Introduction of integrated information systems in public administration

Mogens Grosen Nielsen
Thesis
Department of Political Science
University of Copenhagen
December 1996

Contents

1. Introduction

The overall topic of this thesis is an investigation of technical, political and economic aspects of introducing integrated information systems in the administration. An information system can be defined in relation to one

administrative unit as “collection,

storage, processing and transmission of information". [1] Initially, information can be

defined as information related to the tasks of the administration. This definition emphasizes that information is part of the knowledge that exists in the administration about a given subject area. This definition should be seen in contrast to information understood as physical data.

By introducing an integrated information system in the administration, a centralization of the storage and processing of information is carried out across administrative units.2 The aim of an integrated information system in the administration is that a given information in an area is not stored in several administrative units. This means that applications only need to be developed once, which can then be used by users across administrative boundaries. In addition, the aim is that the collection of information about a given company or person is not carried out by several administrative units. This effort is evident from the report *The Info Society 2000:*

> "The public administration in the state, counties and municipalities must be connected in a comprehensive electronic service network. As part of this, a principle is realized that information that has already been submitted by citizens and companies to a public institution, and which can be transferred electronically, must not be requested again by other public bodies."3

There are thus great expectations for efficiency gains from the use of integrated information systems. The focus in this context will be on the process itself of introducing integrated information systems in the administration. In relation to this, three paradigms can be observed.

The first paradigm focuses on efficiency and management issues. This position has become well-established under the terms "Business Process Reengineering", "Information Engineering" and "Information Resource Management".4 This perspective is dominant in management literature in the attempt to use information technology for efficiency purposes.

The second paradigm is based on a more traditional view of information as an element in the political-parliamentary decision-making process.5 This paradigm is based on the traditional separation between the political-parliamentary use of information and the neutral-technical storage and processing of information in the administration. The focus is on how increased access to information can be used in political-parliamentary decision-making processes. The perspective often appears in the information policy debate. In *the Information Society of the Year 2000,* great expectations are thus formulated for information technology used in the name of democracy.6

The third paradigm places greater emphasis on information technology in relation to political processes in administration. A central thesis in this paradigm is the "reinforcement" thesis developed by Danziger, Dutton and Kraemer.7 According to this thesis, computer technology is seen as an additional resource of power and influence, which can thereby contribute to reinforcing existing positions of power.

---

[1] Emme, 1986, p. 3.

2This issue is addressed by Marrku Nurminen. However, he does not provide an actual definition of an integrated information system. Nurminen, 1988, pp. 33ff.

[3] *The Information Society in the Year 2000,* p. 2. Ministry of Research, 1994.

[4] Date, 1990, Edwards et al. 1991, Clive Finkelstein, 1992, Pries-Heje, 1995.

[5] Donk & Meyer, 1994 and 1995, Hoff, 1996, pp. 5ff.

6 "We must create a strategy that can bring Denmark to the forefront of the development towards the information society. The strategy must be based on values such as openness, democracy and responsibility for everyone in society", *Info-samfundet år 2000,* p. 1. Ministry of Research, 1994.

[7] Danziger, Dutton and Kraemer, 1982. p. 18.

The analysis in this thesis will be based on the third paradigm. However, the aim of the assignment is to establish a broader and more general conceptual framework with a view to achieving a better theoretical understanding but also with a view to analyzing a specific case.

Information technology considered as a resource of power and influence only rarely comes to light. However, two current cases can be pointed out where the problem of power in relation to the establishment of integrated information systems has been revealed. The first concerns the Ministry of Taxation's reluctance to provide information for an attempt to integrate legal information into a legal information database in the Ministry of Justice. The Ministry of Taxation is not interested in the Ministry of Justice gaining access to tax information.

The second course of action concerns the dispute between Statistics Denmark and the Danish Environmental Protection Agency over waste information. The Danish Environmental Protection Agency demanded approval of how Statistics Denmark uses information on waste from the so-called ISAG database (Information System for Waste and Recycling). The common denominator for these two cases is access to information and responsibility for the use of information.

In this thesis, I have chosen to analyze a specific example of the establishment of an integrated information system in the administration. The case concerns the establishment of a central business register (CVR). By Act No. L 417 of 22 May 1996, the Danish Parliament adopted the establishment of the CVR. The purpose of the CVR is to integrate information about business enterprises that is available in the Ministry of Economic Affairs, the Ministry of Labour, the Ministry of Business and the Ministry of Taxation.

The focus of the analysis will be on the decision-making process that precedes the adoption of the CVR Act. The analysis is based on a decision in principle on CVR, made by the Ministry of Finance in 1992. The focus will then be specifically on the period from January 1994 to June 1995. During this period, both technical, economic and departmental and information responsibility aspects of the decision in principle made by the Ministry of Finance in 1992 changed. The case material that sheds light on this problem consists of faxes, memos, letters, official reports, legislation on CVR, etc.8

In relation to the CVR case, the key point will be to demonstrate that the establishment of the CVR cannot be considered a neutral-technical implementation of a common database. Instead, it is a question of negotiation processes and political battles that concern who should have departmental responsibility for the CVR and responsibility for the information in the common database, which technical design should be chosen, and how the establishment and operation of the CVR should be financed. By negotiation here is meant how problems are continuously pointed out in communication and solutions argued for, etc. In this thesis, by communication I will understand the formal, concrete observable communication in reports, faxes, notes, letters, etc.

The theoretical contribution of the thesis will consist of establishing a general theoretical framework for the analysis of technical, economic, information responsibility and departmental aspects in establishing integrated information systems. CVR will be used here as an example. First, an analysis of a traditional view of administration and integrated information systems, respectively, is made. In this view, both administration and integrated information systems are defined as technically neutral phenomena. With such a basis, the introduction of information systems cannot be conceptualized as a complex interplay between technical, economic and information responsibility and departmental aspects. Instead, the aim is to establish a general theoretical framework that can understand this complex interplay. The establishment of this framework is divided into a technology and information part and a management part.

---

[8] The material is primarily obtained through Statistics Denmark. I am employed there, and as a result have had access to extensive material on the CVR decision-making process.

In the technology and information part, the aim will be to develop concepts that are both capable of conceptualizing information and technology as phenomena that are up for negotiation but which can also be used as resources of influence. By the concept of resource of influence, I will understand resources used to change the direction of a decision-making process. Resources of influence can be technical design, departmental responsibility, responsibility for information and economic organization. First, the concept of technology is analyzed, and a position is argued that is capable of viewing technology as artifacts that are shaped and negotiated in social and political processes.

Next, the specific features of information technology in relation to other forms of technology are discussed. It argues for a definition of information in integrated information systems not as physical phenomena but as information considered as knowledge. Against this background, it generally analyses how information considered as knowledge is a central element in society. Based on Daniel Bell's analysis of post-industrial society and Peter Berger & Thomas Luckmann's concepts of socially constructed reality, a perspective is formulated that emphasises the importance of the distribution of and the struggle for knowledge in society.9 The purpose of the technology and information section is generally to arrive at concepts of technology and information that are able to see how technical design and the placement of information responsibility constitute central aspects that are both up for negotiation and can be used as resources of influence.

The aim of the administration section is to establish an institutional theoretical framework that can analyse technology design and information responsibility both as historically shaped phenomena in institutionalisation processes in administration, and as resources of influence. First, three different institutional perspectives on administration are established, all of which can be considered as an alternative to the traditional view. These are an economic new institutional direction10, a sociological new institutional direction11 and finally a historical-institutional direction.12 Next, the overall aim is that these three perspectives should function as a foundation for the development of an expanded institutional perspective.

The institutional framework has been chosen over a traditional organizational and power analysis, firstly because hierarchical power relations have been partially eliminated by the establishment of information systems across ministerial boundaries. Secondly, the modernization of the public sector has meant that organizations are made responsible for compliance with budgets and securing revenues. This means that the environment of public organizations can generally be said to be characterized by changing political pressure, conflicting interests, struggle for grants, etc.13 As a result, a main task for public organizations has become dynamic conflict management.14 Thus, public organizations will generally be viewed in a dynamic conflict perspective, where “values, rationales, norms, political considerations are produced and reproduced through social relations and interaction processes that cross formal organizational boundaries”.15 Administration will thus be analyzed in an expanded institutional perspective, corresponding to the dynamic conflict perspective, with a focus partly on communication in the administration as institutionalization processes, and partly with a focus on

9 *The Coming of Postindustrial Society* Bell, 1973. *The socially constructed reality,* Berger & Luckmann, 1966.
10 Williamson, 1987, Christensen, 1994.
11 This position is primarily represented through the main work *Rediscovering Institutions* by March and Olsen, 1989.
12 Thelen & Steinmo, 1992.
13 This problem is described in *Life in Public Organizations* by Beck Jørgensen, Melander et al., 1992.
14 Jørgensen, Melander et al. 1992, p. 21.
15 Jørgensen, Melander et al. 1992, p. 22.

structural properties of management that are produced and reproduced in the interaction within management.

Based on the expanded institutional perspective, the CVR case will be methodologically analyzed in what I have chosen to call a process and structure perspective, respectively. [16] In a process perspective, the focus is on historical-genetic explanations and interpretations of how a particular solution emerged from the negotiations. Emphasis is placed on an interpretation and explanation of communication as institutionalization processes, including the concepts of discourse and definitional power. The analysis will show how changed information responsibility, technological, economic and departmental conditions are perceived and attributed meaning by central political actors, and how they consciously choose to act or not to act in order to change the political conditions. Access to meaning will be achieved by separating themes in the analyzed documents. A central element of the case is thus an examination of the actors' own arguments to see how they reason and make decisions in light of existing institutional conditions.

The structural perspective analyses how information responsibility, technical design and economic organisation as structural aspects of administration are produced and reproduced in communication. A concept of power will be presented that focuses on how the four mentioned structural characteristics are used as resources of influence in negotiations. In the analysis of this use of resources to exert influence, interpretative frameworks and legitimation will be central concepts.

The application of the above two perspectives in the analysis of the CVR process is not a traditional understanding of cases, where a number of cases are analyzed and generalizations are made based on common features. In the present context, only a single case is used, and the aim is not to generalize empirically but instead to arrive at a better theoretical understanding of the processes that apply when introducing integrated information systems. This method is described by Bent Flyvbjerg, among others, who points out that generalizations based on a single case are of central importance for the development of social scientific knowledge.17 I will return to this issue later in chapter two.

16The two perspectives are defined in Scott 1995, p. 65 and in Miles and Huberman, 1994, p. 103.
[17] Flyvbjerg, 1991, p. 145.

1.1 PROBLEMS AND THESES

The overall problem in the thesis will be:

An analysis of the introduction of integrated information systems in public administration.

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.

The problem will first be analyzed with a view to a better theoretical understanding of technology, information and management. This theoretical framework will then be applied in relation to the CVR decision-making process. The theoretical part is divided into an analysis focusing partly on technology and information and partly on management. This leads to the following problems and theses in the theoretical part:

How to theoretically understand technology and information, partly as phenomena that are formed in an interaction between "the technical" and "the social", and partly as phenomena that are used as resources of influence in a political context.

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.

Based on institutional-political theories of administration, it is analyzed how technology and information can be theoretically understood, firstly, as phenomena that are shaped in communication in administration and, secondly, as phenomena that are produced and reproduced through negotiation as "structural" properties of administration.

Thesis: If communication is not considered neutral but instead as active meaning-making, the complex interaction can be understood as both a shaping of CVR and structurally, how these are used strategically to influence. understood as CVR is shaped in communication, as structural properties that are used to influence.

Thesis: If governance is defined firstly by communication processes understood as collective opinion formation, and secondly by technology and information understood as structural properties used and shaped in communication, this means that technology and information can be understood as produced and reproduced properties of governance, and secondly that these can be used as resources of influence in negotiations.

The theoretical analysis will then be applied in relation to the CVR process. This leads to the following empirical issues: *How have information*

responsibility, technology design, departmental responsibility and economic organization been shaped historically in the CVR decision-making process?

How have information responsibility, technical design, departmental responsibility and economic organization understood as structural characteristics of administration been produced and reproduced in the CVR process?

It appears that the same aspects are analyzed in both the theoretical and the empirical issues. The emphasis in the assignment will primarily be on the theoretical analysis of processes in administration. In the development of a comprehensive theoretical conceptual framework, the case material will be used continuously to make certain theoretical interpretations more plausible than others. The aim is thus primarily to contribute to a better theoretical understanding of processes in administration and to a lesser extent to arrive at “finished” explanations of the development in the CVR process.

1.2 TASK STRUCTURE

After a general introduction to the problem of information sharing in government, chapter two includes the first part of the CVR case analysis and the method used in the thesis.
The case analysis is primarily descriptive and will be used subsequently in the theoretical analysis.

Chapter three presents, first, the traditional view of management and, second, the traditional theory of integrated information systems. It is argued that the traditional theories of integrated information systems and management focus exclusively on technical aspects. This basis is considered insufficient in understanding the introduction of integrated information systems in management.

In chapter four, the concept of technology is first analyzed based on the traditional distinction between a “voluntaristic” and a “deterministic” conceptual framework. Next, a social constructivist conceptual framework is included in understanding the interaction between the “social” and the “technical”. The concepts of knowledge, information and data are then analyzed. Information is defined contextually in relation to knowledge in an area. Against this background, a sociological and a political understanding of information and knowledge is introduced. The chapter generally argues for the use of an understanding of information and technology as phenomena that are both shaped and used as resources of influence in a specific political context.

Chapter five first introduces the critique of the traditional approach to administration. Next, three different perspectives on administration are examined, each of which can be considered as alternative theoretical positions in relation to the traditional approach. These are an economic neo-institutional direction, a sociological neo-institutional direction and finally a historical-institutional direction. It is concluded that sociological neo-institutionalism is able to capture communication as meaning formation, and that historical institutionalism is able to see structural conditions and their use as resources of influence.

Chapter six introduces an expanded institutional analysis framework. A general distinction is made between a process approach and a structural approach. In the process approach, power and discourse are first explained as central concepts in the understanding of communication. Institutionalization is then examined in relation to the three institutional theories in chapter five. Against this background, an argument is made for institutionalization processes understood as obligations on negotiated elements in the discourse. In the structural approach, the issues of action and rationality are first presented. Anthony Giddens' structuration theory is then included. Against this background, an overall theoretical framework is established that is able to understand structural properties as produced and reproduced in communication. With this model, an argument is made for an understanding of technical design, economic organization, departmental responsibility and responsibility for information as structural properties that are produced and reproduced in communication in the administration. Furthermore, a argument is made for a perception of power understood as an actor's use of resources as means to change the course of a decision-making process.

In chapter seven, the CVR case is analyzed first using the process approach, then using the structural approach. In the process analysis, different interpretations of CVR are first explained, after which these are related to the CVR decision-making process. In the structural analysis, the focus is on how technical design, economic organization, departmental responsibility and responsibility for information are produced and reproduced in communication. Specifically, the focus is on how these elements are used as resources of influence in the decision-making process.

Chapter eight concludes the chapters first. Then a table is drawn up with the theoretical framework developed in the thesis, which is compared to the traditional theoretical framework. The chapter ends with some general considerations.

2. CVR case analysis part 1 and method.

This chapter first presents two case studies that generally introduce the issues of information sharing in government, as well as a presentation of a study of technology policy with a focus on processes in government. This is followed by the first part of the CVR case analysis. Finally, methodological considerations follow. The concept of double hermeneutics and methodological situationalism is introduced, followed by a presentation of process and structural analysis as two methodological approaches that will be used in the analysis of the CVR decision-making process.

2.1 SHARING INFORMATION IN THE ADMINISTRATION.

The presentation of the two cases below illustrates the financial and departmental problems that arise when sharing information between different administrative units. The first case concerns a dispute between the Ministry of Taxation and the Ministry of Justice about the provision of information to the Legal Information Database in the Ministry of Justice. Based on an interpretation of the rules for tax guidance, the Danish Customs and Tax Agency would not provide information to the Ministry of Justice. As a result, the Legal Information Database was not updated with the latest tax policy tax guidance. Head of Office KH Ludolph, Ministry of Taxation states: “The Ministry of Taxation makes money by providing information to private publishers. The cooperation with Legal Information, on the other hand, has been a pure expense.”18

The second process concerns the dispute between Statistics Denmark and the Danish Environmental Protection Agency over waste information. The Danish Environmental Protection Agency demanded approval of how Statistics Denmark uses information on waste from the so-called ISAG database (Information System for Waste and Recycling). Statistics Denmark was to use these figures in the input and output tables of the national accounts. The Danish Environmental Protection Agency thus demanded in a letter of 27 March 1995 to Statistics Denmark that the result of the project in question “must be submitted to the Danish Environmental Protection Agency’s Industrial Waste Office for approval before publication”19 The matter was brought up in the Danish Parliament’s Environment Committee, where the Conservative People’s Party’s environmental spokesman demanded that environmental statistics be moved from the Danish Environmental Protection Agency to Statistics Denmark:

> “Environmental statistics will be key figures in the coming years (...) therefore we cannot have the Danish Environmental Protection Agency and the Ministry of Environment and Energy sitting around collecting the figures and deciding when it is appropriate to make environmental statistics available to the public. This task rightfully belongs to Statistics Denmark. (...) It is not reassuring for the people's government that the foxes not only collect the geese, but also decide how much goose liver they want”20

---

[18] Weekend newspaper, September 20-26, 1996.
[19] Weekendavisen, October 27 to November 3, 1995.
[20] Ibid.

The case illustrates how information helps set the environmental policy agenda.
It is further illustrated how environmental analyses depend on which administration is responsible for environmental information.

The two cases seem at first glance different, but they highlight two central issues related to sharing information across administrative boundaries. In relation to the issue in this thesis, the question is how the control of information and thus any economic and political gains are shaped through administrative policy processes.

As an example of a scientific study in relation to this issue, associate professor Peter Munk Christiansen's analysis of Danish technology policy from 1970 to 1987 can be mentioned.21 As a starting point for the analysis, governance is problematized in relation to the design of technology policy: “Technology policy is often associated with governance. It makes no sense to ask the question of governance as such. The relevant governance question is under what political and administrative conditions can specific societal objectives be realized through technological means?”
22

The interesting result of the study is that neither the industry's use of technology nor the structural problems associated with the use of technology have changed in the analyzed period. On the other hand, technology policy has. Thus, it can be stated that a large number of technology policy initiatives have not had the desired effect. Christiansen attributes this lack of effect to political-institutional factors.23

The table captures:

The two above-mentioned cases and the analysis of the design of technology policy in the 1970s and 1980s seen in the context of the CVR are examples of how the administrative organization of integrated information systems should receive greater political and research attention.
I see the problem as particularly pronounced in relation to the establishment of large information systems, as both the technical infrastructure - building databases, establishing networks, etc. - but also the power infrastructure associated with the technical infrastructure is not something that can be changed “overnight”. Once an information system has been established, it is difficult to negotiate and change the information technology infrastructure. In addition, investments in equipment and knowledge in integrated information sy[2]s[4]tems are very large.

2.2 CVR CASE ANALYSIS PART 1

This section first presents actors and some general definitions established by the CVR Act.
Next, five different perceptions of CVR as an integrated information system are presented.
A stylized version of the figures in Appendix 1 will be presented. Finally, an analysis of the decision-making process follows using the concept of “critical incident”.

Presentation of general definitions and actors.

The general definitions are taken from the CVR Act. These definitions will later be included in the presentation of actors.

Section 2 of Act No. L 417 of 22 May 1996 on the Central Business Register states the purpose of the CVR:

---

[21] Christiansen, 1988.
[22] Christiansen, 1988, p. 29.
[23] Christiansen, 1988, p. 208.
[24] This problem is described by Bijker and Law, 1992, pp. 3ff.

> "§ 2. The purpose of the Central Business Register is to:
> 1) Contain basic data on legal entities, cf. Section 3, that are traders or employers, and the associated production units, cf. Section 4,
> 2) Provide a clear numbering of the legal entities and production units included in the register, cf. sections 5 and 6" [25]

The legal entity is defined as:

> "§ 3. In this Act, a legal entity means:
> 1) A natural person in his capacity as an employer or self-employed person. 2) A legal person or a branch of a foreign legal person. 3) A state administrative unit 4) A county municipality 5) A municipality or 6) A municipal association."
> 26

The core of the register will in practice be VAT-registered companies corresponding to Section 3, subsections 1 and 2. In addition, public activities are included, as these perform "tasks of general interest for society or the local area".27 In relation to ministerial areas, Statistics Denmark under the Ministry of Economic Affairs, the Danish Customs and Tax Agency under the Ministry of Taxation and the Danish Commerce and Companies Agency under the Ministry of Business and Industry will be suppliers of information on legal entities.

Production units are defined as:

> "§ 4. In this Act, production unit means: 1) The main activity carried out by a legal entity that has only one main activity and where all activity takes place at or from the same geographical address as the legal entity's address.
> 2) The individual main activity, if a legal entity has several main activities carried out at or from one geographical address
> 3) The individual activity, if a legal entity has activities carried out at or from multiple geographical addresses"

Production unit is the name for the individual workplace. For registration purposes, the term main activity expresses the industry within which the workplace is located. With regard to production units, this will primarily be Statistics Denmark under the Ministry of Economic Affairs and the Ministry of Labour's work areas, which will be involved in the integration of information on production units.

In the following, the four ministerial areas will be presented based on Figure 1.1.
In addition, the tasks of each area will be briefly described in relation to the above concepts in the CVR Act. Methodologically, a context diagram has been used here, which is defined as:

> "A context chart is a network, mapping in graphic form the interrelationship among the roles and groups (and if appropriate), that go to make up the context of individual behavior (...) Such network ought to reflect the core characteristics of organizations : authority/hierarchy and division of labor"28

With the written formal communication as the object of analysis, the central point in relation to the quote is to illustrate how this proceeds in relation to authority relations and division of labour. In Figure 2.1, the boxes do not therefore express the traditional perception of organisations as physical entities with entrance and exit doors. The diagram should be seen as a presentation of context for both the communication and the actors involved in the CVR case. Here I will operate with both collective actors and individual actors. Thus, the ministries generally act as collective actors. Within each ministry, a number of collective and

---

[25] Act on the Central Business Register. Section 2.
[26] Act on the Central Business Register. Section 3.
[27] The Information Society Year 2000, 1994, Appendix 7, CVR number for companies.
[28] Miles and Huberman, 1994, p. 102.

individual actors. According to the quote above, behavior should also be illustrated. Miles and Huberman thus suggest marking “channels of influence”.29 However, I have chosen to omit these illustrations in Figure 2.1. In the analysis of the CVR case in Chapter 7, the issue of influence will be addressed explicitly.

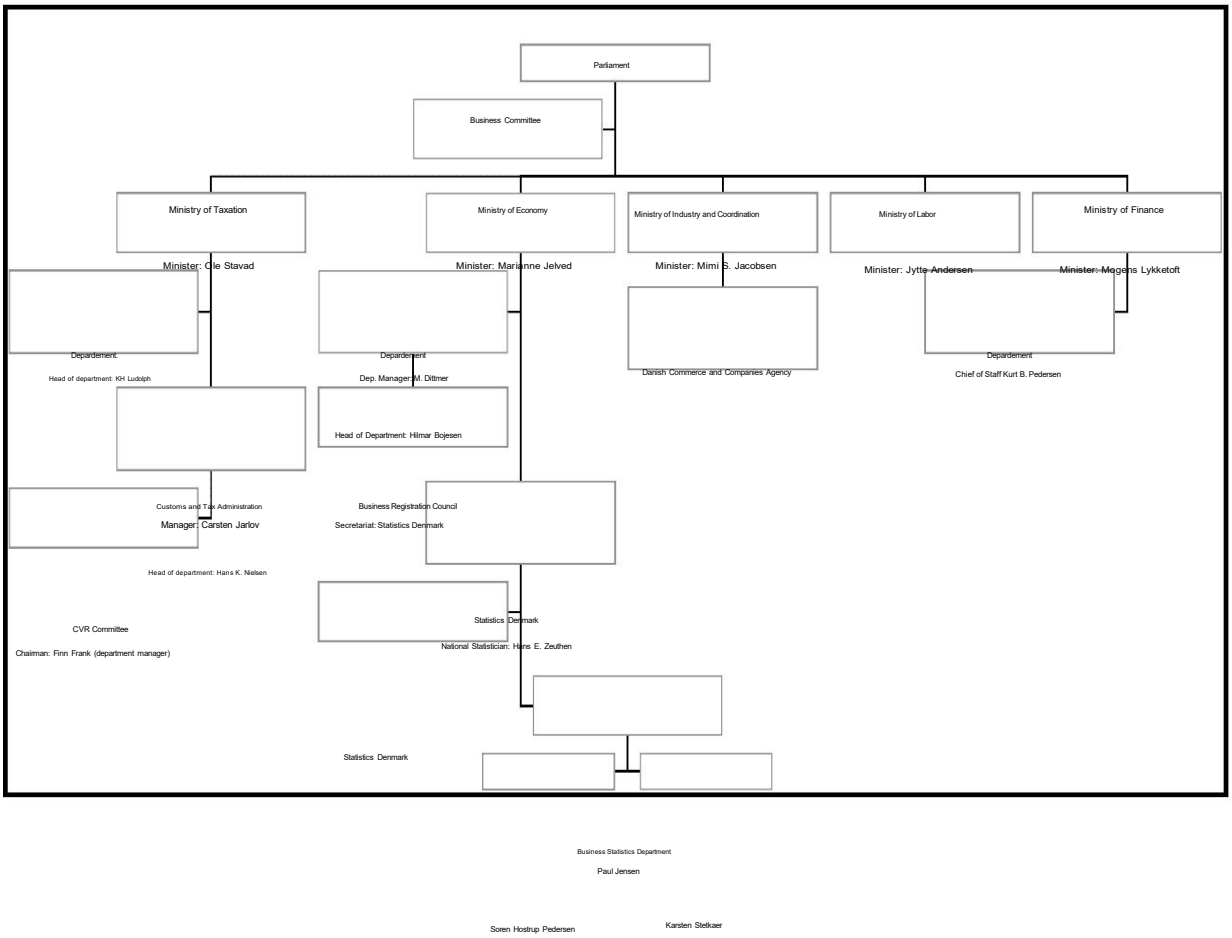


Figure **2-Error! Unknown argument for parameter.2-Error! Unknown argument for parameter.**
Diagram illustrating the context for communication and actors in the CVR case in force in the spring of 1994.

The overall context is the Danish Parliament. A business committee has been established under it with representatives from the parties in the Parliament. This committee deals with general issues concerning the business community. Thus, the establishment of the CVR is also brought up in this committee.
Below the parliamentary and government levels are five ministries. These are all organized with a minister at the top and subordinate departments, agencies, directorates, councils and committees. In the following, the Ministry of Taxation, Economics, Business and Labour will be presented. Later in chapter seven, the Ministry of Finance will also be involved.

Ministry of Taxation

The Danish Customs and Tax Agency has been established under the Ministry of Taxation with the primary tasks of collecting customs and taxes. The Danish Customs and Tax Agency includes the CVR Committee in Figure 2.1, which was established on the basis of a decision to establish the CVR in 1992. In addition to the four ministries mentioned, the Committee also included the Ministries of Finance, Fisheries, Agriculture and Health, as well as the Danish Association of Local Authorities. The Committee operated from 1992 to the summer of 1994.

[29] Ibid.

The results of the committee's work were reflected in the report "General requirements for CVR" of June 1994, cf. Appendix 2.

In relation to the definitions above, the concept of legal entity has its roots back to the introduction of withholding tax. At that time, it was operationalized for the purpose of tax collection. A report from June 1994 states:

> "The business registration constitutes a basic registration of businesses for use in Customs & Tax's tasks regarding collection, goods transport, control, service, headcount formation and calculation. (...) The register includes, among other things, information on ownership, address, liability, industry, authority affiliation and a number of administrative information"30

Ministry of Labor

The concept of production unit has its historical roots primarily in the Ministry of Labor.
The registration of workplaces has mainly been based on labour market policy measures. In the Ministry of Labour, there has been an intensification of supervisory, dissemination and service tasks (Labour Market Authority, Danish Labour Inspectorate, etc.) over the last 20 to 30 years, which has led to an accumulation of various types of data in a number of different agencies.

Ministry of Industry and Trade

Under the Ministry of Business, the Danish Commerce and Companies Agency is tasked with registering companies that are not sole proprietorships, and the legal basis has been various company laws:

> "The Danish Commerce and Companies Agency registers all public and private companies, financial companies and commercial foundations in accordance with the Companies Act. As a result of EC harmonisation, partnerships and limited partnerships will also be included in the Agency's registration"31

The Danish Commerce and Companies Agency thus uses the concept of legal entity as in the Ministry of Taxation. As a result of the legal basis, a number of additional information has been registered about, among other things, the companies' purpose, board members and management, ownership, capital situation and accounts.

Ministry of Economic Affairs

The Ministry of Economic Affairs is represented by the Business Register Council, which was established in connection with the adoption of the Act on the Central Business Register in 1975. At that time, the Central Business Register was placed with Statistics Denmark, and with the establishment of the Act on the CVR, this will replace the Act on the Central Business Register.

Statistics Denmark's main task is, of course, the production of statistics. Some of these tasks are stipulated by law, while others Statistics Denmark, as an institution, can choose to carry out.
The latter is becoming increasingly important with the modernization program, as financing via revenue-based activities is increasingly being required by the Ministry of Finance. Responsibility for the daily management lies with the Statistician. The overall decisions are made by Statistics Denmark's board. This board is composed of representatives from business, interest groups, etc. The Statistician is chairman.

Presentation of five different models.

In summary, the decision process can be described graphically via the models in Figure 2-Error! Unknown argument for parameter..

---

[30] Report from the CVR Committee, 1994, p. 81.
[31] Report from the CVR Committee, 1994, p. 80.

Figure

Model 0 presents the interpretation of the CVR as it was before the actual integration. This interpretation is part of the decision-making process in December 1994. Model 1 presents the interpretation of the CVR as an ideal concept. Considered in continuation of the section on integrated information systems as a policy phenomenon, the central point of this interpretation is that the storage of information and applications is centralised, whereby information collected in one administrative unit can be used by other administrative units. Model 2 presents the interpretation of the CVR as proposed by a decision in principle in the Ministry of Finance in 1992. Compared to the ideal model, it can be stated that this interpretation is far from ideal. The central difference is that the individual administrative units retain existing registers. However, it should be noted that the register at Statistics Denmark only contains information for statistical purposes.

Information for sales and other administrative use is transferred to the Danish Customs and Tax Agency with the interpretation in model 2. In model 3 it is marked that information responsibility is split in relation to model 2. This interpretation is included in the decision-making process in January 1994. In model 4 _____ There is a new interpretation where the CVR is built as so-called data communities. When establishing data communities, two or more administrative units join together on information responsibility and departmental responsibility. The model shows that the Ministry of Economic Affairs and the Ministry of Labour join together in a data community on production units and the Ministry of Taxation and the Ministry of Business and Industry join together in a data community on legal units. In model 5 _____ The interpretation that resulted from the negotiations is available. A characteristic of this model compared to model 3 is that technically it is only a change in data flows from the Ministry of Taxation to the Ministry of Economic Affairs.

Analysis of decision-making processes with critical incidents.

In order to classify the course into relevant periods, the descriptive method used is the listing of events, which can be defined as: “An event listing is a matrix that arranges a series of concrete events by chronological time periods, sorting them into several categories”32

In the material that forms the basis of the case study, not all communication or all incidents are equally central to the elucidation of the overall issue being investigated in this context. In order to structure the material, I will methodologically focus on “critical incidents”.
Critical incidents are considered as single events where “actors experience a provocation of their organizational interpretive systems, that is, radical breaches of their understanding and expectations of organizational relations”.33 In a more precise formulation, Shein defines a critical incident as “... any major event, (...) that causes reexamination or reformulation of goals and working methods, or that involves questions of membership and admission”.34 This choice of method is justified by the application of a dynamic conflict perspective to public organizations. Critical incidents will be analyzed in this context with a focus on selected documents in the CVR process. Which documents trigger which breaches of existing interpretive frameworks? Nine critical incidents have been identified in the case.

The desire to establish a CVR was first concretely implemented in the Ministry of Finance's report *Effective EDB in the State35* from 1989. This formulated a desire that the registration of information about business enterprises should be collected in an integrated information system. In the spring of 1992, the Ministry of Finance made a decision in principle to establish a CVR. Information about

[32] Miles and Huberman, 1994, p. 111.
[33] Morsing, 1995, p. 88.
[34] Schein, 1986, p. 125.
[35] Ministry of Finance, 1989.

commercial enterprises from the Ministry of Economic Affairs, the Ministry of Labour, the Ministry of Business and Industry and the Ministry of Taxation, respectively, as well as information registered under municipal law, must be collected in one information system.

The first critical incident is the decision in principle in the Ministry of Finance in 1992. In terms of department, the Danish Customs and Tax Agency is assigned responsibility for the CVR. Financially, the CVR is assumed to be financed by user fees. Technically, it is decided here to establish the CVR in relation to registers in the Danish Customs and Tax Agency. With regard to information responsibility, the Danish Customs and Tax Agency is assigned responsibility for information in the CVR. The Central Business Register in Statistics Denmark is to be closed down. This solution appears as model 2 in figure 2.3. above. The memo of 6 April 1992 regarding the decision in principle states:

> "Today, there are three different, general business registers: the SE register at the Danish Customs and Tax Agency, the Central Business Register at Statistics Denmark, and the Danish Commerce and Companies Agency's register. In addition, there are additional registers in the Ministry of Labour and in the municipalities ... The Danish Customs & Tax Agency's SE register is being changed to a central business register (CVR) ... The basic registration in the CVR register must also include information on industry, local location, etc., so that the Central Business Register in Statistics Denmark can be closed down as the overarching register"36

To ensure consistency, only one authority, the Danish Customs and Tax Agency, should be responsible for assigning the new CVR numbers. It was therefore decided that the Danish Customs and Tax Agency under the Ministry of Taxation would be responsible for the task:

> "The Danish Customs and Tax Agency is responsible for the establishment and maintenance of a Central Business Register (CVR) ... The information to be registered and maintained in the CVR must be sufficient to meet the needs of all public authorities and private individuals for basic information about individual businesses"37

The main consequence of establishing this comprehensive integration of data is that only the Danish Customs and Tax Agency will have to store basic data regarding business enterprises. The memorandum thus highlights that the Central Business Register at Statistics Denmark will be closed down:

> "The Central Business Register in Statistics Denmark will be closed down as an administrative register and the current legislation on this will be adapted to the establishment of the CVR"38

Regarding the economic organization, the memorandum emphasizes that all public authorities must only obtain information from the CVR register and not through direct contact with the companies. With this as a starting point, a committee was set up in the Danish Customs and Tax Agency with all the parties involved. In 1994, this committee submitted a report containing requirements for a future CVR register. This report was completed in draft form on 31 January 1994, and from this date I will follow the decision-making process until the summer of 1995.

The second critical incident is dated January 1994. At that time, a draft report on general requirements for the CVR was issued.39 Compared to 1992, there has been a change such that Statistics Denmark and the Danish Commerce and Companies Agency are responsible for information originating from these administrations. This solution appears as model 3 above.

---

36 "Memorandum on simplification of business registration. Ministry of Finance, Budget Department, April 6, 1992", p. 1. Reprinted in *General requirements for a Central Business Register,* Danish Customs and Tax Agency 1994.

37 "Memorandum on simplification of business registration. Ministry of Finance, Budget Department, 6 April 1992". Reprinted in *General requirements for a Central Business Register,* Danish Customs and Tax Agency 1994.

38 "Memorandum on simplification of business registration. Ministry of Finance, Budget Department, 6 April 1992". Reprinted in "Overall requirements for a Central Business Register", Customs and Tax Agency, 1994.

39 "Draft report on general requirements for a Central Business Register CVR", January 31, 1994, CVR Committee.

The third critical incident dates back to March 28, 1994. The proposed solution here triggered a strong reaction from Statistics Denmark. The then National Statistician Hans E.
Zeuthen sends two memoranda40 dated 28 March 1996 to Minister of Economic Affairs Marianne Jelved, which state that the decision in principle made in 1992 is inappropriate. Statistics Denmark and thus the Ministry of Economic Affairs41 will suffer a serious financial loss from the proposed scheme.
Income from the sale of business addresses would be removed from Statistics Denmark. In addition, a number of problems are formulated in connection with the proposed division of responsibilities, but also criticisms are made. of the proposed technical solution for integrating information. A structure is proposed where information responsibility and departmental responsibility are divided into two. This solution is presented as model 4 above.

The fourth critical incident is the issuance of the final report on CVR in June 1994.42
I have assessed this as a critical incident, as the issuance of this report will result in a final determination of the CVR solution as described in the draft report from January 1994. This report establishes model 3 above.

The fifth critical incident is an internal document in Statistics Denmark dated 16 November 1994.43 In terms of department, a solution is proposed here where Statistics Denmark is given responsibility for the development of the CVR. In terms of finance, a solution is proposed where the CVR is financed via an account in the Finance Act. With regard to the technical solution, it is proposed that data flows go from the other administrations to Statistics Denmark. With regard to information responsibility, there will be no significant changes, as the CVR is developed in connection with existing registers. This solution appears as model 5 above.

The sixth critical incident is an internal document in Statistics Denmark dated 7 December 1994.44 The financing via the Finance Act, which was put forward in a document of 16 November, could not be approved by the Ministry of Economic Affairs. In light of this financing problem, a solution has been formulated in a memorandum of 7 December, which reverts to the status quo. According to the memorandum, it is up to the data-providing administrations themselves whether they want to improve the data. In terms of financial organisation, the innovation is that the distribution of income from the business register service in Statistics Denmark is only shared with other administrations if they are able to deliver data of the required quality to Statistics Denmark.

The seventh critical incident is a document dated 14 December 1994.45 This returns to an interpretation of the CVR structure dated 16 November 1994. The key point in this incident, however, is the requirement that the CVR be financed via a loan financing scheme, so that the financing does not occur via payments from the administrations involved.
The financing problem has thus been solved, and a financial organization has been established.

---

40 "Regarding the committee report on general requirements for a central business register" and "Memoir on business register issues", 28 March 1994, Statistics Denmark.

41 Statistics Denmark is an independent agency under the Ministry of Economic Affairs.

42 *General requirements for a Central Business Register* , June, 1994, CVR Committee, Danish Customs and Tax Agency.

43 "An alternative proposal for solving the CVR problems". Internal memo of 16 November 1994 in Statistics Denmark.

44 "Orientation on the Central Business Register. Presentation for use at the meeting between the Minister of Taxation and the Minister of Economic Affairs with corrections." Fax of 7 December 1994 from the Ministry of Economic Affairs department with attached internal memo in Statistics Denmark.

45 "Orientation on the Central Business Register". Presentation for use at the upcoming meeting between the Minister of Taxation and the Minister of Economic Affairs sent from the Ministry of Economic Affairs' department to Statistics Denmark. Corrections have been inserted in this document so that the CVR is financed via a loan financing scheme.

The eighth critical incident concerns documents46 drawn up for a meeting between the Ministry of Taxation and the Ministry of Economic Affairs. With regard to the location in terms of responsibility, these documents argue that Statistics Denmark is by law assigned the task of registering business enterprises. It is emphasised that there is a discrepancy between this and the decision in principle made in 1992. With regard to finances, it is mentioned that the establishment will amount to DKK 20 million. With regard to the technical solution, criticism is directed at model 2, which was determined by decision in principle in 1992. According to the memorandum, this is not really a merger but instead a change in data flows. With this view, there are no good reasons why the CVR should be placed with the Danish Customs and Tax Agency simply because this agency is the largest user.

The ninth critical incident concerns documents sent to the Ministry of Finance.47 With regard to the allocation of responsibility by department, this is fixed. The financial organization of CVR is determined with the involvement of the Ministry of Finance.

It can be concluded that from 1992 until the spring of 1995, the ideas about CVR as an integrated information system underwent a number of significant changes through negotiations, coalition formations, etc. There are significant changes in relation to the ideal of an integrated information system. It can be noted that technical design, economic organization, departmental responsibility and responsibility for information all underwent changes during this period. Changes that are made are far from being just technically justified. I will generally deal with information and technology in the following chapter. But before that, the methodological problem is addressed.

2.3 METHOD

This section first addresses the general problem of a case analysis and the application of theory. Next, methodological situationalism and non-reductionist explanations are presented as overall methodological requirements. Finally, the process and structure approaches are presented.

The case study and the theoretical problem

Case studies can be classified according to various research criteria. If CVR is considered as historical material, the traditional question between theory and case studies can be expressed as follows: “How can I develop or test a theory using historical material?”48
This is based on an accentuation of the nomothetic scientific character of political science and can be characterized as a deductive approach to the case study. Another approach focuses on prioritizing work with historical cases, as the exploration of historical documents is of significant importance for a general understanding of phenomena of a similar nature. Theory development and testing of theory are given a subordinate character in relation to understanding a given phenomenon. This approach is an attempt to compensate for the basis of the inductive approach by changing the perspective from theory development to “understanding”.
With this as a starting point, I will initially use Mogens Pedersen's classification of case studies. He uses the following five categories:49
1. a-theoretical case studies: the phenomenon studied is not related to the theory of the subject. These case studies are considered worthless and are referred to as “contradictio in adjecto”.50

---

46 "A proposal for a solution to the CVR problems under the auspices of Statistics Denmark" and "Statistics Denmark as responsible for the basic business registration", 18 January 1995. Notes of 18 January 1995 from Statistics Denmark to the Ministry of Economic Affairs' department.

47 “The work on establishing the CVR.”, June 19, 1995, Ministry of Economic Affairs and Ministry of Taxation.

48 Pedersen, 1977, p. 235.

49 Ibid. p. 244.

50 Ibid.

2. interpretive case studies: the phenomenon studied is “understood” or interpreted using an existing theory.
3. theory-testing case
studies: the purpose is to find support for or falsify a known theoretical statement, the validity of which is considered given.
4. Deviant or critical case studies: the purpose is to test, refine or modify theories where these do not apply in particular critical situations. 5. theory- or hypothesis-driven
case studies: a unique phenomenon is studied with a view to identifying possible empirical relationships. These can form the basis for further generalizations.

If the task in this thesis is considered, it can be understood overall as an interpretation of the CVR case corresponding to point two and a theory-generating case study corresponding to point five.
The general problem in relation to this distinction between an interpretive approach and a theorizing approach is that theory is difficult to keep separate from empiricism. This sharp separation is characteristic of the positivist paradigm. In this paradigm, theory is viewed as “external” in relation to studies of social phenomena. In the criticism of this view, it has been argued that social science theories themselves are based on an interpretation of social phenomena. Furthermore, social science theories tend to be included in the practice being analyzed. In other words, the problem with a sharp separation between theory and empiricism is the role of theory itself. The starting point of this task will be that social and political processes cannot be explained by empirical laws or by identifying an “effective cause”, after which the theory can comment on these “mechanisms” in other similar contexts.

A fundamental assumption in the thesis is that actors shape social and political practice through ongoing interpretative processes. These interpretative processes can be both simple and complex.
Thus, the application of theory in the present context will also be considered an interpretative process.

Considering the models above, it could be observed that there is not only one interpretation of an integrated information system. A number of competing interpretations were observed. These interpretations include both theoretical elements and practical knowledge. Considering theory and practical knowledge, there are thus no watertight partitions between them. Theoretical and practical knowledge cannot be considered as two separate areas. Meaning frames in research contexts cannot be separated from meaning frames associated with the analyzed object. Against this background, I would like to emphasize that both in the development of theory and in the analysis of the case, there are interpretations that are based on already interpreted material.

This issue raises a general problem in the study of social and political phenomena. The problem is that both the object of analysis and the researcher are within the horizon of society's meaning. The researcher is thus forced to consider his own activity in the research. This conflict, which has become a classic in sociological social research, has been attacked from many fronts. This phenomenon has been called the "double hermeneutics":

> "The intersection of two frames of meaning as a logically necessary part of social science, the meaningful social world as constituted by lay actors and the metalanguages invented by the social scientists; there is a constant 'slippage' from one to the other involved in the practice of the social sciences”51

Habermas views the problem as two different kinds of language. He discusses it partly as the opposition between natural and social sciences, but also in relation to the latter as two different languages, namely the scientific language determined by theory-specific concepts, and the language with which the members of the concrete “lifeworld” themselves attribute their actions.

---

[51] Giddens, 1984, p. 374.

"meaning".: "The social scientist encounters symbolically pre-structured objects"52 (1984, p. 107)

In a more specific formulation, Miles and Huberman say:

> “there aren't really two compartments - “theory” and “data”. Rather there are first-order concepts, the so-called 'facts', – which never speak for themselves – and second-order concepts – the notions used by the researcher to explain the patterning of the first order concepts. So we have to acknowledge (...) that the "facts", we discover are already the product of many interpretations; that facts are events to which we have given meaning”53

In continuation of these views, both the process and structural perspectives used in the analysis of the case will be considered as both interpretative and explanatory approaches. In other words, this paper distances itself from the traditional division of social science theories into a hermeneutic perspective based on an interpretative approach and a structural perspective based on an explanatory approach. The concept of explanation used is formulated by Miles and Huberman:

> "Explanation (...) means making complicated things understandable by showing how their component parts fit together according to some rules - that is *theory"54*

The methodological ambition with explanations in the present work can thus be said to be limited.

Methodological situationism and non-reductionist explanations

In relation to the CVR case, the key point, based on the above, is to show how changed political conditions are perceived and attributed meaning by key political actors, and how they consciously choose to act or refrain from acting in order to change the political conditions. Therefore, it becomes important to examine the actors' own arguments to see how they reason, argue and make decisions in light of existing institutional conditions. I have chosen to call this methodological situationalism, which is an attempt to abolish the opposition between methodological individualism and methodological collectivism. With this methodological starting point, the prerequisite is that any change from one structural situation to another is described and explained at the theoretical level based on how different actors perceive the situation and act in it. With this overall starting point, the requirement for applied theories both in relation to technology and administration is that they use concepts that are based on a perception of both technology and processes in administration as contextual phenomena.55

Methodological situationalism is based on a view that action is contextual and situational. Here I am not claiming anything about reflexive validity, which may well be context-transversal, as Jürgen Habermas claims. According to discourse ethics, validity of claims about the world is context-transversal, despite the claims’ actual origin in a local social context:56

> "The ideal moment of unconditionality is deeply ingrained in factual processes of communication, because validity claims are Janus-faced: as claims, they overshoot every context; at the same time, they must be both raised and accepted here and now if they are to support an agreement effective for coordination"[57]

---

[52] Habermas, 1984, p.107.

[53] Miles & Huberman, 1994, p. 145.

[54] Miles and Huberman, 1994, p. 90.

[55] Andersen, Christensen, Friis, Hoff, & Melander, p. 2.

[56] Habermas 1993, pp. 55,59; 1996, pp. 4, **15.Error! Bookmark is not defined.**

[57] Habermas 1996, p.20.

What I am claiming is simply that action is a situational activity.

In addition to methodological situationalism, an implicit requirement for theory building would be, firstly, that the concepts used, with which phenomena in reality are observed, are not reductionist. And secondly, that the phenomena of reality must be considered with concepts, where not only one but several determinants are included. A relevant concept to describe this position is Bob Jessop's “contingent necessity”:

> "Contingency is as logical concept and concerned with theoretical indeterminability, "necessity" is an ontological concept and refers to determinacy in the real world" [58]

The key point with Jessop is that he removes the concept of determination from the theoretical field and makes it a question of determination in the real world. Jessop thus gives primacy to ontology. Since he has not determined a priori in a theoretical analysis that specific structural conditions determine a particular direction of development, the use of the concept thus becomes non-reductionist.

In relation to the process perspective, this means that explanations can only be contingent-historical: “... since the necessity of an actual event is indeterminable (contingent) relative to any one theoretical schema, explanations for it must be historical (or genealogical);” the structural perspective is the requirement for [59] IN the theory that it includes multiple determinants.

In other words, in relation to the topic of this thesis, it is abandoned to formulate theories in the strict sense of technology introduction. That is, a theory that is able to predict the outcome of implementing a given technology in an arbitrary given context.

The methodological situationalism and the requirement for non-reductionist explanations can be said to constitute an overall methodological requirement in the task and will apply in both the process and structural perspectives as described below. With the application of the extended institutional perspective, developed in chapter six, the CVR case will be methodologically analyzed in a process and structural perspective, respectively. [60]

The process perspective

As mentioned in the introduction, the purpose of the theoretical analysis in the technology and information part and the administration part is to develop an expanded institutional perspective, where processes in public administration will be considered as a matter of dynamic conflict management.

In continuation of this perspective on administration, the process perspective focuses on institutionalization as a process, which examines how conditions in relation to the CVR case are perceived and attributed meaning by central political actors. The starting point for the process perspective will be a sociological understanding of institutionalization as the process in which meaning, habits and norms become rules with relative stability, so that they can function as a background for collective action. However, in the expanded institutional perspective, institutionalization will not be anchored in norms, habits and behavior as in the sociological model of knowledge, but instead in communication.

Traditionally, communication is considered neutral, which corresponds to Ferdinand de Saussure's concept of language as convention. conventionally [61] In contrast, I would consider language not only as a

given means of “transmission of words” but also a social meaning- or

[58] Jessop, 1990, p. 12.
[59] Jessop, 1990, p. 12.
[60] The two perspectives are defined in Scott 1995, p. 65 and in Miles and Huberman, 1994, p. 103.
[61] Saussure 1983, p. 73.

system of meaning, where actors not only describe but also “create” the world. This thematizes the social forces behind language, which Saussure also had an eye for. If the concept of communication is considered in organizational theory, this can be placed in two historical organizational theoretical paradigms - the organic and the mechanical.62 In the mechanical paradigm, organizations are perceived “from the outside”, and the focus in this trend is the construction of organizations via abstract-theoretical determination of management, competence, group sizes, etc. The meaning aspect of communication is abstracted. A positivist view of communication is often used, where communication is simply considered as a neutral symbol system that is taken for granted. This perspective is rejected in the organic trend, where the focus has been on the actual informal patterns of behavior and interaction. Communication is often understood here with concepts taken from classical hermeneutics, where the focus is on subjectively experienced meaning.

Access to meaning in the analysis of the case will be carried out by analysing which themes are specifically expressed in reports, notes, faxes, letters, etc. A central element of the case is thus an examination of the central political actors' own arguments to see how they reason and make decisions in light of existing institutional conditions. When considering the concept of meaning, a hermeneutic and a phenomenological perspective can be adopted in continuation of the above. With regard to access to meaning in qualitative studies, the classical hermeneutic approach focuses on subjectively experienced meaning. A phenomenological [63] In it

approach can provide access to meaning via the separation of themes ("discerning of themes - commonalities and uniqueness")64 in text material.

A phenomenological approach has been used in the analysis of CVR. Here and in the following, I will understand the term phenomenon as: “The study of all possible appearances of human experience, during which consideration of objective reality and subjective response are temporarily left out of account”.65 In other words, the focus is directed towards collective opinion formation. This methodological approach is justified by the fact that the object of analysis in relation to the CVR case is communication. Thus, the uncovered technical, economic and political aspects will be considered as collective opinion formation in the administration. By collective opinion formation in relation to the CVR case, I will thus understand the formal communication in faxes, letters, notes, reports, etc.

In other words, with the process perspective, it will be possible to show that the establishment of CVR does not concern only a technical issue, but is the result of a negotiation process in which CVR is constructed and given meaning through language. The concept of information system is thus no longer technically neutral. As a linguistic concept, this is placed in the administrative discourse66 on an equal footing with the problem of departmental responsibility and economic organization.
I find the concept of negotiation particularly applicable in relation to the CVR negotiations, as there is no pre-given hierarchical authority structure in cross-departmental cooperation relations between administrations. The influence of individual ministries is particularly conditioned by whether they can formulate alternative solutions consisting of a complex composite pattern of technical, economic and departmental aspects.
In general, the process perspective focuses on historical-genetic explanations and interpretations of how a particular solution emerged from the negotiations. Emphasis is placed on a

[62] Bogason, 1988, pp. 50ff, Weick, 1987, p. 100. A frequently used and similar distinction can be observed in Scott, where a distinction is made between organizations as rational and natural systems (Scott, 1981, pp. 27ff).
[63] Miles and Huberman, 1994, p. 7. 64 Ibid. p. 7

[65] Principia cybernetica. 'http://coombs.anu.edu.au'

66 By discourse I mean “an ensemble of ideas, concepts, and categories through which meaning is given to phenomena” Hajer, 1993, p. 45.

interpretation and explanation of communication as institutionalization processes. The analysis will show how changed information responsibility, technological, economic and departmental conditions are perceived and attributed meaning by central political actors, and how they consciously choose to act or not to act to change the political conditions.

The structural perspective

In the structural perspective, I will focus on information responsibility, technical design, departmental responsibility and economic organization as produced and reproduced structural properties of the administration. With this perspective, it becomes possible to understand why the administration or society for that matter does not change radically from one day to the next. It is a question of existing structural conditions being reproduced.

Compared to process analysis, structural analysis places less emphasis on the temporal aspect. Where process analysis aims at historical-genetic explanations of the CVR process, structural analysis will aim to explain the process based on an understanding of the production and reproduction of structural conditions. As in process analysis, communication is also a central element in structural analysis.
Under the name “linguistic turn”67, there has been a general turn towards language in the social sciences in the last 20-30 years. In analyses of politics this has led to a general focus on the political role of the concept of meaning as an articulation of interests.68 The focus is neither on subjective experience of meaning nor on structural regularities, but instead on meaning contexts. In this understanding of social phenomena, these can neither be explained by determinate structures nor as a product of the free will of individual individuals:

> “The starting point is (...) that reality cannot be explained solely on the basis of human will or with reference to structural laws, but that reality is a historical construction that comes into being as a result of a complex interaction of “the already established” (institutions, laws, etc.) and ideas about the “new” change.”69

As mentioned in the quote, reality is thus seen as historical social constructions, the emergence of which comes about through interaction between “the already existing” and then notions of change. Social reality is shaped in communication and becomes a negotiated social construction. It is this dynamic that the structural approach must capture. Specifically, the following question is asked: How are information responsibility, departmental responsibility, technical design and financing produced and reproduced as structural properties in communication between involved actors. In answering this question, I will use Anthony Giddens' structuration theory.

Methodologically, the concept of structure used will be defined as rules and resources produced and reproduced in communication. Structural properties are considered here as produced and reproduced in communication. The key point is that the concept of structure is defined in contrast to a traditional view of structure. The concepts of formal and informal structures are often used as something an organization “has”. In structuration theory, structures are considered as something an organization “does”. Structures only appear by virtue of being produced and reproduced in communication. Viewed from this perspective, the concepts of resource organization, interpretive frameworks and legitimation will be considered as overall structural properties of administration as a social system.

Resources are understood as technical design, economic organization, departmental responsibility and responsibility for information. Rules are defined as the production of interpretive frameworks and the legitimization of desired interpretive frameworks. The analysis of CVR will show how the resources

---

[67] Habermas 1993, p. 194.
[68] Bob Jessop, 1990 p. 11, Jens Peter Frølund Thomsen, 1989, p. 37.
[69] Højbjerg and Marcher, 1995, p. 13.

Certain solutions of CVR emerge from the above-mentioned resources, which are included in both interpretative frameworks and in the legitimization of certain interpretative frameworks. The focus will also be on how resources are used to influence the construction of CVR.

3. The traditional view of management and information systems

The purpose of this chapter is to show how the traditional understanding of public administration and integrated information systems, respectively, focuses exclusively on technical aspects. First, the traditional understanding of administration is presented. Next, the development towards the use of integrated information systems in administration is explained. It is further explained how integrated information systems as policy phenomena have been placed as part of the modernization programs for public administration. Finally, a preliminary critique of the traditional theoretical understanding of administration and integrated information systems follows.

3.1 THE TRADITIONAL PERCEPTION OF ADMINISTRATION

In a traditional theoretical framework, administration is considered to be constituted via the constitution.70 This starting point has served as the basis for the so-called constitutional analyses. These are functional analyses based on the tasks that the administration performs or should perform.71 These analyses are usually based on the constitutional three-way division of power. The administration is associated with the executive branch of the three-way division into legislative, executive and judicial power. An example of a functional definition of administration is: ".. to delimit the organization whose main function in the system is to be executive. The organization is usually called the administration".72

In functional analyses, the parliamentary chain of control is usually used.73 This chain of control consists of four links. The starting point is the sovereign people, who elect their representatives and express their opinion in the public debate. The second link is the legislative assembly, the Folketinget, which ensures that decisions are delivered and money is allocated. The third link, the government or the executive branch, ensures that the decisions are implemented. This is done via the fourth link, the administration. Government and administration are structured with a minister as head of a department, who ensures that the implementation of decisions made in the legislative assembly is led. The chain of control itself emerges in the relationships between these four links.

If we consider the relationship between administration and government, administration is technically neutral. A sharp distinction is thus drawn between politics and administration. Weber defined rational bureaucratic administration74 by 1) control based on specialized knowledge, 2) defined areas of competence and 3) that the work is carried out based on a clearly defined regulatory framework. This system of "rational rules" is considered "generally binding norms". The system of rational rules thus legitimizes the power of those exercising authority, as long as it is in accordance with these rules. The rational exercise of power occurs on a formal basis and based on objective decisions. Personal considerations are not to be found in such a system, and the work is carried out according to the principle "sine ira et studio" (without anger and personal desire). Weber saw in this

---

[70] Bogason, 1992, p. 34.

[71] An example of a functional management definition is as follows: "... to define the organization whose main function in the system is to be executive. The organization is often referred to as the administration" Bogason, 1988, p. 2.

[72] Bogason, 1988, p. 2.

[73] Bogason, 1992, Olsen, 1972. In Olsen, the parliamentary chain of governance is presented as a model for liberal constitutional democracies. The connection between constitutional theory and the parliamentary chain of governance is made by Bogason.

[74] Weber, 1982, pp. 126ff.

This organizational form had a “technical superiority”, not least because the principle of division of labor had been implemented based on purely professional considerations.

To place the decision-making process issue more precisely in these formally organised areas, the concept of rationality is central. In relation to the parliamentary chain of control, decisions are made by the Folketinget and the government. The administration as a technically neutral area is characterised by objective-rational action placed in a regular hierarchical structure. The individual office can be defined by Weber as follows: “the body of officials working in an agency along with the respective apparatus of material implements and the files makes up the bureau”75

Thus, the office can be considered a technically neutral area that, among other things, involves working with these document archives, which are considered solely as technical aids.
Central to the traditional view of management are technical skills:

> "Technical skills is the important term here, because the characteristics of bureaucracy suggest that the organization of the bureaucracy is oriented towards, first, insulating those skills from dilution by influences from outside and corruption from within the organization and, then, grouping and specializing those skills for efficient use”76

As the quote illustrates, it is essential to precisely separate technical skills from political influence and then group and specialize these for effective application.
Actual discussion of the problem and problem solving is assumed to be unnecessary for each individual work operation. This argument is based on the fact that rule-based knowledge is considered part of the technical skills described above:

> "The reduction of modern office management to rules is deeply embedded in its very nature. The theory of modern public administration, for instance, assumes that the authority to order sudden matters by decree - which has been legally granted an agency - does not entitle the agency to regulate the matter by individual commands for each case, but only regulate the matter abstractly.” [77]

The assumption of hierarchical authority relations is central. Political decisions are made in government and channeled via the “chain of command” through the administration, where only decisions of a purely professional nature can be made. To define this “chain of command” in more detail, Weber uses the concepts of “power” and “dominance”. Power is defined as the imposition of one’s own will on the behavior of others78, whereas domination is seen as the more general condition that members of society “submit” to certain institutions in society such as legislation. Weber further distinguishes domination by virtue of authority and domination by virtue of a constellation of interests:

> "Beside numerous other possible types of domination, there are two types that form clear opposites: - namely, on the one hand, domination by virtue of a constellation of interests (and especially by virtue of a monopoly situation), and on the other hand, domination by virtue of authority (authority to command and duty to obey) (...) Dominion by virtue of authority is based on a duty to obey, a duty which disregards all motives and interests, which is duty simply and right”79

With domination by authority, administration is thus bound together as a rational organization in a hierarchical system of authority relations. If a person receives an order that he or she disagrees with, he or she is obliged to assert his or her point of view to the

---

[75] Weber, 1968, p. 957.
[76] Harmon & Mayer, 1986, p. 69.
[77] Weber, 1968, p. 958.
[78] Weber, 1982, p. 74.
[79] Weber, 1982, p. 75.

If the point of view is not taken for granted, the person is obliged to perform the task to the best of his ability.[80]

In conclusion, it can be said that administration in the traditional theoretical framework is only considered from an executive perspective. Thus, implementation analyses with this starting point will typically focus on relations between politicians and civil servants as elements of a simple management process. The political wishes for the administration are formulated and communicated and their compliance is monitored. Within this paradigm, the administration is seen solely as a neutral implementing body. Explanations for the lack of effects are often explained here by external factors. These may, for example, be natural processes.[81]

3.2 INFORMATION TECHNOLOGY AND MANAGEMENT IN A HISTORICAL PERIOD PERSPECTIVE.

This section first explains the historical use of information systems in administration. Then, the focus is on introducing the idea of integration as an element in information systems in administration. The overall focus of the report will be on which problems and problem solutions have been formulated in connection with the use of the computer. Thus, priority is not given to either the “technological” or the “social”, but instead focuses on how the computer has historically led to the formulation of new problems and problem solutions. The focus is thus on the interaction between the “social” and the “technical”.

Manual systems are “translated” into digital form

The use of computers for administrative purposes is usually dated to the early 1960s. The first Danish computer, DASK, was constructed in 1957 and I/S Datacentralen was established in 1959.

Technologically, the use of computers for administrative purposes is made possible by the fact that it becomes possible to represent characters in digital form. Previously manual archives are transferred from paper to other media. Specifically, these were punched cards, card strips and later magnetic tapes.
Characteristic of these media is that they are read sequentially. With this medium, one or more permanent files on magnetic tape were often operated on, and these were then updated via transactions, which were often represented in the form of punched cards. Applications were constructed for each work area. Central to the application was that no real integration occurred as a result of the new technology. Tasks that were previously performed separately were also performed separately in the automated system. The most significant change in the working situation consisted of collecting corrections together during the day and then having them performed once a day or once a week. The execution of these tasks under state auspices was during this period handled by the Data Center. In practice, transactions were coded on punched cards and transported in the Data Center.
Physically, these runs took place in the same building where the mainframe was located. This execution of transactions in batches was called batch runs, a concept that has now crept into every organization with a large computer.

---

[80] "If he receives an order he disagrees with, he is obliged to make his views known to his superiors. If, however, he maintains his position, it is assumed that the official carries out the order to the best of his ability. Bureaucratic ethics dictate that the duty of obedience ranks highest. The bureaucrat's position must be based on a professional assessment and be completely independent of personal likes and dislikes" Olsen, 1972, p. 26.

[81] “For many diseases, most people recover on their own, which may be the real explanation for why the effect of an administrative measure has an effect on some but not on others.” Winter, 1994, p. 114.

In the early days, the problem of information technology was formulated exclusively in technical terms, aimed at handling a completely new technology. With a simple application of the technology for administrative purposes, the task consisted of a "simple" translation of existing systems from manual to digital form. As the systems grew larger, new problems emerged. However, these were not primarily of a technical nature.
The problem can be formulated as an organization and coordination problem: how to coordinate the new type of work process that must be carried out in connection with the construction of computer systems?

Systems development methods are introduced to solve the organization and coordination problem. One such method is SYSKON (SYStemKONstruktion)82 formulated as part of a project under the EDB-rådet (1968-72). The method has formed the background for most development projects in Denmark and is still used today. The method recommends dividing a project into a number of successive temporal phases and a division of actors associated with the project. The phases are idea, analysis, sketch, design, specification, programming, conversion and operation phases.
The actors are divided into a group of decision-makers, a group with performing activities and a reference group, which will coordinate between future system users.

The integration is introduced.

With the development of direct-read and -write media, the traditional batch environment with the bundling of transactions was replaced by "online solutions". In the batch-oriented information systems with increasing amounts of information, the problem of establishing connections between previously separate information systems was faced. A phenomenon that is still very widespread, for example, in the case of the merging of registers. Currently, the "creation of the connection" between registers is still a subject of political attention. For example, the political problems of the merging of unemployment insurance fund and company registers for the purpose of controlling the allocation of social benefits are being discussed.

If the integrated system is considered as the collection, storage, processing and transmission of data, the crucial technical difference compared to traditional batch systems is that all these elements undergo centralization. Previously, the individual information systems were characterized by a direct connection to task areas. Collection, storage, processing and transmission were often managed by one and the same person, who acted as responsible for a given management area.

The effort in the integrated information system is the design of the elements of acquisition, storage, processing and transmission as a common resource for the entire organization. The introduction of the concept of "Corporate Database" expresses this effort.
For example, it is not "rational" to have the same data about customers registered in both the accounting and marketing departments. Data about customers and other data are placed in the common database, and applications are built that meet the needs of the accounting and marketing departments. In addition, processing is centralized, as functions that were previously performed decentralized are now implemented as part of a central system. An example of integrated systems in the administration is efforts to establish common journalization systems under state auspices.

Theoretical reflections are an element in this development towards the establishment of integrated information systems. A dominant trend is referred to by the English acronym MIS ("Managing Information Systems"). A corresponding trend is referred to as "Information

[82] Anderson, 1986.

Engineering".83 This theory is based on an organizational strategy, where the important thing is to determine what information is needed to implement the chosen strategy. In contrast to previous designs of strategies for computer use, "Information Engineering" includes all tasks that are carried out in a given organization. A data model84 is then established for the entire organization. With this data model, redundant information and workflows can be removed. Information that is used in several places is stored in only one place and appears in only one place in the data model.

With this trend, the theoretical prerequisites are present to formulate an ideal of an integrated information system. The primary application of this theory has been more technical centralization of data than actual comprehensive organizational changes.85
Thus, CJ Date86 is often used exclusively as the overall theoretical framework for the introduction of new information systems. With this framework, the following issues are thematized:

1. Redundancy can be reduced
2. Inconsistency can be avoided
3. Data can be shared
4. Standards can be enforced
5. Security restrictions he enforces
6. Integrity can be maintained.
7. Conflicting demands can be balanced.

Considering the presented theoretical framework, it can be seen that the problem regarding the introduction of integrated information systems is formulated exclusively with a focus on technical aspects. For an overall assessment of integrated information systems as a phenomenon in the administration, the next section will illustrate how the database thinking has concretely translated into government policy publications. As will be seen, this ideal does not only cover the Danish administration, but also includes an ideal of integrated information systems at the EU level.

3.3 INTEGRATED INFORMATION SYSTEMS AS A POLICY PHENOMENON.

In relation to the establishment of databases and communication infrastructures, the administration's reflections are clearly seen in the Ministry of Finance's report *Effective IT in the Government87* from 1989. The starting point in the report is that IT has predominantly been used for the automation of existing tasks:88

> "Throughout the 70s and 80s, we have become accustomed to using IT to automate large routine tasks (e.g., benefit payments and tax collection) and to support well-known

---

83 This trend dates back to the early 1980s. A central work is *Information Engineering* from 1981 by Clive Finkelstein and James Martin. A more recent development is seen in Edwards et al. (1991) with the book *The Essence of Information Systems.*

84 A data model is defined by a series of "entities" containing properties of each entity. In addition, relationships between entities are specified. An example of such an entity is a model with the entities customers, orders and products. In the entity customers there is an instance for each customer. Similarly, there is an instance for each product in the entity products. In the entity order, one or more relationships are established from a customer to the order entity.

85 Date, 1990, Edwards et al. (1991), Finkelstein and Martin (1981).

86 Date, 1990.

87 *Effective IT in the state - report from the IT Policy Committee on the state's use of information technology in the 1990s* Ministry of Finance, Department of Administration and Personnel, April 1992.

88 Ibid. pp. 21-27.

> work processes, such as accounting, word processing and journaling (...) After the introduction of computers, the same people have performed the same work, now only with the help of computers"89

Manual tasks are translated into digital form. Establishment of communication technology solutions is introduced as a new element. Emphasis is placed on building a general information network with data communication across traditional organizational boundaries, including, among others, between public and private and between the state and the EU:

> "Appropriate development requires that the individual state institutions establish data communication solutions that ensure that everyone can communicate with everyone within the state, and that other sectors can easily establish communication links with the state (...) The Ministry of Finance should investigate whether it would be possible and advantageous to establish joint communication facilities between the Danish administration and the EU administration"90

Based on the demand for renewal of the public sector and the ideas about the use of information and communication technology described in *the Info-society year 2000*
Information and communication technology is now given significant importance.

The state IT policy in *Effective IT in the state* is formulated with the following elements:

> "Results orientation: ensures that IT is integrated into the general modernization and efficiency policy.
> Market management: used to the maximum
> Decentralization: problems are solved at the lowest possible organizational level. Only when there are special reasons should higher levels intervene"91

The last element is consistent with "Information Engineering" as described above. Strategies must be formulated at specific levels depending on the use of data.
Four levels are used: an institutional, ministerial, national and EU level. In the ideal understanding of information systems, data analyses should in principle be carried out and a strategy and data model should be designed at each level. Only where there are cross-cutting national interests such as data communication, security and supranational IT interests should a national policy be formulated by the Ministry of Finance. The IT policy tasks are then divided based on the above levels. At the institutional level, the following applies:

> "As part of its corporate strategy, each individual state institution must formulate a strategy for how it will utilize information technology ... and the results must be followed up - through the establishment of measurable success criteria"92

At the ministerial level, an IT coordination structure must be established:

> "This applies in particular to the inclusion of IT in "group management" and the exploitation of data communities in the ministry's areas and in the parts of society that the ministry's work affects"93

At the national government level, the role of the Ministry of Finance is highlighted:

> "The Ministry of Finance should - as before - assume overall responsibility for the implementation of the joint state IT policy in the areas of action where a joint state effort is necessary"94

At the EU level, the state must ensure open systems through standardization, regulation of public procurement and creating data communication between the EU and the national administrations.

In conclusion, it can be said that integrated information systems have become the subject of significant political attention. With *Effective EDB in the state* and especially *the Info-society of the year 2000*

---

89 Ibid. pp. 41-42.

90 *The information society in the year 2000*

91 *Effective IT in the state,* p. 1.

92 Ibid. p. 30.

93 Ibid. p. 31.

94 Ibid. p. 31.

The ideal is formulated as an integrated information system that should encompass large parts of the administration. Furthermore, this ideal has been positioned as an essential element in publications, etc., that focus on decentralization and market orientation of the administration.
Information technology is thus established as an important element in the renewal of the public sector.

3.4 A PRELIMINARY CRITICISM OF THE TRADITIONAL UNDERSTANDING OF ADMINISTRATION AND INTEGRATED INFORMATION SYSTEMS

In general, there is a correspondence between the traditional management theoretical understanding and the government IT strategy for integrated information systems. The impact on management is formulated exclusively as a technically neutral relationship.

The theoretical sources of inspiration from “management information system” literature clearly shone through in the Ministry of Finance's formulation of the ideal of connecting the administration in a comprehensive communication network.

Theories of this type typically describe, from a normative theoretical perspective, how an administrative organization and its current or future data processing and communication processes can be analyzed and then supported and built in the form of an information system.

Such theories are fundamentally based on, firstly, systems theory, where a given process is broken down into its components or sub-processes, also called subsystems, and secondly, information theory, where communication and the content of communication can be broken down into some specifiable minimum units, namely information. Theories from this perspective are thus method-recommending. A systems development method is “...a method that can be used when developing a new computer system”.95 There are a large number of theories in this area, and new works are constantly being added with their special “discoveries” of processes in the organization that can be supported - routine tasks, the tasks of middle managers, specialists and top management, the communication between them, etc.96

If these theoretical contributions are considered in relation to administration, they are all based on a “Weberian” model, where administration must neutrally provide information to political decision-makers.
This framework explains both normatively and descriptively how decisions are made. These are deduced from a functional systems theory understanding of management. Deviations from this model are formulated as a management problem:

> "... an organization constantly aims to increase the extent to which its decision system is guided by a criteria of rationality and its actions maximize the interests of the organization as a whole. Such an organization will be controlled firmly by top managers, whose authority is evident on the organization chart”97

Thus, this theoretical framework does not provide tools that are able to view the decision-making process as a complex, composite problem-solving activity, where, in addition to technical-rational factors, political and economic aspects also appear as central aspects when introducing integrated information systems in administration.

---

95 Pries-Heje, 1995; p. 121.
96 The range of works is long: Wood-Harper, Antill & Avison (1985), Edwards, Wards & Bytheway (1991).
97 Danziger, 1992, p. 13.

3.5 SUMMARY

In the first part of this chapter, the traditional view of management was presented. The introduction of information technology into administration was then explained. It was found that the focus was primarily on technical aspects of the introduction of integrated information systems. Viewed as a policy phenomenon, it was found that the theoretical framework from the MIS literature was dominant. Finally, it was pointed out that both the traditional management concept and the theory of information systems are based on a simple system model. With such a basis, the introduction of information systems cannot be conceptualized as a complex interplay between technical, economic, information and resource-related factors. In the following, an alternative theoretical framework will be set up. First, the focus is on technology and the concept of information in Chapter 4. Then, the focus is on management theory in Chapter 5.

4. Theoretical perspectives on technology, information and knowledge.

This chapter first presents the traditional distinction between a “voluntaristic” and a “deterministic” conceptual framework. Next, a social constructivist conceptual framework is incorporated into the understanding of the interaction between “the social” and “the technical.” An argument is made for understanding technology as an interaction, where technology as a political artifact is given explanatory power.
The concepts of knowledge, information and data are then analysed. Information is defined contextually in relation to knowledge in an area. Against this background, a sociological and political understanding of information and knowledge is included, where knowledge is seen in relation to institutionalisation processes in society but also as a resource of influence.

4.1 PERSPECTIVES ON THE CONCEPT OF TECHNOLOGY.

When the concept of technology is considered in relation to society, two positions are traditionally defined.

The first position operates with an understanding where technological research is carried out centrally at universities and in laboratories as basic research, after which these are neutrally put to use decentrally and by others. This position views technology as a neutral good that must be put to use in the “service of society”. Technical development is described and analysed on the basis of its own development logic, and technical innovations are seen as the primary source of societal change. This view of technology is clearly reflected in the state’s policy publications, where technology is explained functionally. This is a normative understanding in the sense that technical development in itself is seen as a good with positive effects for society as a whole. In this position, technology is chosen rationally on the basis of an assessment of whether the technology contributes to better goal achievement in relation to the functions of a system. The position has thus been said to have a voluntary element.

In the second position, both technological development and the application of new technology are seen as determined by economic and political conditions in society. This position has primarily drawn inspiration from Marxist movements in the 1960s and 1970s. The overall political and economic logic is extended to include technological development. The economic “rules of the game” determine development, including decisions regarding information technology.[98]

[98] This view can be placed within the capital logic paradigm. See Hans Jürgen Mendner (1976), who shows that how capitalist development imposes a specific course of development on the labor process.

In the two above-mentioned positions, which can be characterized as being based on a voluntarist and determinist view respectively, technology is not attributed explanatory power. The two positions appear in boxes 1 and 2 in Figure 4.1.

Theoretical position / **Perspective on technology**	**Voluntarism**	**Determinism**	**Contextualism/non-reductive**
Technology is not an explanatory e factor	1. Traditional theory (Finkelstein, Date)	2. “Structural determination ism” (Mendner)	3. The “Reinforcement” thesis (Danzig)
Technology as explanatory e factor	4.”Technology-e"	5. “Technology determinism” (Ellul)	Optimism 6. The “social” and the “technical” in an interaction relationship. (Bijker, Winner)

Figure **4-Error! Unknown argument for parameter. Overview** of theoretical positions divided by perspective on technology.

In Figure 4.1, a deterministic and voluntarist position is further distinguished, where technology is given explanatory power, cf. boxes 4 and 5. The position designated as technological optimism in box 4 has gradually slipped out of sight. This view is included because it is often forgotten that historically there has been a perception of technology as liberating. This view has been central since the industrial revolution and well into this century. Thus, the following formulation of technology appeared in 1877: “Technology must be perceived as an extension of our organs; with the help of these “extensions” we gain the opportunity to develop ourselves intellectually, morally and culturally. We acquire the opportunity to approach the utopias of human life.”99

Theoretical positions in this category can be seen in contrast to a more uncertain and hesitant attitude towards the possibilities of technology today.

If we consider the position designated as technological determinism in box 5, the perspective is turned 180 degrees. As in the technological optimism position, the focus is on the impact of technology on society, etc., but emphasis is placed on how technology leads to a “rational-instrumental” dominance. Ellul is an important representative here.100 Technology here constitutes a self-determining closed circle, and every problem created by technology is sought to be solved technically. This phenomenon is covered by the concept of “technique”: “The term technique, (...) does not mean machines, technology, in this or that procedure for attaining an end. In our technological society, technique is the totality of methods rationally arrived at (...) in every field of human activity”.101 According to Ellul, the technological society can be characterized by processes that are causally determined by “technique” and not governed by end goals.

Value issues and human control are not possible for Ellul. Explanations of technology from this perspective have gradually been taken off the table. The position does not provide concepts for either contextual interpretation or explanation according to the overall methodological starting point presented in chapter two.

~~The distinction between voluntarism~~ and determinism is considered too narrow in the present context. In Figure 4.1. a third theoretical perspective is thus distinguished - contextualism. By contextualism here is meant that technology is not explained on the basis of the

[99] Siggaard & Jensen, 1986, p. 11.
[100] Ellul, 1964.
[101] Ibid., p. 7.

human will or with reference to structural laws. Instead, the starting point is that technology must be understood based on interaction rooted in a social and political context. Furthermore, contextualism emphasizes that reductionist explanations cannot be used but instead that technology is determined by a number of contingent factors. Contextualism is in this context primarily a methodological perspective with a focus on the contingent nature of technology.

In box 3 I have placed the “reinforcement” position represented by Danziger.102 Like the positions in box 2, the focus is on structural conditions, but unlike the structural determinism in box 2, the level of ambition is lowered with regard to explanatory power.
There is a greater emphasis on information technology in relation to political processes in administration. It is assumed that there is a dominant coalition in a given political-administrative system:

> "This approach posits that there is a dominant interest or dominant coalition in any given local government. And the central assumption for reinforcement politics is that a resource like computing will primarily serve the interests of the dominant coalition, regardless of who controls the computing resources (...) Hence computing will reinforce the power and influence of those actors and groups who already have the most resources and power in the organization”103

This theoretical position is perceived as a contextual non-reductionist theoretical contribution, as influence on technology adoption is considered contingent in relation to existing positions of power.

The “Reinforcement” thesis was developed on the basis of studies of computer use in American state administrations. The results of this study showed that computer introduction led to a reinforcement of existing power structures via structural coupling between decisions about technological change and existing authoritative structures. Which group was favored was thus conditioned by the transformation of existing power relations.
It can thus be traditional hierarchical positions of power, the power position of a technical elite or other power factions in administrations.

In this perspective, the introduction of information technology is related exclusively to power interests in administrations. Explanations of technology introduction are reduced to effects of existing power positions. Technology is taken for granted here as a dependent variable to be explained. In relation to the CVR case, power positions are central, but I find that these explanations can only act as partial explanations.

Within contextualism, a social constructivist theoretical framework is presented in box 6. This position primarily stems from a critique of the positions of structural determinism and technological determinism in boxes 2 and 5, respectively. Social constructivism generally distances itself from “mono-causal” explanations, where either “the social” or “the technical” is designated as the “effective cause” to explain technology: “Speaking about “effects” or “consequences” of technology is highly problematic. Depending on specific contexts and conjectures technology is both cause and consequence; determining and determined.”104
Technology cannot therefore be conceptualized as being conditioned by, for example, power or a given economic rationality.

---

[102] Danziger, et al., 1982.
[103] Ibid. p. 18.
[104] Donk & Meyer, 1994, p. 5.

Instead, a contextual perspective on technology is recommended, where “the technological” and “the social” should be considered in an interaction and “coevolution” perspective: “There is a dynamic interaction and coevolution between technological and social “systems”.105

In other words, technology is constructed in interaction between many different actors. With this in mind, it is recommended to focus on interaction and to a lesser extent on “technology”.
Trevor Pinch and Wiebe Bijker have introduced the concept of “the seamless Web”. [106] With this concept, technology and society are considered as a “web” or “network”, where it is impossible to separate the “technology” from the social context. Against this background, Pinch has introduced the concept of “technological frame”. With this concept, the intention is to capture how artifacts are constructed in concrete social contexts:

> "The concept of "technological frame" is intended to apply to the interactions between various actors. Thus it is not an individual characteristic, nor the characteristics of systems or institutions; frames are located between actors, not *in* actors or *above* actors. (...) A technological frame is built up when interaction around an artifact starts and continues”107

Central to the issue is this position's focus on knowledge and its central role in relation to the concept of technological framework. This is not only explicit knowledge but also everyday knowledge that is not necessarily or cannot be expressed explicitly: “a technological frame (is) a combination of current theories, tacit knowledge, engineering practices such as design methods and criteria, specialized testing procedures, goals, and also handling and using practice”.108

With this starting point, the concept of “interpretation flexibility” is introduced. This concept aims to capture the fact that technology can be constructed and interpreted in widely different ways:

> "Technological artifacts are culturally constructed and interpreted ... By this we mean not only that there is a flexibility in how people think of or interpret artifacts, but also that there is flexibility in how artifacts are designed. There is not just one way or one possible way or one best way of designing an artifact”109

The quote shows the concept of artifact as central within this position. The concept of artifacts is used for technology when it is given meaning in a specific social interaction relationship. In relation to the CVR case, the five models are thus considered artifacts. The models are part of collective meaning-making in communication in the administration.

A final central element is the concept of “closure.” This concept analyzes how interpretive flexibility disappears or ceases:

> "Closure, in the analysis of technology, means that the interpretive flexibility of an artifact diminishes. Consensus among the different relevant social groups about the dominant meaning of an artifact emerges and the pluralism of artifacts decreases... it is important to recognize that the closure is almost irreversible".110

A more specific definition of the method for analyzing technology will be presented in Chapter 6, where an actual operationalization is made for the analysis of the CVR case.

If the models presented in chapter two are considered as artifacts, the negotiations leading up to the adoption of the CVR Act can be seen as a series of different interpretations of how such a system should be built. There is not just one possible way to design this system. Relevant

---

105 Ibid.

106 Bijker & Pinch, 1987, p. 30.

107 Bijker, 1990, p. 123.

108 Ibid. p. 119.

109 Bijker & Pinch, 1987, p. 40.

110 Bijker, 1990, p. 93.

Social groups here are ministries, each of which has an interpretation of the CVR considered as an artifact. Closing the interpretative flexibility is established with the CVR Act.

The problem with this theoretical position is the lack of focus on power and influence.
This criticism can be said to be formulated by Danziger's “reinforcement” thesis in box 4.
The problem with this position is a lack of conceptualization of technology.

More specifically, social constructivism can be criticized for not allowing all interpretations to be expressed. There is no flexibility in the interpretation, and thus a lack of conceptualization of how certain groups have greater influence on the interpretation and thus on the construction of artifacts.111 A similar criticism is formulated by Langdon Winner. The focus here is on the concept of “relevant social group”. The concept is taken from a pluralistic conceptual framework. A general criticism of this framework is, among other things, formulated via “non-decisions” by Bachrach and Baratz.112 There are decisions that are never accessed or put on the agenda. According to Winner, the consequence of social constructivism is that differences in power and influence cannot be conceptualized, whereby social constructivism is conservative at its core113:

> "By noticing which issues are never (or rarely) articulated or legitimized, observing which groups are consistently excluded from power, one begins to understand the enduring social structure upon which more obvious kinds of political behavior rest. Failing to do this, social scientists offer an account of politics and society that is implicitly conservative, an account that attends to the needs and machinations of the powerful as if that were all that mattered"114

Winner is often placed together with Ellul and Marcuse in box 5.115 I believe that Winner's contribution is thus mistakenly reduced to a “technological deterministic position” in which technology is designated as the effective cause. With the introduction of the concept of contextualism, I will place Winner as a central theorist in this context, as he is able to conceptualize technology as a political artifact.

The concept of political artifacts is used for technology when it is given meaning in interactional relationships in a political context. The concept of politics will be discussed in the following chapter. Considering Winner's position in relation to the "reinforcement" thesis, it is true that Winner is able to thematize variations in the design of technology. Considering the issues raised via the "reinforcement" thesis, these do not differ from other policy areas.

In his critique of Danziger’s position but also of the traditional conceptualization of technology use, Winner uses the concept of “sleepwalking” to characterize theoretical efforts to understand the social and political structuring properties of technology.116 Winner argues that the perspective in traditional technology theories has been limited by “making and use”. This is the case, among other things, in the traditional understanding of technology in section 1, where a distinction is made between a production and user perspective. In the production perspective, only a narrow group of researchers, technicians, etc. are seen as producing the technology. In the user perspective, technology is seen only as instrumental devices that lead to improved “performance” in already known areas. According to Winner, the conventional understanding of technology as neutral must be replaced by an understanding that focuses on how technology structures human activities:

---

111 Hunter, 1995, p. 24.
112 Bachrach & Baratz, 1962.
113 This issue will be addressed later in the following chapter on administration.
114 Winner, 1992, p. 369.
115 Andersen, et al. 1994, Donk & Meyer, 1994.
116 Winner, 1986, p. 9.

> "The crucial weakness of the conventional idea is that it disregards the many ways in which technologies provide structure for human activity. Since according to accepted wisdom, patterns that take shape in the sphere of "making" are of interest to practitioners alone, and since the very essence of "use" is its occasional innocuous, nonstructuring occurrence, any further questioning seems irrelevant. If the experience of modern society shows us anything, however, it is that technologies are not merely aids to human activity, but also powerful forces acting to reshape that activity and its meaning."
> [117]

The instrumental and functional understanding of technology does not help us when the technology is placed in a concrete practice. The consequence of operating solely on this basis is that unintended side effects are not conceptualized. These side effects become apparent in the concrete practice: “later does the broader significance of the choice become clear, typically as a series of surprising “side effects” or “secondary consequences””.118

Winner's criticism is that technology as a political artifact is not given explanatory power. In relation to Danziger and the social constructivist position, his criticism is, in other words, that technology has been analyzed as a simple cause-effect relationship, where technology is assigned the role of the dependent variable caused by power in administration. What I want to focus on in this context is Winner's recommendation of a historical perspective, where technology is analyzed with a focus on how technology is given and provides structure in political contexts by some groups having greater influence on the design of technology than others.

The problem with the above positions is that there is a lack of focus on the distinctiveness of information technology. Following Winner, the claim here is that information systems as a form of technology differ radically from other forms of technology. Information systems can be considered as forms of technology that enable the materialization of knowledge. Against this background, the question of technology becomes not only a question of existing positions of power as in Danziger and not only a question of the design of concrete artifacts as in Pinch and Bijker and Winner. To shed light on this issue, I will first discuss the concepts of data, knowledge and information and then approach a conceptualization of the knowledge issue.

4.2 DATA, INFORMATION AND KNOWLEDGE

In the introduction, the following definition of information systems was introduced: acquisition, storage, processing and transmission of information. The problem with this definition is that it only conceptualizes the functions of an information system. “Data”, “information” and “knowledge” are concepts that are often taken for granted.

This was particularly pronounced in the traditional technology paradigm of “Management Information Systems”, where an instrumental understanding of data, information and knowledge is used exclusively. In this paradigm, the figure below is often used to depict the perception of data, information and knowledge. This perception has been criticized for operating with a perception of data and information in a database as an “objective” picture of “reality”.119. Winograd and Flores and Dahl/Mathissen criticize the assumed rationalist scientific position in this paradigm. Nurminen criticizes that only “facts” and not “values” are represented.

---

[117] Ibid. p. 6.

[118] Ibid. p.9.

[119] Winograd & Flores, 1985, p. 17, Nurminen, 1988, p. 52. Dahlbom & Mathiasen, 1993, p. 9.

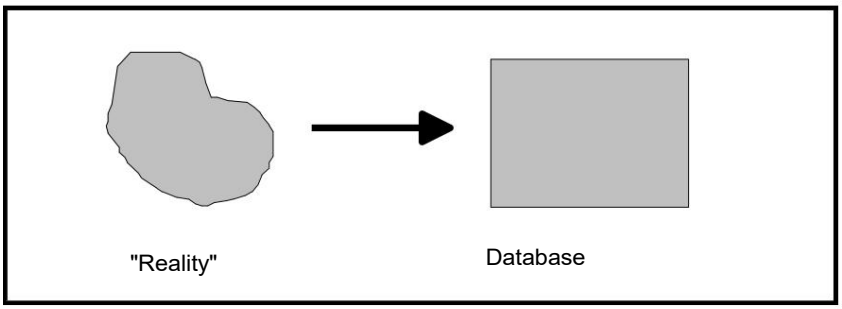


Figure **4-Error! Unknown argument for parameter.** Traditional view of data as 'objective picture' of 'reality'

Important in this context is to define data and information in relation to the context in which they are included. Thus, I will use a definition of the concept of information in contrast to the concept of data. Data is defined as physical quantities and is context-independent. Information will be defined as context-dependent and conventionally determined. Per Flensburg has formulated this precisely as a problem in relation to meaning, interpretation and action:

> "Data (are) symbols without any meaning. Data processing involves the manipulation of these symbols according to strict formal rules. This is what computers can be used for. Data that is placed in a syntactic structure provides information that is interpreted in different contexts by a person and leads to certain actions being carried out. Which actions depend on the interpretation and thus also on the knowledge that is associated with information" 120

As can be seen, it is central that the concept of information is related to actions that rely on the interpretation of data (data is transformed into information). The social and political context of data or, more broadly, signs is important. Equally important, however, is that they represent something. Data represents objects and conditions. For example, businesses are represented by industry, name, address, telephone number, etc. When this data is considered in a context and thus as information, it expresses a perception of the "world" seen in relation to the individual administration. In other words, information is considered part of the knowledge that the administration brings in symbolic linguistic form and uses to orient and understand itself in relation to a given area. The administration's data can thus be said to express its "worldview". Data considered as information will thus be perceived as knowledge in an area that can be brought into a syntactic-formal structure. In other words, information can be considered as a limited section of the "language".

Similar considerations have been made by Boisot121. The analytical framework established by Boisot aims to view data and information in a dynamic perspective, where a bridge is built between the study of concrete physical data and the study of how these take shape in social and political practice:

> "The analysis of data flows and of their institutionalization builds a bridge between the study of tangible objects and the study of meanings. As such it provides a foundation for what Giddens refers to as the process of structuring"122

Boisot takes as its starting point a widespread criticism of the representation paradigm within AI research, which sees human processing of data from a mechanical perspective. In this perspective, intelligence consists partly of representing "objects in the world" and partly of operations performed on these representations. This problem is analogous to the problem of representing reality as data described above. In contrast to the mechanical

---

[120] Flensburg, 1987, p.108.
[121] Boisot, 1995.
[122] Boisot, 1995, see

representation model, Boisot's conceptual framework focuses on how data is shaped and processed:

> "How is data extracted from data by human information processing agents? Man intercepts data from his external environment in such a way that if it is subsequently processes, it acts upon him informationally rather than mechanically. Data processing is subject to two distinct yet interrelated economizing strategies"123

It appears that Boisot, in contrast to the mechanical representation model, emphasizes that a selection occurs when reality is perceived. This selection of data is determined contextually. Boisot characterizes the contextual determination by two strategies.
The strategies are coding and abstraction, respectively. The first concept, coding, is a context-specific selection of data and thus information and organizes sensory data into sensory categories. These categories are organized via abstraction into concepts. With a set of concepts and sensory categories, generalizations can then be made according to Boisot's concepts. With generalizations as a combination of sensory data categories and abstract concepts, data can then be used with specific goals in mind.

Coding is defined via selection from a repertoire of possibilities. Through selection, sensory data categories are organized:

> "The first coding, is an act of selection from a repertoire of possibilities that is performed with varying degrees of efficiency. Such coding organizes sense data into perceptual categories."124

The second concept Boisot uses is abstraction. The concept is defined as the economization of sensory categories. With the concepts of coding and abstraction, generalization is defined as a connection of abstract concepts and sensory data categories:

> "Abstaction leads to generalization, a process that links together ostensibly different categories, whether these are perceptual or conceptual, allowing them to be handled for sudden purposes as a single entity."125

In the figure 4.3 below, these processes are illustrated graphically. The figure also introduces the concept of time, marked by arrows. We start with the concrete sensory data that is perceived. By combining what is perceived with already abstract concepts and sensory categories, existing abstract concepts are formed.

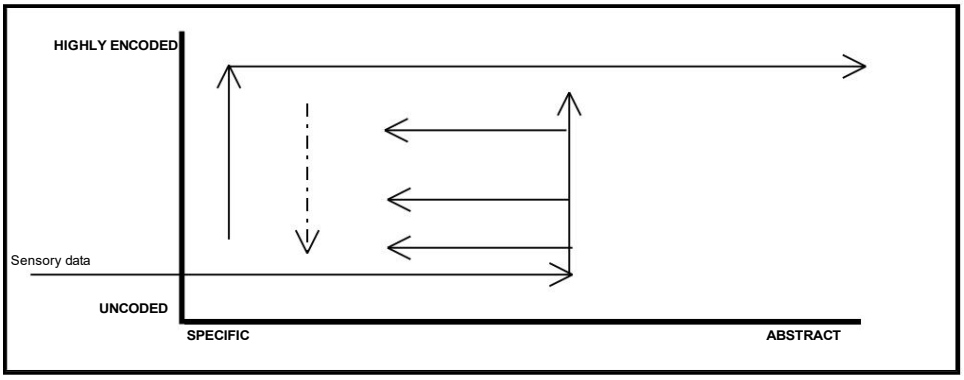


Figure **4-Error! Unknown argument for parameter.** Coding and abstraction spanned by abstract/ concrete and uncoded/highly coded.

---

[123] Boisot, 1995, p. 39.
[124] Boisot, 1995, p. 39.
[125] Boisot, 1995, p. 39.

Of interest in the present context is of course the coding and abstraction that takes place in relation to administration. As abstract objects, administration operates with companies, people, buildings, etc., all of which gain renewed meaning with the use of information systems, as these abstract concepts can be brought into concrete form as artifacts.
This is marked by the arrow pointing downwards in the figure.

As an example of abstract concepts in relation to the CVR, legal entity and production unit appear as objects with properties, where the interest is directed towards the company as an object that must pay tax, VAT, customs duties, etc. In statistical contexts, it is the counts and analyses of companies that are of interest.

If we consider information technology in the model in Figure 4.3, it takes on a central role in relation to communication and information storage technologies of the past. Through the use of this technology, it is possible to materialize knowledge to an extent that has not been possible before. With this model, an alternative has been formulated to a simple mechanical understanding, where information is simply seen as a mirror image of reality.

In the above, the traditional view of information as a representation of reality is problematized. Via Boisot's concepts of coding and abstraction, information can be understood as artifacts. An attempt has been made to build a bridge between the study of concrete physical data and the study of how these take shape in a social and political practice. The central issue now becomes which information and thus which knowledge is shaped as elements in a political and social context.

4.3 INFORMATION AND KNOWLEDGE IN A SOCIOLOGICAL PERSPECTIVE.

The issue of information is viewed in this section not only from a philosophical perspective as above but from a broader sociological perspective of knowledge. In this perspective, the focus is on knowledge as a phenomenon that cannot simply be considered as a residual in relation to society but which plays a central role in relation to society's institutions. This will be done based on Daniel Bell's theory of the post-industrial society and later with the inclusion of Berger & Luckman's sociological position of knowledge. Against this background, it is possible to conceptualize how knowledge is institutionalized in society.

Knowledge viewed from Bell's perspective

Daniel Bell126 is probably one of the first theorists to have specifically focused on data, information and knowledge as essential characteristics of modern society, including his major work *The Coming of Postindustrial Society.127*

Important in relation to my problem is Bell's observation of theoretical knowledge as a central element in the organization of society. With the distinction between industrial and post-industrial society, Bell states:

> "Industrial society is the coordination of machines and men for the production of goods. Post-industrial society is organized around knowledge, for the purpose of social control and the directing of innovation and change; and this in turn gives rise to new social relationships and new structures, which have to be managed politically"128

For Bell, information technology is thus secondary to the concept of the post-industrial society or the information society. In other words, according to Bell, we cannot

[126] Bell, 1973.
[127] Bell, 1973.
[128] Bell, 1973, p. 20.

examine information technology without first determining what kind of society needs this technology.

Form of society:	Resources	Technology
Pre-industrial society	Raw materials	Crafts
Industrial society	Financial capital	Machine technology
Post-industrial society	Knowledge	Intellectual technology.

Figure **4-Error! Unknown argument for parameter.** Overview of Daniel Bell's placement of strategic resources and technology in relation to social form.

Figure 4.4 shows an overview of Bell's placement of strategic resources and technology in relation to social form. Bell contrasts the post-industrial society with the industrial society by the following main characteristics:

1. Transition from an economy based on the sale of agricultural and industrial products to a service economy based on knowledge.
2. In industrial societies, the main occupation was 'processing nature'. In post-industrial societies, society is about processing knowledge and information.

Information is defined at Bell as:

> 'By information I mean data processing in the broadest sense: the storage, retrieval and processing of data become the most important resources in all economic and social exchanges'129

Bell defines knowledge as:

> "By knowledge I understand an organized set of statements about facts or ideas, (....) which are conveyed to others through a communication medium in a systematic form. I thus delimit knowledge from news or entertainment. Knowledge consists of assessments (research or studies) or presentation of old assessments (textbooks, teaching and library and archival materials)"130

Bell bases the distinction between industrial and post-industrial societies on a "quantitative finding" of shifts in employment from primary and secondary occupations to service occupations.
As an innovation in this shift, Bell notes the introduction of methods for handling theoretical knowledge as well as the development of technology that can handle this knowledge.

The problem with Bell's position in relation to my overall methodological starting point is that he uses knowledge as an independent variable. He thus does not capture the interaction between knowledge and other determinants. He is thereby unable to conceptualize how the shaping of information technology and the distribution of information are also conditioned by phenomena of power and influence. Thus, it is a reductionist conceptual framework. If the concepts of power and influence are brought into relation to Bell's concepts, the distinction between industrial and post-industrial society must be considered questionable, since phenomena of power and influence cannot be said to have disappeared with the transition from industrial production to service production.

Hans Siggaard Jensen and Ole Skovsmose131 have attempted to "dig a sod deeper" in an attempt to arrive at a better conceptualization of information technology in relation to

---

[129] Bell, 1973, p. 20.

[130] Bell, 1987, p.19.

[131] Jensen and Skovsmose, 1986, pp. 57 ff.

other forms of technology. They introduce the following typology: 1. tools, 2. energy technology, 3. social technologies and 4. information technologies.

First, we distance ourselves from defining technology narrowly as a tool, as this only includes computer screens, networks, hardware, software, etc. This is too narrow to fill out the concept of technology. The concept of technology in this sense is the traditional one, where technology is inserted as a human-nature relationship. Through the production of tools, humans gain power over nature. This is characteristic of tools and energy technology and to some extent social technologies such as the clock.

In terms of information technology, information can be viewed in two ways. There can be theories of information as concrete objects materialized as data in the form of bits on a wide variety of media, and information viewed as elements that are communicated and given meaning and significance in a social context. The first view of information is based on the “Information Theory”, founded by Claude E.
Shannon. In the article "A Mathematical Theory of Communication" he operates with a concept of information that focuses only on the statistical properties of a message:

> "The term information refers to the transmitted messages: voice or music transmitted by telephone or radio, images transmitted by television systems, digital data in computer systems and networks, and even nerve impulses in living organisms"132

What is characteristic of information theory is that it disregards the content.
“Having information about something” is ignored. Furthermore, the fact that information technology is part of human-made relationships, as information serves as a means of communication, is ignored. Purpose and intentions play an important role. For example, receiving information enables a person to make an assessment, make a choice and rule out alternatives.

Depending on the theoretical position, information technology and thus information have been treated differently. This also applies to information systems. An information system cannot be explained as simple tools that are part of the human-nature relationship. Data are physical quantities, but at the same time information as the materialization of knowledge is placed in a social context. Against this background, I will adopt a sociological perspective on information systems.

A sociological perspective on knowledge.

In the sociological conceptualization of knowledge, knowledge is defined as more than facts in a systematic form. In this approach, the focus is on everything that passes for knowledge in society. With this starting point, Berger and Luckman have developed the concept of socially constructed reality:

> “... a sociology of knowledge must deal with everything that passes for “knowledge” in a society, without taking into account the status of this “knowledge” as valid or invalid (no matter what criterion is used). And since all human knowledge is developed, transmitted and maintained in social situations, the sociology of knowledge must seek to understand the processes by which this happens in such a way that a self-evident “reality” solidifies for the man in the street. We claim, in other words, that a sociology of knowledge deals with the socially created reality.”133

In a sociological perspective, everyday knowledge is understood phenomenologically. Knowledge is considered as objectifications of subjective processes. In a more precise definition of objectifications seen in relation to human expressivity, it is said:

---

132 Microsoft Encarta, “Information theory”
133 Ibid. p. 15.

> "Human expressiveness can be objectified, that is, it manifests itself in the products of human activity that are accessible to both producers and others as parts of a common world. Such objectifications register, more or less precisely, the subjective processes of those who have produced them, and make it possible to understand these processes even if one is not in a face-to-face situation where they can be perceived directly"134

As part of this objectification process, sign formation is included.

> "Signification, i.e. the human production of signs, is a special but particularly important case of objectification. A sign can be distinguished from other objectifications in that it has the expressed purpose of acting as a register of subjective meanings"135

Besides being a catalogue of subjective meanings, a central characteristic of signs is that they are independent of the here and now. This relationship is central to language considered as a sign system:

> "Because language is able to transcend the given "here and now", it can build bridges between different zones within everyday reality and integrate them into a meaningful whole. The transgressions have spatial, temporal and social dimensions"136

With the use of signs, a social store of knowledge is accumulated, which is transmitted from generation to generation. This store of knowledge is drawn upon in our day-to-day actions. With the division of labor in society, further stores of knowledge corresponding to special activities in society are developed. According to Berger and Luckman, an institutional programming takes place: “already in its linguistic basis, this knowledge is indispensable for the institutional programming of these economic activities”137

As an element in the dissemination of this knowledge store, individuals are introduced to specific knowledge areas in society by virtue of assigned roles. This applies not only in a narrow cognitive sense, but also in relation to norms, values, and so on. Through these roles, individuals function as mediators of specialized knowledge stores:

> “With society's historical accumulation of knowledge, we can assume that role-specific knowledge, due to the division of labor, will grow faster than knowledge that is generally relevant and accessible.
> The multiplication of specific tasks that the division of labor entails requires standardized solutions that are easy to learn and transfer. These in turn require specialized knowledge of specific situations and the relations between means and ends by which situations are socially defined. Specialists will always emerge, and each of them must know everything that is judged necessary for him to perform his specific task.”138

In the sociology of knowledge perspective, knowledge distribution is positioned as a necessary element in society's division of labor. As part of the institutional order, roles appear as necessary means of conveying institutionally objectified knowledge collections. Without these "filters," knowledge would flow freely in all directions.

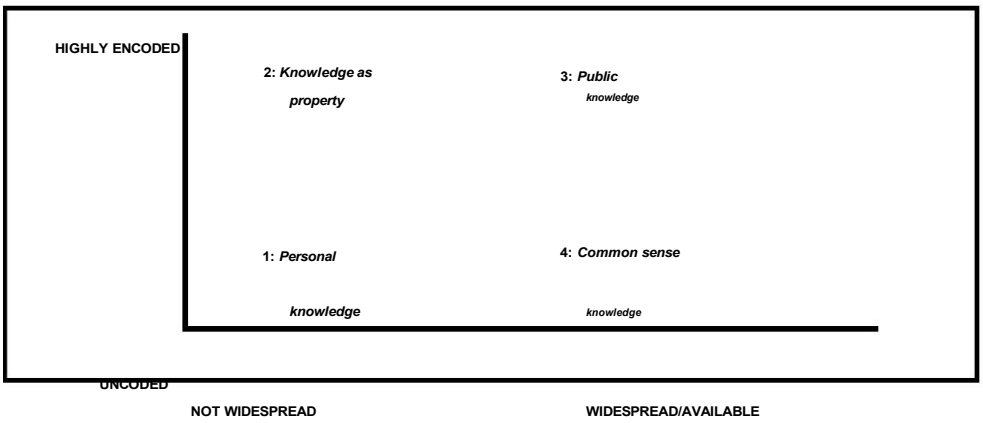
A political-institutional perspective on knowledge

The problem of the distribution of knowledge is, however, not sufficiently elucidated with reference to the division of labor in a given society as described in Berger & Luckman. Boisot emphasizes that knowledge cannot be considered as a homogeneous quantity that is harmoniously placed in relation to the workers of society: “All social systems have their information hoarders and their proselytes; their respective effectiveness will depend on where they are placed in the system and on the institutional resources they command within in”.[139] The spread of knowledge in society is

---

134 Berger and Luckman, 1966, p. 50.
135 Ibid. p. 51.
136 Ibid. p. 55.
137 Ibid. p. 85.
138 Ibid. p. 96.
139 Boisot, 1995, p. 133.

thus, according to Boisot, closely linked to the distribution of power. Power is defined in the traditional pluralist sense.
Based on Figure 4.5, Boisot has developed a typology of knowledge. The typology emerges through the distinctions uncoded/coded and non-widespread/widespread.



~~Figure 4-Error! Unknown argument for parameter.~~ Typology of knowledge.

Public knowledge appears in books, newspapers, etc. A characteristic of public knowledge is that the sender and receiver do not meet. This is anonymity. In relation to the scheme above, public knowledge is characterized by being able to be disseminated, and it is also characterized by a high degree of coding. “Common sense” knowledge, like public knowledge, is spread but does not appear with a high degree of coding. This is context-specific. Personal knowledge is characterized by being difficult to articulate. This is often expressed implicitly via sarcasm, irony, etc. Personal knowledge becomes objectified and can thus overflow into common sense via objectification in habits, culture, etc.
Knowledge as property has undergone coding:

> "We shall call the structured knowledge that emerges from idiosyncratic coding processes 'proprietary knowledge': once codified it becomes in effect technically diffusible but while it continues to reside in a single mind it cannot easily be appropriated by others (...) But where such knowledge does prove to be useful, however, it may now be traded and bargained over.”140

The key thing about knowledge as property, as coded knowledge, is that it can be formulated and has value for others. In relation to power, the key thing is that it can be controlled who gets what knowledge when:

> "Power holders aspire to institutional positions (....) that allow them to filter and regulate the information flows that reach different groups. (.) The potential social utility of new knowledge will often only effectively be exploited therefore where it turns out to be aligned with the personal utility of key power holders where this is expressed in specific institutional practices"141

In conclusion, I will consider knowledge and thus information as linked to institutional positions. “Information flow” is regulated via positions of power. In relation to information responsibility, the above problematizes how information responsibility and thus responsibility for knowledge can be used as a resource of influence in social and political practice.

4.4 SUMMARY

Initially, a distinction was presented in Figure 4.1 between whether technology has an explanatory role or not. Each of these two perspectives on technology was combined with a

[140] Boisot, 1995, p. 149.
[141] Boisot, 1995, p.136.

voluntarist, determinist and contextualist perspectives. This allowed six different theoretical positions to be defined. The use of a social constructivist position was argued for, as this provided a perspective that could understand technology contextually and thus as an interaction between “the social” and “the technical”.
Furthermore, arguments were made for the inclusion of technology understood as a political artifact. In this perspective, technology was assigned explanatory power in political processes.

In relation to the problem, an alternative to technology as “neutral aids” has been formulated. With the concept of artifact, it is possible to consider technology as phenomena that are formed in an interaction between “the social” and the “technical”. With regard to technology used as a resource of influence, this was problematized by Winner, by defining technology as a political artifact in relation to opinion formation in a political context. The concepts of knowledge, information and data were then analyzed. Information was defined as contextual 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 the concept of knowledge. 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 criticized by Boisot, who pointed out that knowledge and thus the dissemination of information are conditioned by positions of power. This emphasized that information can be used as a resource of influence.

With this opening line, the next step will be to examine how technology and information, understood as artifacts, enter management as central elements when introducing integrated information systems.

5. Administration in an institutional-political perspective

The purpose of this and the following chapter is to arrive at a theoretical understanding of technology and information as phenomena that are shaped in communication and that are used as resources of influence. As was shown in the last chapter, information and technology are not “innocent” aids. With this starting point, the effort in this chapter is first to formulate the problem in relation to the traditional perception of administration. Next, focus will be directed at three theoretical directions, each of which offers an alternative to the traditional understanding. In section 5.1, the criticism of the traditional approach to administration as described in chapter three is first formulated. This is followed in section 5.2 by three different perspectives on administration, all of which are based on public organizations considered in an institutional-political perspective. These are an economic neo-institutional direction,142 a sociological neo-institutional direction represented by March and Olsen and finally a historical-institutional direction.143 Section 5.3 summarizes the three perspectives.

5.1 CRITICISM OF THE TRADITIONAL CONCEPT OF ADMINISTRATION

Both in a descriptive and normative sense, the traditional concept of administration has been subjected to sharp criticism within political science: “Observation of politics and administration is largely

142 Williamson, 1987.
143 Thelen & Steinmo, 1992.

extent has come to the realization that politics and administration are difficult to separate.”144
The criticism is directed at positions that derive the political organization in the political-administrative system from concepts that refer to economic, social and political conditions in society as a whole:145

"Political organization appears as an almost spontaneous product ... The bulk of political theory has been more concerned with how to limit social governance through politics, rather than discussing the conditions for such governance to have the desired effects."146

According to Johan P. Olsen, the understanding of administration from the last century is being used, which does not take into account the increasing complexity that the administration faces today:
“The structure and working method are essentially the same as in the last century - characterized by the rule of law's requirements for accuracy and certainty in decisions. They seem little affected by political, social and economic changes”147

In the traditional model, it is possible to see which social conditions are being addressed. The concepts of power and influence are used as phenomena related only to decisions made at the parliamentary level.

One of the problems in the traditional understanding of administration is an inadequate understanding of the implementation of decisions. There is a lack of conceptualization of how political and economic conditions in administration intervene in both the formulation of problems and the formulation of solutions. Bogason has formulated this in the following four points:

- “The administration contributes to creating the political agenda, i.e. defining which problems should be addressed political consideration.
- The administration helps to design possible solutions to problems, and often has solutions ready in advance (based on experience and tradition).
- The administration often has, for example, by virtue of discretionary powers, the opportunity to choose between different solutions
- The administration plays an active role in the actual implementation of a solution.”148 .

In Olsen's work, the problem is formulated in relation to neoclassical decision-making theory.

> "It is important to gain insight into how organizational conditions affect which problem, alternative course of action, consequences, and which consequences, and which information about the effects of measures is taken into account and which is ignored. The opportunities to influence these aspects will in some cases be more important than the opportunities to influence the choice between the two or three alternatives the dispute may be about in the formal adoption phase"149

There is no rational choice between alternatives, but instead the key is to influence which problems, alternatives and consequences are identified and which information is included in this process. A more radical formulation has been formulated by Lennart Lundqvist. Starting from a finding that the distinction between politics and administration has become blurred, he says:

> "Självfallet är förvaltningen's *politik* antigen, with the term "politik" one means public politik, the authoritative distribution of values, or the exercise of power. This statement represents something so fundamental that it deserves to be repeated time and time again:

---

144 Bogason, 1988, p. 8.
145 "Within conservative as well as liberal and Marxist political thinking, there is a well-established tradition that attributes little independent explanatory power to society's political organization when it comes to understanding social development. The driving forces lie in economic, technological and social processes" Olsen, 1978, p. 18.
146 Ibid., p. 18.
147 Olsen, 1978, p.21.
148 Bogason, 1988, p. 9
149 Olsen, 1978, p. 34.

> the förvaltningsverksomheten is politics - an introduction to, a preparation for or continuation of the politicians' business"150

With this starting point, Lundqvist formulates the task of public administration research as a study of political organization corresponding to all other forms of political organization: “A theory of public administration means in our time a theory of politics also”.151 Thus, concepts such as power, legitimacy, ethics, etc. should also be used in public administration research according to Lundqvist. Before analyzing political science positions in relation to public administration, I will clarify the concept of politics as it will be used in the following.

When considering the concept of politics, a distinction can be made between David Easton's view, where politics is the authoritative distribution of goods with validity for the whole of society, and a view based on Max Weber, where politics ultimately depends on the possibility of legitimate use of physical violence.152. Easton draws the line between the political and the non-political with a focus on organizations that ensure an authoritative distribution of goods. Weber draws the line between the political and the non-political to a greater extent with a focus on political activity.153 The analysis of the distribution of goods focuses on how legitimate authority relations are formed, and thus what impact this has on the distribution of goods.

In continuation of Weber's view with an emphasis on legitimation, Olsen defines politics as “formulating problems, trying to have these accepted as binding and organizing continuous problem-solving activities around them”.154 This definition will be used in this thesis. However, the emphasis will be on communication as opinion and meaning formation.155 If the political is considered with an emphasis on communication as a meaning-making outcome of political struggle, the boundary between the political and the non-political cannot be drawn a priori. With this broad definition, politics becomes something that takes place throughout public administration and is thus not limited to the parliamentary level.

5.2 THREE POLITICAL-INSTITUTIONAL POSITIONS

This section presents three different perspectives on administration, all of which are based on public organizations viewed from a political-institutional perspective. These are an economic neo-institutional direction156, a sociological neo-institutional direction represented by March and Olsen, and finally a historical-institutional direction.157 Despite differences in terms of conceptual definitions, all positions are based on a critique of “rationalist” and “functionalist” assumptions that apply to the traditional view of administration as rational-actor assumptions and efficiency assumptions deduced from a simple systems-theoretical perspective, respectively. Dimaggio and Powell state:

> "What we observe in the world is inconsistent with the ways in which contemporary theories ask us to talk. Studies of organizational and political change routinely point to findings that are hard to square with either rational-actor or functionalist accounts”158

---

150 Lundqvist, 1993, p. 359.
151 Ibid., p. 359.
152 Bogason, 1987
153 Bogason, 1987, p, 289.
154 Olsen, 1978, p. 33.
155 "In communication about a problem and its solution, we also create a meaningful context, a reality in which the problem and its solution are relevant and legitimate". Haldén and Kjær, 1994, p. 9.
156 Williamson, 1987.
157 Thelen & Steinmo, 1992.
158 DiMaggio & Powell, 1991, p. 3.

This quote emphasizes that the social sciences, based on a number of case studies, have operated with tools for both understanding and explanation that are out of step with reality.

The purpose of this section is to examine how an institutional perspective on public organizations will be a better framework for developing a comprehensive theoretical analysis framework for the CVR case.

In an initial definition of the concept of institution, a distinction can be made between a micro and a macro perspective.159 The micro perspective has its roots in organizational theory, where the focus is on institutional rules of action as the organizational environment for the decision-making process. The macro perspective defines an institution as a system of governance, where a distinction is traditionally made between market, state and civil society institutions. The institutional rules can be both formally defined and informal rules developed more or less unintentionally in social interaction. The rules determine which actions are required, permitted or prohibited in certain social situations. In this way, rules are prescriptive and governing for individual action. Against this background, the following general definition of institutions is used: An institution is a “social framework” with a historically determined set of rules that structure social interaction. In this way, institutions give society its systematic social order by determining the social practice of the individual.160 In this general definition, an institution can be a social system, a political party, a law, etc.

Economic neo-institutionalism as a perspective on administration.

The starting point for economic neo-institutionalism is primarily an “economic” view of individual action, which has its origins in Adam Smith’s classical political economy. Smith, as is well known, put forward the theory of the invisible hand, where the pursuit of individual self-interest would lead to collective welfare.

In what follows, I will primarily base myself on Oliver Williamson's theoretical contribution described in *The Economic Institutions of Capitalism.161* Williamson operates with a concept of rationality taken from Herbert Simon. Herbert Simon's concept of rationality is given the following definition in economic neo-institutionalism: “Bounded rationality is the assumption on which transaction cost economics relies. This is a semistrong form of rationality in which economic actors are assumed to be intendedly rational, but only limitedly so”162

Herbert Simon and partly Williamson emphasize that "rational" actions are not fully rational as assumed in neoclassical microeconomics, since a number of the assumptions in the ideal model with full information, preferences, etc. are not present here.

In neoclassical economics, criticism of the formation of monopolies and oligopolies is directed as problematic in relation to transaction costs. Williamson instead operates with transaction costs in the organization of work. He explains these costs based on utility-maximizing behavior. He emphasizes opportunism as the characteristic that predominantly contributes to transaction costs. He defines this concept as utility maximization through fraud or deceit: “Self-interest seeking with guile. This includes but is scarcely limited to more blatant forms, such as lying, stealing and cheating” 163

---

159 Bogason, 1989, p. 212; see also Frey,1990, p. 444.
160 Giddens, 1984, p.17.
161 Williamson, 1987.
162 Williamson, 1987, p. 45.
163 Williamson, 1987, p. 47.

The utility-maximizing actor will not hesitate to cheat others if the risk of being discovered is limited. In relation to the decision-making process, informational advantages are exploited. The utility-maximizing actor looks after his interests when there is an imbalance in the possession of information in relation to the counterparty, and such an imbalance will usually be the case.

The aforementioned limitations have primarily been analyzed at the individual level. In an institutional understanding of decisions, institutions can be said to function as a social framework with a number of rules for action. Furthermore, the assumption is that institutions can be chosen. With the choice of institution, a number of rules for behavior are chosen. The market institution thus has supply and demand as a means of control, whereas the bureaucracy has power. Regarding the utility-maximizing actor in the organization, the following applies: “He/she must come to terms with himself/herself, whether it is possible to violate the rules of the game in the current situation. The decisive factor is whether the risk of detection and negative sanctions is too great to be worth running”.164

Economic neo-institutionalism can be considered a normative theory that can be used for the purpose of choosing the form of institution when designing public organizations.165 Institutions can be said to have four functions in relation to public organizations. Firstly, institutions constitute “rules of the game” understood as a social framework. Whether these are followed is based on an assessment of the risk of being discovered. Secondly, institutions also constitute behavioral guidelines that make it possible for the decisions of many individual actors to be combined into one decision in practice and respected, contrary to what theories in the field claim. Thirdly, institutions are assigned the role of ensuring the distribution of expenses and costs

Fourth, the institution functions as rules that ensure that preferences can be aggregated into collective decisions.

In a utility maximization perspective, transaction costs are explained with reference to withholding or disclosing incorrect knowledge. In the Danish interpretation of Williamson within management research, withholding information is emphasized in relation to overall levels:

> “Relevant forms of opportunistic behavior in relation to the administration are deliberate evasion in the form of sub-optimization and other forms of reduced productivity, withholding information in relation to higher levels - or in relation to the Folketing and other political institutions.”166

I agree with Grønnegård's interpretation of Williamson, which will supplement this one. In relation to Grønnegård's interpretation, I would argue that Williamson places greater emphasis on the “productive aspects” of information and communication. It is not so much a question of withholding information but rather that information is used in communication with strategic goals in mind: “More generally, opportunism refers to the incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse.”167

In public organizations, knowledge and information, and not least in this context, retention, become central as a political element in economic neo-institutionalism. However, the issue of information and knowledge is not pursued much further. Thus, the theoretical framework cannot be used to design a general theoretical framework that links the functioning of public organizations with information and knowledge.

[164] Grønnegård Cristensen, 1994, p. 98.
[165] “With the support of institutional theory and the research that builds on it, can one design institutions that limit the risk of opportunistic evasion among employees at all levels” Grønnegård Christensen, 1994, p. 98.
[166] Grønnegård Cristensen, 1994, p. 97.
[167] Williamson, 1987, p. 47.

Influence in relation to resources as structural properties is also remarkably little represented in economic neo-institutionalism. The basis for this is a pluralistic view of the exercise of power, where power is differentiated and can vary from case to case.168 Different groups will have access to the decision-making process limited by a legitimate hierarchical structure. It is therefore fundamentally the case that no single group is able to dominate the decision-making process. To shed light on the issue of power, Grønnegård Christensen has introduced the concept of institutional interests:

> "The often strong involvement of civil servants in administrative structural problems that affect them and the organization in which they are placed is related to the fact that a given structure is assumed to provide a certain power structure in the organization or at least have an influence on the power structure. Similarly, there are strong expectations that changes in the organizational structure will have consequences for the power structure in the organization, and any consideration of this will therefore activate institutional interests of various units in the organization.... their aim is to protect or expand established positions of power"169

In continuation of the above, technology is considered a central resource of influence that competing groups use in the decision-making process: "the allocation of computing resources will depend upon the behavior and competition among groups mobilized in the decision process, and will result from (...) the ability to use their power and influence in the decision process. (.) many groups are likely to enjoy at least some benefit from the use of computer technology"170

In an overall assessment of economic neo-institutionalism, it can be concluded that it provides insight that relates to the individual use of knowledge and information in administration. However, the theory cannot be used as a basis for developing a theoretical framework and in the analysis of communication as collective opinion formation. Explanations of the introduction of information systems are reduced to utility maximization explanations based on a methodological individualism. These concepts lack consideration of the context. With regard to power and influence, this position generally lacks concepts for the explanation of these phenomena.

Criticism of this position has included pointing out the discrepancy between what can be observed "from the outside" and what actions are actually taken.171 If we consider formal communication, it is a ceremonial fulfillment of expectations in the environment.
This points in the direction of the next section, where a sociologically based concept of institutions can to a greater extent problematize communication and opinion formation internally in organizations.

Sociological neo-institutionalism as a perspective on administration.

First, sociological neo-institutionalism is presented in general, then the focus is on decision-making process models, and finally how organizations adapt to symbolic institutional environments is addressed.

In sociological neo-institutionalism, a sociological understanding of institutions is recommended. Here, rational-actor assumptions in traditional theory are questioned. In contrast to the position above, conflicts and differences of interest are downplayed. March and Olsen instead set themselves the task of analyzing organizations with a focus on norms, routines, etc. They thus distance themselves from analyses that basically operate with a Hobbesian state where everyone fights against everyone.
As a central element in March and Olsen, a shift in perspective in action orientation is argued. Instead of actions based on an instrumental-

---

[168] Dahl, 1961.
[169] Christensen, 1980, p. 200.
[170] Danziger, Dutton, Kling, Kraemer, 1982, p. 17.
[171] Meyer and Rowan, 1977.

strategic logic (“logic of instrumentality”) argues for an action orientation based on an interpretation of the given social and political rules (“logic of appropriateness”).172
In contrast to the rational decision-making process, where choices are made between alternatives that provide the greatest goal fulfillment, decisions in sociological neo-institutionalism are viewed based on a questioning approach: What situation am I in? What would a civil servant in my position do about a problem like this? In other words, in this position it is central to consider the civil servant's role, previous problem-solving practices, etc.

As a social framework for action, March and Olsen first consider political institutions as a set of rules of action that determine behavior. These rules of action do not have a formal character as something that can be chosen as in economic neo-institutionalism.
The rules of action reflect the experiences that the political institution has accumulated over time: “By rules we mean the routines, procedures, conventions, roles, strategies, organizational forms, and technologies around which political activity is constructed.”173 The rules of action thus broadly regulate the political phenomena surrounding the decision-making process. They regulate power and responsibility, here understood as social frameworks and expectations for action. This understanding of action will be referred to in the course of this assignment as the “logic of appropriateness” or the logic of leniency.

Secondly, political institutions provide the framework for meaning construction: “...institutions constrain and shape politics through the construction and elaboration of meaning ... Expectations, preferences, experience, and interpretation of the actions of others are all constructed within political institutions”.174 In relation to meaning formation and institutional change, the concept of “path-dependent” is used, indicating that institutional frameworks are essential as explanations for change:

> "Actors may be driven at least as much by concerns for doing what is institutionally possible or culturally appropriate than by some kind of cost-benefit calculus. According to this view, decision making and institutional change is often less an efficiency driven process than a path dependent on which previous decisions and institutional arrangements constrain and facilitate the emergence of new ones.”175

The key point is that decision-making is less an efficiency-driven process and instead depends on previous solutions. The concept of “path-dependence” states that previous decisions and institutional conditions constrain and enable the emergence of new decisions.

The concepts of “path-dependent” and “logic of appropriateness” are hereby indicated as the two elements that can be said to be the most central in sociological neo-institutionalism. Before relating this position to my problem, I will present two models that have theoretically presented interpretations of the decision-making process that can be understood as alternatives to economic neo-institutionalism. Both models can be said to focus on how a dynamic shaping of problems and solutions occurs in policy implementation.

“Anarchic” decision-making processes

I have chosen to group these models together here, in contrast to traditional distinctions where “muddling through” is considered an individual model and the trash can model is considered a collective model. I have done this because both models emphasize the context in which the decision is made.

---

172 March and Olsen, 1989, p. 23.
173 March and Olsen, 1989, p. 22.
174 March and Olsen, 1989, p. 39.
175 Campbell, 1995, p. 5.

Inspired by Herbert Simon's criticism of the rational decision-making model, a number of other approaches to the problem of decision-making emerged in the 1950s. The central figure is the political scientist Charles Lindb‚lom, who challenged the rational-actor model more fundamentally than Simon with his article “Science of muddling through”176. The article begins with a discussion of two different approaches to the analysis of complicated political-administrative problems. On the one hand, the rational decision-making model and on the other hand, a “muddling-through” model. In the “muddling-through”
The model focuses on problem solving as successive incremental small steps towards a solution. Lindblom emphasizes that the rational model as an abstract quantity cannot be practiced when dealing with complicated problems. Regarding the rational model, he says:

> "Although such an approach can be described, it cannot be practiced except for relatively simple problems and even then only in a somewhat modified form. It assumes intellectual capacities and sources of information that men simply do not possess, and it is even more absurd as an approach to policy, when the time and money that can be allocated to a policy problem is limited, as is always the case. "177

He recommends a less ambitious model “successive limited comparison”, which can be translated into incrementalism, which is the common political science term. Considering the rational model with the points below, Lindblom’s criticism is as follows:

1. Identify goals
2. Identify possible solutions for achieving goals
3. Predict and assess consequences for each solution
4. Choose the solution that best meets your goals

Political and technically neutral goals cannot be separated. The goal that is set is a combination of political and technically neutral goals, where the goals set, for example as they are expressed in legislation in a given area, will predominantly be close to existing practice.
If possible solutions are considered, these are not independent of the goal. The goal is often adjusted to the means available. Consequences are rarely assessed according to Lindblom. A test of a “good” policy should be determined by whether the parties involved have agreed. This does not in any way need to include that the chosen policy is actually the one that provides the greatest goal fulfillment.

In general, the focus is on how previous solutions dominate. With the use of incremental changes, serious mistakes are avoided and uncertainty is reduced. The wise decision-maker is not characterized, as in economic neo-institutionalism, by limited rationality.
Lindblom's model is more of a description of how previous problem-solving practices are central to the incremental solution of new problems.

Another contribution with a sociological perspective has come from Cohen, Cyert and March. This model is called the garbage can model.178 The model is based on the assumption that decisions are complex processes. The decision-making process is not a compact process that should be analyzed based on a decision-maker's rationality considerations or previous problem-solving practices, which was the assumption of Simon and Lindblom, respectively.
The starting point here is that decision-making processes are “disorganized” and characterized by anarchy.

According to the garbage can model, decisions are first made on the basis of unclear preferences: “The organization operates on the basis of a variety of inconsistent and ill-defined preferences (...) it discovers preferences through action more than it acts on the basis of

---

176 Lindblom, 1959.
177 Lindblom, 1959, p. 80.
178 Cohen, 1972.

preferences".179 The key point is that preferences are constantly changing. They emerge in interaction and depend on personal circumstances, educational backgrounds, experience
etc.

The second characteristic is unclear understanding of technology as part of the decision-making environment:

> "Although the organization manages to survive and even produce, its own processes are not understood by its members.
> It operates on the basis of simple trial-and-error procedures, the residue of learning from the accidents of past experience, and
> pragmatic inventions of necessity"180

The third characteristic concerns the group of participants in the decision-making process. This often varies both in terms of number and the time and energy that each participant contributes: "Participants vary in the amount of time and effort they devote to different domains; involvement varies from time to
another".181

In relation to Simon and Lindblom, the decision-making problem is reversed. With the garbage can model, the focus is on the characteristics of the decision-making process itself, located in social settings, and to a lesser extent on the actors.

The decision-making process can be defined as decision-making, understood as a contingent composition of participants, decision options, problem and problem solution.

Decision-making opportunities. These are characterized partly by time and partly by a decision structure defined as "a list of participants eligible to participate in making that choice".182 Here, there is thus a connection between problem solving and the selection of a number of participants who are considered desirable to make a decision. This element in the model is the so-called "trash can". Decision-making opportunities or decision-making opportunities 'circulate in the organization.

Problem solutions. These are characterized for each problem solution by linking the problem and decision option.

Problems are characterized at a point in time when the problem has become visible, which problem solutions can the problem be linked to, which resources are required in the form of participant time and energy, etc.

Participants are characterized by the time and energy they can devote to decision-making.
If the influence problem is considered, participants will gain influence on the solution of the problem by preparing proposals and providing decision-making options, and thereby influencing the other participants in the process. Influence is thus explained in the model with reference to the participants' time and energy.

These models have formulated a useful alternative to economic neo-institutionalism, as these models are able to focus on how the decision-making process itself shapes problems, solutions, etc. However, there is a lack of a concept of how these processes proceed across administrative units.

Communication as symbolic adaptation to surroundings

In 1997, John Meyer and Brian Rowan published the article "Institutionalized Organizations: Formal Structure as Myth and Ceremony." This article, which is now considered a classic within sociological neo-institutionalism, focuses on communication and

---

179 Ibid. p. 1.

180 Ibid. p. 1.

181 Ibid. p. 1.

182 Ibid. p. 3.

More precisely, the focus is on the discrepancy between how the organization acts externally and concrete actions within the organization. This contribution can be seen as a reaction against traditional models that do not operate with this distinction.
With the concept of institutionalized environments understood as expectations of rational and efficient task solving:

> "Formal organizations are generally understood to be systems of coordinated and controlled activities that arise when work is embedded in complex networks of technical relations and boundary-spanning exchanges. But in modern societies, formal organizational structures arise in highly institutionalized contexts. Professions, policies and programs are created along with the products and services that they are understood to produce rationally."183

The formal structure reflects notions of rationality that are linked to the dominant myths in the organization's environment. Modern society is characterized by a number of institutionalized myths about effective organization. Furthermore, myths about an efficient, impersonal and formalized structuring of social processes based on assumptions of end-means rationality appear.

Meyer and Rowan's argument is that organizations must relate to institutionalized myths in order to achieve legitimacy in their environment. First and foremost, to survive and ensure a stable supply of resources. Organizations must therefore signal efficiency to their environment through the formal structure. Meyer and Rowan thus argue that the source of understanding the formal structuring of organizational activities must be sought in the tension between rational institutional myths and organizations' striving for survival.

In other words, the formal structure can be understood as a ceremonial fulfillment of the environment's demands for legitimate organizations. Organizations thereby adapt to the structure symbolically as opposed to an actual adaptation of the entire organization.

The consequence for organizations of incorporating the institutional elements from the environment is:

- The organization becomes legitimate and improves its chances of being provided with resources because the organization, through symbolic action, lives up to rational myths in the environment.
- The organization becomes stable, because the institutionalized myths in the environment stabilize both internal and external organizational relations. •

The organization is characterized by inconsistencies and conflicts between the ceremonial formal organizational structure and the instrumental demands for efficiency of the work process.
Meyer and Rowan emphasize that the organizational "response" to this inconsistency is a loose coupling between the organizational structure and the work process. This allows for the simultaneous maintenance of the ceremonial structure and an efficient work process, as the actual activities are shielded from the formal structure. This relationship is illustrated in the figure below.
The figure is slightly adapted from Meyer and Rowan.184

---

183 Meyer & Rowan, 1977, p. 41.
184 Meyer & Rowan, 1977, p. 53.

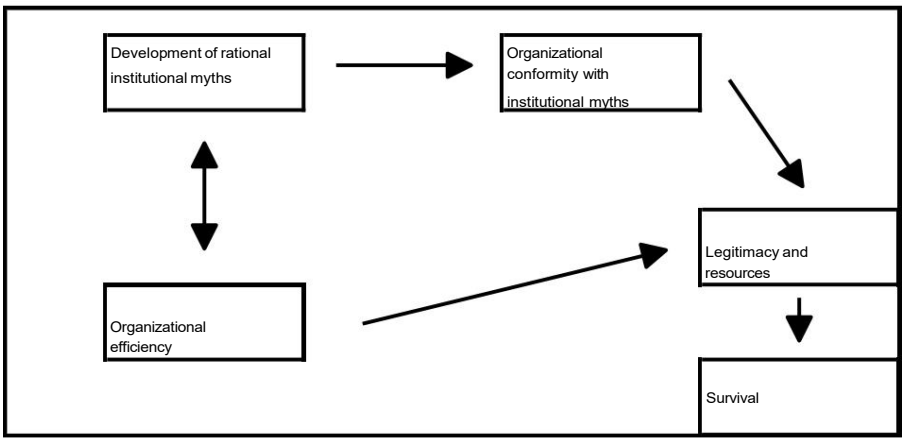


Figure **5-Error! Unknown argument for parameter.** Figure adapted from Meyer and Rowan. (1977, p. 53)

In relation to my problem, Meyer and Rowan's perspective is central. As will become clear later, legitimation will play a central role.

If the above is considered in relation to the problem, it can be seen that this position provides a conceptual framework where there is a focus on meaning formation. This was done, among other things, with the concept of “logic of appropriateness” and a general focus on meaning construction anchored in existing practice. In the two decision models, emphasis was placed on the role of existing solution practices. This was illustrated with the concept of “path-dependence”.

With regard to the analysis of power and influence phenomena, there is a general lack of conceptualization. If organizations are generally considered as linguistic communities with terms such as everyday knowledge, culture, and so on, the organization is identified with the concept of one “language” to which everyone in principle has equal access.185 . In my view, this is an unfulfilled prerequisite. Access to the “language” in organizations does not have such a character. Against this background, I see a general problem in using a hermeneutic perspective exclusively. Habermas criticizes hermeneutics as follows: “A verstehende sociology, that allows society to be wholly absorbed into the lifeworld ... screens out everything that in conspicuously affect a sociocultural lifeworld, from the outside” [186]

However, a contribution was made by Meyer and Rowan, where structural conditions in the form of an expectation of rational efficient behavior were seen as central to the analysis of communication.

In the following chapter I will first bring historical institutionalism to the fore. This will make it possible to reformulate the problem of power. This will be done by looking back to where organizations in their current form saw the light of day. This historical “look” is especially aimed at March and Olsen’s narrow focus on norms and everyday knowledge, but also at economic neo-institutionalism, where the utility-maximizing a priori was designated as the effective cause.

A historical-institutional perspective on administration.

In contrast to the traditional interpretation of Weber's theory presented in Chapter 3, the focus here is on social action as an element of bureaucratic practice. After this historical excursion, a more analytical presentation of the historical-institutional view of administration in relation to communication and influence follows. Weber defined bureaucratic administration in

[185] Such a conceptual framework with a focus on language was developed by Winograd and Flores, 1985. Based on a critique of the rational decision-making model, a hermeneutic-linguistic theoretical framework is developed, among other things with inspiration from Heidegger and Austin, but also with the inclusion of theoretical elements from the theory of autopoietic systems.
[186] Habermas, 1987, p. 148.

In contrast to earlier patriarchal and patrimonial forms of administration, traditional rule is replaced by legal rule. Whereas traditional rule was legitimized through personal authority relationships, legal rule is legitimized through the law.

As I have mentioned earlier, rational bureaucratic administration can be characterized by 1. control based on specialized knowledge, 2. clearly defined areas of competence, 3. the work is carried out on the basis of a clearly defined rule base. This system of "rational rules" is considered "generally binding norms". The system of rational rules thus legitimizes the power of the authorities, as long as it is in accordance with these rules. The rational exercise of power occurs on a formal basis and based on objective decisions. Personal considerations are not to be found in such a system, and the work is carried out without personal considerations according to the principle "sine ira et studio" (without anger and personal desire).

But how has this consistently impersonal form of organization been possible? is the immediate reaction? In this connection, I would like to bring up Weber's view of rationalization in Western culture. Weber saw rationalization at the beginning of industrialization manifested in society in two ways: 1. as institutional changes from traditional to modern forms. The bureaucracy as rational administration as described above is an example of the development from traditional to rational legal rule. These institutional changes in society are matched by 2. a shift in social action from being rooted in tradition to being

---

determined purpose- and value-rational.187 Purpose-rational action is understood as the use of effective strategies (means) to achieve a given goal. Value-rational action is an orientation towards "value" without regard to practical consequences. Weber's view is that purpose-rational action is lucratively dominant in relation to value-rational. Weber located the origin of purpose-rational action in Calvinist sects, where purpose-rational methodical conduct of life was dominant.188 .

In contrast to the traditional application of Weber's theory as described in the traditional view of administration, I therefore consider Weber's object to be the desire to explain the meaning of the way of life and to a lesser extent the rationalization process. Seen in this light, I see Foucault's works as central to the analysis of this way of life. Foucault has been interested in the emergence of the modern subject in all his books. His genealogical analyses are carried out by examining how power and knowledge have been joined. Thus, there is no focus on the individual, but instead on which techniques were used in the shaping of a historical context. The problem of registration in connection with the state is thus not new.

The manual archive has been known since technologies for registering population etc. came into being.189 Foucault has paid particular attention to this practice:

---

187 Weber's starting point is that when social actions - e.g. decisions - are to be explained and justified, reference to some form of rationality is required. According to Max Weber, reference is made to efficiency, values, emotions or tradition. Max Weber defines the four forms of rationality **as:Error! Bookmark is not defined.** (1) *Instrumentally rational* (zweckrational), that is, determined by expectations as to the behavior of objects in the environment and of other human beings; these expectations are used as "conditions" or "means" for the attainment of the actor's own rationally pursued and calculated ends; (2) Value-rational (werrational), that is, determined by a conscious belief in the value for its own sake of some ethical, aesthetic, religious, or other forms of behaviour, independently of its' prospects of success; (3) Affectual (especially emotional), that is, determined by the actor's specific affects and feeling states; (4) Traditional, that is, determined by ingrained habituation, Weber 1978, p. 24-25.

188 This origin is described in detail in *The Protestant Ethic and the Spirit of Capitalism,* Weber 1972, pp. 59 ff.

189 Harold Innis describes, among other things, how the transition from stone tablets to papyrus radically changed the balance of power in antiquity. Thus, papyrus technology is assigned a significant role in Greece, where democracy first saw the light of day (Innis, 1951, p. 21ff).

> “To observe, control, and regulate the circulation of goods and pastures, and through this to create an overview of the economy that could serve as a basis for how a state increases its wealth; to inspect the people, to ascertain whether they were away or present, to create a general archive of the armed forces; to give the sick specific places, to separate them from each other (...) It was about acquiring techniques to get an overview”190

The instrumental methodical way of life thus formed the background for the “modern” capitalist economy and state administration. In Foucault’s later works, he focuses specifically on how power and knowledge are historically joined as elements of modern state formation.
The concept of “governability” is introduced. This concept is considered to be the way in which the methodical conduct of life can be seen historically in connection with the emergence of the modern state:

> " ..."the art of government" in the early modern period is accompanied by a consciously notion of the inner connectedness of the government of oneself, the conduct of individual existence, on the one hand, and the government of other, the regulation of the lives of many, on the other" [191]

Against this background, I will interpret Weber with a focus on life-style as an immanent instrumental rationalization. This view plays a central role as a premise for historical institutionalism as a theoretical perspective on administration.

If historical institutionalism is considered in relation to the problem, the focus is on power and influence via the law. The law is considered as an expression of a historical institutionalization of instrumental action.192 The concept of institution in historical neo-institutionalism is thus defined as “Objective, formal rules and procedures, such as those codified in the law and deployed by bureaucratic organizations, such as the states and business enterprises”193

In contrast to economic neo-institutionalism, interests and thus power and influence in historical institutionalism are not deduced from utility-maximizing actors.

> "Rather than taking interests for granted and focusing on how institutions shape strategies for achieving them, historical institutionalists argue that the process of formulating goals and interests per se should be studied as an endogenous part of policy formulation and institution building. In other words, it is important to understand how institutions provide incentives that shape the goals to which actors aspire.”194

In historical institutionalism, the concept of institutional capacity is used to characterize the means that actors use in pursuing their goals: “These capacities are determined generally by the formal institutional positions in which actors find themselves and the material resources at their disposal”.195 The legitimation of actors’ realization of goals will further occur with reference to formal hierarchical authority relations. According to this position, actors attempt to gain maximum influence in order to maintain existing institutional positions. Securing the institutional position is expressed in various ways.

Seen in relation to technology and information, technology is considered a resource that maintains personnel: “Most political impacts to date have resulted from ownership and control of computing resource per se. That is, those who have controlled computing have been able to

---

[190] Foucault, 1977, p. 137.
[191] Gordon, 1989, p. 296.
[192] In this position, there is no clear distinction between organization and institution. As will become clear later, I will distinguish between institutionalization, institution and organization. The aim is to view institutionalization as a process that results in both formal organization expressed in law and rules of action and norms.
[193] Thelen & Steinmo, 1992, p. 2.
[194] Campbell, 1995, p. 10.
[195] Campbell, 1995, p. 11.

obtain other resources (staff, space, equipment) needed to apply it, as well as status and prestige". 196

Furthermore, institutional positions are secured through the control of information that is stored but also what processing is applied to it, and what access is to be granted to information. As an institutional historical phenomenon, information asymmetry is a central aspect of governance: “Barriers are not necessarily designed to block the diffusion of information as such, but simply to make it controllable by designated individuals”.197

These circumstances mean that information and access to information cannot be considered a neutral resource that is solely intended to make administration more efficient. It is a resource of power and influence in line with other resources that are included as elements of institutional positions.

With regard to communication as collective opinion formation, this lacks a provision.
According to Habermas, this can be attributed to the fact that Weber's theory of action is to be found within the paradigm of the philosophy of consciousness with a monological subject-object model. The monological aspect of the model consists in the fact that cognizing and acting subjects are perceived as isolated.
Meaning formation is reduced to the dominance of instrumental action, and communication as meaning formation is thus disregarded.

In contrast to sociological neo-institutionalism, this position emphasizes resources and influence. Power and interests are viewed here as historical phenomena.
Institutions defined, among other things, by the use of institutional capacity provided a historical contextual determination of how power and influence emerge. With regard to communication as collective opinion formation, this was lacking in historical institutionalism.

5.3 COLLECTION ON INSTITUTIONAL THEORIES

This chapter first discusses an economic neo-institutionalism, then a sociological-neo-institutional framework and finally a historical-institutional framework as political perspectives on administration. It is shown how, within economic neo-institutionalism, phenomena in administration are interpreted and explained for utility maximization. As a consequence of this theoretical interpretation, communication in administration will logically lead to opportunism becoming a theme in the theory. What is communicated is made conditional on what is opportunistic. With regard to the distribution of information and technology design, this is also made conditional on how acting actors find it opportune to choose. Furthermore, technical design was interpreted exclusively as a question of whether technology is used as a resource of influence.

In sociological neo-institutionalism, institutions were defined as rules of action, and could thus provide a conceptual framework that focuses on meaning formation. This was done, among other things, with the concept of “logic of appropriateness” and a general focus on meaning construction. In the trash can and “muddling through” model, emphasis was placed on the role of existing solution practices. This was illuminated with the concept of “path-dependence”. With regard to the analysis of power and influence phenomena, there is generally a lack of conceptualization. However, a contribution was made by Meyer and Rowan, where structural conditions in the form of an expectation of rational, effective behavior were seen as central to the analysis of communication. Legitimization of solutions as rational in relation to the environment by a symbolic

[196] Danziger, 1982, p. 133.
[197] Boisot, 1995, p. 245.

adaptation to a rational structure emerged as a central element. In relation to communication as collective meaning formation, the problem is that the concept of meaning used is anchored in a hermeneutic framework, where meaning is analyzed via norms, culture, etc. In relation to formal communication, which is the object of analysis in this task, this concept of meaning is too broad, as all forms of meaning phenomena are encompassed.

By including Weber, the sociologically focused position took a back seat in favor of a general focus on the problem of power and influence. With the concept of institutional capacity, it was introduced that material conditions and institutional positions of power are central as resources of influence. With the interpretation of Weber's object of analysis as conduct of life, the problem of opportunism was touched upon. According to historical institutionalism, the problem is not the correct choice of institution type but instead a historical problem. Weber saw these problems as inevitable for Western culture.

The three positions as theoretical proposals for administration viewed from a political perspective all focus on issues that I find central. The aim in this context is to aim for the establishment of a broader conceptual framework for understanding communication and the issues of influence in administration.

The overall problem in the three approaches is that the concept of institution is not defined as a dependent variable. Leaving aside economic neo-institutionalism, institutions are considered “as a consequence” of actions. Thus, there is no focus on how institutions have been historically shaped or, in other words, how certain problems and problem solutions have been institutionalized prior to the institution. Furthermore, there is a lack of conceptualization of power and influence phenomena. It cannot be elucidated how actors act in roles, and thus how the actor conditions the role in a historical process.

6. A broader institutional perspective

Based on the general focus on technology, information and administration in the two previous chapters, an expanded institutional perspective consisting of a process and structure approach will be developed in this chapter. In section 6.1, the process approach will first be developed. The focus here will be on communication as an element in institutionalization processes in administration. In this section, the main concepts of discourse, institutionalization and definitional power will be discussed. be central. The operationalization will incorporate elements from the social constructivist theoretical framework that was reviewed in chapter four. In section 6.2, I will develop a structural approach that is able to capture information responsibility, technical design, economic organization and departmental responsibility as structural properties of the administration, which are produced and reproduced in communication. A concept of power will be presented that focuses on how the four mentioned structural properties are used as resources of influence in negotiations. In the structural approach, resource distribution, interpretative frameworks and legitimation will be overall structural elements that are included in the theoretical understanding. These will subsequently be operationalized and used in the analysis of the CVR case.

6.1 MANAGEMENT FROM A PROCESS PERSPECTIVE

The general aim of this section is to develop a theoretical framework that is capable of conceptualising communication as a central element in institutionalisation processes in administration. Power and discourse are first explained as central concepts in the understanding of communication as collective opinion formation. Institutionalisation is then examined in relation to the three institutional theories in chapter five. With this as a background, institutionalisation processes are formulated as sanctioned, negotiated elements in the discourse, either as obligations on the normative aspects of the discourse or as legal obligations established by legislation. With this theoretical perspective, the aim is to understand the institutionalisation of CVR as a result of negotiation arising from competing interpretations of definitions, problems and solutions, etc. As a conclusion to the section, it is operationalised, among other things, by using the so-called SCOT model ("Social Construction Of Technology").

Discourse and power

The purpose of this section is first to introduce the concept of discourse based on March and Olsen's concept of institutions. Subsequently, the concept of power will be discussed. If institutions are considered in sociological neo-institutionalism, these were anchored in norms, habits, rules of action, etc. In relation to communication understood as collective opinion formation in a political context, this concept of institution is too broad. In other words, a clarification of the concept of institution is required. In relation to this, Peter Bogason highlights that there is a lack of precision in the concept of institution in March and Olsen. The concept becomes too imprecise when it denotes such different conditions as states, organizations, systems. Against this background, Bogason defines a political institution as "a political institution is a:

> authoritative interaction network related to a policy problem (...) an institution aims to create order related to the policy problem and provide participants with a shared understanding of meaning".198

In relation to the analysis of CVR, this definition is generally plausible, as it focuses on interaction in a political context understood as opinion formation.

---

[198] Bogason, 1989, p. 223.

Niels Åkerstrøm Andersen operates with a similar concept of institutions as sanctioned ideals and notions.199 The difference to Bogason is that Åkerstrøm describes institutions as discursively founded. Their subject areas are integrated into something linguistic, that is, the subject area gains meaning and is understood through linguistic constellations and conceptual contexts in a broad sense.200 By discourse I mean here:

> "... an ensemble of ideas, concepts, and categories through which meaning is given to phenomena. Discourses frame certain problems; that is to say, they distinguish some aspects of a situation rather than others The ideas, concepts, and categories that constitute a discourse can vary in character: they can be normative or analytical convictions; they can be based on historical references"201 .

In the process analysis in the next chapter, I will analyze themes uncovered in notes, reports, faxes, etc. as discourse phenomena. By institutionalization, I will generally understand the process by which this formation of meaning takes place, or in other words, how ideals and notions are sanctioned within the discourse in administration.
This view of institutionalization and discourse is shared by Ove Kaj Pedersen. He asks the interesting question of how the economic discourse - balance of payments, foreign debt, and so on - enters the political debate202, and basically answers very broadly that the state as the sovereign "owner" of an area is the prerequisite at all. In a study of the economic discourse, he has followed the ideas of a "new fiscal policy" in the 1930s through the development of circular models in the 1950s from a small circle of people around Statistics Denmark and the Ministry of Finance, a number of commission reports, and a historical compromise between liberal and social democratic positions.203 In this sense, a certain knowledge thus makes it possible to regulate and manage. But it requires that the possibilities inherent in it are accepted. Pedersen's fundamental problem seemed to be the following:

> "Discovering a problem and having it accepted as a problem involves selection. The number of possible problems is large, perhaps infinite. Only a few are singled out and given the status of problems. Even fewer find broad political acceptance"204

He sees such processes as an interaction between parties and officials, government and organizations with the aim of formulating situation descriptions and transferring these to political interventions.

Discourse should not be reduced to simple rhetoric. Discourse is always rooted in a concrete social and political practice. In addition to discussing problems and problem solutions, this practice also includes aspects of a political and organizational nature. The quote below emphasizes this fact. If processes in administration are interpreted as discourse, it also includes frames of meaning and interpretation that are established in the process itself:

> "Policy-making is a constant discursive struggle over the criteria of social classification, the boundaries of problem categories, the intersubjective interpretation of common experience, the conceptual framing of problems, and the definition of ideas that guide the ways people create the shared meanings which motivate them to act. These struggles involve far more than manipulative rhetoric. The institutionally disciplined rhetoric of policy and planning influence problem selection as well as problem analysis, organizational identity as well as administrative strategy."205

The key point in the quote is that as an element of policy implementation, there is a struggle over classifications of problems. This leads to the issue of power.

---

199 Andersen, 1994, p. 4.
200 Ibid. p. 12.
201 Sharks, 1993, p. 45.
202 Pedersen, 1995, p. 95.
203 Pedersen, 1995, p. 98. 204 Ibid. p. 96.
205 Fisher & Forester, p. 2.

As a starting point, Foucault's concept of power is used in discourse analysis:

> "By power one must first of all understand the diversity of power relations which are immanent in the area in which they are exercised and whose organization they constitute."[206]

In a more specific definition, power is defined discourse analytically at the boundary between what can be thematized as a problem and what cannot. Power is defined overall as the constitution of a "field". The concept of field is defined here as a network of positions or an interaction network from which actors can act. An example could be a policy field that delimits a political problem area and constitutes a network of interest organizations, state institutions, etc. In relation to CVR, a field has been established on the basis of the decision to establish CVR. A number of actors are placed in this field. The analysis of the communication shows how this field is formed by, among other things, defining roles for the actors involved in the discourse.

In forming this field, a boundary is further drawn between which problems can be brought to the fore and which cannot. The boundary drawing can be seen as an extension of Bachrach and Baratz's concept of power, which focused on which decisions were not allowed into the decision-making process. In relation to this definition, I will consider power as a constitutive or productive power. There is therefore no focus on exclusion, but instead on what is included in a field and what is included in its environment.

A similar concept of power is defined as definitional power in the Swedish study of power. According to this analysis of power, we find ourselves in a situation where, "more and more stakeholders are fighting to get the shape of our worldview".207 On this background, the concept of defining power is defined in two dimensions. The first relates to determining the problem, problem solving, etc. in linguistic categories: "to determine what is the problem (...) the ability to describe threats, development perspectives, solutions and action possibilities".208 The second dimension in the definition concerns the control of access to formulating problems and problem solutions: "the ability to determine which actors who must gain access to the public conversation. Only certain individuals and collectives enjoy authority. Some actors appear as good people and others are seen as opponents, enemies and scapegoats". 209

The problem with this concept of power is that power is seen as a resource that is unequally distributed and that simply needs to be distributed in a new way to secure the ideals of management. This issue has been addressed by Philippe Daudi, among others. He criticizes the usual perception of power within organizational theory. He believes that power is understood here in a primitive way, as if it were a thing, an attribute or a concrete reality: "Power is conceptualized by the primitive discourse as if it were a concrete means by which to govern and dominate; a means to be owned..."210 Daudi believes that this perception can be seen as a discourse that has its roots in the Western world's way of thinking211 , and that members of an organization think in terms of this concept of power. The result is that there is a tendency for both superiors and subordinates to conform to it.212

The key point in relation to the analysis in the present context is that the traditional concept of power is instrumental in the sense that it separates power from the actual shaping of actors, interests, and

---

[206] Foucault, 1978, p. 104.

[207] SOU, 1990, Democracy and power in Sweden, p. 44.

[208] Ibid.

[209] Ibid.

[210] Daudi, 1986, p. 1.

[211] Ibid. p. 2

[212] According to Daudi, this means that superiors behave as if there was no interdependence between superiors and superiors, and that subordinates forget that they can use "contra-coercive" strategies.

etc. in the discourse. In this interpretation of the CVR decision-making process, the formulation of problems, solutions, etc. associated with the distribution of roles in the discourse becomes a power in itself. Actors are not considered "external" in relation to the discourse. Elements in the discourse are formulated as to who should be responsible for information, departmental responsibility, etc. In other words, I will consider the allocation of roles in the discourse as central. It is thus not the case that actors, as in a traditional power analysis, are each equipped with interests and given "amounts of power", "power potentials" or "power bases".
I do not believe that power understood as the constitution of a policy field can replace the traditional conception of power formulated by Weber and Robert Dahl, but I see it as a necessary supplement.

In the analysis of CVR, I see the discourse-based concept of power as fruitful, justified by the fact that the classical hierarchical relations have been partially rendered ineffective. Furthermore, the choice of this concept of power is justified by the fact that I have chosen to focus on communication, and thus to a lesser extent on the power of individuals. A traditional analysis would not make sense in relation to CVR. It is a non-existent system that is created in the process. It would be absurd to talk about "more or less" power over a system that does not exist.
Based on these considerations, I choose to use the concept of definitional power placed in a discourse analytical framework. With the shift to a discourse-based concept of power, focus is placed on which problems are formulated, which roles and responsibilities are assigned, and which technological and economic choices are made in solving these problems.

Considering the two dimensions of definitional power mentioned above, a concept is required that is able to capture the problem of regulating actors' access to formulate problems and solutions. Based on this problem, Marten Hajer has introduced the concept of discourse coalition, defined as "a group of actors, who share a social construct".213
If the technical solution of CVR is considered a socially constructed artifact, this concept will be able to capture the fact that certain groups in coalition come together to define artifacts. Artefacts have a meaning that is negotiable and thus in principle changeable. I will return to a more precise definition of this issue in the operationalization of the process approach. Before that, I will elaborate on the issue of institutionalization.

Institutionalization versus institution

The main question in this section will be: if communication in administration is considered as discourse, how is this institutionalized in the form of rules of action as described in sociological neo-institutionalism and as institutional positions described in historical institutionalism? In relation to these theoretical positions, I will focus on how institutions are formed. The starting point will be a theoretical clarification of the concept of institution used by March and Olsen. This will be done by anchoring institutionalization in a sociological paradigm of knowledge:

> "All human activity is subject to habit formation. Any action that is repeated frequently will become fitted into a pattern which can then be reproduced with little effort. and ipso facto is perceived by the actor as that pattern.[214] ..... Institutionalization occurs whenever different actors mutually typify habitual actions. Put another way, any typification of this kind is an institution215..... By their very existence, institutions also control human behavior by establishing predefined patterns of behavior that channel behavior in one direction, even though many others are theoretically possible."[216]

---

213 Sharks, 1993, p. 45.
214 Berger and Luckmann, 1966, p. 71.
215 Ibid. p. 72
216 Ibid. p. 73.

The key point here is institutionalization, understood as the process by which habits or norms become rules with relative stability, so that they can function as a background for action. The latter is highlighted in the quote by the fact that institutions control human behavior. Habits and social phenomena are experienced as objective reality: "as possessing a reality of their own, a reality that confronts the individual as an external and coercive fact".217

The question now is, in what way are habits experienced as objective reality or as externally imposed facts? Jepperson218 has introduced a distinction between "culture", "regime" and "formal organization" as carriers of institutionalized norms. Institutionalization with culture as the carrier involves the development of rules that do not rely on a central authority or authority to function. Sanctions are not explicit here. This form of institutionalization can be viewed in relation to March and Olsen's definition of institutions as rules of action. Institutionalization as regimes as the carrier involves the formulation of explicit rules in a central authority system. Examples here are the legal system, international conventions, etc. Institutionalization with formal organization as the carrier involves the development of rules that coordinate action through formal descriptions of roles and work areas in an organization. This form of institutionalization can be viewed in relation to the historical institutionalism described in the previous chapter. The key point here is that formal organization in its original form as described by Weber can be considered as the institutionalization of purposive rational action. Culture, regime and formal organization are three basic types of institutionalization. In practice, institutionalized behavior will be based on combinations of the three basic forms.

The institutionalization process is illustrated in Figure 6.1. The figure is primarily intended to provide an overview of the three positions in the last chapter and then the expanded institutional framework of analysis.

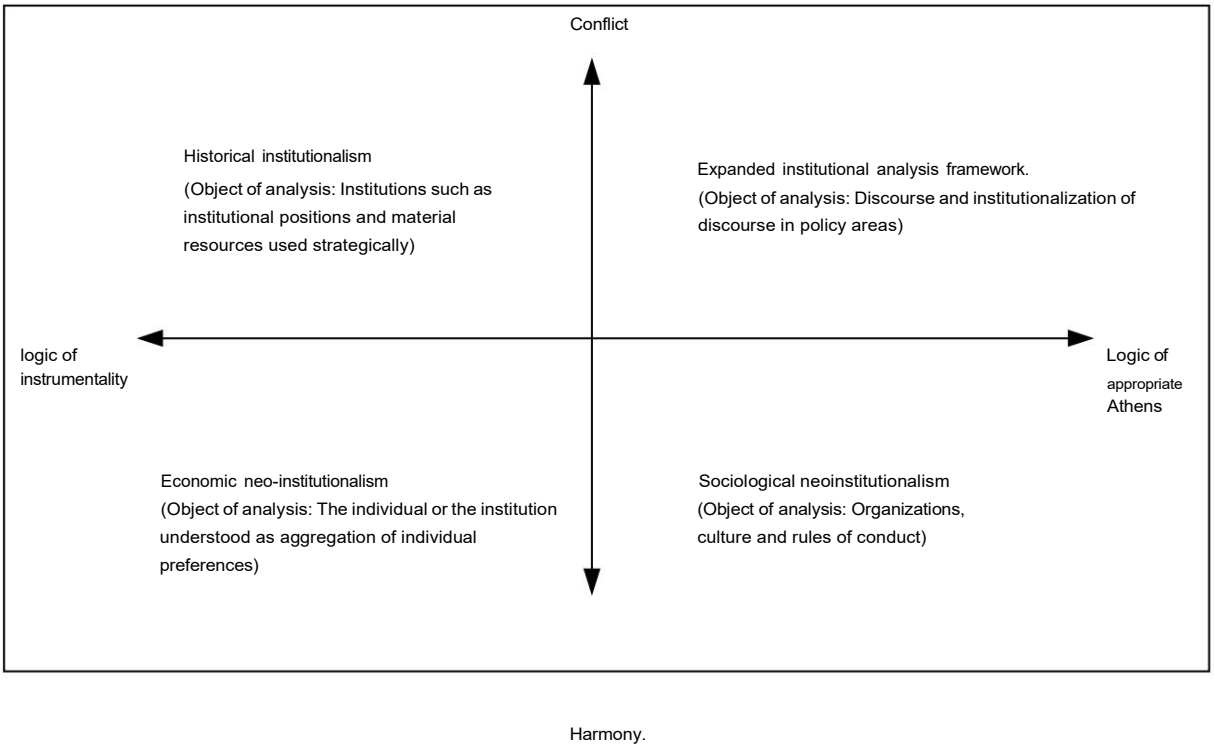


Figure **6-Error! Unknown argument for** parameter. Heuristic placement of institutionalization processes in relation to the three institutional paradigms in chapter five.

[217] Haldén and Kjær, p. 12
[218] Jepperson, 1991, pp. 150f.

The four positions are placed in the diagram, stretched in the horizontal dimension by the concept of action and in the vertical dimension by harmony and conflict. This is justified by the four positions' emphasis on the concept of power. In sociological neo-institutionalism, the concept of action was based on a logic of action such as the "logic of appropriateness". This was illustrated by the trash can model and the "muddling-through" model. This view of action also applies in the extended institutional framework.

With the concept of discourse as the object of analysis, the focus was directed towards the formulation of problems and problem solutions by different actors, and how certain solutions were institutionalised in negotiations. At the opposite end, the "logic of instrumentality" appears as the logic of action. In both economic neo-institutionalism and historical institutionalism, assumptions about strategic instrumental action are operated on. Just with two very different justifications - in economic neo-institutionalism, action is a priori determined as strategic. In historical institutionalism, strategic action is a historically specific phenomenon.

In the vertical dimension, the extended institutional position operates with a discourse-based concept of power, where the focus is on how the agenda is set through the definition of problems, solutions, etc. This can be seen in contrast to sociological neo-institutionalism, where the concept of power is not given much space. At the opposite end of the spectrum, the placement of economic neo-institutionalism as a position that emphasizes harmony may initially seem surprising. The reason for this placement is due to a lack of conceptualization of the phenomenon of power. As described earlier, this lack was attributed to the use of a pluralistic paradigm of power. The criticism of this concept of power was, among others, developed above by Philippe Daudi. In historical institutionalism, the emphasis is on conflict as a fundamental feature of society and administration.

In relation to what follows, it is central that the institutionalization process is carried partly by culture and partly by formal organization. These two forms of institutionalization will be related to the model in Figure 6.2 below. With the model, I will seek to concretize the expanded institutional analysis framework. The concepts of ideal, discourse and institution are introduced and related to the CVR case.

In an extended institutional analysis of the CVR Act as an institutional construction, the analysis will consist of a history of its creation. In other words, it is an analysis of how ideals are translated into discourse and institutionalized, see Figure 6.2.

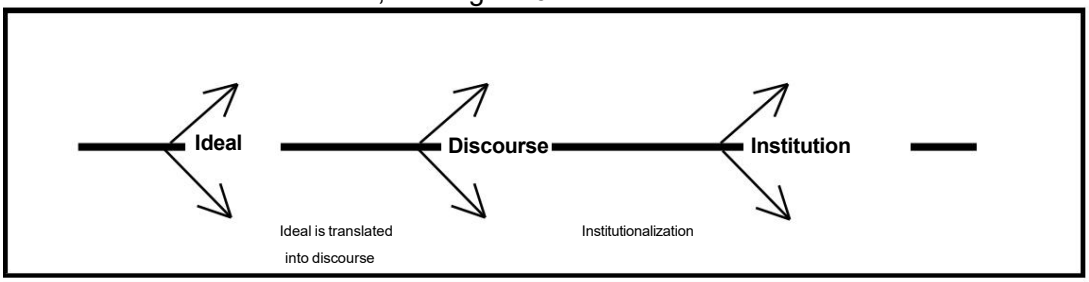


Figure **6-Error! Unknown argument for parameter.** Graphical illustration of the elements of the process analysis.

It should be emphasized here that there is no temporal sequence from ideal to discourse and to institution. In other words, the model does not assume a "causal relationship" from the formulation of a political ideal to its implementation in the administration. This is marked in Figure 6.2 by the arrows. These emphasize that problems and problem solutions are formulated and only some of these are institutionalized.

The first link that is focused on is the emergence of ideal concepts. In relation to the CVR case, these ideal concepts will be concepts of the fully integrated system. In discourse analysis, the ideal should not be traditionally understood as the establishment of political goals followed by implementation in the administration. The ideal only gains meaning as discourse:219 “Discourses are rooted in ideals. The transition from ideal to discourse involves an independence of the ideal (...) A discourse constantly creates new themes rooted in the ideal.”220

Above, institutionalization was considered to be carried by culture and formal organization, respectively. Instead of these concepts, I will use Højbjerg and Marcher's distinction between first-order and second-order institutionalization.221 This changed language is introduced to emphasize that institutionalization is not analyzed via culture and formal organization anchored in norms, but instead by actors committing themselves to roles, expectations, etc. formulated discursively.

With first-order institutionalization, the commitment to discursive distinctions occurs with reference to the normative aspects of discourse. The formulation of spaces for action that are not in accordance with the constitutive distinctions of the ideal can thus be sanctioned by exclusion of the actor or by a discursive limitation of the actor's role.222 Discursive positions are formed that regulate who should be responsible for what and who should govern what.
The questions to be asked are: “Who is set as the subject who can process, regulate and investigate which object? What competencies are attached to the processing, regulating and investigating subject.”223

With second-order institutionalization, the obligation occurs with reference to legislation: “a particular transversal discourse - the legal one - whose special meaning is in principle based on regulating the relationship between discourses”224 .

Institutionalization is thus in the expanded institutional position not anchored in norms, habits, etc. understood in a sociological new institutional sense but instead in discourse. In relation to the CVR, institutionalization can be considered as the determination of roles in various documents. In addition to technical aspects in communication, who is to do what is also formulated. From an institutional perspective, these formulations are central as obligations imposed on actors. With the distinction, the roles formulated via reports, etc. that circulate internally in the administration can be considered as first-order institutionalization. If roles are formulated as part of the law, actors are legally obligated or a second-order institutionalization.

Based on the above, it can be concluded that political institutions, viewed as institutionalizations of discourse, have a history, and express selected political goals, ideals, and norms, possibly shaped through coalition formation. Through institutionalization processes, negotiated elements of discourse are sanctioned either as obligations on the discourse's normative aspects or as legal obligations established by legislation.

---

219 “The ideal is in itself empty, and only gains meaning precisely when in its discursive formation it is referred to in connection with the articulation of problems, subjects, objects, and so on”, Andersen, 1995, p. 19.
220 Andersen, 1995, p. 19.
221 Højbjerg and Marcher, 1995, p. 28.
222 Højbjerg and Marcher, 1995, p. 28.
223 Andersen, 1994, p. 17.
224 Højbjerg and Marcher, 1995, p. 28.

Operationalization

If the CVR Act is considered an institutional construct, it determines which actors must do what, what information must be registered, and who must deliver which data.

The starting point in the process analysis of CVR is formed by formulated ideal concepts of an integrated information system. Elements of such a system were presented in chapter three. On the basis of this ideal concept, an interpretation of the creation of CVR is made possible through the analysis of problems, problem solutions in communication and an examination of which actors participate. The construction of CVR as an integrated information system is included in communication in the administration and is thus given meaning.

In operationalizing the discourse approach, I will use the SCOT model ("Social Construction of Technology") developed by Bijker.225 This is a social constructivist analysis model. According to this model, the analysis consists of the following four steps:

First, relevant social groups are determined:

> "The concept of a relevant social group (...) is used to denote institutions and organisations, (...) as well as organized and unorganized groups of individuals. The key requirement is that all members of a certain social group share the same set of meaning, attached to a specific artefact"226

In relation to CVR, the determination of relevant social groups or actors will consist of an investigation of which actors have which interpretations of CVR.

Secondly, different interpretations or technological frameworks are analyzed as defined in chapter four:

> "The concept of "technological frame" is intended to apply to the interactions between various actors. Thus it is not an individual characteristic, nor the characteristics of systems or institutions; frames are located between actors, not *in* actors or *above* actors. (...) A technological frame is built up when interaction around an artifact starts and continues"227

In the analysis, I will use the concept of interpretation or interpretive framework instead of the concept of technological framework. This analysis was presented in chapter two, where the five models of CVR were presented. The third step in the SCOT analysis consists of an analysis of interpretive flexibility as mentioned in chapter four. In the analysis of CVR, this will be done by analyzing which problems and solutions emerge in communication. The fourth step consists of an analysis of how a particular interpretation is stabilized, and finally how interpretive possibilities cease. The latter will be understood as institutionalization of the first and second order, respectively.

In relation to these points, the analysis of the CVR decision-making process will consist of three parts:

In the first part, the five models presented in chapter two are analyzed. This corresponds to step two of the SCOT model. They will be analyzed here as different interpretative frameworks.

In the second part, the interpretations are analyzed over time. This can be seen as a combination of step 1 and step 2 of the SCOT analysis. The emphasis here is on an analysis of different interpretations over time.

In the third part, interpretations are also analyzed over time. This part corresponds to points three and four in the SCOT model above. This analysis will be carried out with a focus on how information responsibility, departmental responsibility, technical solution and economic organization are included in

---

225 Bijker, 1990, pp. 90ff.
226 Pinch & Bijker, 1987, p. 30.
227 Bijker, 1990, p. 123.

communication, and how these are institutionalized. This will involve coalition formation defined by actors coming together on the same interpretation of CVR.

With regard to the issue of power, I will incorporate the concept of definitional power as described above. In the analysis, this will be done by examining how threats, development perspectives, solutions and options for action are discursively formulated.

6.2 MANAGEMENT FROM A STRUCTURAL PERSPECTIVE.

The question posed in this section is how information responsibility, departmental responsibility, technical design and financing as structural properties are included as elements in communication. This problem will be examined from two perspectives. Firstly, how to understand how these properties are produced and reproduced as structural properties in communication. Secondly, how these elements are used as means to influence the decision-making process. In answering these questions, a more nuanced understanding of action and rationality is first explained. Anthony Giddens' structuration theory is then introduced. Subsequently, the theory is concretized in a model. Before the operational rationalization, the issue of power is addressed. In contrast to the discourse-based concept of power, power in the structural approach is understood as an actor's use of resources in communication as means to change the course of a decision-making process.

The concept of action, intentionality and rationality.

If we consider the concept of action in the three institutional paradigms in the last chapter, there was disagreement about the weighting of the individual's intentions. The strongest was the new institutional economy, which linked intentions to an a priori given size, utility maximization. In sociological new institutionalism and in historical institutionalism, the individual's intentions were downplayed. The focus here was on rules of action and historical circumstances:

> "The observation of what actors do and say ***in situ*** is considered a prerequisite for relevant knowledge of political life as well as the building block for macro-political conceptualization"228

By practical consciousness I mean “all the things which actors know tacitly about how to 'go on' in the context of social life without being able to give them direct discursive expression”.229
The central thing about practical consciousness is routine: “the repetitiveness of activities which are undertaken in like manner day after day”.230 Practical consciousness is not always verbalised, but constitutes an important element in understanding why we act as we do. By discursive consciousness I mean the process by which actions are expressed verbally.
Discursive consciousness thus encompasses the situations in which we formulate discursively why we act as we do. Furthermore, by discursive consciousness I will understand rationalization of action. This will be understood as an action being supported or legitimized with arguments. The boundary between practical and discursive consciousness is fluid, and is constantly changing through learning processes and socialization.

Another significant difference in the theoretical perspectives on administration is the perception of rationality. If we first consider the traditional perception of administration, the assumption is that actors act in a “transparent world” with clear goals. This applies both from a governance perspective, where political choices are implemented neutrally in administration, but also at the individual level, when decisions are made in administration. In economic neo-institutionalism, this assumption was softened. With the introduction of “bounded rationality”, the idea of

---

228 Bang, 1987, p. 4.
229 Giddens, 1984, p. xxiii.
230 Ibid.

Limited information about means and ends was introduced. Only a limited number of alternatives were taken into account to ensure optimal goal fulfillment. Furthermore, rationality was linked to the intentions of utility-maximizing actors.

Considering the decision-making process problem, a radical alternative was formulated in sociological neo-institutionalism. Thus, the starting point of the “muddling through” and garbage can models was that the goals are unclearly formulated and changing over time. The goal-means relationship is unclear, either because it is poorly formulated or because knowledge about this relationship is developed in the decision-making process. Seen in relation to the aforementioned positions, norms, everyday knowledge, etc. are introduced as central components in the sociological perspective on administration. The problem, however, is that there is a lack of a concept of acting actors.

The starting point for a reconciliation of these apparently incompatible positions is based on the assumption that consciousness is always intentional: “consciousness is always intentional; it always intends or is directed toward objects”.231 If we next consider the concept of rationality, this is formulated above as either the administration as a whole or individuals set goals and then direct action towards the realization of these goals.

In a broader understanding of rationality, it has been argued that action should not be understood exclusively in the above end-means perspective: “the bulk of human activity does not consist of trying to achieve hitherto unrealized objectives, but of maintaining dependable relationships with the environment and keeping things going”.232 The key point here is that rational action is not reduced to simple end-means considerations but also involves knowledge of norms or rules of action as formulated in sociological neo-institutionalism:

> "Instead of being rational with respect to objectives, it is rational on the one hand, with respect to opportunities and through them to their defining context, and, on the other hand, with respect to behavior of the other actors - to the decisions they make, and to the game which is thus established among them”233 .

Thus, conscious action does not have to be rational in the narrow sense but can also be irrational when actions are placed in a concrete context where knowledge of the “rules of the game” is central.

The assumption in the structural analysis is that actors in the administration act intentionally and purposefully. By purposeful intentional action I mean “the application of 'knowledge to secure certain outcomes or qualities”.234 The concept of practical consciousness, which was presented above, further assumes that the agent operates on the basis of knowledge that cannot necessarily be formulated: “The agent does not have to be capable of formulating the knowledge he applies as an abstract proposition, nor does it have to the case that such knowledge is valid”.235

With this definition of purposeful action, I will first present an overarching conceptual framework. Next, the issue of power will be elucidated based on the above understanding of action. Under the issue of power, I will specifically elucidate how resources are used to change the direction of a given decision-making process.

---

[231] Berger and Luckmann, 1972, p. 34 cf. Lundqvist, 1987, p. 34.
[232] Lundqvist, 1987, p. 34.
[233] Lundqvist, 1987, p. 34.
[234] Giddens, 1976, p. xxiii.
[235] Giddens, 1976, p. 76.

Structuration theory

I derive the overall approach to the structural approach from Anthony Giddens' structuration theory. The overall starting point is that the social sciences cannot limit themselves to looking at the actions of actors. These actions are always both limited by structural conditions but at the same time also made possible by these structural conditions. In structuration theory, Giddens operates with five main elements: structure, social system, the duality of structure and structuration.

Structure is defined as a recursive set of rules and resources organized as properties of social systems.[236] Rules as properties include how meaning is constituted and how different forms of behavior are regulated via sanctions. These rules largely correspond to rules of action defined in sociological neo-institutionalism. Resources are defined as authoritative and allocative. Authoritative resources are resources used in the generation of authority over persons. Allocative resources are resources used in the generation of power over material resources. The concepts of rules and resources will be discussed later.

Social systems are defined as produced and reproduced relations between individual and collective, organized as social practices.[237] Giddens defines structuration as conditions under which rules and resources are drawn upon: “Structuration: Conditions governing the continuity or transmutation of structures, and therefore the reproduction of social systems”.[238] In social practice, rules and resources are produced and reproduced as context-specific properties. The concept of the duality of structure is defined by the fact that rules and resources are considered both as a medium for and the result of social practice. The key point here is that rules and resources as structural properties are not “external” in relation to interaction. Rules and resources appear exclusively through production and reproduction in interaction.

The concept of structure has been used in French structuralism. Here, the concept has been used by Levi-Strauss, among others, in the understanding of myths. In another direction, functionalism, the concept has been used primarily descriptively. The focus was less on structure and primarily on function. The concept was used descriptively here to describe economic, political and social relations. In contrast, Giddens places the concept in relation to social interaction:

> “A structure is not of 'group' 'collectivity' or 'organization'. These have structures. Groups, collectivities should be studied as systems of interaction”[239]

The quote emphasizes that the concept of structure is not considered a concept for describing relationships between actors. Lundqvist also gives a definition that emphasizes provisions of the concept of structure such as rules and resources in the above sense:

> "Societal structures comprise patterns of activities and ideas in the form of institutions, relationships, procedures, role patterns, rules, myths together with their relevant resources."

Like Giddens, Niklas Luhmann emphasizes communication. Luhmann defines structure in relation to the concepts of time and space:

> “The peculiar temporality of structure and process requires a closer determination. It would be false simply to conceive of structures as timeless and processes as temporal. .....Structures hold time reversibly because they keep a limited repertoire of options open. One can abolish or change them or, with their help, gain certainty for changes in other respects.

---

[236] "Structurs(s): Rules and resources, organized as properties of social systems" Giddens, 1984. p. 25.
[237] "System(s): Reproduced relations between actors or collectives, organized as regular social practices Ibid. p. 25.
[238] Ibid., p. 25.
[239] Giddens, 1976, p. 121.

> Processes, on the other hand, mark the irreversibility of time. They consist of irreversible events. They cannot run backwards. "[240]

This definition of the concept of structure emphasizes that these have a more permanent character in relation to processes. Processes considered in relation to time cannot be repeated. Structures hold time and thus choices. This understanding of structure moves away from the old social science problem of hypostatizing the concept of structure. This problem occurs when in social science one attributes substance to the concept of structure, without linking this directly to experience.

The central point is acting actors who constitute structure: "to inquire into the process of reproduction is to specify the connections between "structuration" and "structure"".

By structuration in this context I understand rules and resources used in communication and legitimization to change a decision-making process. With this definition, resources will generally be understood as influence resources at the interaction level. At the structural level, I will analyze resources as the result of the structuration process. In relation to CVR, this understanding makes it possible to understand how resource distribution is produced and reproduced as an element of communication in the decision-making process.

Concretization of production and reproduction of structural properties.

In continuation of the analysis of action and rationality and Giddens' overall conceptual framework, I will here concretize this overall theoretical framework.

Scott has introduced a distinction that will serve as a prelude to the establishment of an actual analytical framework. He has conducted a number of analyses of "professional organizations" that have the use of knowledge as a central element as a common denominator. Employees employed in this type of organization differ from other organizations "not only in the relative amount of power they exercise, but in what aspects of work they attempt to control".241 Thus, the analyses have shown that employees' influence is central not only in relation to what knowledge is used, but also on power structures and norms:

> "Professionals attempt to employ their power to shape the institutional frameworks, supporting their activities in the broadest possible terms: They seek cognitive control - insisting that they are uniqely qualified to determine what types of problems fall under their jurisdiction and how the problems are to be categorized and processed; they seek normative control, determining who has the right to exercise authority over what decisions and actors in what situations; and they seek regulative control, determining what actions are to be prohibited and permitted and what sanctions are to be used"242

What is central in this quote is, firstly, that employees have influence or control over how work is carried out and organised. Secondly, I find the distinction between cognitive, normative and regulative control central. This distinction avoids reducing action to utility maximisation as was the case in economic neo-institutionalism. In relation to sociological neo-institutionalism, what is central is that rules of action do not only include norms of behaviour, but also include cognitive and regulative aspects of management. In relation to historical institutionalism, what is central is that cognitive aspects and norms are also given importance in addition to positions of power.

A similar distinction is made by Giddens. The ontological premise of Giddens is that all social interaction phenomena must be understood as linkages between power, meaning and

---

[240] Luhmann, 1984, p. I. 25.

[241] Scott, 1995, sx

[242] Scott, 1995. sx

norms: “The components of social interaction are exhausted neither by its “meaningful” nor its “normative” content. Power is as integral an element of all social life as are meaning and norms.”243 Giddens thus distinguishes between power as a property of communication and power as the use of resources in negotiations. This dual perspective is expressed in Figure 6.3.

Interaction	Communication/ discourse / collective opinion formation	Power	Sanction
Rules & resources	Interpretation	Resources	Norms for rational and efficient behavior in administration
Produced and reproduced structural properties	Interpretative framework e	Resource allocation Legiti	mization

Figure **6-Error! Unknown argument for parameter.** Overview of terms used from Giddens.

In Giddens, there is a methodological and not a substantive distinction between actor and structural analysis. Giddens thereby attempts to go beyond the traditional division between actor and structure. In an actor-structure analysis with a focus on structure, the following is bracketed:

> "What from a structural point of view - where strategic action is bracketed - appears as a normatively co-ordinated legitimate order (...) from the point of view of strategic conduct represents claims, whose realization is contingent upon (...) responses of other actors. Their interconnectenes express the negotiated character of sanctions, relating to the production of meaning to the production of normative order”244

The focus of this section is on how rules and resources are produced and reproduced in communication. In continuation of Scott's distinction between cognitive, regulative and normative control, these concepts will be differentiated so that they are included partly at the interaction level and partly at the structural level. At the interaction level, the concepts of communication, power and sanction appear. These concepts are an extension of the analysis above, where sanction was understood either as sanctioning the normative aspects of discourse or sanctioning through legislation, communication as discourse and power as definitional power.

Production and reproduction, in my opinion, are a better concept than the “path-dependence” of sociological neo-institutionalism, where alternatives to the rational model were characterized as garbage cans or incremental solutions. The concept of “path-dependence” was more correct in this respect, but this concept was unable to accurately capture the way in which new solutions are conditioned by previous solutions.

In relation to historical institutionalism, a structural concept was formulated that is able to see these not as "external" explanatory variables, but instead as elements that are produced and reproduced in interaction.

In relation to economic neo-institutionalism, the concept of rationality was expanded by the application of practical consciousness.

In relation to the framework set out below, the focus will first be on assumptions about acting actors. Next, a general structuring model will be set up that illustrates how

[243] Giddens, 1981, p. 26.
[244] Bang, 1987, p. 15.

structural properties are produced and reproduced in communication. The focus is then on how resources relate to interpretive frameworks and legitimation.

Power as the use of resources in negotiations.

Traditionally, a one-to-one relationship is established between resources and power. The key point here is that some actors may be well-equipped in terms of resources, but not be able to exert influence in a given negotiation process, while others who are not well-equipped can exert influence on a given process. Power will be understood in the structural analysis as the ability of actors to mobilize resources. According to Giddens, social action is:

> "
> ... intrinsically involves the application of means to achieve outcome, brought about through direct intervention of an actor in a course of events (...) Power consequently represents the capabilities of the agent to mobilize resources to constitute those means. In this most general sense, as the capacity of an actor to intervene in a series of events so as to alter their course, power refers to the transformative capacity of action. Transformative capacity cannot be equated with a capacity to make decisions or choices"245

The key point here is that an actor's intervention in a sequence of events involves the use of means. If we consider the concept of power in historical institutionalism, this was determined by the concept of institutional capacity: "These capacities are determined generally by the formal institutional positions in which actors find themselves and the material resources at their disposal".246 A similar concept of power is thus used in structural analysis. The difference lies in the focus on how resources are used in communication.

The concept of power presented above and the discourse-based concept of power presented in the process approach are united in the structural approach through the use of the concept of resources understood as both structural properties, but also as a medium through which power is exercised:

> "Both as an individual capacity and as a feature of the totality (...) power depends upon the utilization of resources. Resources are the media whereby transformative capacity is employed as power in the routine course of social interaction; but they are at the same time structural elements of social systems as systems, reconstituted through their utilization in social action"247

How is this perception of power linked to interpretive frameworks and legitimation in the diagram above? The key point here is that resources are used as means in the production of meaning or, in other words, in the production of interpretive frameworks but also in the legitimation of certain interpretive frameworks.

> "Both communication and sanction have to be linked to power transactions. Resources are not just additional elements to the communication of meaning and to normative sanctions, as individuals and collectivists tend to believe, but include the means whereby meaningful and normative content of interaction is actualized."248

Resources should not be considered exogenously as the amount of power or the amount of physical material. Allocative resources such as the amount of technology available, which was considered a material physical resource in the institutional economy, therefore take on a different meaning here. In the structural approach, technology should instead be perceived as political artifacts that are shaped and used as resources of influence in communication. Technology is thus understood in communication contexts as means that can be referred to, whereby these are put in relation to meaning and norms in interaction.

---

[245] Giddens, 1976, cf. Bang, 1987, p. 17.
[246] Campbell, 1995, p. 11.
[247] Giddens, 1979, p. 92.
[248] Bang, 1987, p. 15.

Technology and access to information are perceived in the context of communication as means that can be referred to, whereby these enter as a meaningful and normative content in the interaction. In this understanding of the CVR process, the use of an existing information responsibility will be used in the production of interpretive frameworks, and it will also be used in legitimization by referring to legislation on how information responsibility has historically been assigned.

The key point in this understanding is that when reference is made to technical organization or economic organization in communication, it is a question of the production of interpretative frameworks, where reference to physical databases and network connections or specific items in the Finance Act is used as a means to change a decision. These are thus constructions that are used in communication, and thus influence the constitution of the CVR up to the adoption of the act.

In continuation of the above, it is important to emphasize that power cannot be directly derived from communication. In contrast to the traditional concept of power, a discourse-based concept of power is used:

> "Power cannot be derived form the actual use of communication and sanctions, precisely because it expresses the capability to apply communication and sanctions. It manifests the capabilities of actors to make certain 'accounts count' and to enact or resist sanctioning processes"[249]

In relation to legitimation, Bourdieu and Rossenau have introduced the concept of symbolic power. This concept aims, firstly, to conceptualize the central fact that the formulation of certain solutions and problems constitutes a power in itself. Secondly, Bourdieu and Rossenau argue that this power relation is concealed by imposing this power relation on others through legitimation:

> "Every power to exert symbolic violence, ie every power which manages to impose meanings and to impose them as legitimate by concealing the power relations, which are the basis of its force, adds its own specifically symbolic force to those power relations"[250]

The quote shows how power relations gain their symbolic strength by being imposed as legitimate. According to Bourdieu and Rossenau, this operation conceals the power relation itself.
In a further treatment of the concept of power, Bourdieu and Rossenau link this with the concepts of autonomy and dependence. Autonomy is defined as the active production of meaning in communication. Dependence is given by the power relationship being presented as legitimate and the power relationship being concealed:

> "All theories implicitly or explicitly constructed on other axioms lead on either to make the creative freedom of individuals the source of symbolic action, considered as autonomous from the objective conditions in which it is performed, or to annihilate symbolic action as such, by refusing it any autonomy with respect to its material conditions of existence"[251]

Based on the above, "power" should not be reduced to a quantity that certain people are endowed with or are endowed with. Nor can power be reduced to structurally given elements in an administration, as was the case in historical institutionalism. Instead of a methodological collectivism and methodological individualism, Bourdieu and Rossenau thus recommend a methodological situationalism in the study of political decision-making processes. The understanding of a complex political situation is conditioned by the actors' knowledge of power relations:

> "Power (...) does neither reduce to meaningful and symbolic action, via the capacity of individuals to realize their will, nor to society's 'reason' for the existence or reproduced social items, via the

[249] Bang, 1987, p. 15.
[250] Bourdieu and Passeron, 1977, p. 4.
[251] Bourdieu and Passeron, 1977, p. 7.

> capacity of collectives to realize their vested interests. Action involves invention in the world, thus producing definite outcomes"252

If this issue is considered in relation to the CVR case, it can be seen that it is not a question of "brute force", but instead it is the ability to define problems and solutions (technical, departmental, information responsibility and financial) and to define who should do what and who is responsible for what. This happens in a negotiation game, where several administrative units must negotiate a solution regarding CVR.

Operationalization

I will look at economic organization, technical organization, departmental and informational responsibility organization as structural properties that are produced and reproduced in communication. This process will be analyzed through a focus on interpretative frames and legitimation, which are also produced and reproduced in interaction.

Historically given structures are reproduced in the negotiations themselves, in that these are used, among other things, as resources of influence for the structure's new construction and reproduction. The key point in relation to the above is that structures are not analyzed as if they were outside of communication. In the analysis of communication in the CVR process, we examine how structures are produced and reproduced through interaction.

Resources

With regard to resources, these are referred to above as allocative and authoritative resources. Lundqvist operates with a typology consisting of four types of resources:

> "We have selected four types of resources, which seem to cover most possible cases: informative resources, and material resources, personnel resources, legitimizing resources, and material resources"253

Access to and control over information resources and material resources corresponds to the concept of allocative resources above. Access to and control over personnel corresponds to the concept of authoritative resources above. In this context, I will not consider legitimation as a resource. In comparison to the power issue above, legitimation is considered a concept that expresses how resources are included in communication. Or in other words, how arguments for access to and control over resources are presented. In the analysis of CVR, the following typology of resources will be used:

Technical organization means access to and control over the specific design of the information system (technical organization).

Information responsibility is defined here in a narrow sense as responsibility for the collection and maintenance of information in an integrated information system. The key point is that control over the specific design of the information system does not necessarily involve control over the information stored in the system. With regard to collection and maintenance, this responsibility can be assigned to a specific management unit (information responsibility organization).

Departmental responsibility will be understood as responsibility for the departmental organization of personnel (departmental organization).

Economic organization should be understood as access to and control over the sale of information. In addition, financing will be understood as solutions for how to establish solutions for the construction and operation of CVR (economic organization).

---

252 Bang, 1987, p. 7.
253 Ibid. p. 96.

By the concept of power in structural analysis I will understand an intervention in a sequence of events, so that this changes direction. In structural analysis, the concepts of power and influence will be used with the same meaning.

The focus will be on how meaning is produced as interpretative frameworks, and how reproduction occurs via legitimation.

In continuation of the above theoretical considerations, I will analyze influence as interpretative frameworks and legitimation with a focus on how the resources technical organization, economic organization, information responsibility, departmental responsibility are used to influence the CVR decision-making process. Furthermore, I will focus on how resources are produced and reproduced as structural properties.

Interpretative frameworks

By interpretative framework I mean the production of meaning. A central element in the interpretative framework is knowledge. Considered as interaction phenomena, knowledge: "mutual knowledge refers generically to taken for granted "knowledge" which actors draw assume others possess (...) and which is drawn upon to sustain communication in interaction"254 - in the CVR case this is analysed thematically in the process analysis with a focus on technical, economic and departmental solutions. In the structural analysis, knowledge will be focused by analysing interpretative frameworks. As above, interpretations will be analysed as mobilisation of resources as a means of changing the CVR decision.

Identification

Sanctions will be analyzed in the process analysis. In the structural analysis, I will, following Berger and Luckmann, consider legitimation as "second-order meaning". The starting point is, as described in the section on process analysis, that prior to actual institutionalization, a common meaning and a common set of norms are developed in relation to a given phenomenon. By legitimation, I will understand that problems and alternative solutions are connected to broader cognitive frames, norms, etc. Legitimation "involves connecting it to wider cognitive frames, norms or rules. Legitimation 'explains' the institutional order by ascribing cognitive validity to its objectivated meanings. Legitimation justifies the institutional order by giving a normative dignity to its practical imperatives".255 In the extended institutional perspective, actors (both individual and collective) are viewed as legitimation-maximizing

actors as opposed to efficiency-maximizing actors in the traditional view of administration. In continuation of Meyer and Rowan's theoretical perspective described earlier, it is central that organizations in administration appear efficient and rational: "Organizations that incorporate societally legitimized rationalized elements in their formal structures maximize their legitimacy and increase their resources and survival capabilities".256

There is an ongoing mobilization of the interests of various administrations in relation to the design of the CVR. These are legitimized in parallel with reference to what is perceived as legitimate behavior in the administration.

6.3 SUMMARY

The process approach argued for a theoretical understanding of processes in administration by considering these as institutionalization processes, where discourse is institutionalized. With

254 Giddens, 1976, p. 107.
255 Scott, 1995, p. 46.
256 Meyer and Rowan, 1977, p. 53.

The concept of definitional power was focused on how a field is constituted partly through the definition of problems, solutions, development perspectives and options for action, and partly through coalition formation where some actors come together on a common definition of problem and solution.
On this basis, it was concluded that political institutions, viewed as institutionalizations of discourse, have a history and express selected political goals, ideals and norms, possibly shaped through coalition formation. Via institutionalization processes, sanctions are negotiated elements of discourse, either as obligations on the discourse's normative aspects, or as legal obligations established by legislation.

The structural approach asked the question of how information responsibility, departmental responsibility, technical design and financing as structural properties are both produced and reproduced in the communication between the actors involved. This problem was examined from two perspectives: first, how to understand information responsibility, departmental responsibility, technical design and financing as structural properties that are produced and reproduced in communication. Second, how are these structural properties used as means to influence the decision-making process?

In answering these questions, a broader understanding of action and rationality was first argued. Then, the assumption was presented that action is intentional and purposeful and involves the use of knowledge understood in a broad sense. Thus, it is not necessarily possible to formulate this knowledge discursively. Furthermore, end-means rationality was extended to include knowledge of the “rules of the game”.

Against this background, Anthony Giddens' structuration theory was introduced. With this conceptual framework, it became possible to understand structural properties as produced and reproduced in communication. Viewed from a structural perspective, a model was set up in which resource organization, interpretative frameworks and legitimation were considered as overall structural properties of administration as a social system. Structure was defined as rules and resources produced and reproduced in structuration processes. Resources are understood as 1+2+3+4. Rules are defined as the production of interpretative frameworks and as the legitimation of certain interpretative frameworks.

The structural analysis is carried out by bracketing purposeful action. At this level, CVR can be understood as the production and reproduction of interpretative frameworks, and the legitimization of these interpretative frameworks by ensuring that these are in accordance with rational and efficient task solving in the administration. In the establishment of interpretative frameworks, 1+2+3+4 can be used as influence resources to influence the decision-making process, thereby creating a specific organization and distribution of resources. In contrast to the discourse-based concept of power, power in the structural perspective is understood as an actor's use of resources in changing the course of a decision-making process.

7. CVR case analysis part 2.

The analysis of CVR in this chapter will be conducted based on the theoretical framework established. First, the process analysis is conducted and then the structural analysis.

7.1 PROCESS ANALYSIS

As described in the operationalization of the process analysis, this will consist of three parts. First, the five interpretations as presented as five models in chapter 2 are presented. Next, it is analyzed how actors have different interpretations of CVR. Finally, the process analysis is carried out with an emphasis on themes in communication and institutionalization.

Presentation of five interpretations of CVR as socially constructed artifacts.

Model zero presents the situation as it was before the actual integration of information on business registers. This interpretation is included in the decision-making process in December 1994.

Model one presents the interpretation of CVR as an ideal concept. Considered in continuation of the section on integrated information systems, the central point of this interpretation is that the storage of information and applications is centralized, whereby information collected in one administrative unit can be used by other administrative units.

Model two presents the interpretation of the CVR as proposed by a decision in principle in the Ministry of Finance in 1992. Compared to the ideal model, it can be seen that this interpretation is far from ideal. The central difference is that the individual administrative units retain existing registers. However, it should be noted that the register at Statistics Denmark only contains information for statistical purposes. Information for sales and other administrative use is transferred to the Danish Customs and Tax Agency with the interpretation in model two.

In model three, it is noted that information responsibility is split in relation to model 2. This interpretation enters into the decision-making process in January 1994.

In model four, there is a new interpretation where CVR is built as so-called data communities. When establishing data communities, two or more administrative units join forces on information responsibility and departmental responsibility. The model shows that the Ministry of Economic Affairs and the Ministry of Labour join forces in a data community on production units, and the Ministry of Taxation and the Ministry of Business and Industry join forces in a data community on legal units.

Model five presents the interpretation that resulted from the negotiations. A characteristic of this model compared to model three is that technically it is only a change in data flows from the Ministry of Taxation to the Ministry of Economic Affairs.

Process analysis with emphasis on actors' different interpretations of CVR

The Ministry of Finance, the Ministry of Taxation and the Ministry of Economic Affairs have been chosen as relevant social groups. They each have a specific interpretation of the CVR. Furthermore, a distinction could be made internally within the Ministry of Economic Affairs between the Ministry of Economic Affairs' department and Statistics Denmark. I have chosen not to make this division at the overall level. The different interpretations will emerge from the analysis of themes in the communication in the next part of the process analysis.

Critical incidents “Relevant social group”	Finance the nesting house	Ministry of Taxation	Ministry of Economy
1. Decision in principle. April 1992	Model 2	Model 2	Model 2
2. Draft report on CVR. January 1994	Model 2	Model 3	Model 3

3. Memorandum sent to the Minister of Economic Affairs. February 1994	Model 2 Model	3 Model 4	
4. Report on CVR. June 1994	Model 3 Model	3 Model 3	
5. Alternative solution I. November 1994	Model 3 Model	3 Model 5	
6. Alternative solution II. December 1994	Model 3 Model	3 Model 0	
7. Solution with account on the Finance Act. December 1994	Model 3 Model	3 Model 5	
8. Solution submitted to the Ministry of Taxation. February 1995	Model 3 Model	5 Model 5	
9. Solution submitted to the Ministry of Finance. June 1995	Model 5 Model	5 Model 5	

Figure **7. Error! Unknown argument for parameter. Overview of interpretations of technical solutions divided by critical incidents and "relevant social group".**

Figure 7.1 shows that all three groups had the same interpretation in 1992. However, it appears from a memo to the Minister of Economic Affairs in February 1994 that there was disagreement at the meeting about whether the CVR should be structured in accordance with the decision in principle made by the Ministry of Finance in 1992.

In the draft report on CVR from January 1994, responsibility for information is included in the interpretation of CVR. This is marked by model 2 in the figure. Internally in the Ministry of Economic Affairs, CVR is interpreted as model 4 with the establishment of two data communities.

With the publication of the final report on CVR in June 1994, it can be stated that the idea of two data communities is being abandoned and replaced by a common interpretation with model 3 in all ministries.

In November 1994, however, an alternative interpretation was formulated. According to this, the problem could be solved best and cheapest in the Ministry of Economic Affairs. In the interpretative framework formulated in the Ministry of Economic Affairs' department, the problem regarding financing is interpreted as involving ministries paying for the establishment of the CVR. This financing requirement triggers a new interpretation of the CVR problem in Statistics Denmark, where the status quo is returned to (model 0). However, this problem is solved by a solution where the CVR is financed by an item in the Finance Act.

In the period from November 1994 to February 1995, there were two different interpretative frameworks in the Ministry of Economic Affairs and the Ministry of Taxation and Finance, respectively. With the presentation of model 5 to the Ministry of Taxation, a coalition was established between these two ministries. Later in the spring of 1995, the Ministry of Finance was involved. The result was a common interpretation in June 1995.

Process analysis with emphasis on themes in communication and institutionalization.

The purpose of this part of the analysis is to show how technical design, information responsibility, departmental responsibility and economic organization in communication are included in the interpretation of CVR, and how these are institutionalized. The analysis will also include coalition formation defined by actors coming together on the same interpretation of CVR. In the separation of themes in communication, information responsibility, departmental responsibility, technical solution and economic organization emerged clearly in the case material. They all appear in all documents to a greater or lesser extent.

As previously mentioned, this concerns:

The first theme regarding technical design constitutes the core or ideal around which further themes are determined.

The second theme of information responsibility concerns whether some administrative units should be separately responsible for information in the CVR.

The third theme concerns the allocation of departmental responsibility. In 1992, it was proposed that the database be allocated to the Danish Customs and Tax Agency, as this administrative unit has the closest contact with businesses and is the largest user of the CVR. After a negotiation process from the beginning of 1994 to the beginning of 1995, the decision regarding allocation to the departmental responsibility was changed, so that the CVR would be allocated to Statistics Denmark under the Ministry of Economic Affairs.

The fourth theme concerns financial organization. As a starting point, an ideal has been formulated that CVR should be financially "self-sufficient". This means that expenses in connection with establishment and operation should be covered by user fees. The central point regarding the financial theme in the analyzed documents is that it is linked to the themes of technical design, information responsibility and departmental responsibility.

In Figure 7.2, the themes are related to critical incidents.

Organizational themes / Critical incidents	Technical design	Information responsibility	Departmental responsibility	Economic organization
1. Decision in principle. April 1992.	Model 2. Customs and Tax Agency takes responsibility for all information		The Customs and Tax Agency will be given departmental responsibility	Not themed
2. Draft report on CVR. January 1994	Model 3. Information responsibility is shared.		The Customs and Tax Agency will be given departmental responsibility	Not themed
3. Memorandum sent to the Minister of Economic Affairs February 1994	Model 4. Responsibility for information is linked to two data communities.		The Danish Customs and Taxation Agency and the Danish Commerce and Companies Agency will be responsible for legal entities.	Maintenance of existing system.
			Statistics Denmark and the Ministry of Labour will be responsible for production units	
4. Report on CVR. June 1994	Model 3. Information responsibility is shared.		The Danish Customs and Tax Agency will be given departmental responsibility.	Not themed
5. Alternative solution I. November 1994	Model 5. Information responsibility is shared.		Statistics Denmark gets departmental responsibility	In addition to user fees, construction is financed via an account in the Finance Act.
6. Alternative solution II. December 1994	Model 0. No unique CVR number is entered.		With the model, there is no resource problem. The status quo is returned.	Payment from Statistics Denmark to other administrations through royalties etc. conditional on data quality.
7. Solution with financing via account in the Finance Act. December 1994	Model 5. Information responsibility is shared.		Statistics Denmark gets departmental responsibility	In addition to user fees, construction is financed via an account in the Finance Act.
8. Solution is submitted to the Ministry of Taxation. February 1995	Model 5. Information responsibility is shared.		Statistics Denmark gets departmental responsibility	In addition to user fees, construction is financed via an account in the Finance Act.

9. Solution is submitted to the Ministry of Finance. June 1995.	Model 5. Information responsibility is shared.		Statistics Denmark gets departmental responsibility	A solution is agreed upon with The Ministry of Finance, where establishment is financed through the Finance Act

Figure **7. Error! Unknown argument for parameter.** Overview of themes divided by critical events.

As a starting point, the decision in principle in 1992 (critical incident 1) established technical design, information responsibility, departmental responsibility and financial organization. These are formulated in continuation of the ideal of integrated information systems. Thus, it is explicitly stated that some of the information must be stored at the Danish Customs and Tax Agency. At this time, there is therefore no division of responsibility for information in the CVR.

This is a coalition formation, as the Ministry of Taxation and the Ministry of Finance have joined forces to define how the CVR should be established. It has been defined how the technical organization, information and departmental responsibility and the financial organization of the CVR should be. This is evident from a memo from January 1995:

> "It was (...) indicated at the beginning of the discussions that a decision in principle had been made at government level and that this was not up for discussion. Statistics Denmark therefore had no opportunity to decisively influence the tendency and content of the memorandum."257

The quote shows that the definition is fixed and that Statistics Denmark has not had the opportunity to change it.

With the draft report on CVR in January 1994258 (critical incident 2), there are no changes with regard to technical design, departmental responsibility and financial organization compared to the decision in principle made in 1992. With regard to the organization of information responsibility, a change can be noted:

> "The Danish Customs and Tax Agency is the authority responsible for the registration, and has the main responsibility for the structure of the CVR and for the maintenance of data. However, it is assumed that certain authorities, after further agreement with the Danish Customs and Tax Agency, will be granted access or even exclusive rights to register and maintain certain information. This primarily concerns the Danish Commerce and Companies Agency and Statistics Denmark."259

The key point is a changed interpretation of information responsibility. A solution has been defined where it is possible for selected administrative units to have separate responsibility for information in the CVR.
A solution has thus been defined where an authority can have a separate right to collect and maintain information about companies.

In an internal memo to the Minister of Economic Affairs in February 1994 (critical incident 3), a new interpretation of the CVR is presented as illustrated in model 4. The concept of data communities defines the solution to the CVR problem by administrative units that share information establishing these communities. Thus, Statistics Denmark attempts with this memo to convince the Ministry of Economic Affairs that the establishment of the CVR should be interpreted as two data communities. The reason for using an alternative solution is a long list of problems that will arise if model 3 is used. Thus, a general problem is mentioned with regard to Statistics Denmark's statutory tasks if the register is moved to the Danish Customs and Tax Agency. In the event of such a move

257 "Statistics Denmark as responsible for the basic business registration", January 18, 1995, p. 3.
258 "Draft report on general requirements for a Central Business Register", 31 January 1994, Danish Customs and Tax Agency.

259 "Draft report on general requirements for a Central Business Register", 31 January 1994, Danish Customs and Tax Agency, p. 8.

Problems could arise with the obligation of discretion in Statistics Denmark. It is further pointed out that closing down the business register would be a threat to income for Statistics Denmark and thus for the Ministry of Economic Affairs as a whole.

With the Report on CVR from June 1994 (critical incident 4), which was sent to all parties involved, an incipient institutionalization of the first order can be observed, where actors commit to the report understood as a result of negotiations. With the report, the ideal of integrated information systems in the administration has become part of the discourse in the administration, and subsequently the normative aspects of the discourse have been institutionalized, cf. the model set out in Chapter 6. In connection with the preparation of the report, roles are determined discursively, and with the final report an incipient commitment to this role distribution can be observed. With this process, a technical, information responsibility, departmental and financial organization of CVR has been defined.

With alternative solution I in November 1994 (critical incident 5), a number of problems with the solution described in the report from June 1994 are formulated. On this basis, an alternative solution I is formulated. The technical design appears from model 5. A detailed argument is made in all dimensions for how an alternative solution could overcome the formulated problems. The overall argument is that “data flows are reversed” from the Danish Customs and Tax Agency to Statistics Denmark. A financial solution is further defined. It is proposed to create a main account in the Finance Act for 1995 of DKK 30 million in 1995 and 1996 respectively.
In summary, this draft proposes a departmental change, so that the CVR register is now placed in Statistics Denmark. It is assessed that the construction of a larger system in the Danish Customs and Tax Agency cannot be kept within the promised timetable. With regard to economic organisation, it is emphasised that placing the CVR in Statistics Denmark will provide the most advantages. The Ministry of Economic Affairs has been able to determine the collective opinion formation by formulating problems and thereby alternative solutions for establishing the CVR in certain categories.

A memorandum of 1 December 1994 sets out a strategy for establishing a coalition between the Ministry of Economic Affairs and the Ministry of Taxation. It appears from the case material that the Ministry of Finance could be expected to agree to a change of responsibility if the Ministry of Economic Affairs and Taxation agreed. The prerequisite, however, is that the register could be established more quickly and efficiently by such a change.

With regard to financial organization, the Ministry of Economic Affairs' memorandum of 7 December 1994 maintains that financing must be provided through the Finance Act. Statistics Denmark's response to this requirement is set out in an internal memorandum of 8 December 1994. This memorandum lays the foundation for an alternative solution dated 16 November 1994.

The disagreement on the economic organization led Statistics Denmark to present alternative solution II in December 1994 (critical event 6). According to this definition, the organization in terms of technical, economic, departmental and information responsibility is changed. The technical organization is described in model 0. This is a return to the original order. It is now up to the data-providing administrations to improve the data, and the idea of a unique CVR number is abandoned. With regard to economic organization, the innovation is that the distribution of income from the business register service in Statistics Denmark is only shared with other administrations if they are able to deliver data of the required quality to Statistics Denmark. The central point of this interpretation is that a truly integrated information system is not established.

A solution has been defined here, which determines which roles the participating institutions should have. However, the note of 12 December 1994 solves the problem by formulating a loan financing scheme, so that the financing does not take place through the administrations involved.

pays to CVR. A solution has been defined so that financing is done via the Finance Act (critical incident 7).

An institutionalization of the first order can be observed internally in Statistics Denmark. With the determination of the economic, technical, departmental and information responsibility organization, there are a number of expectations for Statistics Denmark and the Ministry of Economic Affairs on the solution of 16 November 1994 with the use of a loan financing scheme. The memorandum of 18 January 1995 explains the history behind the situation as it exists today. A number of arguments are used that show that the decision in 1992 had been problematic. The subsequent memorandums are all expressions of negotiations towards the formulation of a joint memorandum, which will later be presented to the Ministry of Finance.

From a coalition perspective, it can be seen that the Ministry of Economic Affairs and the Ministry of Taxation are coming together on a common understanding of a technical, economic, information responsibility and departmental organization of CVR. With this coalition formation, the CVR solution is institutionalized by the first order in the Ministry of Taxation and the Ministry of Economic Affairs respectively in February 1995 (critical incident 8).

The financial aspects of the CVR register now remain. The memorandum of 30 March 1995 states that the CVR must be established and operated in accordance with the principles laid down in the CVR Committee's report from June 1994. It is subsequently explained that expenses in connection with the establishment of the CVR that cannot be covered by user fees must be financed through the Finance Act.
In this context, it is emphasized that the ongoing operation must be self-sufficient based on user payments. With regard to establishment costs, these are explained in detail in the paper. This is DKK 8 million, which is the establishment costs required by the Finance Act.

With the involvement of the Ministry of Finance, the first-order solution is institutionalized across ministerial boundaries (critical incident 9). With the preparation in the Ministry of Economic Affairs and the Ministry of Taxation, respectively, no significant new arguments are formulated. The primary argument here is the economic argument, which emphasizes that the proposed solution is cheaper than the solution proposed in 1992.

In June 1995, actors in the Ministry of Economic Affairs, the Ministry of Taxation and the Ministry of Finance all committed themselves to a technical, information-related, departmental and technical organization. Later, with the adoption of the CVR Act, this second-order solution was institutionalized. A formal organization was established.

Summary of the process 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 in the administration in addition to the information technology. It was further found that decision-making processes are in the nature of negotiations, formulation of problems in 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 technical design. Using the SCOT method, a number of different interpretations of CVR as an integrated information system could be identified. Five competing models were identified that systematically show the interpretations and the definitional power that the actors negotiate about and with. Furthermore, a complex interplay between technical, information, departmental and economic aspects was identified as elements of

The negotiation process thus illustrates the theoretical points that were discussed under the process approach in Chapter 6.

7.2 STRUCTURAL ANALYSIS.

In this section, the case will be analyzed from a structural perspective. The analysis will generally use the concepts of interpretative frameworks, legitimation and resource organization. The four themes of technical design, information responsibility, departmental responsibility and technical organization are included as elements of resource organization.

The analysis is structured in the following way, first presenting an interpretative framework for a given critical incident. Next, it presents how this interpretative framework is legitimized. Finally, it analyses how the resource organization is used as resources of influence, whereby structures in administration are producedand reproduced.

By decision in principle in 1992 (critical incident 1), the Danish Customs and Tax Agency is given responsibility for the CVR in terms of department and information. The technical organization is solved by model 2 described above. With regard to the financial organization, this problem is solved by using user payments as a form of financing.

This interpretative framework is legitimized by the fact that the Danish Customs and Tax Agency has the greatest contact with businesses. The technically most efficient solution would be to place the CVR in the Danish Customs and Tax Agency. Furthermore, the financial organization is in accordance with the requirements formulated in *Effective EDP in the State.* The CVR is to be financed via user fees. In other words, the model is in accordance with the interpretative framework set out by the Ministry of Finance, which was discussed in the section on the traditional view of the ideal of the integrated information system in chapter three.

It is clear from this that, with reference to technical design, information responsibility, departmental responsibility and economic organization, these are used as resources of influence in the establishment of a desired interpretation, which is thereby legitimized. This shows that structural conditions in the administration are produced and reproduced by the organization acting in communication with other actors. The process analysis showed that objections to the solution in the decision in principle were not taken into account.

With the draft report on the CVR in January 1994 (critical incident 2), the interpretative framework has been changed so that the Danish Commerce and Companies Agency and Statistics Denmark are given responsibility for parts of the information in the CVR. The two ministries' existing responsibility for information is used as a means to change the course of the CVR decision-making process. This is thus a reproduction of the information responsibility organisation. Thus, the responsibility of the Danish Commerce and Companies Agency and Statistics Denmark for information is reproduced by including this in the interpretative framework expressed in the draft report on general requirements from January 1994.

In February 1994, a memo was sent from Statistics Denmark to the Minister of Economic Affairs (critical incident 3). This involved intervention in the CVR process. Model four was proposed with the establishment of two data communities. This was legitimized with reference to the fact that Statistics Denmark has historically been given responsibility for business registration. Reference was made to a recommendation from the Administrative Council in 1967 and the Act from 1975, in which Statistics Denmark was given this responsibility for business registration. This legitimization thus uses the information responsibility resource. It is further pointed out that a number of problems may arise with regard to Statistics Denmark's obligation of discretion. The modified solution is legitimized primarily with reference to the effective use of business register information under Statistics Denmark's auspices. The rationale for the argument is close to the argumentation of the modernization plans regarding market management of public organizations.

Furthermore, the solution is legitimized by the fact that income from the business register service not only covers the direct costs of providing this service, but there is money in surplus for modernizing registers. With regard to information responsibility organization, it is pointed out that Statistics Denmark is required by law to carry out business registration. With these arguments, Statistics Denmark appears as efficient and rational towards the Ministry of Economic Affairs, thereby legitimizing the proposed solution.

With this interpretative framework, existing information responsibility organisation, technical organisation, departmental responsibility organisation are included in the negotiations. With the proposal put forward (model 4), the existing organisation of resources is partly reproduced by replacing the idea of a fully integrated register with a less ambitious project. Instead of one data community, a solution is established where institutions work together in pairs to establish data communities. However, this interpretation of the CVR problem is not pursued further. With the report in June 1994, model two is partially fixed (critical event 4). Information responsibility in Statistics Denmark and in the Danish Commerce and Companies Agency is partly reproduced by not assigning responsibility for all information in the CVR to the Danish Customs and Tax Agency. However, as described in the process analysis, an alternative solution is formulated internally in the Ministry of Economic Affairs and presented to the Ministry of Taxation and Finance in the spring of 1995.

With alternative solution I put forward in November 1994 (critical incident 5), an alternative interpretative framework is established. The key point is that the Danish Customs and Tax Agency has put forward a demand that the sale of business register services must be transferred from Statistics Denmark to the Danish Customs and Tax Agency. The economic organisation as a resource is now included with a more specific definition than previously. Among other things, the alternative proposal from Statistics Denmark is formulated on this basis. As stated earlier, this interpretative framework has formulated a technical design in which Statistics Denmark is given responsibility in terms of department and information. With regard to economic organisation, this must be done, according to this interpretation, by creating an entry in the Finance Act for the establishment of the CVR.

It can be seen that existing information responsibility organization, technical organization and department responsibility organization are being used in negotiations. The legitimacy of the proposal is based on the fact that the CVR with the proposed solution can be made cheaper and faster with fewer problems.
This is justified by the fact that the CVR should be based directly on existing registers. In other words, this means that the existing central business register in Statistics Denmark is technically being further expanded. The solution is further legitimized by the fact that the Danish Customs and Tax Agency is expected to be able to establish the CVR using user payments, as assumed in the decision in principle in 1992.

At the beginning of December, the Ministry of Economic Affairs' department formulated a demand that financing cannot be done via the Finance Act but instead via payment from the ministries involved.
On this basis, an alternative interpretation framework is formulated. A return to model 0 as described previously is made. Technical design, information responsibility, departmental responsibility and technical organization correspond to the existing organization at that time. With regard to financial organization, a new interpretation is provided, where payment for deliveries to CVR is resolved by granting royalties and entering into discount schemes (critical incident 6).

With the presentation of this proposal, existing information responsibility organization, technical organization, and department responsibility organization are included as resources of influence in the negotiations.
In terms of financial organization, this is interpreted as a problem that should not be solved by user fees but instead by royalties.

As was shown in the process analysis, the interpretative framework is taken into account by the Ministry of Economic Affairs. In the memorandum of 12 December 1994 it appears that the economic organization

can be done by financing via the Finance Act. The formation of this interpretative framework includes knowledge of internal conditions in the administration. This interpretative framework is primarily established in the Ministry of Economic Affairs department. The result is a return to the situation from November 1995 with a financial organization established via the Finance Act (critical incident 7).

This solution established an interpretation framework internally in the Ministry of Economic Affairs in December 1994. This was subsequently presented to the Ministry of Taxation in February 1995 and the Ministry of Finance in June 1995 (critical events 8 and 9). In legitimizing the solution to the Minister of Taxation and Economic Affairs, reference is primarily made to legislation, or in other words to a historical sanctioning of Statistics Denmark's role as responsible for business registration.
Indirectly, it appears that the CVR Act is an expression of the fact that the Business Registration Act from 1975 has not been taken into account. The justification further refers to the fact that the technical organization proposed by the Ministry of Finance and the Ministry of Taxation in 1992 (model 2) is not significantly different from the solution proposed by Statistics Denmark:

> "Since the various authorities involved (Customs & Tax Agency, Statistics Denmark and
> "Since the Danish Commerce and Companies Agency) must necessarily have their own register system, there can be no question of a merger, but of changes in data flows" [260]

It is emphasized that this is only a change in data flows. This interpretation legitimizes the technical solution as proposed by Statistics Denmark. Thus, towards the Ministry of Taxation and Economic Affairs, information responsibility is primarily included in the legitimization of the interpretation of CVR as model 5.

The result of this presentation of a solution to the Ministry of Finance in June 1995 resulted in a determination of the interpretative framework that was formulated in November 1994.

Summary of the structural analysis

In the structural analysis, the concepts of interpretive framework, legitimation and resource organization were used. In a typology of resources, information responsibility, departmental responsibility, technical design and economic design were used. The concept of interpretive framework showed how resource organization was included in negotiations. The concept of legitimation showed how certain interpretive frameworks appeared as non-rational or inefficient, while other interpretive frameworks were legitimized as more rational and efficient. Furthermore, it was found that existing information responsibility was used as a resource of influence.
It was observed that resources were used to change the course of the decision-making process.
If we consider the four resources, it can be seen that they are predominantly a reproduction of the existing resource organization. It was shown how information responsibility, departmental responsibility, technical and economic organization could be considered structural characteristics that were recursively included in the negotiations.

---

[260] Ibid. p. 4.

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.

8.1 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.

8.2 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.

	Management and system emer in a traditional perspective	Management and information systems in an expanded institutional information perspective
~~Perspective on management a role in the political-administrative~~ system.	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, Åkerstrøm, 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)
Communi-Nikation	"Transfer of words"	Communication as collective opinion formation, discourse (Foucault, Åkerstrøm)
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.

8.3 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.

Literature

Andersen, Kim V. & B. Cristensen & C. Friis, & J. Hoff & P. Melander (1994): *Technological practices: information and communication technology in the social world,* Department of Political Science, University of Copenhagen, Copenhagen.

Andersen, Niels Åkerstrøm (1995): *Border and power,* in: Gravel, no. 45, Aalborg University Center, Aalborg.

Andersen, Niels Åkerstrøm (1994): *Institutional history - an introduction to discourse and institutional analysis,* COS report no. 10/94, Copenhagen.

[261] Lundqvist, 1987, p. 196.

Andersen, Niels Åkerstrøm (1995): *Self-created administration - the development of administrative policy and central administration in Denmark 1900-1994,* News from the Social Sciences, Copenhagen.

Bachrach Peter and Morten S. Baratz (1962): *Two faces of power,* American Political Science Review, Vol 56.

Bachrach, Samuel B. & Edward J. Lawler (1980): *Power and politics in organizations,* Jossey Bass, San Francisco.

Bansler, Jørgen (1987): *Systems Development Theory and History in a Scandinavian Perspective,* Student Literature, Lund.

Bell, Daniel (1987): *The Information Society,* in: The Information Society - advanced Power Techniques, Kurt Aagaard Nielsen, Wenche Lauritzen, Kaj Kammer Madsen (eds.), Institute of Sociology, Copenhagen.

Bell, Daniel (1973): *The coming of post-industrial society,* Basic Books, Inc., Publishers, New York.

Berger, P & Luckman, T (1966): *The socially constructed reality,* Lindhardt and Ringhof, Copenhagen.

Bijker, Wiebe, Hudges, Thomas, Trevor (1987): *The social construction of technological systems. New directions in the sociology and history of technology,* MIT Press, Cambridge, Mass..

Bijker, Wieber & Law, John (1992): *Shaping technology/ Building society - studies in sociotechnical change,* MIT Press, Cambridge, Massachusetts.

Bogason, Peter (1987): *Institutions and political scientists,* Journal of Political Science, 1987, no. 4. (287-298), Lund.

Bogason, Peter (1988): *Organization and decision-making Public administration in Denmark,* System, Herning.

Bourdieu, Pierre & Jean Calude Passeron (1977): *Reproach in Education, Society and Culture,* Sage Publication, London.

Campbell, John L. (1995): *Recent trends in institutional analysis,* in: COS Offer (0.60) autumn 1995. Institutional changes in society and organizations, COS, Copenhagen Business School.

Christensen, Jørgen Grønnegård (1994): *Institutional theory and the public sector organization,* in: Ibsen, Nielsen and Schon. (eds) People's government and administration, Jurist and Economists' Association, Copenhagen.

Christensen, Jørgen Grønnegård & Peter Munk Christiansen (1992): *Public administration in Denmark. Management and surroundings,* Systime, Herning.

Cohen, Michael D, Hames G. March, and Johan P. Olsen (1972): *A garbage can Model of Organizational Choice,* Administrative Quarterly, Vol. 17, no. 1.

Cristensen, Jørgen Grønnegård (1980): *The Central Administration: Organization and Political location,* Social Science Publishing House, Copenhagen.

Cristensen, Søren & Poul Erik Daugaard Jensen (1986): *Control in the Silence. On Power and participation,* Social Literature, Copenhagen.

Cristiansen, Peter Munk (1988): *Technology between state and market. Danish technology policy 1970 - 1987,* Politica, Department of Political Science, Aarhus University.

Dahl Robert A. (1961): *Who governs? Democracy and Power in an American city,* Yale University Press, New Haven Conn.

Dahlbom, Bo and Lars Mathiassen (1993): *Computers in context - the philosophy and Practice of systems design,* NCC Blackwell, Oxford UK.

Danziger N. James, William H. Dutton, Rob Kling & Kenneth L. Kreamer (1982): *Computers and Politics. High Technology in American Local Governments.,* Columbia University Press, New York.

Danziger, James (1987): *How computers affect politics and the public sector,* Politica, 19th volume, no. 1, 1987, Department of Political Science, Aarhus University.

Date, CJ (1990): *An introduction to Database Systems vol. 1. Fifth edition.,* Addison-Wesley Publishing Company, Massachusetts.

Daudi, Philippe (1986): *Power in organizations The discourse of power in managerial praxis.,* Basil Blackwell, Oxford, UK.

Donk, Wim van de & Odette Meyer (1994): *Information, informatization, and politics decision making.,* Paper, presented at the conference of the permanent study group on the informatization of public administration under the EU, Bad Tatzmannsdorf, 20-23 September.

Donk, Wim van de & Odette Meyer (1995): *Digitalizing Decision making in a Democracy: for Better and for Worse,* in: Orwell in Athens, ed. Donk, W & I. Snellen, & P. Tops, IOS Press, Amsterdam.

Edwards, Chris & John Ward & Andy Bytheway (1991): *The essence of information systems,* Prentice Hall, London.

Ellul, J. (1967): *The technological society,* Alfred A. Knopf, New York.

Emme, Jeanette (1986): *Information technology - but how? A report on practice and methods for introducing new information technology in public institutions,* Copenhagen. ,

Enderud, Harald (1976): *Decisions in organizations - from a behavioral theoretical perspective,* Fremad, Copenhagen.

Ministry of Finance (1989): *Effective IT in the state,* Ministry of Finance, Copenhagen.

Finkelstein C. & J. Martin (1981): *Information Engineering,* Savant Institute, United Kingdom.

Finkelstein, Clive (1992): *Information Engineering. Strategic system development.,* Addison-Wesley Publishing Company, Sydney.

Fischer, Frank & John Forester (1993): *The argumentative turn in policy analysis and planning,* Duke University Press, Durham & London.

Flensburg, Per (1987): *System development with man in the center,* Student Literature, Lund.

Fogelin, Robert J. (1982): *Understanding arguments An introduction to informal logic,* Harcourt Brace Jovanovich, Publishers, London.

Ministry of Research (1994): *Info-2000,* Schultz Information, Copenhagen.

Ministry of Research (1994): *From vision to action,* Schultz Information, Copenhagen.

Ministry of Research (1995): *From vision to action,* Ministry of Finance, Copenhagen.

Foucault, Michel (1977): *Surveillance and Punishment,* Rhodes, Copenhagen.

Foucault, Michel (1978): *The History of Sexuality, the Will to Knowledge,* Rhodes, Copenhagen.

Giddens, Anthony (1976): *New rules of Sociological Method,* Hutchinson, London.

Giddens, Anthony (1984): *The Constitution of Society,* Polity Press, Cambridge.

Gordon, Colin (1987): *The soul of the citizen,* in: "Max Weber, Rationality and Modernity" Sam Whimster and Scott Lash(ed), Allen and Unwin, London.

Gutthrie & Dutton (): *The politics of citizen access,* , .

Habermas, Jürgen (1984): *The theory of communicative action. Reason and the rationalization of society,* Heineman, London.

Habermas, Jürgen (1987): *The theory of communicative action. The critique of functionalist reason,* Polity Press, Oxford, UK.

Hajer, Maarten A. (1993): *Discourse Coalitions and the institutionalization of Practice: The case of acid rain in Britain,* in: The argumentative turn in policy analysis, Duke University Press, Durham & London.

Haldén, Eva and Peter Kjær (1994): *Politics and institutionalization. The institutional perspective in political science,* COS research report 6/1994, COS, Copenhagen Business School.

Harmon, Michael & Mayer, Richard (1986): *Organization Theory for Public Organization,* Scott, Foresman and Company, London.

Hernes, Gudmund (1975): *Power and Power,* University Press, Bergen.

Hoff, Jens (1996): *Information technology, politics and democracy,* in: Samfundsøkonomen, no. 7., Jurist and Economists' Association Publishing House, Copenhagen.

Højbjerg, Erik & Frank Marcher (1995): *The Danish central administration and the EU - A institutional-historical analysis of coordination and negotiation with special reference to the Ministry of the Environment.,* in: CORE, working paper 13/1995, CORE c/o Department of Political Science, University of Copenhagen, Copenhagen.

Innis, Harold A. (1951): *The Bias of Communication,* University of Toronto Press, Toronto.

Jensen, Hans Siggård & Skovsmose, Ole (1986): *Technology Critique - a Technology Philosophy essay.,* Systime, Herning.

Jepperson, Ronald L. (1991): *Institutions, Institutional effects and Institutionalism,* in: The New Institutionalism in Organizational Analysis, The University and Chicago Press, Chicago.

Jessop, Bob (1990): *State Theory,* Polity Press, Oxford.

Jürgen Habermas (1993): *Justification and Application. Remarks on Discourse Ethics,* Polity Press, Cambridge, UK.

Jürgen Habermas (1996): *Between Facts and Norms - Contributions to a Discourse Theory of Law and Democracy,* Polity Press, Cambridge, UK.

Jørgensen, Torben Beck & Preben Melander (1992): *Life in public organizations,* Jurist and Economist Publishing House, Copenhagen.

Lash, Scott and Sam Whimster (1987): *Max Weber, rationality and modernity,* Allen & Unwin, London.

Lindblom, Charles E. (1959): *The science of "muddling through",* Public Administration Review, Vol 19.

Lundquist, Lennart (1993): *Problem and trends in aktuell förvaltningsforskning,* in: Statvetenskaplig tidsdrijk, 1993, no. 4, Student literature, Lund.

Lundquist, Lennart (1987): *Implementation Steering. An Actor-Structure Approach,* Student Literature, Lund, Sweden.

Lyytinen, klein, hirschheim (): *The effectiveness of office information systems: a social action perspective, , .*

March, James G & Johan P. Olsen (1989): *Rediscovering Institutions,* Free Press, New York.

Mead, George Herbert (1972): *On social psychology. The university of Chicago Press, 1972,,* The university of Chicago Press, Chicago.

Mendner, Hans Jurgen (1976): *Technological development in the capitalist labor process.,* Røde Bokforlaget AB, Gothenburg.

Meyer, John & Rowan, Brian (1977): *Institutionalized organizations: Formal structure as Myth and Cermony,* in: The new institutionalism in organizational analysis, The university of chicago Press, Chicago.

Microsoft (1995): *Microsoft Encarta'95,* Microsoft Corporation, USA.

Miles, Matthew & Michael Huberman (1994): *Qualitative Data Analysis,* Sage Publications, London.

Morsing, Mette (1995): *Transition to paradise? Oticon in the process from hierarchy to spaghetti.,* Danish School of Business Publishing, Copenhagen.

Mortensen f. & Møller J. (): *Publicity and mass communication.,* , .

Nurminen, Markku I. (1988): *People or Computers: Three ways of Looking af Information Systems,* Studentlitteratur, Lund.

Olsen, Johan P. (1978): *Democracy, bureaucracy and corporatism,* in: Political Organization. JP Olsen (ed.), University Press, Bergen.

Pedersen, N. Pedersen (1977): *On the proper use of historical material in political science: some didactic considerations,* in: Festskrift til Erik Rasmussen, Politica, Aarhus.

Pedersen, Ove Kaj (Efterå): *The anatomy of the problem, or the problem that there is a problem,* in: COS offer (0.60). Institutional changes in society and organizations, COS, Copenhagen.

Pedersen, Ove Kaj (1991): *Nine questions to a Neo-institutional Theory in Political Science,* Scandinavian Political Studies, University of Oslo.

Pinch, Trevor J. & Wiebe Bijker E. (1987): *The social construction of facts and artifacts: Or how the sociology of science,* in: Bijker, Hudges, Pinch, Trevor, MIT Press, Cambridge, Mass..

Politiken's Philosophy Encyclopedia (1983): , Politiken, Copenhagen.

Poster, Mark (1990): *The mode of information,* Polity Press, Cambridge.

Poster, Mark (1990): *The mode of information. Poststructuralism and Social Context,* Polity Press, Cambridge UK.

Powell, W Walter & Paul J. Dimaggio (1991): *The new Institutionalism in Organizational Analysis,* The Univeristy of Chicago Press, Chicago.

Pries-Heje (1995/1): *Newer systems development methods: What follows the waterfall model and structure,* Financial Management and Informatics, 11th year.

Raab, Charles D. (): *Connecting Orwell & Athens: info-superhighway, privacy, , .*

Report from the CVR Committee (1992): *General requirements for a central business register, ,* Danish Customs & Tax Agency.

Saussure, Ferdinand de (1983): *Course in General Linguistics.,* Gerald Duckworth & Co. Ltd., London.

Schein, E (1986): *Organizational Culture and Management,* Valmuen, Copenhagen.

Schultz, Majken (1984): *Perspectives on organizations,* Department of Organization and Work Sociology, Copenhagen Business School.

Scott, Richard W. (1994): *Institutions and Organizations,* Prentice Hall, Englewood Cliff, .

Scott, WR (1987): *Organizations: rational, natural and open systems,* Englewood Cliffs: Prentice Hall, Cambridge.

Simon, Herbert (1983): *Administrative Behavvior, A study of decision-making processes in administrative,* Basil Blackwell, USA.

Simon, Herbert (1983): *Reason in human affairs,* Basil Blackwell, Oxford.

Stone, Deborah (1988): *Policy paradox and political reason,* Scott, Foresman and Company, Glensville, Illinois.

Sven Steinmo, Kathleen Thelen and Frank Longstreth (1992): *Structuring politics : historical institutionalism in comparative analysis,* Cambridge University Press, Cambridge.

Thomsen, Jens Peter Frølund (1994): *Neo-institutionalism,* Grus, no. 43, AUC, Aalborg.

Thomsen, Jens Peter Frølund (1989): *Discourse analysis, regulatory theory and state theory,* Grus, no. 29, .

Tompkins, Philip K. (1987): *Translating Organizational theory,* in: Handbook of organizational communication, ed. Jablin, Puman, Sage Publications, London.

Toulmin, S. (1958): *The uses of argument.,* Cambridge University Press, Cambridge.

Weber, Max (1968): *Economy and society,* in: eds. Gunther Roth & Claus Wittich, University of California Press, California.

Weber, Max (1982): *Power and bureaucracy,* Gyldendal, Norsk forlag, Oslo.

Weber, Max (1972): *The Protestant Ethic and the Spirit of Capitalism,* Fremad, Copenhagen.

Weber, Max (1963): *Objectivity in social science and social policy,* in: Philosophy of the social sciences, Random House, Random House, New York.

Williamson, Oliver E. (1987): *The economic institutions of Capitalism, ,* New York.

Winner, Langdon (1986): *The Whale and the Reactor,* The University of Chicago Press, Chicago.

Winner, Langdon (1992): *Upon opening the black box and finding it empty,* in: Science, technology and human values, Harvard University, Cambridge, Massachusetts.

Winner, Langdon (1986): *The Whale and the Reactor - A search for limits in an age of high technology,* The University of Chicago Press, Chicago.

Winner, Langdon (1993): *Upon Opening the black box and finding it empty: Social constructivism and the,* Science, Technology and Human values, 18(3), 362-378, Cambridge Massachusett.

Winograd, Terry, Flores, Fernando (1985): *Understanding Computers and Cognition, A new foundation for Design,* Ablex Publishing Corporation, New Jersey, United States of America.

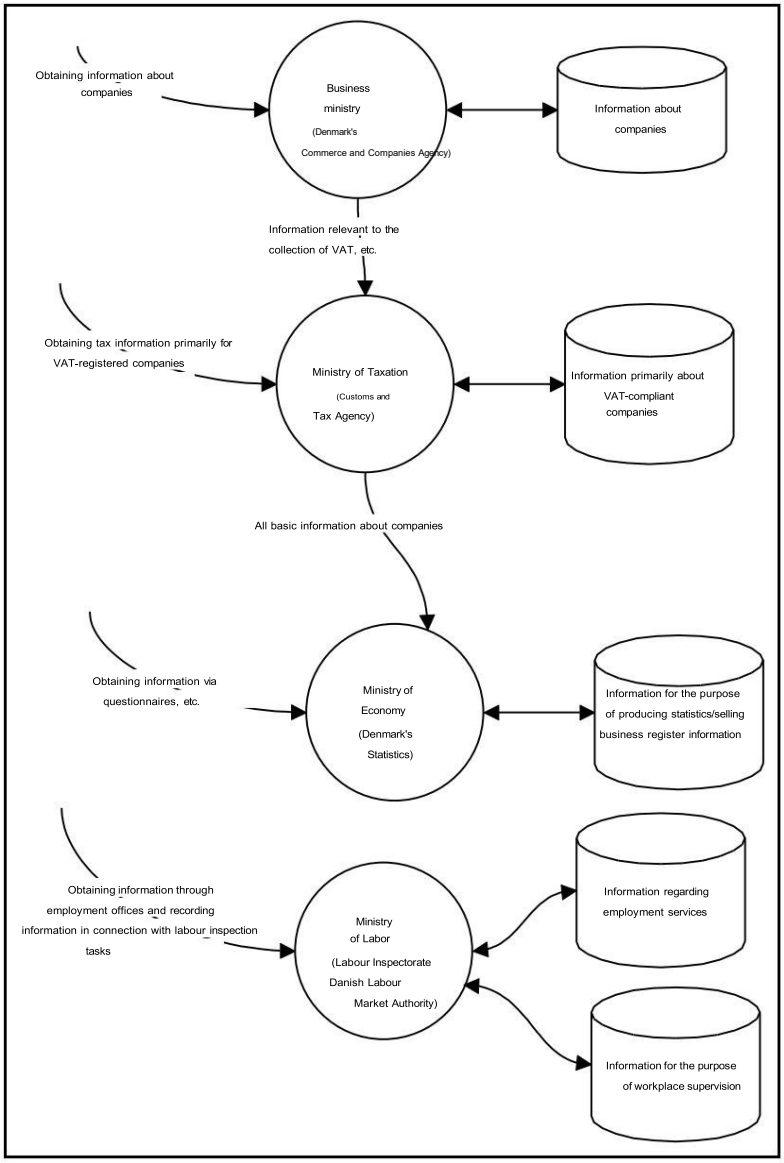
Winter, Søren (1994): *Implementation and efficiency,* Systime, Herning.

Yin, Robert K. (1989): *Case study research Design and Methods,* Sage Publications, London.

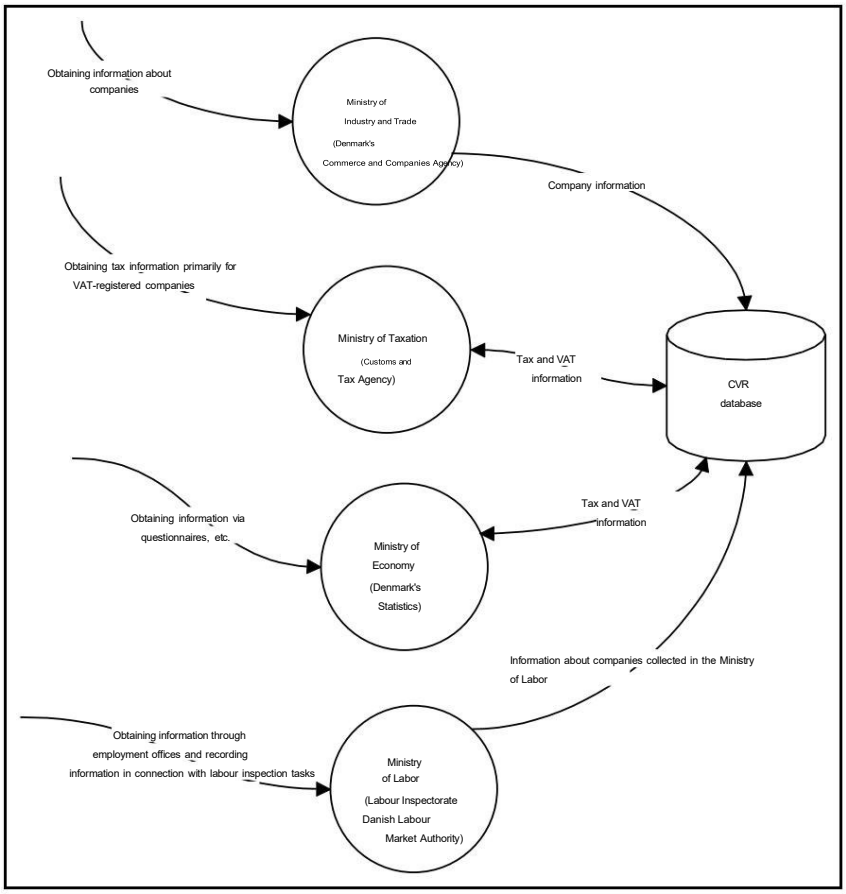
Yin, Robert K. (1993): *Applications of case study research,* Sage Publications, London.

Appendix 1. Data flows in the 5 solution models

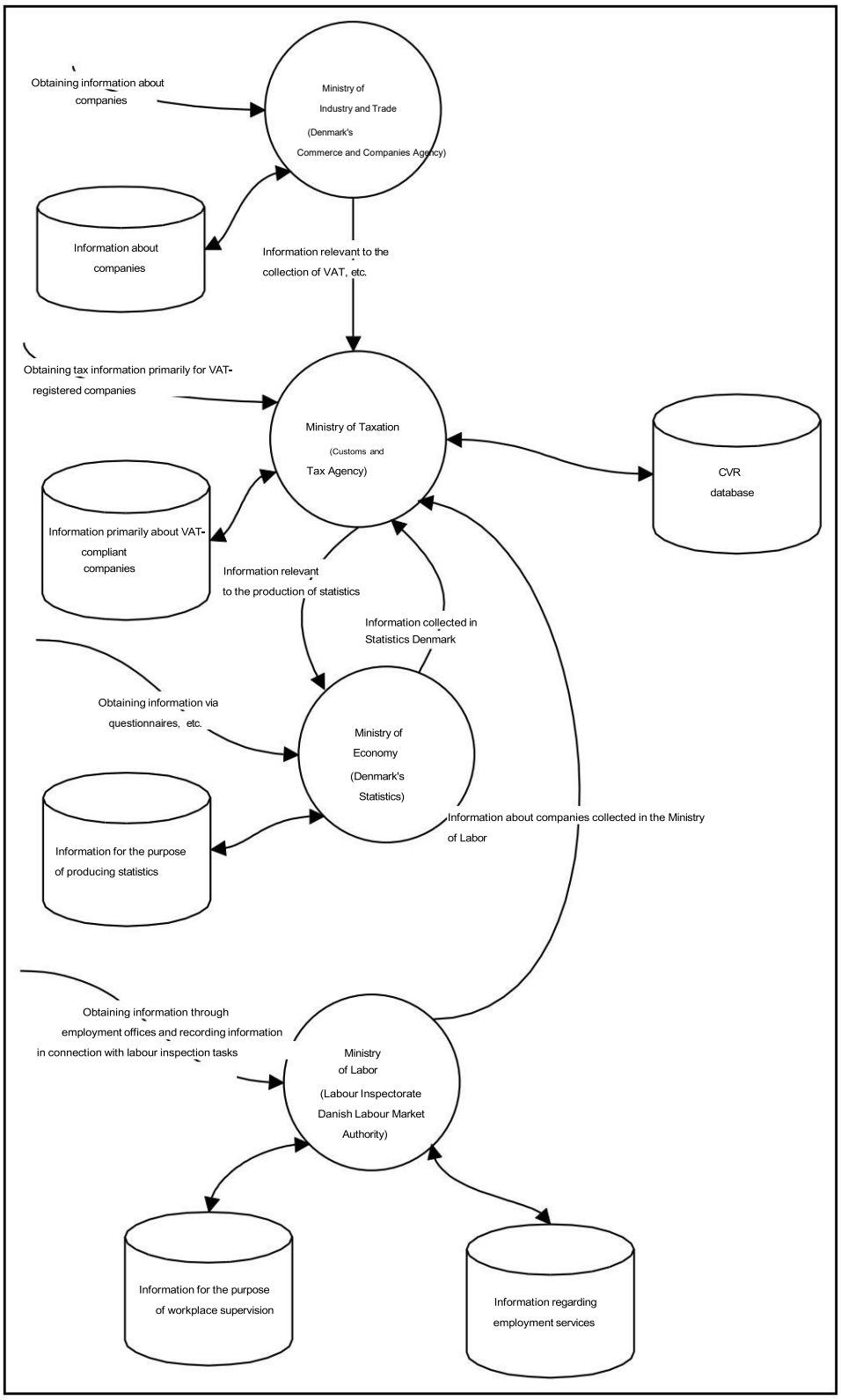
Model 0, Data flow before CVR



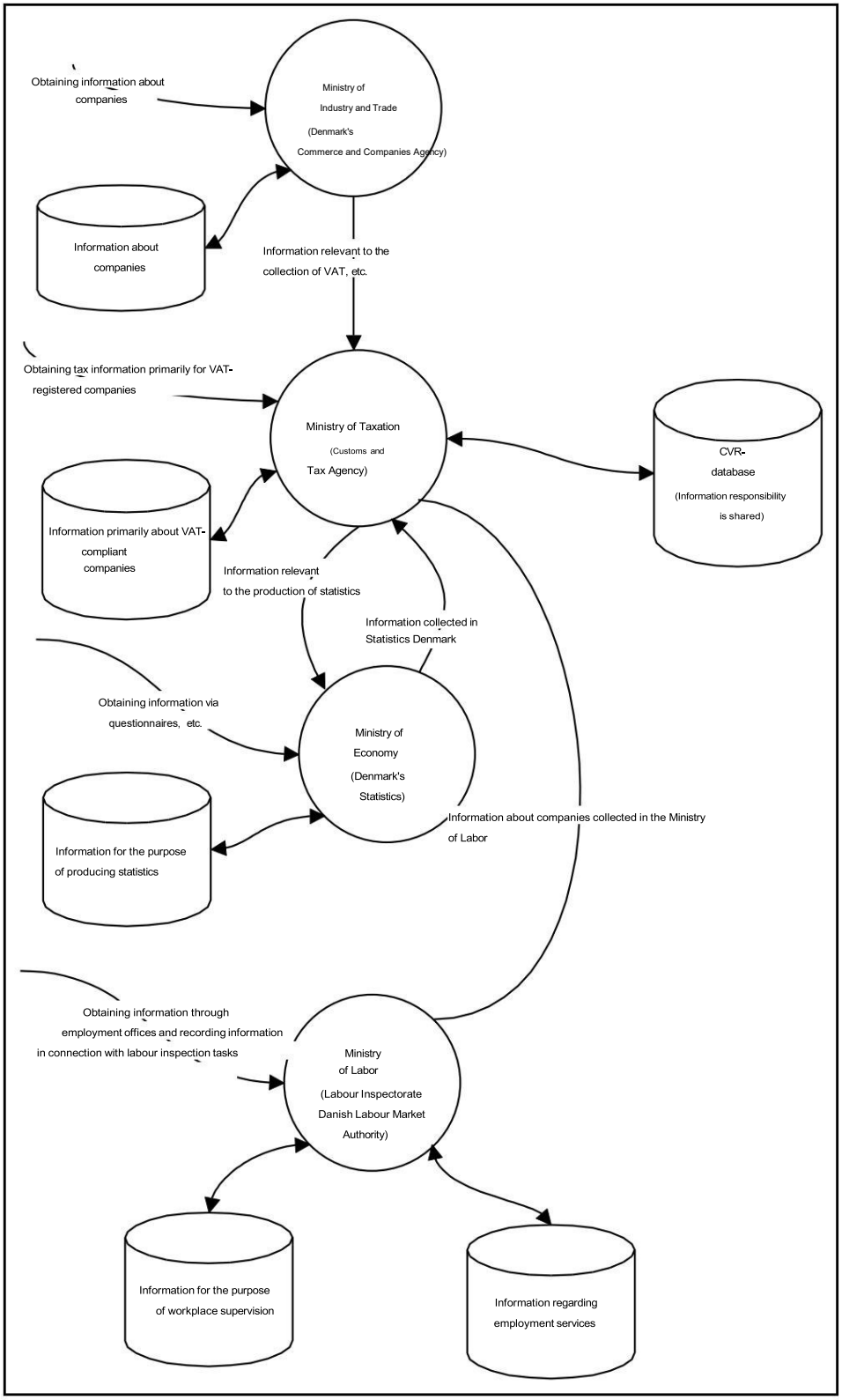
Model 1. Data flows according to the ideal of the integrated information system.



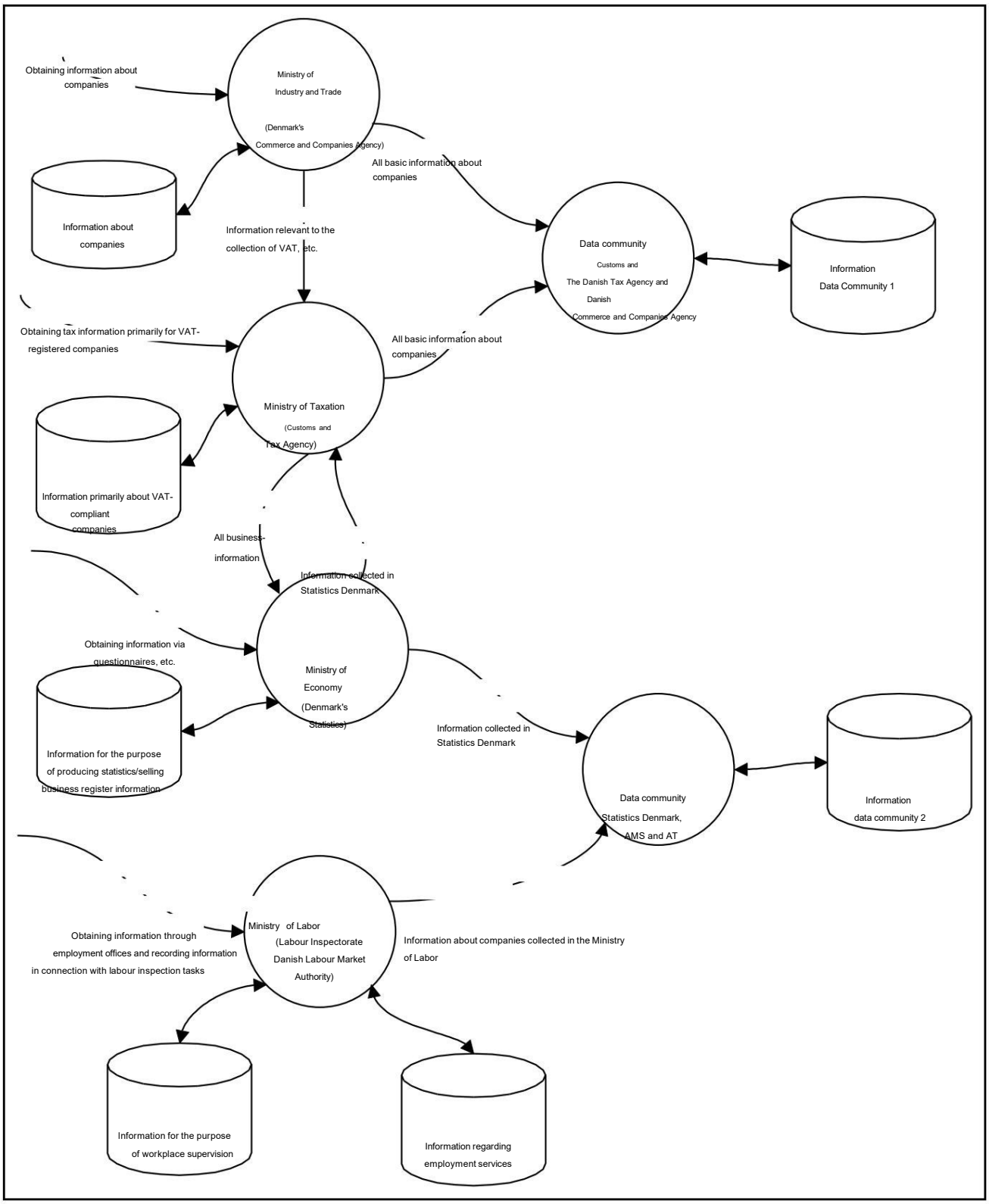
Model 2. Data flows as proposed in the decision-in-principle of the Ministry of Finance 1992.



Model 3 Model in the draft report on CVR. This model corresponds to model 2, except that it is possible for institutions that provide data to be given responsibility for a portion of the data.



Model 4. Proposal for data sharing between the Ministry of Labour/Statistics Denmark and the Danish Commerce and Companies Agency/Customs and Tax Agency.



Model 5. Data flows that resulted after changing the decision.