KLIJN, Erik Hans - KOPPENJAN, Joop F. M.

INSTITUTIONAL DESIGN IN NETWORKS

Elaborating and analysing strategies for institutional design

There has been a lot of attention to governance in networks lately. Given the assumption that actors are dependent on each other empirical and theoretical research has been done how actors interact with each other how complex decision processes take place and how these processes can be managed (Rhodes, 1997; Kickert – Klijn – Koppenjan, 1997; Marsh, 1998; Mandell, 2001). In these publications a lot of attention has been paid to the difference in perceptions between actors, their various interests and their conflicting strategies. The institutional features of networks however have received only limited attention. Most of the attention has been on the interaction patterns between actors. These analysis however have rarely been connected to the question how we can manage network characteristics and what limitations we face here. This in spite of the fact, that in practice we encounter a lot of attempts to change institutional features of networks. In this paper we focus on the institutional characteristics of networks.

Governments all over the world and especially in Western democracies search for new forms of governance or try to induce these by restructuring decision making, changing their relations with other public and private partners or a combination of the two. Examples of these strategies in which institutional changes in decision-making and organisation are initiated are the ideas of joint-up government in the UK but also the introduction of the Private Finance Initiative and the attempts at modernising local government in this country. But also the initiatives for creating more autonomous governmental organisations in many western countries (Pollitt et al, 2001) can be seen at attempts for achieving institutional changes. Obvious governments in western democracies see interventions of institutional design in which institutional characteristics in networks are changed as legitimate and effective means of governance.

Although in the theoretical approaches to policy networks the subjects of institutional arrangements and their design have been addressed, the way in which they are dealt with has not been entirely satisfactory. In the more structuralist oriented variants on the network approach a great deal of energy is expended on mapping the structural characteristics of networks and their formation. However, until now the connection between institutional characteristic of networks and the behaviour of actors in the policy games which are played within these networks is hardly made (Blom – Hansen, 1997).

The network approach inspired by the qualitative games approach, on the other hand, focuses primarily on analysing the development and the outcome of interaction processes (policy games) between mutually dependent parties in order to find out what consequences these might have for the design and management of these processes. Although mutual dependencies form the impetus for striving for interaction, up to now there has been insufficient focus on the institutional characteristics of networks in this approach. This is in spite of the fact that in the context of the discussion on network management strategies, network formation and network change strategies are often mentioned. Since the relationship between

network institutions and behaviours in interaction processes has barely been looked into, these management concepts remain rather sketchy.

Hesitations regarding institutional design

In addition, modifying network structures is viewed with some wariness in the network approach. Primarily because there is a fear that attempts to modify institutional conditions under which actors interact are motivated by attempts to solve specific problems or promote specific interests, whereas networks are multi-purpose vehicles which are intended to support interaction on tackling a wide range of problems and interests of various parties. Institutional interventions may thus lose out to the tackling of other problems and interests and a whole range of unexpected and undesired effects may result (De Bruijn – Ten Heuvelhof, 1997). Moreover, network relationships may be seen as institutional capital: they are the lasting learning effects of long-term interaction processes in which mutually dependent parties with opposing interests have found ways in which to regulate their mutual social transactions and to coordinate their processes and products. Institutional interventions remove these existing institutional structures and replace them with new ones whose efficacy is uncertain. Institutional innovation and destruction of institutional capital go hand in hand: reverting to old institutions if the results are disappointing is not usually possible. This risk is further reinforced by the meagre knowledge we have about the nature and functioning of network institutions and the effects that institutional interventions bring about.

The relevance of institutional design

There are at least two reasons why this hesitation with regard to institutional design cannot be maintained.

1. This hesitation overlooks the fact that network institutions not only enable and reinforce interaction between mutually dependent parties, but that they also generate undesired effects. They may screen interactions from the outside world, whereby a limited group profits from the collaborative benefits, weak and unrepresented groups are excluded, costs are passed on to others, innovative solutions which conflict with vested interests and preferences are blocked. Moreover, interactions in networks are often characterised by non-transparent processes, inadequate democratic controls and restricted external legitimacy (Marsch – Rhodes, 1992; Marin – Mayntz, 1991; Kickert – Klijn – Koppenjan, 1997). One should also bear in mind that institutional arrangements in themselves have a preservative function. Since institutions are formed slowly and are difficult to change, they may be superseded by new social developments. Instead of providing institutional solutions they instead often become part of the problem. Of course, this dark side of networks can be addressed by trying to improve the quality of interaction processes within networks. Where network institutions systematically lead to inadequate care being taken of the interests of social groups and structurally exclude certain problems from the arenas for social problem solution, however, attempts to modify network characteristics through institutional design appear to offer a more structural and appropriate solution.
2. The hesitation in network theory with regard to institutional design overlooks the fact that in policy practice, as was mentioned in the opening of this paper, there is not the least restraint in this respect. There are masses of initiatives aimed at reorganisations, systems reforms, modifications of institutional frameworks, privatisation and liberalisation, or the introduction of public management inspired management systems, etcetera. These interventions have significant implications for existing networks and the interactions between interdependent parties within these networks. We have the distinct impression that many of the attempts to achieve institutional design do not do sufficient justice to the nature of the mutual dependencies between actors in our network society with the result that they not only do not bring about the intended results, but that they are often even counterproductive. They require substantial investments, bring about unexpected and undesired effects and tend to hamper rather than support interactions between parties.

These two reasons provide strong grounds for devoting more attention to the subject of institutional design, both as regards empirical research and theory building. The goal should be to increase our insight into institutional design in network settings in order to improve the quality of these interventions. To this end, more empirical insight is needed into the content and effects of institutional design attempts. In addition, the normative and theoretical principles which underlie institutional design need to be better thought out. In

this paper, we will try to give an initial impetus to this using a network approach (Klijn – Koppenjan, 2000; Koppenjan – Klijn, 2004) – building on insights from neo-institutional economics and the new institutionalism in social sciences (Williamson, 1985; Nooteboom et al, 1997; North, 1990; March – Olsen, 1989; Ostrom et al, 1986; Powel – DiMaggio, 1991). We first deal with the idea of networks as institutions and the role of rules. We then discuss the forms of institutional design and their motives (section 3) and various strategies of institutional design (section 4). In section 5 we elaborate on the complex character of institutional design since these interventions have to be achieved in games. In section 6 we address normative questions: what is 'good institutional design'. Since we conclude that theory building and research in the field of institutional design is not very well developed, we end with a sketch of a research agenda (section 7).

Networks as Institutions: rules and their structuring

Institutions actually form the social infrastructure of our behaviour. Without institutions virtually every form of collective behaviour would be impossible. If we were not able to fall back on fixed rules, norms and agreements which give our behaviour meaning, collective behaviour would be virtually impossible due to the considerable transaction costs. Institutions thus often provide a source of stability and comprise the social capital which has formed actors in the past. This means not only that they are useful for determining behaviour and provide a handle for cooperation but also that they are difficult to change because they contain carry the bias of previous interactions, views and power relations. Institutions are thus a two-edged sword: they enable interactions, provide stability and certainty and form the basis on which actors' trust may be founded. At the same time they serve to 'codify' previous (unequal) power relations, of common opinions and permitted discussions and may thus obstruct or hamper reforms.

Rules as the heart of institutions: ambiguity, formation and change

Rules form the heart of institutions. Many authors even consider rules as the characteristic of institutions. For instance, Scharpf (1997: 38) describes institutions as „systems of rules that structure the course of actions that a set of actors may choose". Institutions are thus in short sets of rules which influence, guide and limit the behaviour of actors. In this sense networks may thus be regarded as institutions. They are not only patterns of social relationships between mutually dependent actors but are at the same time systems of rules.

Networks are characterised after all by specific and unique sets of formal and informal rules. Each network has its own history, in the course of which rules have been formed and these in turn have undergone a development. In short, each network distinguishes itself from a different network not only because of the actors who are part of it and the interactions which take place in it but also because of its own specific set of rules (Burns – Flam, 1997; Scharpf, 1997; Klijn, 1996; 2001).

The rules of the network are as it were 'activated' by the actors in separate games. This does not mean, however, that rules are always clear or even fully known to the interacting actors. Rules are often ambiguous and require translation in the interactions. Just as a judge tries to interpret a specific case (offence) in the light of an existing rule, an actor in the network tries to interpret the meaning of events in the game based on the network rules that he is familiar with.

The fact that network rules are activated in the game also explains why difficulties frequently arise in games which cover more than one network. In games of this sort, after all, different rules from different networks are activated which leads at the very least to ambiguity (which rules apply and how should they be interpreted) but may also lead to conflicts between different sets of rules (Van Bueren et al., 2003). The behaviour of actors in such situations often consists at least in part of determining and reaching consensus on the rules that will apply.

Although there are occasions when rules are consciously formed in games which have been entered into for that purpose, establishing laws e.g., rules are usually formed as a by-product during interactions. In other words, rules may be the product of conscious design behaviour by an actor – usually a public actor – but even then they are only rules if the other actors in the network recognise them as such and keep to them. This immediately provides a definition of the essential difference between social and physical rules. Social rules, and thus also rules in networks, only remain in existence if they are followed by actors and are actually complied with in concrete game behaviours.

Rules which are broken by the actors, either consciously or unconsciously, or are not (or no longer) complied with, lose their validity (Duintjer, 1977; Burns – Flam, 1997).

This also clarifies under which conditions rules may change.

- As a result of a conscious action (design/intervention) by an actor provided that this intervention is perceived to be legitimate by other actors in the network and is at least complied with. (Note that this is not necessarily in a literal sense. We will return to this later.)
- As a result of reinterpretation by actors; if a number of actors start to interpret existing rules in a different way (in terms of our example of the judge we could say: create a different jurisprudence) rules will change.
- As a result of non-compliance or even conscious breaking of rules; if actors no longer comply with rules or even consciously break them and this stance is adopted by other actors and not followed up by effective negative sanctions, rules will lose their meaning. This process will usually be accompanied by the simultaneous formation of new rules (see Van Buuren – Klijn, 2004).

Sorts of rules:

Rules are thus usually gradually formed and also gradually changed. The following question, however, is what it is exactly that they regulate in networks and how they can be analysed. To put it another way, what types of rules are found in networks. In the literature we find various classifications into types of rules (see, for example, Ostrom, 1986; Burns – Flam, 1987). A well-known distinction is the one made by Ostrom (1986, see also Kiser – Ostrom, 1982):

- position rules; rules which specify the positions of actors
- entry and exit rules; rules which regulate the way in which the actors acquire positions
- scope rules: rules which relate to the sort of matters which are dealt with in a network
- authority rules: rules which clarify what is permitted in a particular position
- aggregation rules: these are the rules that regulate the division of decision making functions and indicate how sub decisions are integrated
- information rules: rules which specify the communication channels but also the language and form of the messages that are transmitted via the communication channels
- pay-off rules: these regulate actors' revenue.

Although Ostrom's classification is certainly useful and has provided a partial inspiration here, it has not been adhered to in its entirety. An important reason is that in this classification a number of important categories of rules are ignored, namely rules which determine the identity of actors and their professional standards, etc. This is partly due to the fact that Ostrom's system of rules is strongly based on an economic perspective in which rules are primarily laid down explicitly in games between actors.

In order to make a clearer distinction between structuring and regulating rules (see Searle, 1971; Duintjer, 1977) we assume a distinction between arena rules and interaction rules. Arena rules are rules which provide the actors with a handle for determining the nature of the network and arena in which they find themselves. They specify positions, realities and pay-offs. They are thus rules which define the nature of a social practice. As such they are at times barely recognisable as rules and sometimes are of an almost tautological character. The rules have somewhat the character of what Searle, the English analytical philosopher, calls structuring rules (van Eemeren – Koning, 1981; Searle, 1971). A structuring rule, for example, is one which defines when someone in a chess game has been placed in checkmate. Checkmate is when he is unable to make a move to get himself out of check. These are thus rules which define the nature of the game.

Interaction rules have a more procedural character and tell actors what is and is not permitted within a network. They modify as it were behaviours within the context of the arena rules. An overview of the two types of rules and examples can be found in *Table 1*.

Interaction rules may focus on the access to the network or the arena or on the interactions within the game. Access rules determine how exclusive games are, how actors are selected for particular games and which exit options they have. A non-intervention rule is a clear example of an interaction rule similar to rules about what information is made available and rules for dealing with conflict.

Within arena rules three subsets of rules may be identified: reality rules, pay-off rules and position rules. Reality rules specify primarily what constitutes good and bad arguments, information and standards

Table 1.

Types of rules in networks

	Description	Aspects	Examples
Interaction rules	Rules which regulate interactions in the game; i.e. Rules which specify what is and is not permitted in games between actors	Access to policy game	– exclusivity – selection – exit options
		Interaction in policy game	-(non) intervention -provision of information -conflict
Arena rules	Rules which regulate the game setting; i.e. Rules which specify what type of game and network is under discussion in any given case	Reality	-identity of actors -product rules
		Pay-off	-status -evaluation criteria
		Positions	-status -powers

Source: Klijn, 1996, 2001

for actors. Professional codes regarding behaviour (e.g. physicians) or products (e.g. good-quality housing) play an important role here. In addition, arena rules relate to which pay-off rules (financial but also non-material) and which position rules in the network are important.

Network characteristics and rules: some examples

Rules are thus also a codifying of specific characteristics of networks which are frequently emphasised in the literature. They determine such characteristics as:

- Closedness of networks; closedness of networks is regulated by the interaction rules on the one hand which determine which actors are admitted into games in the networks. These may be formal rules (which regulate consultation, for example) but may also be informal rules. However, closedness is also determined by other rules. The product rules may be so specific and complicated that considerable knowledge is needed to master them. This does not refer to a closedness that is more or less conscious but closedness as a result of high entry costs. Closedness may also be the result of the fact that, due to the identity and product rules, certain problem formulations and/or solutions are simply not taken into consideration. This also touches on the power dimension as we shall see below.
- The language which is used in the networks; It is often emphasised that in networks, particularly those of a sectoral character, specific modes of expression, terminology and jargon are used that may cause misunderstandings. This chiefly relates to the identity and product rules which apply in networks. These may very strictly regulate what constitute quality products and services, which quality requirements are considered standard and thus how communication occurs regarding, for example, solutions or problems.
- The power and resource dependence in networks; Power is in essence the perception by other actors in the network of another actor's influencing potential. This perception is regulated by position rules which determine whether or not an actor is respected. But they are also determined by what is permitted in a network. In short, they are also partly dependent on the access options (which actors may, consciously or unconsciously, be excluded) and the mode of communicating about (policy) issues. Thus, on the product and identity rules of the network. This last dimension of power is usually referred to as mobilisation of bias (Barach – Baratz, 1962). Through an analysis of these dimensions of the network via rules an insight may also be gained into this grimmer side of institutions (Moe, 1990; Knight, 1992).

The last observation about power draws attention to the fact that the structure of the network, the sets of rules, is made up of interactions and choices from the past and thus also of the power relations from the past. A struggle about changing rules, and that means for each attempt at institutional design, is also (but not

solely!) a power struggle (see Klijn, 2001). In addition to enabling and facilitating interactions by reducing strategic uncertainty and transaction costs, network institutions thus also have a 'dark' side: the institutionalisation of distributive advantages and the exclusion of certain actors, interests and issues. Institutions are thus not neutral. The simultaneously fulfil both a positive and a negative function: they effect a stable interaction environment but also bring about non-decision making and mobilization of bias. Whenever institutions fall short in the first function or become dysfunctional due to the second, there are grounds for institutional design.

What is institutional design? Forms and motives

Networks as institutions thus support the realisation of collective benefits and the (re)distribution of these benefits. The way in which networks fulfil these functions and the side effects which that involves may therefore be grounds for institutional (re)design: conscious attempts to influence the institutional characteristics of networks. In other words: attempts to change the sustainable set of rules which regulates the interactions between mutually dependent parties and their relative positions and interrelationships.

Forms of institutional design

Institutional design may aim at modifying existing networks, linking different networks or promoting the formation of new networks.

- *Modifying existing networks.* Institutional design may be aimed at modifying the functioning of an existing network, for example because the raison d'être of this network has been superseded by new developments, or because the negative side effects of the cooperation within the network are becoming increasingly apparent to the parties within the network and to its environment.

An example: the Green Front

This type of institutional design is used in attempts to change the functioning of the agricultural network in the Netherlands. This network is known as the Green Front. For decades around the middle of the previous century it proved to be an extremely successful formula whereby the agricultural sector worked in close cooperation with the Dutch Ministry of Agriculture and the relevant parliamentary party specialists. In this network the problems of the sector were tackled effectively and the survival of this sector was assured. Eventually, however, this cooperative link became increasingly dysfunctional. Although in macro-economic terms there was no longer any support for the sector, the sector was only kept going thanks to the agricultural subsidies obtained by its powerful lobby. In addition, the sector's negative environmental impact took on increasingly problematic forms (notably the manure surplus) without this being admitted by the network, let alone tackled. It was clear that changes to the network structure from outside would be needed to achieve this.

- Linking different networks. In our complex network society there is increasing interdependency between sectors and a strong dynamic, to which existing institutional arrangements and networks have no solutions. New problems often pervade existing networks and there is a need for innovative solutions which require the coordination of processes and activities in different networks. In addition to modifying the set of rules within a sector, institutional design may thus also aim at coordinating interactions between actors from different networks.

An example: interconnecting the water and building networks

An example of this form of institutional design are attempts to improve the coordination between the water authorities and the building sector in the Netherlands. As a result of the expanding building activities, the water authorities have ever-increasing difficulties in doing their job. One of the reasons is that in building activities hardly any account is taken of the consequences which these will have for the water authorities. For example, because so much of the Dutch surface has been built on, it because increasingly important that in building plans sufficient space is set aside for surplus water storage in such a wet country as the Netherlands. For the water authorities this means that they intend to adopt a more pro-active attitude. They want to be involved at an early stage in the planning of building activities, to ensure that these plans are tailored to the requirements which the water authorities have. This calls for a more integrated planning of building activities in which the building network and water network must be geared to one another. In order to achieve this, the sets of rules which apply in each of these networks must be coordinated. This requires institutional design.

- The formation of new networks. Institutional design may also be aimed at the creation or strengthening of institutional rules in a situation in which these are relatively poorly developed or are not tailored to a specific problem area.

An example: the zinc case

This kind of institutional design may be aimed at furthering new interactions between parties who earlier did not were interrelated. An example is the development of Dutch government policy aimed at curbing zinc emissions from building materials to surface water in the framework of the policy aimed at improving water quality. This meant that zinc companies were confronted with a new policy which was specifically aimed at them and which they wanted to oppose. This created a new interaction pattern between the companies themselves and between them and a whole range of public authorities. Initially this resulted in antagonistic interactions. Ultimately, however, the mutual benefits of collaborative strategies became apparent. Investments in product innovations turned out to be able to unite the interests of both company and government. The absence of rules supporting the interaction between industry and government, however, rendered this transition tremendously difficult. Institutional design in this case could be aimed at stimulating network formation between the zinc companies and the authorities, in order to create the conditions for more effective interactions (Van Bueren – Klijn – Koppenjan, 2003).

Motives for institutional design

A number of motives for institutional design have already been touched upon above. Here we list what in our view are the most important motives.

- The functioning of existing networks is seen as ineffective, inefficient or undesirable. For example, the long waiting lists in the health care sector which cannot be eliminated even with additional financial resources. The pay-off rules within the network of the organisations involved are apparently constructed in such a way that more input does not result in more output. This may constitute a reason to attempt to modify this network (Kenis, 2001). The fraudulent practices surrounding tender procedures in the building industry in the Netherlands, recently brought to light by a parliamentary enquiry, likewise provides a reason for fundamental forms of institutional redesign. The long drawn out decision making surrounding major infrastructural projects that threaten to damage the Netherlands' international competitive position constitutes another argument in favour of institutional design. The cause is seen as the far-reaching institutionalisation of numerous interests. The Not-In-My-Back-Yard behaviour of local actors obstructs the realisation of national projects. Breaking down this local veto power through the simplification of decision making procedures is offered as a solution: forms of institutional redesign.
- If existing networks do not appear able or prepared to deal effectively with new social problems or challenges – with the risk that these remain unaddressed or are tackled half-heartedly – those who are responsible for tackling these problems or taking on these challenges will thus have grounds for developing initiatives for institutional design. These sort of initiatives may originate from within the network as well as from outside it. An example is the environmental impacts or safety risks which are produced in various sectors, but are only dealt with by the relevant sectors themselves with the utmost difficulty.
- Institutional design may also be driven by attempts to establish distributive advantages: attempts by parties within the network to establish temporary shifts in power relations or chances to improve their position by changing the institutional game rules for a longer period of time (Blom – Hansen, 1997; Moe, 1990; Knight, 1992).
- Initiatives for institutional design may also be a reaction to controversial events, accidents or crisis, when it is not quite clear what has caused them but where the opinion has taken root that they should not have happened and that the existing set of organisations is obviously inadequate for preventing events of this kind. In the Netherlands, the bursting of the dike in Wilnis as a result of the prolonged period of drought in the summer of 2003 is a good example of this. Due to the absence of a central dike authority in the Netherlands, the water authorities were unable to immediately come up with information concerning the quality of comparable dikes elsewhere in the country. A call immediately went up for the centralisation of the water authority. In an ambiguous situation in which there is a lack of information regarding substantive causes and solutions, proposals for institutional changes offer a way out. They have a strongly symbolic character: their effectiveness is uncertain, but enable public executives to demonstrate their decisiveness.

- Institutional design proposals also develop as a result of learning behaviour and imitating what is happening in other countries: 'spill-overs' (Kingdon, 1984 – 1995), institutional transplants (De Jong, et al, 2002), management hypes (Abrahamson, 1991), etcetera. These may involve attempts to introduce into a specific network something that was successful elsewhere. These attempts may be motivated by the inclination to improve the functioning of the network. But they may also be inspired by the need of public executives and managers to strengthen their external legitimacy by showing that they know how to apply the latest insights and methods from the sphere of management and organisational methods to their own field. In addition to these professional motives, ideological motives may underlie the desire for institutional innovation. The widespread pursuit of privatisation and the promotion of the theories on new public management may be traced back to an important extent to this motive.
- Initiatives for institutional design may also be a reaction to decisions from higher authorities. An example of this might be decisions at European level on the liberalisation of the European markets. These decisions assume many new forms of institutional design by member states. For example, the striving for the privatisation and liberalisation of the transport sector and the electricity market in the Netherlands was inspired by European legislation. This does not mean, though, that these developments are predetermined. Member states are able to some extent to determine the pace and the form of the design. Thus it is possible to influence the direction and the pace of the development although it is very difficult to opt out of the development itself.

All in all, various motives may underlie initiatives for institutional design. Moreover, institutional design is a mixed-motive game: different parties each have their own reasons for making or supporting proposals for institutional design – or thwarting them. Moreover, in the course of institutional design processes, these motives will change. Parties which initially saw a reason to oppose these initiatives may come around to the view that their opposition does not help and decide instead to influence the contents of the plans. Others may become involved during the course of the process and may perceive in the initiative opportunities for achieving their own objectives. Yet others may not become aware of the fact that the plans will damage their interests until a late stage in the institutional design process at which point they suddenly decide to dig in their heels.

Institutional design strategies

Institutional design is thus first of all aimed at changing rules. To achieve this, however, highly diverse institutional design strategies are possible. In this section we will first look at the possible options for intervention available to institutional design: what type of rules (and thus network characteristics) are the interventions aimed at. Subsequently we look at the way in which the rules could be changed.

Directions of institutional design: which rules change

Various management strategies may be distinguished which are based on the changing of rules. These strategies may be classified into three categories:

- Strategies aimed at the *network composition;* these are strategies which focus on changing or influencing the composition of the network. Based on the premise that the composition of the network has an influence on the interactions occurring within it so that the resulting outcomes produce changes in the composition of the network and therefore different interaction patterns and outcomes. There are various ways in which the composition of the network may be changed. For example, strategies aimed at consolidating or changing actors' positions or adding new actors. However, strategies may also be aimed at changing the access rules for actors or at influencing the network as a whole by promoting network formation, and self-regulation, or modifications to the system. *Table 2* shows which sort of rules function as intervention points for each strategy.
- Strategies aimed at the *network outcomes;* these are strategies, which try to influence the standards or the logic of costs and benefits in a sustainable way so that games within networks evolve in a different way because other strategic choices are made. The point of intervention here is thus not the actors as in the previous set of strategies but their choices. This means the sustainable influencing of actors' strategic choices and the outcomes resulting from them. The most important institutional design strategies in this category are strategies to change the pay-off structure, to change professional codes

and morals and strategies, which are aimed at changing evaluation criteria.

- Strategies aimed at *network interactions;* these are strategies, which try to influence the interactions between actors in a sustainable way. These strategies are thus aimed at influencing rules, which regulate the process in networks and in this way try to facilitate interactions, to put them in a framework or to make linkages. Strategies in this category include developing conflict settlement mechanisms or introducing certain procedures into interactions. But strategies such as certification or influencing supervisory relationships also fall into this category.

Table 2 shows the dominant, most frequently occurring strategies and the sort of rules that are influenced via such a strategy. We use the same typology of rules that have been presented in section 2. There are two points that should be noted. The first is that in attempts to change rules in the network, a number of the strategies shown in the table are frequently used at the same time. The second is that the table indicates which types of rules are changed using a particular strategy. The ways in which this happens, however, may vary greatly. In short, the table provides an analytical overview of the various strategies for changing the rules in networks.

Example: changing actors and entry rules

One of the objectives of the Private Finance Initiative in the UK in the field of road contracting was the creation of a new industry of private actors who were going to deal with the construction, the operating and the financing of road construction projects. If we look at the first 8 major road construction projects which were contracted out in the latter part of the 1990s (projects which were completed in 1996), then it may be stated that new consortia were certainly created which also repeatedly bid for one of the projects. In total 11 consortia were involved in the 8 DFBO projects. Six of these consortia won at least one contract bid. The bidding procedure that is used works towards a situation in which two bidders remain. If we look at an overview of the remaining two consortia and the winners and losers then we see that various consortia are mentioned a number of times, as winner or loser. Two consortia won twice. Moreover, in some cases organisations were involved in different consortia. In subsequent contract negotiations these consortia also played an important role. Thus we see that although this intervention to change the game rules on the implementation of road facilities led to a mighty shake up in the network, after a while stabilisation once more occurs and a fairly settled group of players forms around the policy issue. In short, a (new) process of network formation once more begins to develop, surely because when entering into long-term contracts (30 years!) long-term relations are also entered into between public and private actors. (Haynes/ Roden, 1999; Immers, 2001)

Table 2.

Strategies to influence and change rules in networks

Strategy	Arena rules			Interaction rules	
	Identity/product rules	Pay-off rules	Position rules	Access rules	Interaction rules
Network composition					
1. change actor positions			X		
2. lay down actor positions	(X)			X	
3. add actors			(X)	X	
4. change access rules for games				X	
5. influence network formation			(X)		X
6. promote self-regulation	X	(X)	(X)		X
7. system modifications (e.g. Market forces, reorganisations)	X	X	(X)	X	X
Network outcomes					
1. change evaluation criteria	X	(X)			
2. influence pay-off structure	(X)	X			
3. influence professional codes	X	(X)			
Network interactions					
1. conflict regulation			(X)		X
2. change interaction procedures				(X)	X
3. certification	X				X
4. change supervisory relationships	(X)			X	X

Institutional design for changing of institutions: how does it happen

While we have shown above where institutional design strategies may be aimed there now follows the interesting question of how it may happen. In line with what was said in section 2 about the changing of rules we may distinguish two important ways in which institutional design strategies may be deployed:

- Direct intervention in rules; interventions may be aimed directly at changing rules. This is the case with, for example, legislation (or changes in legislation), but also when private agreements are entered into or, for instance, public-private covenants are entered into which have long-term time-frames. An example of a private agreement is that of the Tabaksblat commission in the Netherlands which has established rules on pay-offs for top managers in response to the discussion on the 'self-enrichment' of managers via the provision of shares. In the USA, too, there is a discussion underway about sharper controls on companies in response to a series of fraud scandals, the most well-known of which is the fraud involving ENRON. Drawing up rules of this sort directly affects actors' options for behaviour and regulates, for example, the method of information provision.
- Indirect interventions via the influencing of perceptions and the creation of long-term changes in interaction patterns. If we assume that rules may also be changed as a result of actors changing their strategies, interpreting rules differently, or no longer following rules, institutional design strategies may also be aimed at bringing about sustainable changes to actors' perceptions. We refer to this here as sustainable perception reframing. Reframing involves the bringing about of major changes in actors' perceptions so that they interpret situations in a different way and (drastically) adjust their behaviour. Established habits and things that are taken for granted are thus broken down enabling new lines of behaviour (and common practice regulated by rules).

Reframing strategies to initiate developments and create conditions for rule change may take shape in different ways. For example, administrative stories may be set up which pave the way for change. The story of 'The Third Way' as it is told by the Labour Government in the UK is a good example of an attempt at reframing via administrative stories. The Blair government wants to create a different picture of the future with regard to citizenship, reciprocity and the role of government. The story of 'The Third Way' was not just a way to help Labour into power once more, but also a sort of programme, a direction intended to set people and ideas in motion. It is also a story that highlights particular problems and propagates particular solutions. In this sense administrative stories, in common with other methods of reframing, provide a sort of focus for sensitizing concepts such as market forces, self-reliance, public-private cooperation. They point to a problem and focus attention on specific solutions. A concept such as self-reliance, for example, focuses attention on a specific formulation of the problem (there is too little distance between policy and implementation and this is why implementation ends up being inefficient) and proposes solutions (greater efficiency can be achieved through self-reliance). In short, reframing strategies such as administrative stories and sensitizing concepts, but also others such as discussing major policy documents or utilising crisis situations, aim to bring about sustainable changes in actors' thinking and strategic behaviour and via this route in existing current patterns regulated through rules. Incidentally, reframing strategies are often used at the same time as direct interventions. Administrative stories thus form the supervision of concrete measures such as the self-reliance of sections of departments, the introduction of performance contracts, etc. In short, institutional design in networks is often a combination of direct interventions in rules and attempts to reframe. It will be clear that reframing in common with direct intervention in rules does not always result in clear-cut outcomes. A characteristic of reframing, after all, is that actors give their own interpretation to concepts and the accompanying steering attempts.

Example: Institutional rules and agencies

The introduction of agencies in the Dutch public sector, seen from the angle of the original objectives (to improve effectiveness and efficiency) certainly had an impact. One of the side effects, however, is an increasing self-awareness in a number of these newly formed agencies. They have now developed a whole range of external assessment mechanisms in which external clients pass judgement so that they are less dependent on the judgements of the parent department. This last was

certainly not anticipated and leads to mixed feelings on the part of the parent departments (see Van Thiel, 2002). The concept of agencies and self-reliance is now being interpreted in a new way by the self-reliant services themselves, being accountable to stakeholders, who were not intended in the original concept. Thus reframing and the process of institutional design also appears to have its own dynamic and is formed and changed in the course of the interaction process itself.

The complex character of the institutional design process

Even though institutions are not static and are subject to continual change, they are not easy to influence via conscious design activities even though the discussion of various strategies in the former section may suggests such. If that were the case, then they would be continuously subject to attempts by actors to adapt them to their own advantage. It is precisely the stability of institutions which guarantees that they will be able to fulfil their function: to decrease uncertainty and to reduce transaction costs in order to facilitate cooperation (Goodin, 1986)

A number of causes of this stability may be defined:

- The stability of institutions derives first and foremost from the fact that they fall outside the direct sphere of influence of actors. This may be because the rules are based on formal decisions, which are taken by other actors in 'higher' arenas. Arenas that are not directly accessible to actors who dominate in the network (O'Toole, 1988; Kiser – Ostrom, 1982).
- Rules have gradually developed in a long history of repeated interaction and have become largely common practice. Actors are often not even aware of the institutional rules that they are following, let alone that they come up with the idea of changing them (Giddens, 1984; North, 1990).
- Furthermore, parties often have a vested interest in existing rules. Even if the rules mean that they lose in a concrete game, these same rules may guard them from greater loss or threats to their core values and survival. And they probably offer the prospect of future profit opportunities.
- Institutional innovations take the place of familiar institutional practices. Parties must institutionalise new roles and rules and must learn to deal with them in practice. This creates strategic uncertainty and high interaction costs. Reasons for parties to cling to existing practices instead of making expensive investments in institutional innovations.
- Finally, rules are shared constructions by actors which serve to substantially restrict their ability to be influenced by any party. If a party ignores or breaks a rule this is not sufficient to undermine the validity of the rule itself. This only happens if other parties go along with this. If they do not, the party which breaks the rule will be faced with the resultant costs (for example, in terms of reactions from other parties, which may include sanctions). In short, rules often cannot be changed unilaterally.

Institutional design as a bargaining game with garbage can-type characteristics

The insight that institutional design may be motivated by attempts to optimise collective benefits as well as to bring about distributional advantages is a first indication that institutional design is not an intellectual design activity, but the subject of a strategic game between actors (Blom – Hansen, 1997). Institutional design is a negotiating game in which partisan players try to force decisions favourable to them or to influence decisions to their advantage.

The difference between institutional design and 'ordinary' policy games within networks may be found in the fact the first is aimed at changing institutional rules. This usually assumes that certain legislative procedures and decision rules have to be followed, whereby actors who are dominant within a network may not automatically participate in this game. The complicated and lengthy procedures and uncertain institutional environment reduce the manageability of this game: it is a negotiation game in a garbage can-type context (Cohen – March – Olsen, 1972; March – Olsen, 1982, 1989; Allison, 1970).

The game that is played in institutional arenas, though, is not unrelated to the games which take place in policy networks. Some network actors will have easier access to institutional arenas than others. And some will be in a better position to organise a lobby to influence the decision making in this arena or to form a coalition with influential parties who operate in these arenas.

The game character of institutional design means that its outcomes are not rational designs. They are rather the result of the process of pushing and pulling between the parties involved that has taken place

within them. Moreover, policy assumptions about the effectiveness of institutional designs play a role, but so do the power relations between conflicting coalitions and coincidence as a result of the institutional fragmented environment in which the game of institutional design is played.

The impact of formal decisions on concrete network situations

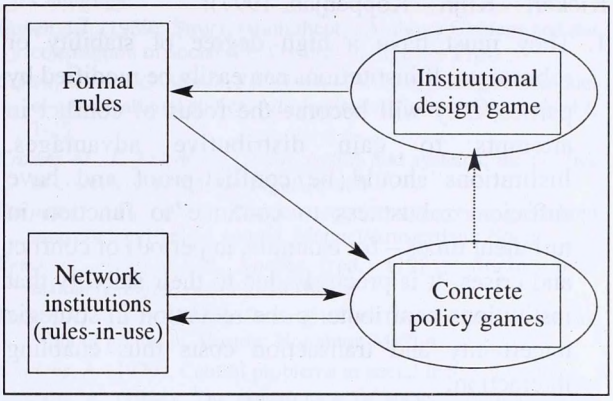
How formal decisions in institutional arenas aimed at changing network rules will work out exactly in practice is not fixed beforehand. After all, formal rules are not identical to the institutional rules-in-use within networks. Formal decisions may, in the short term, break down institutional practices, liquidate organisations, establish new ones, adjust resources and so forth. But that does not mean that a new institutional practice will immediately be established. Even if a fairly comprehensive institutional blueprint is introduced, in practice these new institutional rules will have to be internalised and operationalized via a process of trial and error. Given the unpredictability of strategic behaviour, a lot of unforeseen circumstances will arise which parties must learn to deal with. Laying down new institutional rules in as much detail as possible is not the solution: these must also be internalised and tailored to the practical situation. The paradox of increasing policy discretion comes into play here: more rules offer more opportunities to interpret them in one's own way and thus increase the distance between formal rules and rules-in-use.

This sketch of the formation of institutional design shows that we are dealing with complex processes that are difficult to control (Goodin, 1986; North, 1990; Knight, 1992). Apart from the fact that attempts relating to institutional design develop in an institutional arena, where the pushing and pulling around the design leads to relatively unpredictable outcomes, these outcomes are subsequently converted into concrete policy games within network settings in new institutional practices (Kiser and Ostrom, 1982; Ostrom, 1986). *See figure 1.*

The complex, multi-level character of the institutional design game implies that the effects of these design attempts involve a high degree of uncertainty. The consequence is that designs are by definition imperfect and should be seen rather as the beginning of a scenario of institutional change than as a definitive design. The reactions which the change

Figure 1.

The complex multi-level character of the institutional design game



brings about are only predictable in part. The consequence is that unexpected and possibly undesired effects will occur which call for adaptation and thus for formal decisions which supplement or adjust the initial design. For example, attempts to liberalise public service provision when unexpected strategic reactions from the players involved restrict competition and endanger public interests so that new forms of regulation have to be introduced to cope with these effects. Again, institional design implies rather the starting of a protracted and undetermined process than the intellectual design of an institutional blue-print.

The direction of institutional design: what constitutes 'good' institutional designs?

From the normative starting point of the network approach, which means that in a complex network society there are increasing interdependencies between numerous social actors, sectors and domains whereby dealing with complicated problems and the realisation of projects or policies makes new forms of interaction necessary, the main objective of institutional design is the furtherance of cooperation. At the same time existing interaction patterns may no longer be functional and that existing institutional links need to be modified.

In addition, society imposes more and more requirements on forms of cooperation: passing on the costs of cooperation to society is becoming increasingly unacceptable. An growing number of interests needs to be taken account of and the mode of cooperation needs to be transparent and provide external accountability.

This means that in any case the following requirements may be imposed on institutional designs (compare Goodin, 1986; Hood – Jackson, 1991; Kickert – Klijn – Koppenjan, 1997):

1. They must have a high degree of stability or robustness. If institutions can easily be modified by parties, they will become the focus of conflict in attempts to gain distributive advantages. Institutions should be conflict-proof and have sufficient robustness to continue to function in turbulent times – for example, in periods of conflict and crises. It is precisely due to their stability that institutions contribute to the reduction in strategic uncertainty and transaction costs thus enabling interaction.
2. Institutions only work if they are accepted and internalised by the parties involved. In existing institutions this is often brought about via a long history of repeated interactions. In designed institutions the great challenge is to bring about this 'goodness to fit'. This imposes requirements on both the content of institutions and the way in which they are introduced in practice.
3. Institutions must comprise facilities which enable them to actually support interaction: this places substantive requirements on sets of rules that are introduced. These must meet the most important strategic challenges which are addressed in the interaction they want to support. It may be expected that sets of rules will contain the various types of rules dealt with in Section 2 and that these rules will have to interrelate in a more or less consistent manner.
4. Network institutions should also have what Goodin calls a „sensitivity to motivational complexity" (Goodin, 1986). Precisely because in the interaction in network situations a variety of interests is at issue and cooperation is aimed at bringing about integration between these interests, institutions need to do justice to this plurality of values and interests. Institutional design aimed at solving a specific problem or prioritising a particular interest thus conflicts with this insight.
5. Given the uncertainty regarding the effectiveness of institutional designs, and the fact that institutional innovations take the place of existing institutions which, once replaced, can no longer be fallen back on, prudence is desirable. This argues in favour of incremental institutional modifications rather than grand designs, opportunities to try out different institutional practices alongside each other, and efforts to avoid irreversible modifications as far as possible. The opportunities for this in practice are limited, though: precisely because in practice institutional modifications come up against a lot of resistance, there is a tendency to take irreversible steps (Koppenjan, 2001). And allowing institutional regimes to exist alongside each other is at the cost of the reduction of strategic uncertainty and often imposes excessive demands on the resources and strategic capacity of the organisations involved.
6. Finally, there are the requirements of transparency, openness and accountability which may be placed on institutional design. Formal rules are often aimed at bringing these about. At the same time there is a risk that they will lead to a whole range of forms of bureaucracy which may increase transaction costs and hinder the possibilities for innovative forms of cooperation, and have little to do with the actual rules-in-use and the policy games which take place behind them.

Although making no pretensions to completeness, the above-mentioned criteria show the requirements that good institutional design should meet. In order to determine to which specific sets of rules these requirements should lead in concrete network situations, more insight is needed into the nature and functioning of institutional rules. It is to be expected that there will be no 'one best solution' because it conflicts with the 'goodness to fit' requirement among other things. The remarks made above show that it will not always be easy to meet all the criteria mentioned at the same time and that trade-offs will be necessary.

Conclusion: institutional design as subject of research

Institutional design would appear to be right in the spotlight at the moment judging by the numerous examples that can be found in the western world. Agencies, new forms of decision making, system reforms, and partnerships are all policy initiatives which to a greater or lesser extent assume institutional design in and of networks.

Tinkering with the institutional characteristics of networks, however, is not a simple task as we have

shown in this paper. Not only are the strategies themselves often not entirely clear but they must be implemented in a context in which other actors also interpret such changes and must accept and deal with them. In short, institutional design is a process of pushing and pulling with uncertain results. Moreover, long-established certainties which have proved their value in the past are messed about with while no-one knows for sure what will replace them. These uncertainties, however, in no way restrain politicians and policy makers since proposals for institutional design are made in the media on a daily basis.

There is in short every reason to devote more attention, both theoretical and empirical, to this subject. Although various attempts have already been made on this front (e.g. Pollitt – Bouckaert, 2000) the research into institutional design is still in its infancy. In this paper we have presented a theoretical framework which could be used to conduct research into institutional design interventions. By applying the types of rules and interventions, institutional design strategies could be compared and analysed. Using the theoretical insights on the way in which institutional design is deployed and its motives clarified, the effects of institutional design could be mapped. This could be done by mapping the specific path of changes initiated by institutional design strategies, but also by specifying the conditions under which the path is travelled. At the same time, the effects of the institutional design strategies which have been set in train should be looked into. Research of this sort would give us more insight into the possibilities, limitations and pitfalls of institutional design in networks.

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