

Book Reviews

Å. Grönlund, *Electronic Government – Design, Applications, and Management*. Idea Group Publishing, 2002.

In this book, Åke Grönlund gives an overview of research on the significance of ICT in the public sector. A public sector model with three nodes – formal politics, administration and civil society – is presented as an underlying framework for the contributions to this volume. The nodes are interrelated in a complex process dominated by organisational change and the introduction of IT. In his introduction, the editor sketches the main arguments of the sixteen contributions in terms of the public sector framework. The book is divided into three parts: design, applications and management.

1. Design

Grönlund's introductory chapter gives a brief overview of international eGovernment developments, including those of the EU, in which he points at the predominance of a technical and economic dimension, at the expense of a more social dimension. He goes on with an overview of eGovernment definitions, applications, management issues, and general 'eGov issues'. In the next chapter, Janlert discusses the clash between existing ideals for decision and action, and the potential of new ICT. Just as the process of writing a novel has changed compared to earlier times when thinking was not done immediately 'on the screen' by typing and deleting, so ICT and programming hold the potential to minimise the gap between planning and executing. Janlert discusses the challenges for decision making in democratic processes and points at several ways to approach the issue.

While most eGovernment research deals with the use of ICT for service delivery, Lenk and Trautmüller's chapter focuses instead on the role of ICT in supporting policy implementation, arguing that the core of eGovernment potentiality lies in the support of administrative decision making on policy execution. They present a process model of administrative decision making, comment on its limitations, and discuss (IT-support for) four types of decision making processes, ranging from well-structured formalized processes to weakly structured, more deliberative processes. They conclude that a comprehensive view on eGovernment should take into account four perspectives: that of the addressee, the process perspective, the perspective of cooperation, and the knowledge perspective.

Riera, Sanchez and Torras' chapter on internet voting gives a clear overview and includes interesting references for further reading. They discuss potential advantages of and problems with eVoting, as well as success factors for a secure implementation. An incremental implementation scenario is described, the final step being remote internet voting from any internet connection, described by the authors as 'the most challenging option'. Interestingly, this does not mean that they are unconditional supporters of this form of eVoting. Instead, they plead for a cautious approach, not seeing eVoting as a purely technical matter but instead recognising its wider impact on the democratic process.

Detlor and Finn's account on government portal design deals with their research on a framework for public sector portal sites. It consists of three distinct perspectives. The government perspective addresses

organisational issues such as information management, funding opportunities and leadership. The portal interface perspective deals with design issues to support citizen and government information needs, and the citizens' perspective addresses issues of citizen take-up. The framework and its perspectives offer practitioners insight into success factors to be managed when designing government portals.

2. Application

The six chapters of the application section deal with working examples of eGovernment. In his chapter on eGovernment Trust Providers, Galindo confronts the reader with the reality of an insecure internet. He points at several technical problems concerning the identification of senders and receivers, and the integrity, confidentiality and repudiation of messages. He discusses legal principles that could be at risk but should be safeguarded when aiming for legally binding transactional e-relationships. He proposes technical and legal solutions, focussing on the technique of public key encryption. The chapter ends with a section on the concept and practice of certification authorities.

Svensson looks at the use of expert systems supporting decision making in the case of the General Assistance (GA) administration in the Netherlands. As GA regulation got more complex over the years, more local governments have begun to use expert systems to support decisions under the GA act. Svensson discusses the adoption and evaluation of this system, and continues with an account of juridical and sociological objections against expert system support in administrative decision making. It is interesting to see how the author confronts these theoretical objections with the practice of an expert system that leads to an increased quality of administrative decisions in the specific case of the GA. Svensson concludes on the basis of a pragmatic argument ('it works') that the critics are losing ground, although he acknowledges – and explains why – the GA is a rather specific case.

Gates and Nissen look at the process of job mediation in the US Navy and ask if software agent technology can be used to improve human job matching efforts. After explaining how the process of matching employees and jobs is currently performed in the Navy, the authors provide an overview of the technology of software agents and of basic labor market economics. The focal point in the comparative case study is the 'personnel mall', a multi-agent system for support in a web-based marketplace for job matching. The chapter allows the reader to fairly easily grasp the dynamics of the Personnel Mall system and to see where the – still immature – agent technology exceeds and falls short of human job mediation performance.

Leenes gives an account of a fairly typical front-office initiative for electronic service delivery, the Public Counter 2000 program. The aim of the program is to provide a solution for the fragmentation of service delivery in the form of physical and virtual one-stop-shops. Leenes describes one of the pilot programs, the OLE 2000 project in the city of Enschede. Quite interestingly, the author goes beyond a simple description and also focuses on implementation problems. These concern fragmentation of project funding, coordination problems, problems caused by the technical complexity of service integration, process redesign issues, and problems with political support.

Taking as a starting point a perception of unease with current democratic practices, Macintosh, Davenport, Malina and Whyte discuss some of the literature on ICT and democratic renewal. They provide the reader with a check list of design issues that need to be taken into account when developing electronic democracy systems. What follows is a discussion of the role of citizens as producers of policy, and some examples of eDemocracy practices. The chapter concludes with a plea for comprehensive evaluations of existing eDemocracy practices.

Gross's Chapter continues the eDemocracy discussion. The focus is somewhat different and is mainly concerned with technological opportunities for the further development of eDemocracy and community networks. Gross gives an overview of technological opportunities such as shared global information spaces, annotation systems, social filtering systems, chat tools and virtual environments. He discusses how these novel technologies are already being used in citizen-to-government and citizen-to-citizen relations. His conclusion is that in practice, mostly well-known and fairly simple technologies are being used. He then gives pointers on the opportunities of more innovative technologies.

3. Management

Anttiroiko deals with the question of Strategic Knowledge Management in Local Government. Whereas an internal procedural logic used to dominate strategic decision making in local government, in the information society the preconditions for making these decisions have changed. Local authorities are required to adjust to the external environment and adapt to so-called 'megatrends'. The author describes building blocks for a contextual model of strategic knowledge management that enables local decision makers to deal with the ambiguity and/or uncertainty inherent in strategic decision making. This model combines a knowledge-based organisational typology with a repository of structural tools to reduce uncertainty and ambiguity, and places local authorities in the role of institutional mediator between global megatrends and local conditions.

One of the interesting aspects of the Nilsson and Ranerup chapter on improvisational change management is its reminder that in a change process, next to anticipated changes, there are also often opportunity-based changes (changes discovered 'along the way' and systematically implemented in the organisation) and emergent changes (not systematically implemented). The change process discussed here is that of the introduction of Groupware. The theoretical framework is the improvisational model of change management from Orlikowski and Hofman. The model is especially suited because it assumes that not all implications of a change process can be known beforehand, and can thus deal with opportunity-based and emergent changes. The authors discuss the role of a 'flexible plan' and identify three enabling conditions for the introduction of Groupware: communication on the vision behind the change, attention for organisational implications of the technology, and a personalisation of training.

Wiberg and Grönlund describe their research on government IT use in Swedish government agencies. They focus on the case of the national labor market agency. The overall goal of the research project was to investigate how IT use has effected regional and local branches of central government agencies and to establish if the main tendency is towards centralisation or decentralisation. The main research hypotheses (IT use in government agencies leads to impoverished rural areas) is partly confirmed, although the results show a quite complex process of centralising and decentralising tendencies. The chapter gives an account of how the roles of both job officers and job seekers have gradually changed as a result of a shift towards a self-service approach.

The next chapter on eGovernment in Canada is mainly based on interviews with senior public servants asked to give their views on the opportunities and challenges of eGovernment. It argues that eGovernment will continue to develop in a context of interdependence, and that partnerships and leadership will be crucial for success. In a context of interdependence, individual ministerial accountability will become an anachronism, and relationships with the private sector on the basis of contracts will have to disappear in favour of authentic partnerships. A new type of leadership will be required to defend experimental action.

The final chapter, on eGovernment in Switzerland, starts with the institutions of direct democracy in Switzerland. Poupa describes the effect of two specific characteristics, federalism and decision making by consensus, on the development of eGovernment. Tackling the issue of eVoting first, she describes the evolution of the societal debate in Switzerland and reflects on possible consequences. She then elaborates on the issue of a national portal site, and on implementation difficulties in a federal state. She concludes with a plea for a national debate, not on technical issues, but on societal consequences of IT use in government.

4. Conclusion

We have all read ample accounts of the consequences of IT based on hopes or fears of technology. What is lacking has often been empirical research debunking these discourses. This book allows for the necessary 'reality check'. A down to earth perspective of the results of eGovernment efforts is provided by Grönlund, stating that 'typically, so far electronic services have been set up at additional costs [. . .], leaving operations much as they were rather than achieving savings or better services by improved logistics'. This 'reality check' on an often too exalted discourse is also provided by other contributions to this book.

Lenk, Traunmüller and Wimmer stress that the present eGovernment focus on front-office service delivery is merely the 'tip of the iceberg' and that this focus has to be replaced by a mature vision on the impact of ICT. In their chapter on eVoting, Riera, Sanchez and Torras, do not present themselves as optimistic defenders of remote internet voting, but instead plead for a cautionary approach, never neglecting the potential impacts of eVoting. In his chapter on the Enschede virtual public counter project, Leenes doesn't stop with an account of how things should be implemented, but instead focuses on the problems encountered during implementation. The last two sentences of the Leenes chapter, evaluating the implementation of the public counter project, are a nice illustration of the general 'back to reality' theme of this edited book, and I would like to end this review with them: 'The progress is steady and will take some years to reach full bloom. This may not at all be a disappointment, now that we have a more realistic view on what building ESD actually is'.

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Claudio Ciborra, *The Labyrinths of Information: Challenging the Wisdom of Systems*. Oxford University Press, 2002.

The dust cover of this book presents the following quote from Shoshana Zuboff, Professor of Business Administration at Harvard: "*Claudio Ciborra has a more detailed, nuanced, and sophisticated understanding of the dynamics associated with information technology in today's organisation than any other scholar working in the field*".¹ Such plaudits set the bar pretty high for what is inside and indeed

¹One cannot but be impressed at the depth and breath of research that Professor Zuboff must have put in in reaching this conclusion.

this book contains several intriguing concepts and provocative ideas. However, there is also much that is contingent upon the reader accepting certain philosophical precepts. There are three general observations worth making up front. The first is that this is not a new book, but is largely comprised of previous publications, some of which have been updated or consolidated. These are loosely held together by three main threads: the theme of *bricolage* (tinkering/hacking), a phenomenological worldview and passages of linguistic affectation. The second observation is that the book's title needs to be understood literally. This is not a book about information per se, rather it is about systems and organisation. The third observation is that the core of the book can, like Gaul, be divided into three parts: an attack on rationalist method, a number of alternative views of systems and a discussion of the Olivetti company which, while absorbing, seems only semi-connected with the rest of the book. And while the author has made a valiant attempt to stitch the components together, the seams still show.

The book gets off to an energetic start with a forensic analysis of what the author perceives to be a long standing and latent crisis in information systems (IS), a crisis which can be crudely summarised as the failure of method. This can be seen in, for example, the questionable delivery of tools such as the capability maturity and strategic alignment models not to mention the chequered record of CASE and high failure rate of business process reengineering (BPR) initiatives. The root of this crisis is the dominance of a rational/objective paradigm in the discipline of IS. We seek to impose idealised models on a messy world and then we are puzzled when they don't work. In the author's own words: "*concern with method is probably the key aspect of our discipline and possibly the true origin of its crisis*" (p. 17). Many will empathise with this conclusion, although these ideas are not exactly new. For example, in the course of this exposition, the author takes several swipes at the rationalist and objectivist approach of management science. This is both unfair and ill-informed. By the mid 1970s, operations researchers had begun to realise that real life problems did not conform to their mathematical models and by the late 1970s there was much talk of a 'crisis in OR'. The response to this was the development by Checkland and others of new tools such as soft systems methodology, multimethodology and other rich and flexible ways of coping with organisational realities.² After all, it was Russell Ackoff who said back in 1979 that: "*Managers are not confronted with problems that are independent of each other, but with dynamic situations that consist of changing problems that interact with each other. I call such situations messes . . . managers do not solve problems: they manage messes*". So before information scientists get carried away, they should realise that in this area, management science was here first, albeit without the philosophical baggage.

Professor Ciborra moves on to question the accepted paradigms of strategic information systems (SIS) planning. Invoking Mintzberg, he attacks the concept of top down front end planning as not reflective of the real world. Sustainable competitive advantage has to be 'imperfectly imitable'. The models which delivered competitive advantage for companies such as American Airlines and McKesson in the 1970s no longer work. Modern competitive advantage comes instead from the minutiae of small improvements, hacks and improvisations that are difficult for competitors to copy. Such changes lead to monopolistic competitiveness, by which the author does not mean that a firm has a conventional monopoly, but that it does certain things in unique ways that gives it a continuing edge. To deliver sustained advantage, a new SIS model is needed which can be summed up in a number of oxymorons such as: '*plan for gradual breakthroughs*' (p. 52). He observes that, even though the classic cases, SABRE, AHP, McKesson et al., were the result of a myriad of local hacks and improvisations accumulated over time, in the popular

²For a review of this, see [2].

mind the myth of the grand design lives on. In reality, the author asserts, most SIS projects fall under the heading of competitive necessity.

This is sound stuff, though there is the uneasy feeling that the cake being is over-egged. Any engineer, systems or otherwise, will tell you that there is a certain amount of improvisation in any system and *ad hocery* is often rife. This is one driver behind the interest in technologies such as rapid application development, evolutionary prototyping and object based design and programming. One of its more powerful manifestations can be found in Richard Pawson's concept of expressive systems [4]. In making his case for *bricolage*, the author implies that method is bad and almost that, à la Feyerabend [3], anything goes. In the interests of balance, it must be pointed out that there is strong evidence pointing in the opposite direction and perhaps none more so than in the steady growth in the use of pre-packaged software in preference to customised solutions. Furthermore, whatever about soft targets such as CASE and BPR, unless one takes an ecumenical view of failure, most IT projects do not fail and, very large projects apart, not even a significant minority do. This point deserves elaboration. If one defines success as seamless integration into the real world, almost any system can be said to fail. But 'fail' is an extreme word. A more accurate statement would be to say that most systems disappoint, i.e. they do not deliver all of the benefits expected. In a sixteen year career in commercial IT, I was only involved in one system that I would regard as having failed in contrast to many that, by any reasonable criteria, would be regarded as successful. To the good professor's charge, an engineer might counter that most of the time, method works pretty well and it is not yet clear that there are alternatives which are workable on a large scale. On the latter point the author mentions open source development and invokes Linux as an example of how a non-formal approach can deliver successful software. But Linux and the open source movement is a subject of much controversy, not to mention legal dispute. The widely discussed paper (now a book) 'The Cathedral and the Bazaar' [5] and the debate that it has triggered give a good insight into just how complicated this issue is.

The central part of the book is a rather different proposition. The view one takes of much of the core of it will depend on whether one is persuaded by Heidegger's world-view or not. Take for example the following Heideggerian pronouncement: "*All the mastering of farness does not deliver any proximity, rather we experience the world as an undifferentiated without-distance*". (p. 72). This is part of a long exposition on Heidegger's concept of *Gestell* (an approximate English translation of Heidegger's meaning here is 'enframing'), but what Ciborra does not explain is his interpretation of 'undifferentiated without-distance'. It also is a pity that many of the interesting ideas the author throws out here are obscured by his choice of language and in particular by many digressions into the etymology of words from languages other than English. Professor Ciborra manages to introduce words in Greek, French, German, Iranian, Chinese and Italian. Thus we have *krisis* (Greek) instead of separation/split, *bricolage* (French) instead of tinkering, *affectio* (Latin) instead of mood, *shih* (Chinese) instead of strategic disposition/potential for action and so on. All of this conspires to make reading the central section like trying to grasp a bar of soap in the bath, which is unfortunate because there are some really imaginative passages here which are worthy of serious thought. The author sweeps through a gallery of ideas and ways of viewing information systems. There is drift, the concept of hospitality, technology as guest, systems as active actors in an actor-network and so on. Not all of these are convincing (to this reader anyway). Speaking of hospitality, the author argues that by considering technology as a guest in the organisation which we require to conform to our rituals, but which in turn forces us to comply with its needs (through standards for example), we can develop insight in how to manage technology better and break out of the "*straightjacket of methods*". It is not clear exactly how this will happen and Professor Ciborra does not choose to enlighten us. Perhaps his next book will tell us the 'how'? In the meantime, there is always

benefit in looking at the familiar from a different angle. I repeatedly tell my students to think outside the square and thinking outside the square is here in plentiful supply.

The penultimate chapter is an analysis of Olivetti throughout the 1980s and early 1990s as a 'platform' company. This analysis has at best a tenuous relationship with the book's title; it is about organisation theory pure, if not simple. It is difficult to do justice to this analysis in a couple of sentences, but in essence the author explains the success of the company in adapting and surviving a number of major transitions (from mechanics to electronics to computers to telecomms) over this period by its ability to draw on a kit of organisational forms and so constantly reinvent itself and change shape in a fluid and reactive manner. In making his case for the virtues (as opposed to the inevitability) of improvisation, Professor Ciborra is on more creative ground and this and the subsequent closing chapter which can be loosely described as an exposition on the philosophy of improvisation are the strongest part of the book. The argument that traditional theories of situated action do not provide an adequate account of improvisation is well made; the author certainly presents a credible case for the value of creative discontinuity. Managers, he argues, as bricoleurs: ". . . *stay creative in the face of surprises because they are accustomed to operate in disordered conditions. . .*". Ackoff himself could not have put it better.

In the final section, entitled 'Methodology', Professor Ciborra quotes a US colleague as once asking him: "*How do you come up with all these ideas, and are able to write such surprising papers?*" (p. 173). Coming up with novel ideas about IS is not difficult. Coming up with novel ideas that are both convincing and useful is a good deal harder. While much of this book says nothing that has not been said before, it would be churlish not to acknowledge that many of the ideas in this book at least make one pause for thought, and often cast a quite different light on problems we have all seen and pondered. Its impact on the reader will, I suspect, be in direct proportion to his or her empathy for its philosophical precepts. That said, I doubt if it will make much of an impression on the average engineer.

References

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