DIGTIAL STRATEGIES FOR ORGANIZATIONAL CHANGE [RESEARCH IN PROGRESS]

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ABSTRACT

Data from a survey on digital strategies in the Danish public sector reveals sparse IT-strategy diffusion and limited use of advanced first-mover technologies. The survey contrasts the picture of the public sector as a digital dynamo and challenges the rational views on IT-strategy formulation. Facing incrementally orchestrated strategies, the paper suggests that more attention is given to the exploitation phase in organizations facing challenges in the policy, managerial and economic domains.

1. INTRODUCTION

Governmental organizations are digitalizing their operations challenging classical concerns on accessibility, transparency, and accountability (Heeks 1999). The artifacts of the IT-enabled change include telework and teleaccess, web interfaces to citizens, automated data transfer from companies to the public sector, virtual city halls, and front-end/ back-office integration of the knowledge systems (Schein 1985). In turn, the digitalization holds the potential to challenge the values of the public sector and the basic assumption on time and space.

The change of time and space might lead to new ways of organizing work processes enabled by digital technologies, visionary management and changes in the content of the policy domain. Thus, new ways of organizing might emerge at external, inter- and intra-organizational levels, affecting the stock and use of data and files, the interaction in and between organizations as well as the interaction with front-end partners (customers, citizens, companies, politicians, interest groups, etc.).

Our interest in digital strategies in the public sector derives from the overall growth in economic importance of this sector. The Danish public sector redistribute about two thirds of the GDP and account for about one third of the total employment. The government is characterized by a highly decentralized welfare service structure, a large collection of data from companies and citizens, and a relatively large weight of governmental procurement in the national economy.

Also, our interest in government was triggered by the overall policy commitment to utilize IT to facilitate cost savings, demand pull for new and better services, and democratic rationalities (European Commission 2001). Few other countries have experienced a similar pressure on the public sector to integrate IT as a mean

to cost-savings and as an integrated part of new social benefits and reforms as the Scandinavian Countries (Kraemer and Andersen 1994). IT has been given high priority by the central and local authorities throughout the 1970s, 1980s and 1990s. The ongoing need for the Danish government to *boost efficiency* has given IT a high level of policy saliency. While the economy in other countries is primarily developed and fine-tuned through the private sector and the governmental units only play a marginal role in the GDP, the Danish economy is highly dependent on an efficient governmental structure to facilitate the digital transformation of the economy.

The public sector has also been target for *demand-pull* to increase digital services. The access to the Internet from the households increased from 8% in 1997 to 33% in 1999 and 45% in 2000. Similarly, in 1997 only 40% of the companies had access to the Internet, but in the year 2000 close to 90% is expected to have access (Statistics Denmark 2000). Although Denmark is considered to be one of the most IT-advanced countries in Europe (European Commission 2001), a recent survey could only identify 1,650 homepages in the more than 24,000 public sector institutions. Thus, only seven percent of all institutions have a homepage (Danish Ministry of IT and Research 1999).

Trigged by the high policy saliency level and the possible gap between intentions and realities, our survey addresses the readiness of government to enter the digital area. Other studies have suggested that government appears to follow an *incremental path* rather that ice-breaking new strategies when pursuing the change (Bellamy and Taylor 1998; Margetts 1999). We wanted to survey the nature and content of IT-strategies rather than just scanning the surface. Our mean to dig beyond the formality and rhetoric of policy statements was a large scale survey of a variety of Internet strategic issues in Danish governmental institutions.

2.   COLLECTION OF DATA

Our collection of data was performed through a self-administrated questionnaire. A total of 380 questionnaires were mailed to employees in 78 governmental units (governmental departments, governing bodies, and government owned companies). Ad hoc advisory boards, research institutions and educational institutions were not included in our survey. In each governmental unit, five employees were contacted and asked to participate in our survey (department heads, IT-managers, procurement managers, personnel officers, and PR managers).

We received a total of 222 completed questionnaires, equivalent to an overall response rate at 58%. The personnel officers were the most eager to answer (70%), the procurement managers and IT-managers were the least eager to answer (52% and 51%, respectively). 60% of the department heads and 59% of the PR managers completed and returned the questionnaires.

Instead of just one, we mailed five questionnaires to each organization. By using this strategy we intended to reveal possible differences in strategies within the organization. We posed a set of general questions to all the respondents and a set of specific questions to each group. The general questions dealt with *the strategic use of IT*. The specific questions to the various groups of personnel addressed the content of information available at the organizations' own website and the integration of this particular information with the Intranet; digital ordering of products/ services; the overall diffusion of EDI; and the process of selecting and marketing the content of the information provided through the website.

3.   OVERALL DIGITAL STRATEGY

The respondents reported more frequently about a lack of Internet strategy than about the existence of one. Only about one third of the respondents from the governmental departments reported about the existence of a formal Internet strategy. Where 44% of the governing bodies reported that they had a formal Internet strategy, only 19% of the governmental owned companies had an Internet strategy.

Taking into consideration that almost all the responding institutions have homepages, we find the percentage of institutions reporting a lack of strategy for the use of Internet astonishing low.

Is there a written, formal strategy on the use of Internet in your organization?	Governmental Department	Governmental bodies	Governmental owned companies	Others	Total
Yes	34%	44%	19%	29%	(N=85)
No	59%	50%	81%	71%	(N=121)
Don't know	7%	7%	0%	0%	(N=13)
Total	100%	100%	100%	100%	100%
	(N=61)	(N=135)	(N=16)	(N=7)	(N=219)

Table 1: *Strategy for the Internet Usage by Organizational Type, Percent (N)*

In recent years Internet applications have matured to a level where the PR functions, procurement, HRM, overall IT-managers, and department head could be expected to have tried to formulate an explicit Internet strategy motivated by strategic and operational factors. We expected that the PR managers would outnumber the other departmental functions in formulating the general Internet strategy, as the first step of Internet use is the more static use - image building and information providing.

However, our survey points to a lack of a coherent and widely known IT-strategy. There appears to be a wide gap in the knowledge and agreement on IT-strategy within the single institution. About half the managers, PR-functions and IT-managers responded that they had an Internet strategy, whereas only half of the procurement and personnel departments reported to have one.

Is there a written, formal strategy on the use of Internet in your organization?	Manager	Procurement	PR	IT manager	Personnel	Total
Yes	47%	26%	54%	51%	23%	39%
						(N=87)
No	53%	47%	44%	49%	73%	55%
						(N=120)
Don't know	n.a.	25%	3%.	0%	4%	6%
						(N=13)
Total	100%	100%	100%	100%	100%	100%
	(N=47)	(N=38)	(N=39)	(N=43)	(N=53)	(N=220)

Table 2: *Strategy for the Internet Usage by Functional Areas, Percent (N)*

Addressing the content of the Internet strategy, the respondents reported that image enhancement and information retrieval were the cornerstones of the strategy, whereas services, recruitment and procurement to a much less extent were part of the Internet strategy as indicated in Table 3 below. We asked the respondents who had reported their knowledge of an Internet strategy to state the content of the strategy. 66% of the respondents reported that the strategy did not address procurement issues. Also, the respondents were almost balanced with respect to services and recruitment. Frequently, the strategies were reported to address general information availability and image issues.

This might give us an explanation on the differences of the numbers on the knowledge of an Internet strategy divided by functional areas. The personnel officer and the procurement manager had much lower numbers on

the knowledge of an Internet strategy compared to the other functional areas. This seems to equal the areas less often covered by the strategy and we might conclude that IT-strategies are mainly known to employees when their functional area is part of the strategy.

Response	The written, formal strategy on the use of Internet addresses…				
	Information	Procurement	Services	Recruitment	Image
Yes	72%	26%	55%	57%	79%
No	22%	66%	41%	40%	16%
Don't know	6%	9%	4%	3%	5%
Total (N)	100%	100%	100%	100%	100%
	(N=78)	(N=68)	(N=73)	(N=77)	(N=76)

Table 3: Content of the Internet Strategy, Percent (N)

We also asked the respondents to specify the sort of information retrieved when *using* the Internet. The managers reported that they typically retrieve statistical and economic data, press releases and access information stored in on-line databases. Although the PR-managers access press releases and database information, their list of information retrieval also includes laws, regulations, publications, reports, analyses, user information and annual statements. The HRM-function reports information retrieval on issues such as strategy, organizational structures, tactical oriented information (phone numbers, etc.), educational and training information, and public tendering.

There is little or no difference between the governing bodies and the governmental departments in their information retrieval. The frequency of information retrieval through commercial websites is more prevalent among organizations with 100-500 employees than in organizations with less than 100 or more than 500 employees. Thus, it appears that information retrieval is more related to the functional area than to the organizational type. The content of the homepages is equally guided by the institutions own needs and the image of the citizens/ companies' needs.

4.   DISCUSSION AND IMPLICATIONS

The picture outlined above reveals a public sector that at the strategy level has not yet abounded analog work processes and services. In other part of our survey we have demonstrated that analog processes are also the dominant mode at the action level. Although we are yet to investigate the nature of IT-strategies through a round of qualitative interviews with key respondents, we seem to face an in large analog form that is aiming at integrating few and marginally digital components, in functions that might add rather limited value to the core aspects of the organizations. The digital technologies are implemented in an ad hoc fashion and in departments that politically and financially can be characterized as non-issue and low-risk areas.

With the outset in the preliminary results displayed in this paper, we aim to investigate the IT-strategies further focusing on adoption and exploitation, technology and applications, and overall management issues of IT (Earl 1989). The *adaptation and exploitation strategies* appear in our case to be driven by supply rationality rather than by demand oriented rationality. Internet solutions have the potential to change this. It appears that there are no or limited strategies on how to benefit from the Internet in improving the support activities in the public sector. The public sector is at the danger of focusing their digital strategies on areas that are unlikely to generate any economic benefits for the public sector. Rather, the chosen strategies will result in a demand push for increased Internet based public service.

Also, the *technology and application strategy* appears to be technology driven rather than addressing the scope and overall purpose of using the Internet. The Danish central government has implemented various programs to facilitate experiments and frameworks for the use of IT in the public sector. Yet, Internet

technology has only been marginally applied to change image, work processes and the strategic role of the various units in the public sector. In our additional interviews we have so far found that governmental bodies appear to organize their IT-adaptation along existing bureaucratic models and routines.

Finally, the overall *management* of the digitalization seems to be in the hand of the functions in the IT-related departments and not in the areas where the bulk of the expenditures are accumulated. In the procurement function, the personnel departments and the ongoing casework, proactive strategies for Internet use and IT in general are lacking. Although central agreements already have been established on flight- and telecommunication, the overall managerial challenges are limited to operational issues, whereas the bulk of the Internet and networked economy is focused on managerial strategic issues.

In sum, the adaptation and exploitation strategies, the technology and application strategy, and the management strategies for the transformation to the network economy seem to be guided more by incremental and non-issue decisions than a straight-forward business-led process. This challenges our models for management led IT-change - an issue that we will investigate onwards not only in the public sector but in various private sector settings as well.

REFERENCES

Bellamy, C. and J. A. Taylor(1998). Governing in the Information Age. Buckingham, Open University Press.

Danish Ministry of IT And Research (1999). Kortlægning af det offentliges anvendelse af informationsteknologi i kommunikationen med borgerne. Copenhagen, Danish Ministry of Information Technology and Research.

Earl, M. J. (1989). Management Strategies for Information Technology. London, Pearson Education (Academic).

European Commission (2001). e-Europa 2002: Impact and Priorities. Brussels, European Commission.

Heeks, R. (1999). Reinventing Government in the Information Age. London, Routledge.

Kraemer, K. L. and K. V. Andersen (1994). "Information Technology and Transitions in the Public Service: A Comparison of Scandinavia and the United States." European Journal of Information Systems 4: 51-63.

Margetts, H. (1999). Information Technology in Government. London, Routledge.

Schein, E. H. (1985). Organizational Culture and Leadership. San Francisco, Jossey-Bass.

Statistics Denmark. (2000). Informationssamfundet Danmark - en statistisk mosaik. Copenhagen, Statistics Denmark.