures, but this is not a constitutive element. Senior policy advisors and project managers will often have a considerable amount of autonomy in performing their tasks, and yet may strongly feel the pressures of organizational accountability. Strictly speaking, this is not yet 'public' accountability, because these accountgivings are usually not accessible to the public at large.

*ICTs and organizational accountability.* The impact of these use of organizational ICTs on organizational accountability has been investigated by various researchers. Zuurmond indicates that bureaucracy is transformed to 'infocracy'. [8] In an infocracy control is not exerted through bureaucratic structures but through the information structure. This information structure controls the behavior of civil servants and also renders this behavior transparent to their superiors. The organizational accountability of civil servants is increased since superiors gave more means to monitor their behavior and ask them to account for their behavior. On the other hand, one may argue that accountability

is decreased because the behavior of civil servants is controlled ex-ante through the information structure and therefore civil servants can no longer escape from organizational procedures. There is less need for ex-post accountability since ex-ante control is increased (see also [9]).

### *Student Grants in the Netherlands*

Civil servants used to have quite some autonomy in deciding who was to get a student grant. They used this autonomy to evaluate whether a student was really in need of a grant and looked into the personal situation of the student. Nowadays, the processes of giving students a grant is fully automated. This system is based on the law concerning student grants and legal procedures have been encoded in computer programs. Civil servants only have to enter data in the system and the system then decides who will get a grant. Organizational accountability concerning the use of autonomy is no longer relevant. [10]

The dominant finding that use of ICTs enhances bureaucratic control is challenged by Meijer.[11] Meijer indicates that use of individual information and communication technologies (such as e-mail and text editors) may have the opposite effect on organizational accountability.<sup>2</sup> He states that these ICTs hamper organizational accountability because these ICTs render the behavior of civil servants less transparent to their superiors. Superiors do not know who civil servants are communicating with and lack control over information storage. Meijer argues that these changes require a shift from organizational to professional accountability.

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<sup>2</sup> The changes Meijer describes fit well within Hekscher's ideas about post-bureaucratic organizations. Hekscher indicates that in these organizations individuals in network relations structure their actions according to the mission of the organization. [12] (see also [13])

### *Dutch Ministry of Foreign Affairs*

At the Dutch Ministry of Foreign Affairs e-mail facilities are used for both business and personal communication. Business communication at the ministry follows official, functional lines and e-mail addresses are connected to functional mailboxes of embassies, consulates or directorates. In practice, however, little use is made of this form of communication. Civil servants prefer to use either the protected network, fax or snail mail. Apart from the functional e-mail addresses, civil servants also have a personal e-mail address. This personal address is used for both private and work related communication. Civil servants use personal e-mail according to their own standards and decide whether they need to preserve e-mail messages and in which form. Central management has no control over this use of e-mail. [11]

The findings of Zuurmond and Meijer seem to be contradicting. A closer look at their research, however, indicates that the findings apply to different developments. Zuurmond's research concerns the use of organizational ICTs (large database systems) in large scale policy execution. Meijer had investigated the use of personal ICTs in policy development. This seems to indicate that organizational accountability is strengthened in certain parts of government and hampered in other parts of government.

*New forms of organizational accountability.* The transition from bureaucracies to infocracies (of even information refineries [10]) may demand new forms of organizational accountability. The object of accountability is then not so much the execution of business processes but rather the design and implementation of information infrastructures. In terms of Mintzberg [14]: accountability in the technostructure becomes more important than accountability in the operating core. A question which remains unanswered is whether accountability relations in the technostructure will be of an organizational or rather of a professional nature. Will organizations set up information structures in the technostructure to control the design and implementation of information structures in the operating core? Or will organizations rely on profession accountability to assure the quality of information structures in the operating core?

## 5. Professional accountability in the information age

*Accountability to professional peers.* Many public managers are, apart from being general managers, professionals in a more technical sense. They have been trained as engineers, doctors, veterinarians, teachers, or police officers. This may imply accountability relationships with professional associations and disciplinary tribunals. Professional bodies lay down codes with standards for acceptable practice that are binding for all members. These standards are monitored and enforced by professional bodies of oversight on the basis of peer review. This type of accountability will be particularly relevant for public managers that work in professional organizations, such as hospitals, schools, psychiatric clinics, police departments, or fire brigades.

*ICTs and Professional accountability.* In line with their findings on organizational accountability, Zuurmond and Bovens & Zouridis stress that professional autonomy is limited through the use of organizational information and communication technologies.[8][9] Operating procedures are embedded in software and professionals cannot evade these procedures. This does not only apply to administrative professionals but also increasingly to doctors and police officers. Use of ICTs leads to a process of ‘deprofessionalization’ in government and thus less professional accountability.

Other developments, however, point to professionalization in government and thus more professional accountability. Use of ICTs may trigger accountability for professions that were not recognized as professions before. These processes especially occur when ‘information professionals’ are involved. Electronic Data Processing Auditors in the Netherlands, for example, have formed professional associations and standards for acceptable practice.

*New forms of professional accountability.* Traditional professions such as doctors and lawyers have well described procedures for entrance in their professional community. One may wonder whether new professional communities will be at the same distance from the general public as classical professionals. It seems likely that, in the near future, (information) professionals in government will not only be held accountable by professional peers but – through societal ICTs – also by ‘amateurs’. LINUX and the open source movement may provide interesting models for professional accountability in the information age.



## 6. Political accountability in the information age

*Accountability to elected representatives.* For managers in the public sector, accountability to political forums, such as elected representatives or political parties, can be very important facts of life. In parliamentary systems with ministerial responsibility and a general civil service, such as Britain and The Netherlands, this political accountability usually is exercised indirectly, through the minister. Increasingly, however, public managers too have to appear before parliamentary committees, for example in the case of parliamentary inquiries. In the American presidential system, senior public managers, heads of agencies for example, are often directly accountable to Congress. In administrative systems that work with political cabinets and spoils, as for example in the US, France, or Belgium, public managers will also find they have an, informal and discrete, but not to be disregarded, accountability relationship with party bosses. Public managers, especially those with a professional or legal background, often find political accountability difficult to handle, if not threatening, because of the fluid, contingent, and ambiguous character of political agendas.

*ICTs and political accountability.* Meijer indicates that the use of organizational ICTs in government increases the informational and the analytical transparency of government organizations.[11] Political fora can profit from these changes in government because they are often interested in policy evaluations. However, Meijer also points at the danger of an information overload. Government agencies generate enormous amounts of information and it seems unlikely that elected representatives will be able to adequately deal with all this information.

### *Dutch Central Information Agency*

The Central Information Agency of the Dutch police used a database system to manage data about suspects. These digital data were not directly used by a parliamentary enquiry committee. The committee used a paper report that showed numbers that were generated with the database system. Additional opportunities to analyze digital data were not used by the parliamentary enquiry committee. In this case ICT created many opportunities for fact-finding but these opportunities were not used for fact-finding.[11]

*New forms of accountability.* In the context of government and ICTs, direct accountability to citizens is the most debated form of political accountability.[11][15] Direct accountability could be an addition to – rather than a substitute for – indirect accountability. New technologies can facilitate a ‘digital agora’ so that modern rulers can then be held accountable in the same way as Greek rulers. Societal ICTs are important: citizens can have direct access to information about the functioning of government agencies and use communication technologies for a public debate. Northrup & Thorson give the interesting of the Korean government that enabled citizens to the process of permit applications.[16] They claim that this form of transparency enables accountability and reduce corruption.

## **7. Legal accountability in the information age**

*Accountability to courts.* Public managers can be summoned by courts to account for their own acts, or on behalf of the agency as a whole. Usually this will be a specialized administrative court, but, depending on the legal system and the issue at stake, it can also be a civil or penal court. In most western countries legal accountability is of increasing importance to public managers as a result of the growing formalization of social relations (Friedman, Total Justice). For European public managers in particular, the directives of the EU are an additional and increasingly important source of legal accountabilities. Legal accountability is the most unambiguous type of accountability as the legal scrutiny will be based on detailed legal standards, prescribed by civil, penal, or administrative statutes or precedent.

*ICTs and legal accountability.* Legal accountability of digital governments used to be an interesting question for legal scholars. Can electronic information be admitted as evidence? What is the legal value of a digital signature? These questions, however, do not seem to be so relevant anymore as countries all around the world are granting digital information the same status as paper information. This does not mean, however, that the digitization of government does not have an impact on legal accountability.

Meijer has indicated that e-management and the use of organizational ICTs increases both the informational and the analytical transparency of government organizations and that, therefore, fact-finding by legal fora is facilitated.[11] Legal fora, however, make little use of these additional opportunities and use the same information they used in the ‘paper situation’. One may ask whether this is a problem: legal accountability is not hampered On

the other hand one may argue that legal checks and balances may not be adequate anymore since the power of government organizations over citizens has been increased by their use of information and communication technologies. The net result of these developments may be that citizens have less legal protection against the abuse of power by government organizations.

One may wonder whether there is still so much need for legal accountability. Empirical research seems to indicate that the legal quality of government decisions has increased because of the use of organizational ICTs.[10][17] Humans are likely to make more mistakes than computers. In that respect, the use of ICTs seems to lead to a change from ex-post to ex-ante legal accountability.

*New forms of legal accountability.* De Mulder indicates that the use of ICTs has led to 'fourth generation law': law that is interactive (like spoken law) and can be distributed on a large scale (like printed law).[18] In research on commercial applications of ICTs this is often labeled 'mass customization'. ICTs can be used to pre-program decision-making in highly individual cases. Traditional forms of legal accountability are not capable of dealing with use of power since they were designed to evaluate individual cases. De Mulder therefore calls for a new form of legal accountability that can check on 'mass customization' in government.

## **8. Administrative accountability in the information age**

*Accountability to auditors and controllers.* Next to courts, a whole series of quasi-legal forums, that exercise independent and external administrative oversight and control, has been established in the past decades. These forums vary from Ombudsmen, national or local audit offices, to independent supervisory authorities. They exercise regular financial and administrative control, often on the basis of specific statutes and prescribed norms. This type of accountability can be very important for public managers that work in quango's and other executive public agencies.

*ICTs and administrative accountability.* The increase in the informational and the analytical transparency of government organizations because of the use of organizational ICTs facilitates fact-finding by administrative fora.[11] These organizations need information that can help them in evaluating government

policies and government decisions and, generally, ICTs can provide information to assist them in this task.

#### *Dutch Ministry of Finance*

The Ministry of Finance used a database system for policy analysis. This database system contained data about income taxes in the Netherlands. The National Audit Office could use data from this database system to calculate the effects of certain legal arrangements. Without the digital application this type of fact-finding would be practically impossible. In this case ICTs created many opportunities to analyze data and can therefore facilitated fact-finding.[11]

*New forms of accountability.* The development of more direct forms of accountability through societal ICTs may also have an impact on this form of accountability. Auditors and controllers may no longer function as a separate accountability forum but may function as a support mechanism for direct accountability. Auditors and controllers could evaluate the quality of the information government agencies present to citizens and indicate whether this information is reliable and complete. This evaluation could take the form of a (required) hyperlink on government web pages.

## **9. ICTs and public accountability: general trends**

So far we have focused on effects of the use of ICTs on specific types of accountability. On the basis of empirical research we can also identify general trends. These trends refer to changes in government that influence various types of accountability.

The first general trend is the blurring of boundaries between public organizations: “When informational domains entangle, it is quite difficult to find out where something has gone wrong. And, if information is shared and refined, where lies the right of ownership? Who is responsible for the use of new, virtual databases that are based on the combination and refinement of data which is stored in database management systems in different organizations with different jurisdictions?” [19: p. 74)

Blurring of organizational boundaries may have serious implications for the organizational jurisdiction which can be described as the exclusive authority of an actor as a unified entity to determine right and obligations of citizens in a

task domain with (a certain degree of) discretion for which the actor is legally and politically accountable.[19, p. 58). This means that blurring of boundaries influences political, legal, and administrative accountability. Who is to be held accountable? And who can provide the required information?

The second general trend is an increase in transparency. More data are recorded and there are more ways to retrieve this data. The use of ICTs leads to a more 'transparent state'. Meijer indicates that the increased transparency may be the result of deliberate actions but often results unintentionally from efforts to improve the execution and management of work processes.[11] We have seen that this transparency facilitates fact-finding by all accountability fora.

The increased transparency may not only change the nature of fact-finding but also influence the object of accountability processes. Accountability fora might hold accountors responsible for more actions and decisions than before simply because they have a chance to reconstruct these. Transparency might trigger an expansion of accountability.

In some ways, however, the transparency of government may decrease. The rules for decision-making are increasingly encoded in software. It may not be easy to read thousands of lines of code in a software program and figure out what the 'logic' is. Reading the system design documentation may not be sufficient since programs are often implemented differently from the design. Effectively this means that the rules cannot be traced and the 'logic' behind decisions is lost.

## **10. Public accountability in a network society**

We think that the changes in the accountability relations of government require a new conceptualization of public accountability. The public does not only consist of individual citizens but also of all kinds of other societal actors (journalists, societal groups, intermediaries, etc.). These societal actors increasingly add dynamic, informal and non-hierarchical accountability relations to the existing accountability relations through formal institutions.

The only way in which we can get a grip on the accountability of government is by placing government in a network society. Northrup & Thorson suggest that we should move the focus from e-government (the institutions of government) to e-governance (the larger web of formal and informal institutions).[16] This transition means that public accountability does not relate to accountability from government agencies to society but concerns a wide range of horizontal accountability relationships between societal actors. Public

accountability concerns accountability for public affairs and these affairs are not only dealt with by government.

This transition will affect all phases of accountability processes. In the information phase there will not be one single source of information. Information will increasingly be provided and contested by various actors. The debate phase will change in participants and structure of the debate: the debate will be open for many participants and not structured according to formal procedures. Most actors will not dispose of formal sanctions. It seems probable that publicity and public exposure will develop into dominant sanctions.

The impact of ICTs on informational aspects of accountability has received a lot of attention in empirical research. The role of ICTs – especially the Internet – in the debating and sanction phases has scarcely been investigated. A further conceptualization of public accountability in the information age requires more research into the role of ICTs in the debating and sanctions phases of public accountability processes.

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