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towards a Framework for Empirical Analysis

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**NETWORKS, DEVELOPMENT AGENCIES
AND INTELLIGENT REGIONS**
- Towards a Framework for Empirical Analysis

Henrik Halkier & Charlotte Damborg

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Introduction*

In recent years a whole new vocabulary has been introduced in the study of regions and regional development. Notions like the 'learning region' (Morgan), 'institutional thickness' (Amin & Thrift), 'multi-level governance' (Marks *et al.*) and the 'network paradigm' (Cooke & Morgan) have become part and parcel of the trade in the 1990s, and several things indicate that this is not just a passing fashion.

On the one hand concepts like 'networks' and 'institutions' have obtained a prominent position in the social sciences across a range of disciplines, and in terms of methodology this would seem to be part of a general trend, namely the attempt to develop an approach to the study of social phenomena that avoids reducing individual actors to mere puppets while at the same time acknowledging the importance of the environment in which persons and organizations operate.¹ On the other hand with the growth of government intervention and welfare capitalism it has also become increasingly obvious that both government bodies and private firms operate in a particular setting that needs to be taken into account if goals are to be achieved, and in many cases this involves establishing links of a more permanent nature with other organizations in order to ensure particular outcomes.² The growing importance of institutional and network-oriented perspectives does in other words appear to be linked to broader theoretical and historical trends, and examining the implications of their application in regional studies would therefore seem to be a task well worth engaging in.

The LEONARDO-sponsored project *The Intelligent Region* is an international collaborative venture between regional development organizations and researchers in six EU member states, aiming to explore existing experience and develop new strategies for improving the capacity of regions to learn in order to build a stronger base for economic growth and social development. Drawing both on practical experience and academic work, the project focuses in particular on ways to strengthen the institutional links and networking processes between private and public organizations that are deemed to be

* This paper is based on work undertaken as part of the LEONARDO-sponsored project *The Intelligent Region*. The financial support of DG XVI of the European Commission is gratefully acknowledged, as is the inspiration provided by the project coordinators at the Welsh Development Agency and the other project partners.

1 See e.g. Halkier 1996 pp 14-36.

2 See Jordan & Schubert 1992, and Hanf & O'Toole 1992.

critical for the learning capacity, especially with regard to adjusting to the ever-changing challenges in an increasingly globalized environment.

As part of this project, an in-depth analysis of economic development bodies and initiatives in the North Jutland region of Denmark will be undertaken at the European Research Unit within Aalborg University. The study will establish a comprehensive picture of the public actors within the North Jutland region with regard to organization, objectives, resources and policies, and explore the interaction between the various organizations (cooperation, overlapping, conflicts). This should enable us to assess the capacity for regional learning of the 'public sector development industry' in North Jutland, and this result can then be contrasted with the experience of other regions in Europe. Apart from its immediate function within the *Intelligent Region* project, the study may also be of interest

- from a policy perspective as an attempt to address the issues confronting regional policy in a small country with a plethora of public agencies active in the field of local/regional development and an economy near-exclusively based on SMEs, and
- from the perspective of methodology as an attempt to develop an analytical framework for the study of networked multi-tiered policy areas applicable also outside the field of regional policy.

The research process falls in two stages: first an appropriate conceptual framework has to be developed, and following this the empirical study of regional development bodies and policies in North Jutland will be undertaken. The present paper represents the first stage and is thus devoted to the task of developing an analytical framework, especially with regard to networking and interorganizational relations.³

As will become apparent in this field neither the grand theory *haute couture* creations nor the *prêt-à-porter* models available would seem to be immediately suitable for our purpose, and therefore some new-model tailoring has proved to be necessary. Fortunately there is no lack of approaches to the study of institutions and networks, and as the concept of network has been employed in a number of ways that cut across disciplinary boundaries, the following discussion has been organized around common themes and methodologies rather than the institutionalized divisions of labour within academia. The paper proceeds in the traditional manner in that first the following three sections will provide a critical review of three different approaches to the study of

3 The conceptual issues with regard to the study of individual development organizations and their policies have been discussed in Halkier 1992 and 1996.

networks:

- networks as a mode of social coordination
- networks as systems of sectoral governance
- network as interorganizational relations

It will be shown that each of these can provide input for the study of network relations in North Jutland, and on the basis of this a detailed conceptual framework for empirical analysis is proposed. Finally some key issues concerning networks and bottom-up regional policy are briefly outlined.

Networks as a Mode of Social Coordination

The most abstract use of the concept is undoubtedly the one that sees networks as a generic of coordinating social activity. The idea of networks as a general social institution⁴ - an alternative to or intermediate category between markets and hierarchies, the two 'traditional' modes of coordination - can be found in writings from a number of different academic disciplines. But while there is consensus about what networks are *not* - markets and hierarchies - the positive definition of the 'alternative' mode of coordination varies.

Within business economics, the work of the institutional economist Oliver Williamson has proved seminal.⁵ Setting out to explain why firms exist as hierarchical organizations within the economy when the market supposedly is a superior mechanism of resource allocation, Williamson argued that not only do transaction costs lead to the development of hierarchic forms of organization in order to control particularly complex and uncertain aspects of the production process, but depending on the nature of transactions, intermediate networked forms of coordination can be the best solution. By reserving the term 'market' for standardized goods or services where alternative suppliers are readily available, a relatively large area of economic transactions in effect becomes intermediate, from formalized joint ventures to user-producer relations and informal

4 On institutions and institutionalism, see Halkier 1996 pp 18ff.

5 Christensen *et al.* 1990 provides a short and lucid introduction, Hodgson 1989 a more critical perspective.

cooperation in industrial districts.⁶ This certainly is an important point in its own right,⁷ but the interest in defining the situations that are likely to prompt network relations - or rather to avoid markets or hierarchies - would still seem to be more important than attempting to define in positive terms what is common to the intermediate forms.

Drawing upon inspiration from sociology and regional studies, Philip Cooke and Kevin Morgan argue that within the network mode organizations are 'mutually dependent upon resources controlled by another' and therefore engage in 'reciprocal, preferential, mutually supportive actions' in order to pool resources, instead of relying on discrete exchanges on the market or command within an administrative hierarchy.⁸ Here we clearly get an attempt to define the characteristics of networks in positive terms,⁹ although perhaps the strong emphasis on trust and mutual support occasionally would seem to underplay the potential for conflict within network relations.¹⁰

This, on the other hand, is a crucial element in the definition employed by Hubert Heinelt and Randall Smith. Writing about governance and policy networks from a political science perspective, they see networks as a 'hybrid' means of coordination

based on bargaining and political exchange, not the hidden hand of the market nor on the democratic, majoritarian mode of political decision-making and the administrative mode of hierarchical intervention and control.¹¹

Apart from the useful introduction of majoritarian democracy as an additional mode of coordination, the specific characteristics of networks are merely identified as bargaining and exchange, thereby running the risk of making the definition so broad that it would in

6 Christensen *et al.* 1990 pp 20ff, cf Hodgson 1989 Chapter 8, Cooke & Morgan 1993 pp 544ff, and Thorelli 1986 p 37.

7 Especially, of course, in the ideological climate of the 1980s where the ideological reverence for markets as the economically and morally superior mode of social coordination again underlined the importance of avoiding to conflate the presence of money as a means of exchange with the underlying social relations. For a discussion of markets, money and social relations, see Halkier & Skaarup 1985 and Halkier 1990.

8 Cooke & Morgan 1993 p 544. The passages cited quote sociologist Walter Powell with approval, but other sources of inspiration include Oliver Williamson and the Aalborg school of economics (e.g. Lundvall 1992, Johnson 1992).

9 The analysis of the industrial districts in the 'Third Italy' by Bianchi & Bellini (1991) moves along parallel lines by combining insights from institutional economics (Williamson) and the flexible-specialization debate (Piore & Zabel, Zeitlin) with organization theory, especially Ouchi's notion of the 'clan' as a specific form of social organization operating on the basis of traditions.

10 A point also made by Pratt (1997 p 129). This particular weakness of Powell's position is, however, explicitly recognized by Cooke & Morgan (1993 p 562), and in their empirical writings the problem of unequal relations within networks is a recurring theme.

11 Heinelt & Smith 1996 p 2.

fact encompass all the other modes of coordination as well.¹²

This particular problem would seem to have been avoided by Hans Thorelli. In an oft-quoted article inspired by previous contributions to organizational studies, he defines networks as

two or more organizations involved in a long-term relationship ... consisting of 'nodes' or *positions* (occupied by firms ... and other types of organizations) and *links* manifested by interaction between the positions.¹³

Network relations are acknowledged to cover a vast field in between the 'open market' and the hierarchical firm, and therefore different forms of network are distinguished between on the basis of the nature of the interdependencies between the parties involved, especially how 'power, information, money and utilities flow along the links of the network'.¹⁴ In this way Thorelli would seem to achieve precision in his general definition while establishing a set of criteria by which different types of network relations can be identified, and his work would therefore seem to be a suitable starting point for efforts of reconstruction aiming to develop a conceptual framework that can readily be applied in empirical analysis.

On the basis of this it can be concluded that our working definition of networks as a mode of social coordination should consist of three elements, namely 1) the agents involved, 2) the nature of their relationship, and 3) the mode of operation of the latter. This leads us to propose to adopt the following definition:

As a mode of social coordination, a network involves 1) two or more formally independent participants 2) establishing a long-term relationship on the basis of mutual dependence upon resources controlled by other participants, and 3) operating through bargaining about and exchange of specific combinations of resources (authority, information, finance, organization).

By stressing the formal independence of the participants involved, internal bargaining in organizations with a hierarchical structure is excluded, while insisting on the long-term nature of network relations will exclude discrete exchanges via the market. With regard to the mode of operation, functioning via bargaining over exchange of resources sets networks apart from both command-driven hierarchies and markets operating on the basis of price signals. Finally, the different patterns of mutual resource dependencies has the

12 A general risk, as noted by Thompson (1993 p 51). Curiously, his own definition could easily comprise both markets and hierarchies, namely 'a specific set of relations making up an interconnected chain or system for a defined set of elements that forms a structure'.

13 Thorelli 1986 pp 37f (italics original).

14 Thorelli 1986 p 39.

Table 1 Modes of coordination compared

<i>Mode of coordination</i>	<i>Agents</i>	<i>Nature of relationship</i>	<i>Mode of operation</i>
Network	Formally independent	* long-term * mutual dependency	Bargaining
Market	Formally independent	* discrete * mutual dependency	Prices
Hierarchy	Formal subordination	* long-term * one-sided dependency	Command

dual advantage of providing a means by which different types of network relations can be distinguished and at the same time also inserting the notions of power and the possibility of unequal relationships at the very heart of the definition.¹⁵ Table 1 provides a summary of the differences between networks, markets and hierarchies from this perspective, and serves to underline that despite the inherent differences between the three coordination modes, similarities do exist with regard to the temporal and authority-related aspects of the relationship between the agents involved.

While Thorelli has clearly been the starting point, other sources of inspiration for the above definition are also in evidence.¹⁶ Even on this level of abstract ideal-type social institutions it is clear that a broad spectrum of relationships between public and/or private bodies will fall under this heading,¹⁷ and as in most concrete historical settings a number of social institutions co-exist,¹⁸ the potential application of the network concept becomes very wide indeed. This should, however, be seen as a strength rather than a weakness, and we would certainly argue that in a situation where other related concepts - markets especially, but also hierarchy - is in even greater danger of becoming overextended, testing a 'new' concept in a relatively broad area is hardly an unwise strategy.

From the perspective of devising an analytical framework for the study of bottom-up regional policy in North Jutland, having clarified the general nature of networks will, hopefully, make it easier at a later stage to select key variables from the bewildering

15 Cf Halkier 1996 pp 18ff, 47ff.

16 The formal independence of the agents involved and the long-term nature of network relations are also stressed by Williamson (cf Christensen *et al.* 1990), the importance of mutual resource dependencies emphasized by Cooke & Morgan (1993) and the centrality of conflictual bargaining by Heinelt and Smith (1996).

17 As pointed out by Christensen *et al.* (1990) the line between discrete exchanges and long-term relations is by no means clear-cut.

18 On levels of analysis from an institutionalist perspective, see Halkier 1996 Chapter 1.

number of dimensions that have been employed in studies of networks in policy-making and other inter-organizational contexts.

Networks as Systems of Sectoral Governance

We can now proceed to consider a set of literatures that approach the question from a rather different perspective. Within political science the study of so-called policy networks has become a growth industry in its own right,¹⁹ and two complementary perspectives are in evidence: a 'top-down oriented' tradition primarily interested in public-private relations and patterns of sectoral governance, and a 'bottom-up oriented' tradition taking inter-organizational relations in policy implementation as their starting point. As will become evident, the two perspectives share a sizeable common ground when it comes down to empirical analysis, but in order to highlight their respective strengths and weaknesses, this section takes a closer look at the former approach while the latter is dealt with in the subsequent section as part of the discussion of inter-organizational perspectives on the study of networks.

In the top-down perspective on policy networks, the term 'network' has often been employed to describe specific patterns of interaction between public and private organizations in society. Instead of referring to a pervasive mode of coordination,²⁰ networks are seen as historical phenomena that can be found in particular sectors of public and private activity, and as such can be compared in order to identify the relative impact of national and sectoral patterns of interaction.²¹

One of the reasons for the interest in this form of policy networks has clearly been dissatisfaction with the rigid polarization between pluralist and corporatist perspectives on the relationship between government and interest organizations.²² Empirical studies had suggested the existence of a number of 'intermediate forms' in which interest organizations

19 Cf Jordan & Schubert 1992.

20 Jordan & Schubert rely on an early definition of Hanf that sees networks as multi-organizational policy making (1992 p 11), while Rhodes follows Benson when he defines networks as a 'complex of organizations connected to each other by resources dependencies' (1998 p 77).

21 In economics the network concept would appear to have been mainly used either in the abstract sense discussed above or from an inter-organizational perspective, cf the discussion below. The potential for developing a more elaborate typology of e.g. different types of industrial districts or national innovation systems is, however, obvious, and such undertakings may well have been carried out already.

22 The discussion below is based on Jordan & Schubert 1992, van Waarden 1992, Hanf & O'Toole 1992, and Rhodes & Marsh 1992.

Table 2 Approaches to the study of policy networks

<i>Network dimensions</i>	<i>Network typologies</i>
Level of institutionalization	Pluralism
Sectoral/trans-sectoral	State corporatism
Number of participants <i>(Grant & Schubert)</i>	Societal corporatism Monism <i>(Schmitter)</i>
Actors	
Function	Issue networks
Distribution of power	Iron triangles
Structure	<i>(Hecl)</i>
Degree of institutionalization	
Rules of conduct	Pluralism
Actor strategies <i>(van Waarden)</i>	Negotiated order Corporatism <i>(Moore & Booth)</i>
Membership	
Integration	
Resources	
Power <i>(Rhodes & Marsh)</i>	

Sources: Jordan & Schubert 1992, van Waarden 1992, Rhodes & Marsh 1992, Moore & Booth 1989.

are neither completely outside nor fully integrated in the public decision-making process: instead 'policy-making includes a large number of public and private actors from different levels and functional areas of government and society' exchanging 'information, expertise, trust and other policy resources'.²³ In order to distinguish between these 'intermediate forms' of sectoral governance in a more systematic fashion, a large number of conceptual frameworks were developed. Most of these were two-tier in the sense that they (ex- or implicitly) involved both a set of variables or dimensions that can be measured empirically and an overarching typology of networks as systems of sectoral governance to which individual networks can be assigned on the basis of their characteristics. The left-hand column in Table 2 shows three attempts to synthesize and review first-tier network dimensions found in the existing literature, while the right-hand contains three sets of second-tier concepts that are not untypical. It is clear that although the number of dimensions and the terminology certainly vary, many of the basic features are shared, but

23 Jordan & Schubert 1992 pp 11f.

with regard to the second-tier typologies, many authors argue that the way forward will be to concentrate on concrete analysis by means of the network dimensions instead of continuing the discussion of the merits or otherwise of the numerous attempts to develop a general typology of public-private relations.²⁴

In many ways the surge in writings about policy networks can be seen as part of a more general trend, namely what is often referred to as the shift from government to governance in which command and regulation is (at least partly) replaced by new forms of interaction between public and private actors such as e.g. negotiation and concerted effort.²⁵ Despite this timeliness (or trendiness), the historical origins of the policy network concept as an alternative to the pluralism-corporatism dichotomy are, however, still in evidence. *First*, while the back-to-basics strategy - focusing on the dimensions however they are conceived - is undoubtedly a necessary way of escaping the ongoing wars between rival conceptual schemes, giving up the overarching typology altogether may be an overreaction; perhaps at a somewhat later stage a general typology of networks based on patterns of co-variation between key dimensions could be developed.²⁶ *Second*, the quest to expose the channels of influence and balance of power in the relationship between government and organized interest probably explains why the making of policies would seem to get more attention than does their implementation. *Third*, the search for ways of identifying the overall relation between public and private actors may also be part of the explanation for the tendency to restrict the analysis to relatively few dimensions because limiting their number obviously facilitates comparisons between sectors and nations.²⁷ It can, in other words, for several reasons be advisable to supplement the network dimensions enumerated in Table 2.

All in all it can be concluded that although the various top-down approaches to the study of policy networks are still marked by their historical origins, the rebellion against grand-theory concepts like corporatism has highlighted a number of dimensions and concepts that should prove useful in the development of an analytical framework for empirical analysis of e.g. bottom-up regional policy in North Jutland.

24 Jordan & Schubert 1992 pp 26f, van Waarden 1992 pp 49f, Rhodes & Marsh 1992 pp 202f.

25 For introductions to the governance debate, see Kooiman 1993 and Mayntz 1993.

26 Especially in the policy-making phase concepts like corporatism, negotiated order, and pluralism would, despite all the competing claims to their definition, still appear to be useful in summarizing the relationship between public and private actors, cf Moore & Booth 1989.

27 Even van Waarden ends up by designating three of his original seven dimensions as being 'of particular importance' because the original number was 'too large to provide a good overview of the major differences between the various types of policy networks' (1992 p 49).

Networks as Inter-organizational Relations

The third approach to the study of networks to be examined is the inter-organizational perspective. The starting point here is how a particular set of organizations relate to each other, and to understand (and even improve) how this affects the ultimate outcome of individual networks, whether in terms of business growth or successful implementation of public policy. It is therefore hardly surprising that writings within this tradition share many features and concepts with the two approaches discussed above, and again examples can be found across a range of social science disciplines.

The origins of network relations in mutual dependencies are stressed both within economics, political science and organizational studies: when it is either impossible or unduly costly to ensure access to particular resources on the market or via integration in an administrative hierarchy, network relations are likely to be the way in which inter-organizational relations are conducted. The transaction-cost based approach of institutional economics as a way of identifying situations in which private firms rely on network relations has already been introduced above, and in the study of policies and implementation the reasoning moves along similar, albeit less formalized, lines:

Network actors need each other because within their own institutional setting (e.g. firm, university, government agency) they cannot create all the resources they need (financial but also, say, intellectual) to design the project that is intended to become the implemented policy.²⁸

and thus the outcome is a network that involves

the interaction of many separate but interdependent organizations which act in a self-interested manner but nevertheless coordinate their actions through inter-dependencies of resources and interests.²⁹

Although sometimes being associated with the absence of hierarchy and hence a high degree of flexibility, the presence of inequality and relations of power in networks is widely recognized,³⁰ and the room for manoeuvre of individual actors is heavily circumscribed, both by the network relations and by their own hinterland.³¹ Especially when considering public bodies that are part of a complex multi-tiered organization, this

28 Cooke 1996 p 33f, paraphrasing policy analyst Adrienne Windhoff-Héretier.

29 Hanf & O'Toole 1992 p 169.

30 Hanf & O'Toole 1992 p 173, Cooke 1996 p 34, Thorelli 1986 pp 38f.

31 Hanf & O'Toole 1992 p 169, Gustaffson & Seemann 1985 pp 570ff.

last point is important to bear in mind.

The inter-organizational perspective on networks has been translated into a very large number of conceptual schemes that provide ample supply of analytical tools differing in their focus and degree of detail, presumably depending on the theoretical inclinations and concrete research interest of individual authors. Table 3 provides a summary of five of these, and despite the different accents, the similarities are conspicuous, and in relation to the policy network dimensions listed earlier in Table 2 above parallel concerns are also clearly in evidence. The inter-organizational perspective does, however, tend to place greater emphasis on issues relating to the capacities and strategies of individual actors and the incentives to cooperate they encounter in their environment, and this brings the inter-organizational perspective in touch with the issues raised by the discussion of the network mode of social coordination.

All in all it can be concluded that from the perspective of this paper, the inter-organizational perspective would seem to be able to provide 'an embarrassment of riches' in terms of possible variables and concepts, and the real challenge will be to tailor a framework that is adequate for studies of bottom-up economic development activities in a multi-organization context.

Table 3 Inter-organizational approaches to the study of networks

<i>Authors</i>	<i>Key variables</i>	<i>Authors</i>	<i>Key variables</i>
Rhodes	Actors Resources Rules of the game Strategies Appreciative systems	Gustaffson & Seemann	Domain of organizations Technology Structure Results External coordination
Cooke	Membership Structure Rules of the game Resources dependencies Relations of power	Thorelli	Domain of organizations Sources of power Quantity of links Quality of links Type of links
Hanf & O'Toole	Incentives to cooperate Inter-organizational structure Perception of other actors		

Sources: Rhodes 1988, Cooke 1996, Hanf & O'Toole 1992, Gustaffson & Seemann 1985, Thorelli 1986.

Analyzing Networks: A Conceptual Framework

Taking the definition of networks as a general mode of coordination as our point of departure, an empirical analysis should focus on 1) the individual organizations participating, 2) the way in which the network operates through bargaining and exchange, and 3) the nature of the long-term mutual dependencies involved. This can be translated into three sets of operational concepts, namely

- *organizational dimensions* concerning aspects internal to each of the organizations participating in the network
- *relational dimensions* depicting the way in which bargaining and exchange takes place between individual organizations
- *network dimensions* characterizing the network as a whole in terms of its internal relations and external functions vis-à-vis the surrounding society

In the following these three sets of dimensions are discussed on the basis of the network literature and related works, especially from the policy analysis tradition. Our aim is a modest one, namely to establish a conceptual framework capable of identifying key aspects of the way in which bottom-up regional policy operates in North Jutland, and this introduces an important qualification to the theoretical deliberations. As will become apparent, many of the dimensions are in effect fields of enquiry with a series of illustrative examples attached rather than a comprehensive overview of every possible permutation of a particular dimension. While theoretical rigour is hopefully evident in the selection and organization of dimensions and sub-dimensions, we acknowledge that there is ample room for further tidying up of some of the specific variables. Such additional concept crunching would not only be of interest from a theoretical perspective but also increase the applicability of the framework to other areas of public policy, but even in its present form we still hope that the overall approach may be a source of - positive or negative - inspiration for future ventures in the growth industry of network studies.

Organizational dimensions

For each organization participating, four dimensions are crucial for understanding its position within the network: the domain it occupies, the resources at its disposal, the strategies pursued in relation to its environment, and the world view on the basis of which

it interprets this environment. All of these dimensions influence the processes of bargaining and exchange through which the network operates, and all of them are of course relational in the sense that their importance stem from how they compare to corresponding features of other participating organizations: domains can overlap or be complementary, strategies are met by counter-strategies, world views can be shared or conflicting, and mutual resource dependencies may take many different forms. What sets the organizational dimensions apart from the relational ones discussed subsequently are two things:

- they can be empirically measured only on the level of the individual organization
- they constitute the basis on which the organization participates in the network rather than the process of bargaining and exchange itself

Table 4 summarizes the organizational dimensions and sub-dimensions and the associated variables and examples, and the comments below sets out the reasoning behind the concepts chosen in greater detail.

Domain is central to most organizations because their *raison d'être* is to perform certain tasks and operate in a particular geographical setting.³² An organization can therefore be expected to attempt to preserve or even enlarge its domain, whether or not this is warranted from the perspective of e.g. the entire network or the structural problems of the regional economy. Although in theory public bodies are supposedly serving the greater good, they are by no means exempt from the pressures of self-maintenance (or -aggrandisement), and the multi-tier and territorial nature of the modern state apparatus ensures that parochial and party-political considerations can enter the policy process at many points.

Resources are the means by which an organization maintains itself and influences its surroundings. Commanding resources is intimately linked to the potential for exercising power,³³ either by employing them as e.g. policy instruments vis-à-vis private actors or as means of linking up with other organizations in a network to achieve specific goals, and therefore establishing the position of each of the network participants is an

32 Both 'territory' and 'function' are among the actor variables in Rhodes' power-dependency framework for the study of relationships between public bodies (1988 p 90), but the use of the overarching concept of 'domain' is inspired by Gustaffson & Seemann (1985 p 581).

33 For a discussion of resources, power and policy instruments, see Halkier 1996 pp 47-62.

Table 4 Organizational dimensions

<i>Dimension</i>	<i>Sub-dimension</i>	<i>Variables</i>
Domain	Territory	Local Regional National etc.
	Function	Management advice Technology transfer etc.
Resources		Authority Information Finance Organization
Strategies	Policies	Objectives Methods Compatibility
	Inter-organizational	Incorporation Delegation Recognition Confrontation etc.
World view		Basic values

important task. The salience of resources is stressed by many authors,³⁴ but the concepts used in the table follows the typology developed by Halkier in a study of policy instruments.³⁵ Apart from any intrinsic theoretical advantages this may have, stressing the parallel nature of policy instruments and network relations also underlines the fact that networks may be a substitute for direct policy implementation (or vice versa) because the basic resources involved are the same.

The *strategies* of an organization are an obvious object of study, being the general guidelines according to which resources are employed to influence the environment. Many authors have stressed the significance of inter-organizational strategies, i.e. how an

34 E.g. Rhodes 1988, Thorelli 1986, Christensen *et al.* 1990, and Gustaffson & Seemann 1985.

35 Halkier 1996 pp 47-62.

organization attempts to conduct its relations with other organizations,³⁶ and this is of course critical when studying networks. The strategies in relation to the target group for a particular policy are, however, important, too, because the functional aims and methods of an organization may or may not be compatible to those of other organizations operating in the same field.³⁷ It is, in other words, not enough to look at whether or not domains overlap: what the organizations are trying to do within their domain also matters, both from the bird's-eye ideal of perfect implementation³⁸ and in terms of understanding the potential for inter-organizational conflicts.

Finally the *world view* dimension is included to underline the importance of the basic values and beliefs about the world in general and the relationship between the public and private sector in general.³⁹ Again this may introduce additional friction into inter-organizational relations, and like with the strategies their officially stated versions may or may not correspond to the actual course of action taken.

Having considered what an organization sees as its sphere of activity, the resources at its disposal, and its strategies and basic philosophy, we can now move on to consider how the network linkages function.

Relational dimensions

The two dimensions describing the links within a network are fairly straight-forward, focusing on the rules governing the interaction and the exchanges, as illustrated by Table 5.

Under the heading of *bargaining* the written and unwritten rules governing the exchange are placed. As the *raison d'être* of networks are mutual resource dependencies, it is often argued that trust is a crucial parameter in network relations,⁴⁰ but when asymmetrical dependencies and power relations are taken into consideration, we think it preferable to use bargaining as the central concept because it suggests an active role for participants in the possible conflictual process of determining the flow of resources within

36 E.g. Rhodes 1988, van Waarden 1992, Christensen *et al.* 1990, Gustaffson & Seemann 1985.

37 Christensen 1990 argues this point forcefully with reference to organizational and ideological aspects of the relationship between industrial policies on a national and sub-national level. See also Halkier 1992 pp 5ff.

38 The top-down tradition in policy analysis is generally more than a little suspicious about organizations with overlapping remits, cf e.g. Hogwood & Gunn 1986 pp 198ff.

39 The importance of e.g. ideologies in inter-organizational conflicts among public institutions is widely recognized (see Halkier 1992 pp 5ff), but the suggestive term 'world view' stems from Rhodes (1988 pp 93f).

40 Hanf & O'Toole 1992 p 173, Cook 1996 p 34, Thorelli 1986 and Thompson 1993.

Table 5 Relational dimensions

<i>Dimension</i>	<i>Sub-dimension</i>	<i>Variables</i>
Bargaining	Institutionalization	Frequency of interaction Continuity
	Conventions of interaction	Pragmatism Consensus Secrecy Depoliticization Trust etc.
Exchange	Types of resources	Cf Table 4
	Balance	Cf Table 4

the network.⁴¹ Moreover, in specific networks other conventions of conduct may also play an important part, perhaps reflecting the organizational cultures of the organizations participating and strategies pursued by them.⁴²

The *exchange* dimension denotes the outcomes resulting from this bargaining process,⁴³ in other words what types of resources are involved (cf the resource dimension discussed above), in what directions they flow, and the resulting overall balance. Obviously, assessing the exchanges taking place will give important information about the nature of the mutual dependencies that led to the creation of the network in the first place, but it is also worth remembering that even in networks not every need will necessarily be fulfilled.

Network dimensions

After having illuminated the specific nature of inter-organizational relations, we can now turn to the dimensions characterizing the network as a whole and allowing us to sum up the function and structure of a particular network and facilitate comparisons across e.g. nations, regions or sectors. As can be seen from Table 6, three dimensions are regarded as important, namely the membership of a network, its principal functions for the parties

41 The inspiration from Heinelt & Smith (1996) is evident here.

42 Rhodes 1988 pp 91f, cf van Waarden 1992 pp 39ff.

43 Thorelli 1986 is the main source of inspiration.

Table 6 Network dimensions

<i>Dimension</i>	<i>Sub-dimension</i>	<i>Variables</i>
Membership	Number	2, 3, etc.
	Type	Public body Private firm Interest organization etc.
	Delimitation	Degree of openness
Function		Access Consultation Negotiation Coordination etc.
Integration		Patterns of dominance Degree of consensus

involved, and the way integration amongst participants is achieved.

Establishing the *membership* of a network provides basic input to the analysis, just like the domain and resource dimensions do for individual participants. The number of organizations involved will affect the possibilities of each participant to influence the network as a whole, and because different types of organizations tend to pursue particular goals and bring their own mode of operation and organizational culture into the cooperation, this aspect is of interest, too.⁴⁴ Moreover, the delimitation of the network is important because the degree of openness will not only determine its accessibility for new participants,⁴⁵ but also influences the relations between existing members in situations where trust is crucial and a certain degree of secrecy essential.⁴⁶

The overall *function* of the network describes what difference such arrangements makes to e.g. a particular policy area.⁴⁷ Does the network primarily allow private organizations access to public resources? Are recurring contacts one-sided consultations

44 The importance of these dimensions is stressed within the policy network tradition, e.g. Jordan & Schubert 1992, van Waarden 1992, Rhodes & Marsh 1992, and Gustaffson & Seemann 1985.

45 Van Waarden 1992pp 34f. The question of membership and openness was of course a central issue in the earlier debates on corporatism, cf Moore & Booth 1989 pp 3ff, 143ff.

46 Cf the discussion of networks versus markets and hierarchy in general (Christensen *et al.* 1990), and, more specific, on innovation networks (Bianchi & Bellini 1991).

47 This dimension is inspired by van Waarden 1992 pp 33f.

or outright negotiations? What, if any, degree of coordination of activities between participants is involved?

Finally, the way the *integration* of the network is ensured is relevant for two reasons. On the one hand the degree of formal and informal institutionalization can illuminate the difficulties involved in changing the way things are done.⁴⁸ On the other hand, focusing on patterns of dominance are particularly pertinent in the context of network relations in which trust and consensus are important, but not necessarily the only, means through which integration and compliance with existing procedures can be ensured.⁴⁹

Network Analysis and Regional Policy

We have now reached the point where it is possible to summarize the conceptual framework on which the study of bottom-up development initiatives in North Jutland will be based, and briefly reflect on some possible implications for broader issues in regional policy.

Table 7 outlines the three sets of dimensions and sub-dimensions identified as significant in the above review of existing literature, working from a Thorelli-inspired definition of networks as a generic mode of social coordination. It is, perhaps, hardly surprising that qualitative methods of research will have an important role to play in the study of networks. The conceptual work is, however, not over as the definition of some of the variables may still require attention, and the framework is, in other words, a first step towards a reasoned approach to the empirical study of networks in regional policy that can be expected to be developed further at some future point. Finally, it should also be mentioned that the framework would seem to allow for comparisons with networks analyzed by means of other conceptual frameworks because many of the key dimensions are, at least to some extent, shared by a large number of approaches to network studies. While we would claim that for our particular purposes the framework developed represents an improvement upon the existing conceptual schemes, the ability to communicate across scholarly traditions would still seem to have been maintained.

From a practical perspective the value of the analytical framework would seem

48 See Jordan & Schubert 1992, Rhodes & Marsh 1992, Thorelli 1986, and Gustaffson & Seemann 1985.

49 The importance of power as a characteristic of networks is widely recognized, cf Thorelli 1986, Christensen *et al.* 1990, van Waarden 1992, and Rhodes & Marsh 1992.

**Table 7 Networks in regional policy:
An analytical framework**

	<i>Dimensions</i>	<i>Sub-dimensions</i>
Organizational	Domain	Territory Function
	Resources Strategies	Policies Inter-organizational
	World view	
Relational	Bargaining	Institutionalization Conventions of interaction
	Exchange	Types of resources Balance
Network	Membership	Number Type Delimitation
	Function Integration	

to be that it is capable of reflecting some key concerns in regional policy as we move towards the turn of the century. First, by focusing in a systematic manner on inter-organizational relationships, a contribution is made to the appraisal of the institutional capacity of a region to learn by drawing lessons from experience and changing existing practices; the presence of a network will of course not in itself guarantee that its activities are capable of adapting to the constantly changing challenges facing the regional economy. Second, the inter-organizational focus should also allow us to address the question of 'institutional thickness'. In some parts of Europe, perhaps including North Jutland,⁵⁰ the main issue has not been seen as a lack of institutional support for the private sector, but rather as the threat of duplication and inefficiency created by a burgeoning 'development industry', and thus striking a balance between the need for coordination and the importance of encouraging a broad range of new developments could be a very delicate task indeed. At the end of the day, one could almost delude oneself into thinking that the framework developed would have something to contribute to the study of bottom-up development also in regions where no formalized networks are in existence, simply because it is difficult to imagine such initiatives operating in total isolation from other actors in regional policy, be they regional, national or European.

⁵⁰ See Damborg & Halkier 1996 pp 28ff.

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