

A Critical Evaluation of the Danish National ICT Strategy

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Abstract: The Danish government is committed to a national information and communication technology strategy. The strategy is compared to the European Information Society initiative and the US National Information Infrastructure project, and some differences are described. The Danish strategy, while trying to stimulate the development of the information society also sets out to “counterbalance” the market-forces of the information society by (a) providing the public sector with a strong role, and (b) trying to impose democratic values onto the evolving strategy. The experiences to date show that the democratic goals are not easily achieved.

I INTRODUCTION

During the 1990s the “Information Society” (IS) has moved from the research agenda into the political sphere. It has thereby been transformed from an object of analysis and speculation to an overt political project with evolving strategies and goals. Due to the present global explosion of information and communication technology (ICT),¹ national governments in many countries are trying to develop suitable political strategies to handle this development and if possible to take advantage of it. National ICT strategies are mushrooming. But governments are sailing uncharted waters.

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1 Throughout the paper the notion of ICT is used, though the use of Information Technology (IT) is frequently used by the sources to cover the same meaning.

Many questions and problems arise as the IS project develops, and in this situation it seems fruitful to begin an exchange of early experiences and critical discussions from the different countries involved.

This paper describes the Danish National ICT Strategy (DNICTS), stressing in particular what may prove to be its distinguishing features: its focus on the role of public administration in an IS strategy and its ambitions for democratic institutions within the IS.

To put the strategy into perspective, we begin by examining the phrase "Information Society" that the Danish government has made its slogan. We will also examine the European and US agendas which have clearly inspired the Danish strategy and attempt to find similarities and differences between these and the Danish strategy. In this way we try to illuminate problems and unexpected consequences that lie on the horizon as well as positive experiences. We will pay particular attention to the implementation initiatives taken to date to achieve the goals of the strategy. The paper thus becomes a series of initial questions and remarks at the start of a political voyage for an unknown destination.

II THE INFORMATION SOCIETY: A METAPHOR?

"We are in the midst of a revolution. A global short-circuit of time, space, persons and processes" (Dybkjaer, 1994). The very first sentence of the main document in the DNICTS reveals significant traces of the underlying pattern of thought. The sentence refers to the information society metaphor.

In the public debate, it is not often seriously doubted that we are on the threshold — or even in the midst — of major social change in which ICT plays a significant role. The term "information society" can be seen as a metaphor reflecting these changes. Although some critics point out that we may not face any dramatic social transformation (Webster, 1995), and though it is by no means evident what the implications of the IS are, there seems to be a general agreement of the need to discuss the social consequences of the massive diffusion of ICT and information under the label of IS.

The information society debate in the social sciences builds on the post-industrialism discussion that began in the 1970s (Bell, 1974; Tourraine, 1974) and earlier works on the information economy (Machlup, 1962; Porat, 1977). The two themes share the common prediction of major social changes closely connected to the development of technology and ICT in particular. Early works (Dertouzos, 1980; Toffler, 1980; Masuda, 1981; Stonier, 1983) set the stage for present-day discussions. Some authors were inspired by the "holy ghost" of the new ICT, and foresaw a bright future with more resourceful people in interesting, challenging jobs in an even more democratic

society. Others envisioned an “Orwellian” society, in which control and social cleavages dominated and predicted massive unemployment and alienating jobs (Webster (1995) has an excellent overview of selected parts of the IS-literature in the social sciences).

What we have learned from developments since then seems to be that such approaches based on simple technological determinism have very limited predictive power (Friis, 1994). Zuboff (1988) rejects these deterministic ideas and directs our attention to the fact that ICT cannot be perceived as a socially determining technology. Rather it broadens the horizon of possible social choices. Dunlop and Kling (1991) refer to the early positions as “technological utopianism” versus “technological anti-utopianism”. While criticising the simplicity of the two extreme positions, the authors emphasise that one should not underestimate their importance in influencing our thinking and the public debate.

A thesis here is that the IS metaphor is to some extent shaped by some rather primitive assumptions about the relationship between ICT and society. If so, then it is to be feared that as the IS is placed on the political agenda, the multitude of social choices that face us will be made on the basis of simplistic or even fallacious assumptions.

Social choice is indeed at the centre of the present debate on national ICT strategies in Denmark, Europe, the United States and elsewhere. The choices made on a societal level, in organisations and by individuals, will reveal underlying assumptions about the role of ICT in societal development, in other words on the assumptions of the IS. They are likely to have deep and long-term consequences for society and its individual members. The study of these social choices will possibly allow us to reflect upon and perhaps refine and qualify the IS metaphor.

III EUROPEAN CONCEPTIONS OF THE INFORMATION SOCIETY

On the European level the IS has become a high-priority area. The issue was brought to the fore with the publication of the *Bangemann Report* (High Level Group, 1994). Named after the chairman of the “High Level Group on the Information Society”, EU commissioner Martin Bangemann, this report formulates a European Union strategy towards the information society. It has become a major cornerstone of EU initiatives as many of the recommendations made by the report are now being implemented by the EU. Its main recommendations are that the most important regulative means available to bring about the information society are the destruction of national telecommunication monopolies and the establishment of a genuinely free, unregulated and competitive information market. In other words, the

Bangemann Report speaks of a “market driven revolution”, claiming that “The prime task of government is to safeguard competitive forces and ensure a strong and lasting political welcome for the information society, so that demand-pull can finance growth, here as elsewhere” (High Level Group, 1994, p. 8).

The European vision of the IS, as formulated in the *Bangemann Report* holds great promise for the future of Europe:

This revolution adds huge new capacities to human intelligence and ... changes the way we work together and the way we live together...

We can expect ... a more caring European society with a significantly higher quality of life and a wider choice of services and entertainment...

The information society has the potential to improve the quality of life of Europe's citizens, the efficiency of our social and economic organisation and to reinforce cohesion (High Level Group, 1994, pp. 3-5).

The visions bear some resemblance to the early contributions of the “technological utopianists”. However, the promises are not given without conditions, and in that sense the report is not deterministic. Closer inspection reveals marked differences in that the visions are combined with a distinct political strategy.

The political strategy is really a market-oriented or perhaps even a laissez-faire strategy. “The market will drive...the prime task of the government is to safeguard competitive forces” (High Level Group, 1994, p. 8). The recommendations to political decision makers are all based on the premise that the free market, liberated from (state) monopoly and political interventions, will deliver the information society as described above.

The *Bangemann Report* does not discuss in any detail potential problems of the IS — for instance market failures, the undemocratic aspects of the IS or the possible redistribution of power and knowledge. Mentioning the risk of the creation of a two-tier-society of have and have-nots, the report remarks that such a risk is inherent in the process of structural change, and that it can only be met by “convincing people that the new technologies hold out the prospect of a major step forward ...” (High Level Group, 1994, p. 6). The absence of any discussion of these issues is probably due to the fact that the *Bangemann Report* aims strictly at “getting the IS-train in motion”.

Recent European Union documents (High Level Experts Group, 1996; Information Society Forum, 1996) have given the societal aspects of the IS project more attention, and seem to have abandoned the “pure” market-oriented strategy:

A regulatory framework which enables and stimulates everyone to reap the full economic and social benefits of the Information Society is an important priority. The essence of the task is to strike a balance which encourages market forces to lead the way, but which also recognises that they cannot do the job alone. Among other things, regulations must strengthen competition, pluralism and democracy, preserve and promote European cultures, including minority cultures, avoid monopolistic positions, guarantee open access to networks for content providers and guarantee consumers' rights and protections (Information Society Forum, 1996, p. 11).

We will return to the question of the regulation of IS in the section on the Danish strategy. But before we proceed to Denmark, let us make some comparisons with the US ICT initiatives.

IV A US COMPARISON

The European discussion is centred around the theme of IS. In the United States, the same issues are raised politically under the label of "Information Super Highways" or more precisely the "US National Information Infrastructure Initiative" (NII).

The visions concerning the NII are no less powerful than the European:

The information infrastructure of the 21st century will enable all Americans to access information and communicate with each other easily, reliably, securely and cost effectively in any medium — voice, data, video — anytime, anywhere. This capability will enhance the productivity of work and lead to dramatic improvements in social services, education and entertainment (President's Council on Competitiveness, quoted from King and Kraemer, 1995 p. 12).

In the NII, which is eagerly promoted by the Clinton administration, and most strongly by Vice President Al Gore, we find the same fundamental belief that appears in the *Bangemann Report* — the ability of the free market forces to create the IS. Gore states: "We are steering a course between a kind of computer-age Scylla and Charybdis — between the shoals of suffocating regulation on the one side, and the rocks of unfettered monopolies on the other. Both stifle competition and innovation" (Gore, 1993).

Gore has a firm belief that public regulation should primarily be concerned with promoting and protecting competition in the markets for information. This will lead to lower prices on the information-services and then in turn help to "avoid creating a society of information 'haves' and 'have nots'".

V A MARKET-DRIVEN REVOLUTION AND A "BETTER" SOCIETY?

If we examine the documents describing European and American (political) thinking on the IS, it seems that what we find is reminiscent of the early IS contributions. There is a strong belief that the IS is a *better* society, with a significantly higher quality of life. The IS is a *revolutionary* and radical social transformation that will affect each and every citizen profoundly. The revolution is mainly conceived as ICT *induced*. But even more deterministic thinking on technology is involved. The strategies also stress the inevitability of the development, thereby creating a climate where it is seen as a necessity to "get on the IS-train" — we cannot escape it. Both the strategies mentioned involve the fundamental political and economic conviction that free market forces will prepare the way for the benefits of the IS. Recent trends in the European strategy however, tend to stress the necessity of some kind of public regulation of the information society. It remains to be seen however, what the actual outcome of these recommendations will be, and the main direction for political action still seems to be to diminish the regulatory bonds that inhibit the development of the market. On the European agenda this is primarily implemented through the destruction of national telecommunication monopolies.

So we *may* be seeing the unfolding of a simplistic "political IS metaphor" which ignores some of the nuances from social scientific research in the IS. This will possibly lead to naive exaggerations of the possible benefits that can be reaped from the evolving IS and possibly also to an underestimation of the implicit dangers involved.

In the next section we examine the Danish strategy more closely in order to find similarities and differences to the EU and US strategies

VI THE DANISH NATIONAL ICT STRATEGY

In October 1994 a government appointed committee in Denmark published a report called "Information Society 2000" (Dybkaer, 1994). The report has been received with great interest (by now more than 20,000 copies have been sold to the public) and the conclusions from the report constitute a framework within which a national ICT strategy is gradually unfolding. The Danish government has formed a ministry of research and ICT, and the minister has begun the process of reaching the goals from the report (Forskningsministeriet, 1995a).

In many ways the report and the resulting political initiatives can be seen as a follow-up to the *Bangemann Report*, but with some notable differences. The Danish report is interesting, not only as the first attempt to formulate

such a strategy in Denmark, but also because it tries to discuss the possibility of incorporating certain political values (here labelled “special Danish values”) into the strategy. These values can be interpreted as a preliminary outline of emerging democratic themes in the IS. This markedly distinguishes the Danish report from the *Bangemann Report*. Another feature of the report is the assignment of a strong role to public administration in the implementation of the strategy. This is a departure from the “market-driven” revolution. We shall first examine some strategic goals from the report, and then proceed to the political initiatives taken to date to ensure the implementation of the strategy.

VII STRATEGIC GOALS IN THE DANISH REPORT

The report is not modest in its targets. 17 key areas are identified, implicitly mapping the national government structure, so that each ministry has goals to pursue, and 25 main principles are proposed. Of the many goals two in particular stand out when comparing the Danish strategy with the European and American thinking described above. One is the very strong role assigned to the public sector, another is the attempt to formulate principles of “value” to guide the different initiatives.

The Danish Public Administration and the Strategy

In general, the report points out two major roles for public administration in the development of the strategy:

- (1) To be an advanced user of ICT, thereby setting an example
- (2) To provide new and better services to the public and industry.

These different roles are examined below.

The Public Administration as an Advanced ICT User

The Danish public administration has a record of intensive ICT usage. Large public ICT service organisations such as “Datacentralen” (central government level) and “Kommunedata” (municipality level) provide many unique services to public agencies (Andersen *et al.*, 1993; Froekjaer and Korsbaek, 1992), and the number of computers per employee in public administration is high by international standards. It is fair to say that these developments were centralised through common applications development, common service organisations and public procurement policies.

The very size of the Danish public administration, with some 800,000 employees (approximately 30 per cent of the workforce), implies that the strategy cannot easily neglect the role of public administration as an ICT user. By bringing public administration to the forefront of technological

usage, by leading the way, it is hoped that a multitude of spin-offs can influence both industry and the general public. One example from the strategy would be the implementation of Electronic Document Interchange (EDI). Not only is industry urged to implement EDI, but public administration is to take the lead. From 1996, public procurement was supposed to be EDI-based, and by the year 2000, any information exchange to and from public administration should comply to the EDI standards (Dybkaer, 1994, p. 77). The experience since then has demonstrated that development is not as fast as originally expected, but now a specific strategy for the implementation of EDI has been decided (Forskningsministeriet, 1996b).

The Provision of New and Better Public Services

The report envisages a so-called "Public Services Network" (PSN), an integrated strategy to develop the "digital public sector". Some main points of the PSN are:

- Data should be recycled within the public administration. When a citizen or a company has provided one public agency with information of some kind, no other agency should ask him/her for the same information.
- All citizens are offered an electronic citizen card with picture and PIN code. This renders many other official cards, certificates, permits and licences obsolete.
- All public institutions and agencies must open e-mail accounts to which citizens and companies can send messages and information electronically. This should happen before the end of 1995. All legislative requirements for written documentation and other barriers to paperless communication are removed.
- Public agencies should develop electronic self-service-systems that users and customers can use from computers or telephones at home.
- The Office of Public Information will establish an electronic directory (or road map) to different public authorities and institutions.
- The official proclamation of laws and other judicial statements will be electronic.
- The communication between the public administration and companies will be simplified through a central registration of all companies, similar to the Danish citizen registration.² The government should promote EDI

2. For approximately 30 years, Denmark has been meticulously registering its citizens. Every new-born child or immigrant is assigned a so-called CPR-number, which must be produced whenever one contacts a public authority. This means that much information about citizens (where they live, if they are married, how old they are etc.) is kept in public records, and this of course eases the burden of transforming the records into digital form.

to be used more extensively between companies and between the public sector and companies.

- Public agencies should abandon paper based files and pass on to electronically based work (Dybkjaer, 1994, p. 8).³

The goals concerning the public sector envisage two parallel developments. One is an increased *openness* and *transparency*. Citizens will have easier access to public information and it will be easier to communicate with the authorities.⁴ The second is increased *efficiency*. The efficiency argument often accompanies ICT projects (this goes for the private sector as well) but is rarely documented. The potential problem involved here is that openness and efficiency can conflict with each other (Demchak and Friis, 1995).

Despite these problems, it is clear that the DNICTS assigns the public sector a much more active role in the development of the IS than does the European or American documents described above.

"Danish" Values

The so-called "special Danish values" refer implicitly to some of the characteristics of the Danish welfare state. The report tries to translate some of these characteristics into strategic goals. The intention is to create a political counterbalance to the forces of the free market. At least in its objectives, the DNICTS is based on almost opposite fundamental values to those in, for instance, the *Bangemann Report*. We may suspect from the Dybkjaer-Christensen Report that free market forces will not *necessarily* provide universal access to information, support democracy and weak members of society, etc. The report states that ICT should:

- support free access to information and information exchange;
- support democracy and individual access to influence ;
- enable personal development by supporting individuals in their work-situation and in their free time;
- open up the public sector, make it more transparent and enable provision of better public service;
- be used to support the weak members of society;
- strengthen Danish industry competitiveness as the foundation of the Danish welfare system.

The best guarantee that the information society does not lead to a division of the Danes into an information-technological A and B-team is if we make a conscious effort, based on these values, to achieve the most comprehensive use of ICT in society (Dybkjaer, 1994, p. 24).

3. All translations from Dybkjaer (1994) are made by the author.

4. Thus the notion of the "24-hour local government" that has been put forward in the debate.

The report states that these values are overarching goals which should be part of every initiative in the strategy. At a first glance, these values seem self-evident and one cannot easily disagree with them. Nevertheless, they are an attempt to formulate general qualitative objectives for the development of the IS. If we take them at face value, they are political statements about the basis for regulatory initiatives on the IS. The question is whether these "values" can actually guide the implementation process, and whether they can actually be concretised into explicit regulatory initiatives. On this "rhetorical level" we thus find a marked difference between the Danish strategy and the European and American initiative described above.

VIII INITIATIVES TO DATE

When examining the initiatives we should remember that the process began with the publication of the report in October 1994. Actual political initiatives were not taken until 1995. Therefore, it is naturally somewhat premature to make final judgements, though there are some emerging tendencies. I have again selected the initiatives taken in the two main categories: the initiatives regarding public administration, and the "value-oriented" initiatives. My aim is to confront the goals of the report with the actual initiatives.

Initiatives in Public Administration

This category is by far the largest, and prominent in this category are the initiatives concerning the *liberalisation* of the national telecommunication infrastructure and service production. In April 1995, the first law package went through parliament, and the next phase was initiated. The government looked ahead to 1 January 1998, when, according to agreements in the European Union, full liberalisation of the construction and operation of telecommunication infrastructure will exist on the European market.

Some of the initiatives taken will potentially cripple the monopoly status of the national telecommunication provider, Tele Danmark. Prices on broadband-based connections will be much lower and other service-providers can now access the broadband-infrastructure. It will be easier to establish privately owned infrastructure, and the political regulation of Tele Danmark is removed. For some time Tele Danmark will still possess a *de facto* monopoly, but the DNICTS has now opened up the market to possible competitive entrants, and there seems to be considerable interest amongst several international service providers (Forskningsministeriet, 1995a, 1995b).

The consequences for public administration of this liberalisation process — not counting Tele Danmark — are not clear for the moment. It seems possible

though, that the dependence of both central government and local authorities on service providers such as Kommunedata and Datacentralen may diminish over time. We may also find that if the result of the process actually is markedly lower prices on telecommunication services and traffic, then public agencies will tend to use networking facilities more intensively than has previously been the case. This is of course guesswork, as the results are yet to be seen. Regarding the Public Services Network (PSN), several initiatives have been taken. E-mail addresses have been established in most central government institutions during 1996 (Forskningsministeriet, 1996a) and local authorities are following rapidly. Ministries are currently reporting on the recycling of data in the public administration within their specific domains, and on their plans to develop electronic service systems and bulletin boards to the public. The fate of the electronic citizens' card is as yet unclear.⁵ The Office of Public Information is gathering data to build an "Electronic Guide to the Danish Society".⁶ The Ministry of Research heads an initiative intended to be effective in 1998, from where *any* government publication will be available in digital form — free or for a charge. The original deadline on this target has been extended. Also the proclamation of laws and other judicial statements will gradually be digitalized till the year 1998. It has now been decided to establish a central, electronic directory of private companies. This was meant to be brought into effect in 1996, but that deadline has also now passed.

The report foresees organisational changes to be necessary in the public administration. However, it is not clear in which direction the organisational change processes will lead. Therefore a number of so called "pilot projects" or experiments have been initiated in government institutions as well as in local authorities. Ten municipalities have been selected as so-called "spearhead municipalities" to experiment with and promote advanced usage of ICT, paperless offices, new electronic services to citizens, etc.

Public agencies will gradually transfer their procurement procedures to EDI. An action plan has recently been published as mentioned above (Forskningsministeriet, 1996b).

One question remains, however. While the provision of *new* electronic services is certainly a possibility, it is still an open question whether new services will be *better* services, and if better, better by what measure? If, in fact, electronic services are implemented on behalf of other services, how do

5. The notion of an electronic citizens' card spurred a huge public debate in which Orwellian pictures of the IS were predominant. Since this debate no public authorities have pursued the issue further.

6. A betaversion of which is available at URL: <http://www.si.dk/sam/key/> — in Danish language.

we ensure, that the services are still public? As of March 1996, 47 per cent of the households in Denmark were equipped with a PC (Forskningsministeriet, 1996) but only 12 per cent of the households possessed PC's equipped with a modem (Forskningsministeriet, 1996a). So here, even if the figures are rising quickly,⁷ the question of *universal access* is crucial. The technical issues involved are manageable, but the political and the democratic problems are not easily solved.

When we take into consideration that these initiatives have been developed in less than three years, the number of initiatives is impressive. What we see is a combination of a highly operationalised report from the committee, a decisive ministry of research, combined with a rather intensive public debate. These elements together have created the political climate in which these changes can occur.

It seems evident that the goals of the ICT strategy regarding public administration are to be achieved primarily by indirect political means. We have a combination of very few "musts" (for instance the decision to create e-mail addresses in all public agencies) and a lot of incentives. There are few rules or prescriptions for the actual ICT development in government agencies. On the other hand, the strategy also seems to be encouraging an experimental climate, particularly regarding the new organisational transformation processes. The initiatives are based on the firm belief that the public administration can lead the way, and that this in turn can create positive spin-offs in the private sector. In this way the strategy may depart from the previous centralised steering of ICT in Danish public administration.

Value-oriented Initiatives

When we turn to the "Danish values", the initiatives to date are rather few. An action plan has been formulated to use ICT to support and integrate different groups of disabled people in society. Rather vague ideas have been put forward and some experiments carried out in an attempt to create a "Danish Cultural Network" in which libraries, museums and other cultural institutions will co-operate and make their resources available electronically. In the area of education several initiatives have been taken. In primary schools the goal is to place ICT in a central position on all levels. Whereas up to now primary schools have 1 computer per 40 pupils, the goal is to have 1 computer per 5-10 pupils. Teachers are to be re-educated and the primary schools will be integrated through a school network. The municipalities, responsible for primary schools, are complaining that this massive investment is not followed by increased grants from central government, so these

7. In 1994 when the Dybkjaer report was published only 27 per cent of the households owned a PC (Dybkjaer, 1994).

may be distant goals. In higher education and the research community, the goal is to ensure better and more intensive use of the international networks.

In general we find that to date the implementation has not explicitly dealt with the Danish values. If we turn back to the committee's report here too we find a certain vagueness when it comes to concrete proposals or initiatives regarding these values.

Let us examine the problems involved here. The Danish values are a way of expressing some of the basic democratic values on which our society is based. Democracy involves specific institutions, cultures, norms, administrative practices, etc. But what happens when fundamental changes occur in the organisation of society, as may be the case for the information society? The answer is that many of the democratic procedures and institutions have to be reinvented, to be reinstitutionalised, perhaps over long periods of time. Many of the questions involved simply cannot be answered immediately. Let me give two examples of the difficulties involved.

One question involves what can be referred to as *universal or free access*. In the same way that many Danish public services are provided to the public without charge, the strategy proposes that access to (public) information should also be free or very cheap. At a first glance this seems a matter of computers. But computers are becoming cheaper, and an analogy to telephones or television reveals that within only a few years this technology will probably be in our homes to the same degree as the telephone or the television. How then do we define universal access? How is universal access realised in a world where liberalisation and privatisation of telecommunication is the norm?

The report also states, that ICT "should support democracy and individual access to influence" (Dybkaer, 1994, p. 24). What does this mean? How can it be reformulated as a political initiative? How do we make sure that it actually happens? What are democratic institutions in a networked society going to look like?

These questions call for careful consideration, speculation, discussion and research. Nobody can presently answer them in full. So we may choose to understand these values as "political candy" to ease the swallowing of the "ICT pill", or we may choose to understand them as a serious political statement, committing the political system to develop them in time. In this sense, the *implementation* of the Danish National ICT strategy is much more in accordance with the goals of the *Bangemann Report* than a first glance would reveal.

IX CONCLUSION

There can be little doubt that the present implementation process of the DNICTS marks the beginning of major changes in Danish society. An examination of the political initiatives following the Dybkjaer report reveals several interesting preliminary results.

The roles that public administration is supposed to play in the national ICT strategy are not unproblematic, but implementation is proceeding pretty much along the guidelines of the original report.

The task of bringing the public sector to the forefront of ICT usage is enormous, but can be achieved. It is still an open question, however, what it means to be at the forefront, and we may also ask, what might be the consequences? Should public administration develop into a high-tech experimental "learning" organisation and how does this fit in with the traditional roles of public administration? Clearly, this involves far more than just issues of technology. It seems as though the main problem is one of organisational development. Neither the strategy nor the implementation initiatives give any indication as to which organisational transformations should be undertaken. Important problems will be: the management and governability of a highly networked and decentralised public administration; the building of a digital interface between the public and the public administration and the handling of organisational feed backs that will occur from this interface; security and privacy issues in the face of the demand for transparency and increased levels of information that the public administration will surely face on the digital interface.

Providing new and better public services is technically feasible but depends on the degree to which ICT usage can be developed, and to a large extent on the necessary organisational changes. Furthermore it is still an open question whether these new services will be "better". The main problem however, is that we do not have any definite knowledge of the consequences of establishing a "digital interface" between the public and the public administration, and here we will be sailing uncharted waters.

The DNICTS is based on the premise that the information society needs public regulation. It tries to formulate the basis of such regulation in what is called Danish values which are meant to provide a counterbalance to the forces of the free market. A closer inspection of these values reveals however that their political implications are not at all clear. Thus it comes as no great surprise that up until now the implementation process has not paid any great attention to these values. The theoretical problems involved here may be even larger than the implementation problems. How are we to know what democratic structures and institutions in the information society will look

like or how they eventually will unfold? By what means can public administration guarantee such uncertain and vague values? It seems evident that a large proportion of problems will stem from attempts to implement Danish values in the strategy. The report simply does not reveal how these values are to be implemented, and generally lacks any more fundamental debate on the subject of how to impose certain political values onto a major technology-based societal transformation which is, by the way, an ongoing process, irrespective of this report.

In confronting the DNICTS with the European IS visions, primarily represented by the *Bangemann Report*, we find notable differences and some similarities. The text of the DNICTS recommends strong regulation and political steering of the IS project. However, the implementation initiatives to date seem to be biased towards the market-oriented strategy, with the exception of the role played by public administration. We shall have to follow the upcoming political initiatives closely in order to evaluate the evolving meaning of the notion of Danish values. Some day perhaps social scientists may be able to make research results influence the somewhat simplified "political metaphor of the information society" that now seems to be evolving.

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