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COORDINATING INFORMATION TECHNOLOGY IN ADMINISTRATION

C.I. DALES
Minister of the Interior

l. Introduction

Mr. Chairman, Ladies and Gentlemen,

When I was asked to address a few words to you at the opening of your conference, I hesitated for a few moments.

At first sight, the subject matter "Legal, Knowledge-Based Systems" seems to be more the field of my colleague, the Minister of Justice. On the other hand, it concerns information technology and more particularly knowledge-based systems. As the coordinating minister for information systems and services in the government I obviously have my opinions about thàt. You may conclude from the fact that I am standing here before you that I chose this angle of approach in deciding on the request.

I will make some marginal notes on the use of knowledge-based systems in the Dutch administration. When doing so, I will discuss my coordinating role. I will also deal with an important aspect of the use of information technology in the Dutch administration: the democratic checking process.

2. Coordination in the Dutch Government

For a good understanding of my position as the coordinating minister, I should perhaps explain to some of you how things are arranged here in the Netherlands.

An important rule in our political system is that the individual ministers are each fully responsible for their own fields of policy. That, therefore, also includes the information systems which are required or desirable in that field of policy. This means that I am not going to tell my colleagues how they should organize their information systems, and I had better not.

I consider information as an important production means, just like staff and finances. Those responsible (politicians and civil service managers) must use those means in the policy making process. There is no place in this for interference from something like a higher power of a coordinating minister. It would also go against the general tendency in information technology, which precisely shows a trend to more decentralization, combined with the insight that organization and information cannot be seen apart from one another.

This does not alter the fact that we must see to it that the various parts of the government must be able to communicate with each other, that we do not have to re-invent the wheel everywhere and every time, that we do not spend more on information technology than is necessary to fulfil our tasks, but not less either. This is where I come in as the coordinating minister.

If I narrow this down to the field of knowledge technology, then we are talking about:

* guidance,
* exchanging knowledge and experience and
* research.

I will further elaborate on these three aspects, or instruments, if you find that a better definition.
First, I wish to discuss some general aspects of information technology.

3. Two important developments in IT: networks and knowledge-based systems

I consider as very positive the use of information technology in general. For working with data and information is the essence of activity in an administration.

The improvement of the quality of public administration is enabled by continued use of the new possibilities offered by information technology. Therefore I follow, my ministry follows, the developments in the field of information technology and analyzes these developments in view of their possible use within the administration. When I speak of future IT developments, I refer to two concrete directions.

First of all, new systems which go beyond the territories of the separate bodies of public administration, the electronic networks in the government. At present, these are growing at a very fast pace but, for the time being, still as "wide area networks" within one organization with a large number of deconcentrated units.

The second direction is that of the introduction of new techniques and especially the implementation of knowledge-based systems: the subject matter for today.

One of the principal consequences of the use of knowledge technology is that within the governement - and the same also applies to private enterprises - there is more attention for the knowledge, present within an organization. Systematically gathering this knowledge and making it more accessible yield an added value which is hard to overestimate. In business-economic terms: knowledge is an asset of the company. It therefore needs the attention of the highest management!

The use of knowledge-based systems seems simple to realize in one's own organization. Assuming that sufficient professional knowledge and knowledge of Information Technology are available, such a system can be developed almost anywhere. Moreover, it can be used stand-alone. No network with complicated tuning and reconciliation problems is necessary. This might give reason, wrongly, to believe that the organizational consequences of the introduction of this new technique are lesser than those of the implementation of electronic networks.

I wish, therefore, to make a few remarks to draw attention to a number of things. We should bear in mind that knowledge-based systems in the present state of the art are actually a systemized form of the knowledge of human experts. Just like human experts, knowledge-based systems know a lot about a little. Besides, the gathering of knowledge of experts yields an underestimated problem. I am talking now of the day-to-day, commonplace knowledge of an expert which is supposed to be generally known. Also, this knowledge is determined culturally. We also refer to it as "common sense". It is obvious that this knowledge is not available in the computer. Therefore that knowledge must also be entered into the system. This will at least yield substantial development problems.

A second remark concerns the implementation of knowledge-based systems in the organization. This appears to be a very complicated matter. The thinking and evaluating methods of those involved must be adjusted to the system. That takes time. Since it cannot be presumed just like that, that the professional responsibility of the staff is integrated matter-of-factly into working with the system, a problem may arise here.

A third point of attention concerns the maintenance of the knowledge-based system. One of the advantages of for instance a legal knowledge-based system is that users are informed more easily of the latest developments in jurisprudence and policy. So that means that the system must be continually updated. Therefore, experts are needed who work with the system as well as experts who keep the system up to date.

4. Coordination in the field of knowledge-based systems

I arrive now at the fulfilment of my coordinating task with regard to the use of knowledge-based systems in the Dutch Government. I mentioned guidance as a first instrument. I have published two general brochures about knowledge technology, which are aimed at government managers. I have also organized two well-attended short symposia about this subject matter.The second instrument concerns the exchange of knowledge and experience.

At present the national administration is working in about ten places on a concrete implementation of Knowledge Technology. The number of staff members working per organization unit on such a project is usually small. At the initiative of my ministry, these staff members regularly keep in touch with one another. Also newcomers have been thought of. The contact group has prepared a summary of the auxiliary means known to them and of the suppliers with whom experience has been acquired. A person to be contacted is mentioned per product and per supplier. This enables the sections which are considering introducing Knowledge Technology, to profit from the knowledge of others.

The third instrument is research. Two ministries are working on the implementation of a knowledge-based system in the framework of the preparation of legislation. So this is of particular relevance to you.

The Ministry of Social Affairs and Employment has prepared an auxiliary tool for checking the correctness of a Bill. It is a classic knowledge-based system. Use is made of a rule based system with an inference engine.

The Ministry of Education and Sciences has developed a system, by means of Hypertext, to assist the jurist at the various stages of the Bill preparing process.

Research has been conducted in cooperation with these ministries in order to examine to what extent these systems can be generalized so they can be used in other ministries as well. The president of your organization is closely involved in the guidance of this research. The Ministry of Education and Sciences had two objectives for the development of its knowledge-based system.

The first is to support the jurist when making choices in the design process. I already mentioned this. The system enables the jurist at each design stage to compare information from his own project with that from related Acts.

The second objective is to monitor the progress of the project by the jurist himself and by the management.

The Ministry of Social Affairs and Employment is interested rather in the end of the trajectory in the development of legislation. It can perform a number of checks on the text of the draft Bill itself. In addition it is possible to verify what will be the consequences of

adjustments to the act in concrete cases and what will be the consequences on a macro level.

The first stage of the joint investigation has demonstrated that the two systems supplement one another to an important extent and show little overlap.

A second field in which research into feasibility of knowledge technology is being conducted, is that of the service centres of the government. In my opinion, knowledge technology can play an important role in a change towards a more customer-oriented government. Maintaining direct contacts with citizens and companies, and fast - on-line - handling questions and problems will become possible.

5 . Consequences for the democratic quality of the government

Finally I wish to discuss briefly the possible consequences for the democratic level of the public administration. For the core tasks of my Ministry include not only the promotion of an efficient and effective public administration, but also monitoring its democratic value.This brings me back to what I just mentioned: the service centres of the government. The idea behind those centres is to arrive at fast and adequate supply of services, bundled in a manner that makes sense to the citizen. Especially this bundling is what makes knowledge-based systems indispensable in the long run. Service centres contribute to the quality of the administration and thus to its supporting platform among the population and, therefore, its legitimacy.

This is the positive side of the coin. On the other hand, it is not unthinkable that, because of the use of knowledge-based systems, the lead in knowledge of the administration over the representative bodies will become bigger. That too can have consequences for the legitimacy of the public administration, but this time in a negative sense. It may cause resistance among the population. Even if only good knowledge-based systems are developed and put into service, then it is still uncertain whether the public will accept that their questions and problems are decided by systems and machines - for that is how it will be perceived! A certain margin for negotiation disappears.

It will reinforce the already existing perception that the administrative bureaucracy cannot be influenced and is inaccessible. This image formation should be taken into account seriously in the further implementation of Information Technology. Resistance may also occur within the bureaucracy itself. This concerns both the quality of the work and the continuity of the job.

6 . Concluding remarks

Although I have made explanatory remarks about knowledge-based systems in the public administration, I am certainly optimistic in a somewhat longer run. Even considering all risks and limitations, I see no reason to stop the development and the use of knowledge-based systems. For the public administration can gain a lot in terms of consistency, continuity and efficiency. I see many reasons, therefore, to stimulate the use of knowledge-based systems in the Dutch administration.

I thank you for your attention and I wish you a good and productive conference.