

8. Conclusion and final considerations

The purpose of the thesis has been to demonstrate that the introduction of CVR is a complex process that involves negotiation of technological design, information responsibility, departmental location and economic organization. I also believe that I have shown that the establishment of CVR cannot be understood if the theoretical view is limited to traditional theories of technology, information and administration. I assess the expanded institutional perspective as fruitful not only as a comprehensive understanding of the CVR decision-making process, but as a contribution to a better theoretical understanding of processes in administration. This applies in particular to the issues regarding the design of technology and the establishment of information responsibility. It became possible to see how technology and the distribution of responsibility for information are not neutral phenomena. It was further shown how these are shaped in political processes in administration.

1.1 CONCLUSIONS IN THE CHAPTERS

Chapter two began with a general introduction to the problem of information sharing in the administration. This was illustrated with two specific events. Furthermore, an analysis of technology policy from 1970-1987 by Peter Munk Christiansen was included. This showed that sharing and control of information and thus any economic and political gains are shaped through administrative policy processes. In the first part of the CVR case analysis, five different solution models for CVR as an integrated information system were set up. Using a context diagram and critical incidents, actors and events for CVR were presented.

In the method section, the use of a methodological situationalism was argued for, and the importance of non-reductionist theories and Giddens' concept of the double hermeneutics was emphasized. Subsequently, an analytical model for the thesis was presented, consisting of a process analysis and a structural analysis. With these two perspectives, it became possible, firstly, to understand the CVR process based on the actors' own arguments and actions. Second, the production and reproduction of structural properties could be understood based on communication.

In chapter three, it was argued that traditional theories of information systems and management focus exclusively on technical aspects. It was further found that integrated information systems in management as a policy phenomenon theoretically built the Management-information-system literature. It was pointed out that both the traditional management concept and the theory of information systems were based on a simple system model. This basis was assessed as untenable in understanding the introduction of information systems. Such a theoretical framework could not capture the complex interplay between technical, economic and information responsibility and departmental responsibility factors that were observed in the CVR decision-making process.

Chapter four introduced the traditional distinction between a "voluntarist" and a "determinist" conceptual framework. It then argued for the use of a social constructivist position, as this could understand technology as contextual phenomena by focusing on the interaction between the "social" and the "technical".

Furthermore, arguments were made for the inclusion of technology understood as a political artifact. The concept of artifact made it possible to understand the technical design of CVR as the result of negotiations. The concepts of knowledge, information and data were then analyzed.

Information was defined contextually in contrast to physical data. With regard to knowledge, Daniel Bell's view of the information society was included. The problem with Bell's view was a one-sided focus on knowledge as an explanatory factor. As an alternative, Berger & Luckmann's view of knowledge was introduced. In this framework, it became possible to consider knowledge in relation to institutionalization processes with a focus on opinion formation. This position was supplemented by Boisot, who pointed out that knowledge and thus the dissemination of information is conditioned by positions of power. This emphasized that information could be used as a resource of influence. With Boisot's perspective on the dissemination of knowledge as conditioned by positions of power, it became possible to understand responsibility for information in CVR as something that could be negotiated but also used as a resource of influence.

In chapter five, the issue of integrated information systems was analyzed based on institutional theories of administration. Sociological neo-institutionalism provided a central contribution to the understanding of processes in administration as meaning construction. Furthermore, with regard to the issue of power and influence, it was found that only historical institutionalism addressed the issue of power and influence. All positions provided a contribution to a better understanding of CVR as a complex process, both in terms of meaning formation and the issue of power.

The problem, however, was a static concept of institutions understood as rules of the game, rules of action or as institutional positions. Thus, the three positions were unable to understand how institutions are formed. However, we must ignore the economic neo-institutionalism, which operated with a simple understanding of the concept of institutions.

An extended institutional analysis was presented in chapter six. This chapter distinguished between a process approach and a structural approach.

The process approach focused on communication as collective opinion formation defined by the concept of discourse. Furthermore, an understanding of processes in administration as the institutionalization of discourse was argued. With the concept of definitional power, the focus was on how a field understood as an interaction network is constituted or formed. Definitional power was defined with two dimensions. The first dimension concerned the determination of problem, solution and development perspectives in linguistic categories. The second dimension concerned the control of access to formulate problems and solutions, etc. In the light of the second dimension, the concept of coalition was introduced. With this as a background, institutionalization processes were formulated as the sanctioning of negotiated elements in the discourse either as a commitment to the normative aspects of the discourse (first-order institutionalization) or as a legal obligation established by legislation (second-order institutionalization). With this theoretical perspective, it became possible to see the final design of the CVR as the result of a struggle over different interpretations and/or definitions of problems and solutions in relation to the CVR. With first-order institutionalization, actors committed themselves to the normative aspects of the discourse. With second-order institutionalization, actors were legally obligated by the negotiated solution being implemented in the CVR Act.

The structural approach introduced Anthony Giddens' structuration theory. The purpose of using this theory was to understand structural properties as produced and reproduced in communication. A model was established in which resource organization, interpretative frameworks and legitimation appeared as overall structural properties of administration as a social system. Structure was defined as rules and resources produced and reproduced in communication in administration. Resources were understood as technical design, information responsibility, departmental responsibility and economic organization. Rules was defined as the production and legitimization of certain interpretative frameworks. In contrast

to the discourse-based concept of power, power in the structural approach was understood as an actor's use of resources as means to change the course of a decision-making process. With this concept of power, it became possible to understand how technical design, information responsibility, departmental responsibility and economic organization in the CVR decision-making process were used as resources of influence in the interpretation and legitimization of desired models for establishing CVR, whereby these were used as means to change the decision-making process.

In chapter seven, the second part of the CVR case analysis followed with a process and structural analysis.

The process analysis has explained a specific process from the formulation of an ideal of integrated information systems to the final institutionalization of this ideal. It was found that the ideal of the integrated information system led to the thematization of a large number of other aspects of administration in addition to the information technology. Using the SCOT method, five different interpretations of the CVR as an integrated information system could be identified. It was further found that the decision-making processes were in the nature of negotiations, formulation of problems by proposed solutions, formulation of alternative solution proposals, etc. Four common themes could be observed in the case material: technical design, information responsibility, departmental responsibility and economic organization, and a complex interplay between these themes was found. It was shown how actors formed coalitions around a specific interpretation of the CVR, and how these interpretations were subsequently institutionalized in the first order by the actors involved committing to formulated solutions.

In the structural analysis, the concepts of interpretive framework, resource organization and legitimation were used as overall structural elements. The themes of technical design, information responsibility, departmental responsibility and economic organization were considered in the structural analysis as influence resources. The emphasis was placed on how these resources as recursively produced and reproduced elements were used in the constitution of the CVR solution. The concept of interpretive framework showed how resources were used in changing interpretations of CVR. The concept of legitimation showed how actors appeared to their surroundings as efficient and rational.

1.2 OVERVIEW OF CENTRAL CONCEPTS ANALYZED IN THE THESIS

Figure 8.1 compares a traditional perspective on management and integrated information systems with the expanded institutional perspective proposed in the thesis. The perspectives are compared along a number of important dimensions that have been discussed in the thesis.

	<u>Management and system emer in a traditional perspective</u>	<u>Management and information systems in an expanded institutional information perspective</u>
<u>Perspective on management a role in the political-administrative system.</u>	Politics and administration are separate.	Activities in administration are an extension of politics. There is no clear separation. Implementation as the translation of politically formulated ideals into discourse and institutionalization of negotiated solutions (Ove K. Pedersen, Åkerström, Meyer & Rowan, Foucault, Jepperson, Dimaggio and Powell)

Technology	Technology as a neutral aid	Technology as a political artifact that is attributed meaning and that can be negotiated and used as a resource of influence (Pinch, Bijker, Winner)
Information	Is physical data	Is a subset of knowledge in an area that is materialized in information systems. Information responsibility is central and can be negotiated and used as a resource of influence (Berger and Luckmann, Boisot)
Structure	Is something an organization "has"?	Is what an organization "does". Through communication, structures are produced and reproduced. Information and technology are used as a resource of influence by referring to these in communication (Giddens, Lundqvist, Bourdieu, Rossenau, Meyer & Rowan)
Communication	"Transfer of words"	Communication as collective opinion formation, discourse (Foucault, Åkerström)
Power	Power as "ability"	Process approach: Definitional power a) formulation of problems, solutions and development perspectives. b) coalition formation around certain perceptions of problems, solutions, etc. Structural approach: Power understood as the use of resources to change the course of a decision-making process
Resources	Power positions and material resources	Resources: technical organization, information responsibility, departmental responsibility and economic organization that are produced and reproduced in communication and can be used as a resource of influence (Giddens, Bourdieu)

Figure 8. Error! Unknown argument for parameter.

Conclusion on theses —

The overall thesis is that the introduction of integrated information systems cannot be considered as technically neutral problems. Instead, the complex interplay between technical design, economic organization, departmental responsibility and responsibility for information means that, first, the introduction must be considered as a negotiation issue, and second, that these four aspects are all used as resources of influence in negotiations, in accordance with the overall perspective on administration presented in the introduction.

Thesis: If technology is defined as artifacts, where the technology in a specific context is given meaning and can be negotiated, and information stored in an information system as a section of knowledge in an area for which a given person or organization is responsible, then technology and responsibility for information constitute central aspects that are both negotiable and can be used as resources of influence.

With technology understood as artifacts and information as a subset of knowledge in an area, it was demonstrated that these are not neutral quantities, but can be brought into negotiation and used as resources of influence.

It was theoretically and empirically demonstrated that processes in management can be considered as negotiation processes. Furthermore, it was demonstrated, theoretically and empirically, that the four resources are included in negotiations, whereby the overall organization of resources is produced and reproduced.

Empirically, this understanding was applied in relation to a specific case. By using the concept of context diagram, critical incidents, it became possible at an overall level to reduce the complexity of a specific event sequence. Furthermore, based on an operationalization, I showed in the process perspective using the SCOT model combined with the concept of the discourse-based concept of definitional power, how CVR is shaped as in negotiations about CVR.

In the structural analysis, it was shown how the concepts of interpretive framework, resource organization, and legitimation were able to reduce the complexity that appeared at the start of the analysis.

1.3 FINAL CONSIDERATIONS.

Is the conclusion from the above now that governance in the traditional sense is not possible? In a polemic with management research, Lennart Lundqvist has pointed out that research recommends solutions that contradict their own descriptions of reality²⁶¹. On the one hand, **analyses of processes** in management strongly distance themselves from rational models as presented in the traditional view of management but also in economic neo-institutionalism and instead recommend more anarchic models such as the bucket and “muddling through” model. On the other hand, in **the formulation of recommendations**, a return is made to the rational theories that could not be used in the analysis of the processes.

In a cautious conclusion, based on the establishment of a dynamic conflict perspective, it can be said that management research in this context has not had the ambition to provide models that can predict how integrated information systems will be shaped in the future. In handling these conflicts, which I see will occur particularly in relation to integrated information systems, it is central that the generalization of the institutional approach can provide both systematic explanations of processes in management but also a conceptual framework with which management can be better enabled to reflect on problems that arise in relation to the introduction of such systems.

If the theory is used (and it does so more or less consciously) as a collective opinion-forming tool, it is central to consider the role of the theory in accordance with the double hermeneutics described in Chapter 2. The aim is not, as in the traditional positivist sense, to identify an “effective cause” or general laws, after which the theory can subsequently state which “mechanisms” will apply when introducing integrated information systems in other contexts. The introduction of integrated information systems is not determined by laws in the empirical world that the positivists try to find, but instead by actors who are continuously interpreting what an integrated information system should consist of. This was clearly evident from the process analysis, where it was illustrated that an integrated information system could be interpreted in very different ways. This interpretation includes both theoretical elements and practical knowledge. When considering theory and practical knowledge, there are no watertight barriers between these. That the theory is used in practice was shown by the fact that an ideal of an integrated information system was used as a starting point in the negotiations. This ideal was subjected to a number of new interpretations, where, among other things, existing institutional frameworks were central to this interpretation.

