



CAPACITY FOR COMPLEXITY

**Evolving connective capacities
of program management
in complex governance processes**

Jean-Marie Buijs

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Evolving connective capacities of program management
in complex governance processes

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Evoluerende verbindende vermogens van programmamanagement
in complexe governance processen

Thesis

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PREFACE

Every end has a start. This PhD research started quite some time ago and many people have questioned if there would be an end at all. Now I can confirm there is. It has been completed and to be honest, I am rather proud of it as well.

I also do hope that the story continues. This book contains key publications of my PhD research about how the phenomenon of program management can help in coping with complex governance processes in the physical environment. Facing challenges like climate adaptation, urbanization and transitioning towards sustainable energy, I am convinced that there is still a lot to be learned about coping with complexity and evolution in governance processes.

So far, this story has taken me to meet brilliant, passionate and inspiring people. I owe a lot to discussing with all along the way. Hopefully you are aware of my gratitude. For this preface, I needed to select some of you, without whom this thesis would not have been possible.

Geert Teisman was my promotor from the start and a great source of inspiration. Meetings with Geert were challenging. Afterwards I often wondered if we had discussed progress, or if I went two steps back. Geert's rich ideas resulted in various new pathways for my thesis, but also ended in chaos many times. It must have been a struggle to read the detailed texts on many concepts and to keep hoping that one day order would emerge. I am grateful for your inspiration and for the research opportunities you created. It was an honor to participate in your research group and I reap these benefits in my work every day.

I would not have started and finished this thesis without the connective capacity of my other promotor Jurian Edelenbos. When I interviewed Jurian for my MSc thesis on action research, I could not have imagined he would become such a 'rock' in all phases of my PhD. Ever since we decided to restart finalizing this thesis just before summer 2017, Jurian's support gave me the self-confidence to make this happen. Jurian, I greatly appreciate you as a supervisor and as a person. Finishing this thesis feels as having finally delivered my part of the reciprocal disciplining in our collaboration. I could not have completed this without your tremendous support, patience and trust.

This research project was partly funded by TNO Built Environment and Geosciences, with Adriaan Slob as one of the initiators. Adriaan, I owe you for the opportunities that you have created, and probably also some bottles of wine. Your creativity and talent in guiding interaction in workshops are still an example to me today.

The learning process for Waterinnovatiebron was one of my first projects and for me an important source of inspiration. In this project I was lucky enough to join Mike Duijn on a road trip to interview professionals from Rijkswaterstaat about innovation projects. Mike, I am glad that I have learned a lot from you.

It was also at TNO that I met Lasse Gerrits, or I should probably say Herr Professor Gerrits. I highly appreciate your companionship in the combined trajectory of Erasmus University and TNO. Our spontaneous discussions on complexity theory are among the best memories of my PhD research, as well as our participation in the ASPA conference in Miami. Despite our dialogues on complexity, we have not yet written together. I would be honored and wonder if you would accept this challenge.

In my early years at Erasmus University, I shared my office with Arwin van Buuren. Combining intelligence and work ethic, you have developed into a role model for modern public administration. Despite the pressure for publications, you find new ways to redesign the field's social relevance. I appreciate that you initiated co-publishing several parts of my research. This was very instrumental to complete this thesis. It would be my pleasure to find new ways to collaborate in the applied side of public administration.

I would also like to thank Jasper Eshuis. I really enjoyed our joint effort for the methodology chapter of the book *Managing Complex Governance Systems*. With Nancy van der Bol I not only shared an office, but also a case study about metropolitan governance in the Randstad. Thanks for your companionship. David Byrne, Professor at Durham University, paved the way for complexity research in the social sciences. I am honored for the opportunity to write two chapters with you in *Managing Complex Governance Systems*. I am also grateful to all other authors of this blue book. I'm proud of both this product and joint process.

I would like to thank all my other colleagues at Erasmus University and TNO for the stimulating environment, great discussions and support. And not to forget, the soccer matches at Woudestein.

This study would not have been possible without public administration professionals' openness and their willingness to collaborate. All interviews and meetings were very valuable for my research and gave me detailed insight into program management's connective capacity in practice.

For the case study *Policy with Citizens*, I would like to thank Paul Basset, Harm van der Wal and Klaas Jan Mooning. I admire your passion for enhancing the involvement of citizens in national physical environment policies.

For the Amsterdam Metropolitan Region case study, I am indebted to Michiel Ruis, Harry van Huut and Jan Hendrik Dronkers for sharing their knowledge and

supporting our research. Program management as applied in Amsterdam Metropolitan Region has evolved into a best practice after introducing a new type of programmatic approach in the national spatial strategy.

My respect for the program managers who are subject of my thesis has only increased since I have combined finishing my thesis with working for HZ University of Applied Sciences. Managing a research program also confronted me with the complexity of diverse projects, highly influenced by different actors and stakeholders, continuous alignment with the line organization and opportunities to connect with education programs. Working with the great people at HZ has definitely been the 'pro' of this combination.

I learned a lot from Dick Fundter's experience in public management and in life. We shared many difficult moments, I cherish your great stories, knowledge and vision on resilience and the tour you guided in the Mississippi delta. Speaking about experience in public management, Peter van Zunderd joining our team brought tranquility. Thanks Peter for your wisdom and coaching during those years. Both you and Dick stimulated me to finish my PhD. You were a great support for me in keeping this thesis high on my agenda.

Several colleagues in education were aware of the renewed focus on my PhD and took on a large part of joint tasks. I would not only like to thank you for this, but also for your companionship in past years. It is a pleasure to work with you and our students in an interdisciplinary program with real life projects.

In our research team Lukas Papenborg has been a partner in crime for many years, Lukas, thanks for all your support and reminding me sometimes about the limitations of work and importance of valuing the nicer things in life. Teun Terpstra joining our team has greatly improved the quality of our research. Your expertise about flood risk management is tremendous, I appreciate your leadership skills and you are a great colleague. Tom van der Voorn worked only for a short period of time with us, but hopefully we can continue our collaboration on adaptive planning. Make sure that you are next in line to finish your PhD thesis. Jasper van den Heuvel brings a lot of energy to our team. I appreciate your enthusiasm, creative ideas and skills for research and education. I'm looking forward to enhance our research program about climate adaptation and to collaborate with (new) HZ colleagues, students and professionals on interesting crossovers.

I would like to thank the board of the HZ and management team of the Delta Academy for their trust. The opportunity to continue and enhance our research program on resilient deltas has enabled me to grow as researcher and personally. My

appreciation also goes to colleagues providing advice regarding subsidies, finance and events.

I'm grateful to all partners in the research projects I have been working on in the past years. I did not share the 'burden' of my PhD with all of you, but would like you to know that I highly appreciate our collaboration in complex governance processes about climate adaptation and flood risk management. This is not only highly relevant for our projects, but also reminds me continuously about core themes in my PhD research.

Outside of work I learned a lot about public matters in the community organization of my home town Kruisland. I am proud of our capacity for collective action and what all team members contribute. It gives me a lot of energy to support grass root initiatives with you.

A lot of friends have asked about my thesis over the many years I was writing it. I appreciate your support and more importantly, who you are. Enjoying concerts, festivals, cycling, tennis and carnival with you is the best. I already look forward to celebrating our 40th birthday together. Do not forget you are always welcome to share a beer and discuss life and everything that comes with it.

Family sometimes seems self-evident, but that is not how I have perceived your support when writing this thesis. You have seen me struggle and searched for different ways to help me out. You have not always expressed this, but I am aware and this makes my gratitude only bigger.


With Fons & Jeannette, John, Kitty & Evi I have a great family in law. Thank you for all your help over the years, I appreciate your entrepreneurship and our kitchen table conversations. And how wonderful is to have a brother in law with the computer skills to restore crashed hard drives.

My parents have always provided me a lot of freedom in the choices I have made. This resulted in a lot of doubt for me as a kid and moreover as a teenager. For every decision, I tended to consider all possibilities and their pros and cons. It may not be the most efficient way of leading life, but I am convinced it has resulted in robust decisions. This is probably one reason why I eventually would finish this PhD. I'm happy to have meanwhile learned more efficient options. I owe a lot of thanks to my parents for the freedom to make my own decisions and for your unconditional support. You have stimulated me to explore my possibilities.

One of the great things about my family are our conversations about public matters, politics, sports, traveling and music. With Etienne and Ilana discussing politics and the public matter is never far away. For me as a researcher, debating its

communicative aspects with both of you is extremely valuable. Etienne has not only been of great support as a brother, but also knew most about the topics I was working on because of his background in public administration at Erasmus University,

There is no better distraction than music and it is great to have Joeri in our family with all his knowledge and passion for music. My sister Laura has been of tremendous help in finishing this thesis. Your reviews of the text and English were very efficient and professional. I am grateful for your support, and so is probably the reader of this thesis. Thanks for your patience and flexibility in supporting me.

Daniëlle, you were with me at the start and you are with me at the end of this thesis. I could not have succeeded without you. I could write a lot about all we have all been through during this thesis, but it is probably better to stop writing right now. I would like to dedicate the last statement of my thesis to you. 'The promise to enjoy life together becomes even more meaningful when life is multiplied' is based upon the theme for our wedding 'Samen is alles leuker'. I will defend this proposition with my mind and my whole heart. The joy Fenna brings to our life is so meaningful. I cannot wait to welcome her brother or sister 

Jean-Marie Buijs
3 October 2018, Kruisland

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CHAPTER 1

**INTRODUCTION:
CONNECTIVE CAPACITIES
OF PROGRAM MANAGEMENT
IN AN ERA OF COMPLEXITY**

1.1 INTRODUCTION

1.1.1 Rise of programmatic approaches in public management

A programmatic approach is today quite common in adapting the physical environment of the Netherlands. Public managers, scholars, NGO's and businesses use programs to deal with challenges, uncertainties and new visions in such processes. The Dutch Delta Program, built on regional and thematic programs, is a typical example of a network program working on vertical integration in the adaptive governance process in relation to climate change (Bauer, Feichtinger, & Steurer, 2012). The new Dutch Environment and Planning Act also considers a programmatic approach as an instrument for adaptive governance. As opposed to project management, aimed at realizing e.g. infrastructure, program management departs from a desired future state of systems and processes. It links both strategies and projects for adaptive planning in the physical environment (Busscher, 2014). A programmatic approach in implementing the Environment and Planning Act, aims to actively manage the balance between measures taken and activities allowed. Not only now, but also considering future possibilities. Typical for a modern programmatic approach are vertical integration in adaptive governance processes and balancing the existing situation and desires of all actors for shaping an adaptive future (Teisman, 2008; Bauer et al., 2012; Busscher, 2014; Rijke et al., 2014). Considering the desires of a diversity of actors, a programmatic approach also requires horizontal integration between public, private and societal stakeholders (Kallis, Kiparsky, & Norgaard, 2009; Shao & Müller, 2011; Rijke et al., 2014).

As can be observed in the citation below, a programmatic approach in governance processes is about searching mutual coherence between a diversity of projects, which together are supposed to have a positive effect on the development of the national spatial structure of the Netherlands (see Chapter 4).

“In the implementation agenda of the National Spatial Strategy the programmatic approach is introduced as a selection of issues that contribute to a substantial reinforcement and development of the national spatial structure. These issues cannot be realized timely without a direct involvement of central government. In a program, central government will consider issues, projects and instruments in their mutual coherence. (...) Hence, in the programs a selection of projects are adopted with as aim to implement them in mutual coherence.” (Ministerie van VROM, 2006: 15).

Although programs are a rather common concept in public administration, in the past decades a new type of programmatic approaches has emerged in governance processes

of the physical environment. For example in the Dutch Delta program, the programmatic approaches in the new Environment and Planning Act and the programs in the National Spatial Strategy. Relevant overviews have been provided by Korsten, de Jong & Breed (2010) and Busscher (2014: 239).

All these examples are announced as a new type of approach to deal with interdependencies between projects and strategic planning initiatives. Via coordinating these activities, this new programmatic approach not only tries to contribute to these activities, but also to adapting systems and processes in the governance of the physical environment. Moreover, program management needs to consider horizontal integration of relevant stakeholders. As argued in this thesis (see also Chapter 3), program management arises in complex governance processes in response to fragmentation between projects and dissatisfaction of the involved actors in being able to adapt to the challenges they face.

1.1.2 Response to fragmentation

It can be discussed whether these programmatic approaches are new, or more or less the same meat with a different gravy. The challenge of program management, as discussed above, is typical for the fragmentation – integration debate in public administration. Before we can argue how program management can be perceived in this debate and what its role can be to deal with the tension between specialization and integration, we first need to provide background to this debate, take position and argue how several management strategies relate to this issue.

Today, governors and public managers will define the fragmentation they are facing as problematic (Teisman & Edelenbos, 2011). This also applies to their stakeholders like businesses, inhabitants, NGO's and other governments. They ask for joint action, e.g. in the shape of an integrated plan, a central counter for environmental permits or unambiguous policies and regulations. Teisman and Edelenbos distinguish three common types of fragmentation: (1) different policies are conflicting; (2) different organizations and departments are not working together; (3) managers responsible for one policy domain are organizing implementation processes separately and without much knowledge about what the managers in other domains are doing.

Fragmentation is for a large part rather a solution than a problem. Division of labor has been an effective instrument to improve efficiency and productivity of organizations. Moreover, it is also an important driver for specialization, resulting in higher quality products and services. This makes fragmentation an inevitable feature of modern society and organizations (Edelenbos & Teisman, 2011).

As discussed in more detail in Chapter 3, different types of management provide a different response to fragmentation in governance processes. Below we will discuss functional line management, project management, process management and program management, in relation to several paradigms in public administration that have influenced the fragmentation-integration debate.

“The first solution to fragmentation as a problem has already been applied countless times: integration by way of reorganization into a single level of government with a clear line of demand” (Edelenbos & Teisman, 2011). Functional Hierarchical Line Management has been the dominant management paradigm in management theory and practice (Turner & Keegan, 1999) and in public administration for a long time (Pollitt, 2003; Edelenbos & Teisman, 2011). The attractiveness of the bureaucratic model is its ability to divide the integrated whole, but also unmanageable governmental challenge, into manageable and therefore more controllable tasks executed by a single governmental organization. In this model, line managers are appointed on higher hierarchical levels to integrate and coordinate specialized domains and sectors within organizations (Moss Kanter, 1983: 58-61). That this approach, and understanding this type of response in governance processes, is still relevant today can for example be seen in Chapter 6 where government reorganization in the Randstad area is discussed. In public administration, these types of reorganization can also be the outcome of the black box of forming a political coalition. As we have just seen with the formation of the Dutch Cabinet Rutte III, climate policy has become part of the Ministry of Economic Affairs and agriculture is again an autonomous department. This type of integration can satisfy the desires of governors and public managers in the short term. However, the new single organization after reorganization needs to operate in a broader context of other governmental agencies and NGO's (Edelenbos & Teisman, 2011). In this broader context, fragmentation is an inevitable characteristic of governance processes. It is as much a problem as a solution. It is important to remember that if fragmentation is considered as a problem in governance processes, it is a type of problem which cannot be solved. At most, an acceptable situation can be achieved within a bounded rationality and temporarily. “As long as specialization is one of the main drivers for socioeconomic development, fragmentation has to be viewed as ‘a fact of life’ in public administration.” (Teisman & Edelenbos, 2011). Within functional line management as management paradigm, very diverse adaptations are made in dealing with this tension between fragmentation and integration, like new types of coordination based on Scientific Management and new types of strategic planning.

New insights into strategic planning and implementation replaced or broadened the perception of organizations as machines with the view that organizations are

complex systems composed of different subunits (Pressman & Wildavsky, 1973; van Gunsteren, 1976; Mintzberg, 1994; see also Chapter 3 and 6). Fragmentation received a more negative connotation, instead of a focus on the positive impact of specialization (Edelenbos & Teisman, 2011). Edelenbos and Teisman (2011) present three characteristics of societal development that affect this: (1) the assumption by the earlier more technical and functional theories that units were willing or could be forced to work together is questioned more and more (Mintzberg, 1979; Moss Kanter, 1983); (2) individualization, the other main driver of societal development in the western world, undermines this assumption (Castells, 2000); (3) furthermore this assumption is also undermined by rising expectations (Teisman, 2005). Due to rising expectations, each specialized unit now also has to take indirect ambitions into account.

As argued in Chapter 6, these subunits in planning and implementation are nowadays well-known as 'projects'. Project management demarcates the problem-resolution space for these challenges within an 'iron triangle', meaning a defined unique task, with limited scope, time span and clear budget lines. Rising difficulties with implementing grand design plans and increasing perceptions of complex issues resulted in 'projectification of society' (Maylor, Brady, Cooke-Davies, & Hodgson, 2006). Since the 1950s, private and public-sector organizations have adopted project-based approaches to cope with fragmentation and to establish functional integration in organizations (Koteen, 1997; Turner & Keegan, 1999; see Chapter 3). This project management approach aims to transcend organizational line structures and to bring more integration between specialized domains (Koteen, 1997). In the public domain, New Public Management (NPM) was a breeding ground for project management approaches (Crawford, Costello, Pollack, & Bentley, 2003; Pollitt & Bouckaert, 2004; see Chapter 3 and 6). NPM aimed to reform public administration by using new business management models. These reforms focus on lean and decentralized structures, market-oriented delivery of public services, increase of quantitative monitoring, an emphasis on outputs and efficiency managerialism and empowerment (see e.g. Crawford et al. 2003; Koppenjan & Klijn, 2004; Pollitt & Bouckaert 2004; Pollitt, Van Thiel, & Homburg, 2007; Edelenbos & Teisman, 2011). NPM renewed the idea of division of tasks (specialization) at project level, accompanied with formal contracting, market mechanisms, better control and monitoring based on measurement and quantification. In next chapters, we will elaborate on the failure of project management in bringing more coherence and coordination in public organizations. Projectification is discussed as a new way of fragmentation of projects operating in isolation from each other.

In line with the rising expectations that each separate subunit has to deal with (including projects and programs), another public sector reform can be recognized towards a so-called Whole-of-Government or Joined-up-Government approach (Pollitt, 2003; Christensen & Lægheid, 2006; see Chapter 3). This approach aims to achieve horizontal as well as vertical coordination and integration (Pollitt, 2003; 6, 2004; Christensen & Lægheid, 2007) via coordinating and integrating government policy-making and service delivery across organizational boundaries (Hood, 2005; Mulgan, 2005; Klievink & Janssen, 2009). E.g. agencies that work across all levels of government, together with relevant stakeholders, and aim to achieve a shared goal and an integrated government in response to fragmentation (Pollitt, 2003; Christensen & Lægheid 2007). How the Whole-of-Government or Joined-up-Government approach deals with the negative side-effects of specialization depends on the type of strategy. This can stress top-down implementation to organize external coordination between units of a functional 'machine', or a more accommodating strategy working pragmatically and smart together on a mutual basis (Edelenbos & Teisman, 2011). This notion of mutual dependency is central to network theories applied in public administration. Governments depend on resources from a diversity of stakeholders, such as knowledge, skills legitimacy, formal consent and money. Each government depends on several stakeholders with specific resources that cannot be easily substituted. Literature on networks focuses rather on subtle means, conceptualized as network management and interactive policy-making, than classic instruments to integrate the fragmented reality, like law, reorganization and force. *"Network management focuses on strategic attempts to manage interactions between actors and ongoing processes in networks. It is concerned with the interaction between actors and less on goal reaching of any of the participants (Klijn & Edelenbos, 2007). Network management aims to initiate, guide and facilitate interaction processes between actors (Friend et al., 1974), to create and change arrangements with the aim of achieving better coordination (Scharpf, 1978; Rogers & Whetten, 1982; Mandell, 1990; Kickert et al., 1997)"* (Edelenbos & Teisman, 2011: 16).

These activities of network management are part of a process management approach, in which a process design is developed, applied, and if necessary adapted, during the interaction process (Sørensen & Torfing, 2007; Edelenbos & Teisman, 2011). 'Process management' is a particularly Dutch term, in international literature 'mediation' and 'network management' are used. Network studies frequently analyze the main differences between these two management strategies (Edelenbos, Klijn, & Kort, 2009). In this thesis, we will only analyze the concept of process management as a distinct management strategy in Chapter 5. However, the background of this network approach and integration in complex governance processes is essential to understand the position and role of program management in this debate.

Network studies are not only relevant for process management, but have also been directly applied to program structures. As argued in Chapter 6, these network studies on programmatic approaches almost ignore the complexity of interrelated projects and the connection between projects and programs in complex governance processes. This means that network studies miss a focus on vertical integration between projects at program level. However, these network studies provide relevant lessons for the relation between programmatic approaches and strategic networks. Network studies in complex governance processes stress that programmatic approaches go beyond the classic programming approaches and cross boundaries of hierarchical structures. Program structures are perceived as socially constructed constellations of several interdependent actors (O'Toole Jr., Hanf, & Hupe, 1997). The management of programs is primarily focused on integrating the diverse goals from actors involved in collective processes. Network studies stress the evolving relation between relatively autonomous program structures and hierarchical line organizations (O'Toole Jr. et al., 1997; Hall & O'Toole Jr, 2000).

As argued in Section 1.1., new programmatic approaches must deal with both horizontal and vertical integration. Regarding the reasons for fragmentation as argued by Edelenbos and Teisman (2011), the rising expectations for more integration and coherence are an especially important driver for this. In Chapter 4 we argue that the main characteristic of project management seems to also be its key disadvantage: it tends to focus primarily on realizing one single project ambition, suffers from a singular logic and is limited in scope and time. This can become problematic in complex social and governance systems. These systems often contain a variety of problems and a variety of projects. All these projects have to be realized in the same implementation space. This need for mutual adjustment between projects is one of the reasons that the trend of projectification is followed by a move towards programmification. This means that project clusters or portfolios are being created (Koteen, 1997; Maylor et al., 2006) to ensure that individual projects are properly attuned, connected, integrated and coordinated (Koteen, 1997; Crawford et al., 2003; Lycett, Rassau, & Danson, 2004; O'Toole Jr. & Meier, 2004).

Of the three common types of fragmentation we stated at the beginning of this section, the third type is a frequently used argument to come up with a programmatic approach: *(3) managers responsible for one policy domain are organizing implementation processes separately and often without much knowledge about what the managers in other domains are doing.* In complex governance processes, program management also needs to deal with the other two (or even more) types of fragmentation: *(1) different policies are conflicting; (2) different organizations and departments are not working together.*

Program management is often a response to fragmentation because of the specialization taking place in specialized projects for decision-making, policy-making or implementation. Each project specializes in particular issues, bringing together the knowledge and capabilities required to bring the project to the next level.

Perhaps to limit the reader's expectations of program management in this first chapter, we agree with the argument presented by Teisman and Edelenbos (2011) that the desire for integration in governance processes cannot be solved. This implies that programmatic approaches will not end the continuous search for integration in governance processes. Governors and public managers still look for typical solutions in response to fragmentation, such as integrated policy, organizational unity and powerful implementation. *"All these terms seem to imply the idea that someone is in charge and is able to realize integration... and fulfils the wish to 'get renewed control over' and 'be in charge again'."* (Teisman & Edelenbos, 2011: 102). The introduction of a programmatic approach contains several characteristics of typical solutions as presented by Teisman and Edelenbos (2011): as a coordination mechanism (a program as an integrated plan), hierarchy (program management as hierarchic arrangement for several projects), control (program director and/or manager who is in charge of the decision-making of all projects) and organizational order (redefining tasks of project, program and line managers in an all-embracing governmental scheme).

However, program management can be seen as a new attempt to create joint action in complex governance processes. As a result of studies of emergent networks, governance theories *"deliver the pertinent insight that effective steering comes from joint actions – whether in competition, cooperation of both – than from one single organization that is presumably in charge."* (Teisman & Gerrits, 2014: 18). This ambition to deliver joint action is an important driver for program management. Program management differs from e.g. portfolio management by its focus on interconnectedness and coherence. This highlights its synergetic character (Dijkzeul, 1997; Turner, 2000; Pellegrinelli, 2002; Maylor et al., 2006). However, a tension between fragmentation (specialization) and integration is continuously present. Within the context of programmatic approaches in complex governance processes, joint actions are in this thesis analyzed via the concept connective capacity and complexity theories. Teisman and Gerrits (2014) argue that applying complexity concepts and theories is an important driver in the field of public administration for a new understanding of joint actions. We will elaborate on this in Section 1.4.

Table 1.1 provides a brief overview of the four management approaches in relation to fragmentation-integration in governance processes discussed above. Within each of

these management approaches, programs as a concept have a specific role in governance processes. These approaches can also be linked to a dominant paradigm in the field of public administration.

1.1.3 Connective capacity in complex governance processes

The emergence of a programmatic approach is related to the complexity of governance processes in the physical environment. Processes of policy-making, decision-making and implementation in this domain have become rather complex because of a high diversity of actors, fragmentation between interrelated policy domains and uncertainty

Table 1.1 Management approaches in governance processes

| Approach | Specialization | Integration | Role of program | Paradigm |
|---------------------------------|--|---|---|--------------------------------------|
| Line management (LM) | Demarcated tasks and functions, organized in departments | Hierarchical coordination and control | Element of strategic planning and implementation. POSDCORB (Gulick & Urwick, 1937; Taylor, 1947; Fayol, 1963); Implementation (Pressman & Wildavsky, 1973); Strategic Planning (Mintzberg, 1994) | Bureaucracy Scientific management |
| Process management (PCM) | Specialists and resources dispersed over network | Mutual dependency Horizontal integration | Program as network structure (Mandell, 1994; O'Toole Jr. et al., 1997; Hall & O'Toole Jr., 2000). Boundary spanning role in networks | Network approaches |
| Project management (PJM) | Unique task within iron triangle | Project as integration mechanism of specialists | Collect projects via portfolio management (Platje et al., 1994; Cooper et al., 1997; Turner & Müller, 2003; Martinsuo & Lehtonen, 2007). Managerialism: program budgeting and accountability (Crawford et al., 2003; Brunetto & Farr-Wharton, 2003) | New Public Management |
| Program management (PGM) | Specialization via projects | Horizontal and vertical integration | Programs as adaptive governance arrangements (Teisman, 2008; Kallis et al., 2009; Busscher, 2014; Rijke et al., 2014) | Complex governance processes |

about future developments. This thesis addresses that the fragmentation and increasing complexity of these processes is partly due to the way we have organized these, namely as projects in a projectified public management (Chapter 3). When confronted with this kind of complexity, public management considers program management as a relevant approach to create connective capacity in response to fragmentation (Chapter 3; Boons et al., 2009: 237; Busscher, 2014) and to develop an adaptive governance response to uncertainty in relation to e.g. climate change (Bloemen, Reeder, Zevenbergen, Rijke, & Kingsborough, 2017; Haasnoot, Kwakkel, Walker, & ter Maat, 2013; Rijke et al., 2014).

This thesis considers program management's capacity to deal with complexity during the evolution of two programs: Policy with Citizens (PwC) and Amsterdam Metropolitan Region (AMR). Besides the non-linear dynamics of governance processes, an understanding of self-organization and coevolution are key in an evolutionary public management (Teisman, Van Buuren, & Gerrits, 2009). In Section 1.3, we elaborate on the main concepts of this complexity perspective and their relevance to analyze how programs develop in complex governance processes.

To have impact on adapting complex governance processes, program management depends on other actors, that are often organized as project management and line management. As argued above, the complexity perspective as applied in this thesis considers complex governance processes in a flux, in which continuously changes take place (Edelenbos & Teisman, 2011: 16-17). This implies program management is an instrument of adaptive governance (Teisman, 2008; Kallis et al., 2009; Busscher, 2014; Rijke et al., 2014).

Within the dynamics of complex systems, projects are carriers of innovation, while line organizations and strategic networks (like ministerial departments) are more directed at stabilization in the long term. However, the impact of each individual project on complex governance processes can be rather limited. As argued above, fragmentation between projects is a major issue in complex governance processes, which hinders adapting governance to new demands. To be more specific, in the governance processes studied for this thesis, it appeared that a lot of projects are initiated and managed by a specific sector, within a broad range of relevant sectors in the physical environment. This can lead to a more inward sector orientation, losing sight of the actual adaptations needed to cope with changing circumstances. For example in relation to changing governance landscapes, like the increasing international competition between metropolitan regions, it can be questioned whether highway projects like A4 Midden-Delfland and A6-A9, are directed at and have an actual

impact on the area's metropolitan development (see Chapter 5). Or are they rather an expression of what is urgent for the department and the interests they represent? The other case study, the Policy with Citizens program, also deals with fragmentation between a high diversity of sector oriented projects (see Chapter 3).

To be able to deal with fragmentation, program management faces a challenge to create connective capacity in complex governance processes. Although fragmentation between projects is an important driver for programmatic approaches to emerge, connective capacity of program management is not only about the relation with projects. It is discussed above that in this study, program management is typically operating between projects and strategic networks. This makes line management of organization(s) included in the strategic network, one of the main actors in the capacity of program management to connect in complex governance processes. Moreover, the context of complex governance processes implies diverse stakeholders are involved in these processes. Considering the decentralized organization of Dutch spatial planning, it is logical that local and regional governments are important stakeholders in the process about Amsterdam Metropolitan Region. Businesses, represented by e.g. the Chamber of Commerce and NGO's like Natuurmonumenten, also have a role in the governance process to adapt this region. In the Policy with Citizens program about cocreating policy with citizens, inhabitants of the Netherlands are relevant stakeholders. In the beginning of the program, they were mainly represented via consultants who reported on the input of citizens. Regarding the above, we agree with Pellegrinelli et al. (2007) that most program managers act in a vulnerable environment of mutual interdependencies (see also Chapter 6). Most standard approaches of program management assume a rational environment, while diverse initiatives and fluid alliances characterize program management in the current governance setting (Pellegrinelli, 2002). Standard approaches focus on setting and realizing objectives by executing procedures. These trivialize the connections needed with the programs' strategic environment (Pellegrinelli, 2002).

Considering that the concept connective capacity is an attribute of someone or something (Edelenbos, Bressers, & Scholten, 2013: 8), we need to specify the concept and how it is applied in this thesis. First of all, we consider connective capacity as a building block for governance capacity (see Chapter 6, Innes & Booher, 2003; Edelenbos, Van Buuren & Klijn, 2013; Edelenbos & Teisman, 2013; Van Meerkerk, Edelenbos & Klijn, 2014; Edelenbos & Van Meerkerk, 2015; Gieske, Van Buuren, & Bekkers, 2016).

Connective capacity has many components: personal, relational, organizational and institutional (see Edelenbos et al. 2013; Foster-Fishman et al., 2001; Leach & Pelkey, 2001; Innes & Booher, 2002; Williams, 2002; Sabatier, et al., 2005 ; Weber et al., 2007). As argued by Edelenbos et al. (2013), connective capacity revolves around several carriers of connectedness. These carriers can be connecting arrangements (such as institutions), actors (for instance, individuals) and approaches (such as instruments). These three carriers of connectedness align with the levels of governance capacity as discussed in more detail in Chapter 2. In this thesis, connective capacity is addressed as an capability of program management. As a reader of this introductory chapter, you may have observed that we sometimes refer to program management as institutional arrangement, actor and approach. As an *institutional arrangement*, program management is considered as a temporary organization which operates close to the ministerial departments. We have also referred to program management as an *actor*. Program managers and other members of the program team are facing the complexity of interdependencies between projects. Finally, this thesis is also about connective capacities of program management as an *approach*, as discussed in the introduction.

This thesis takes all three aspects (institutional, actor, approach) into account in studying connective capacity as capability of program management. In the continuation of this section we aim to provide overview of how we have applied connective capacity and where more background to the concept is to be found in this thesis. As pointed out above Chapter 2 provides background to the concept of governance capacity. In particular in the case Policy with Citizens a need for connective capacity in the governance process becomes clear. In the analysis it is pointed out that in this case program management initiates a lot of projects without strong connections to line management. Also the temporality of relations has been addressed in this case study.

In their publication about the connective capacity of water governance, Edelenbos et al. (2013) distinguish five focal points (see Table 1.2). (1) government layers and levels; (2) sectors and domains; (3) time orientation of the long and the short term; (4) perceptions and actor frames; (5) public and private spheres. These focal points are regarded as objects of fragmentation and integration. They are not only relevant for water governance, but also to the comprehensive domain of governance of the physical environment. Considering the relevance of the five focal points of connective capacity for the context of the physical environment, it is probably no surprise that we apply these focal points in the case studies. Table 1.2 provides an overview of the focal points of the connective capacity addressed in next chapters.

Table 1.2 Overview of focal points of connective capacity in this thesis

| Focal point | Chapter | Brief description |
|---|----------------|--|
| (1) government layers and levels | All | Layers of adaptive governance processes (see above) |
| | Chapter 2 | Analysis of governance capacity in change processes within complex governance networks |
| | Chapter 3 | In Policy with Citizens (PwC) the ministry also deals with issues addressed by citizens that are tasks of other government layers (Chapter 3, project Citizens Agenda) |
| | Chapter 4-5 | The case Amsterdam Metropolitan Region (AMR) deals with multilayered governance in metropolitan development (national, regional, local) |
| (2) sectors and domains | Chapter 2- 3 | Case PwC: Spatial Planning, Environment, Housing |
| | Chapter 4 - 5 | Infrastructure (Road + Rail), Spatial Planning, Nature, Housing, Business District (missing air traffic and water) |
| (3) time orientation | Chapter 3- 4 | Different focus and time orientation of project management, program management and strategic network |
| (4) perceptions and actor frames | Chapter 2 | Role of perceptions and actor frames in change processes |
| | Chapter 3 - 4 | Chapter 3 (PwC) and Chapter 4 (AMR) discuss perceptions about program management by project managers, line management and other stakeholders |
| (5) public and private spheres | Not specific | The cases contain several relevant aspects of the public private sphere. PwC: outsourcing projects to consultancy and linking public policy processes with integral citizens perspective AMR: businesses and NGO's participate at project level, not program level |

However, as a result of the focus on the connective capacity of program management, we have made a different selection of focal points. This thesis does not focus on the traditional layers of government, considered as focal point by Edelenbos et al. (2013), but on management layers in complex governance processes. The line of reasoning for this is discussed in Section 3.2. By analyzing connective capacities in this thesis, we focus on project management, program management, strategic networks and in

particular on their interactions and boundary management. We have studied connective capacities in the following tracks:

- Relation between projects and program;
- Relations between program and line-organizations in the strategic network.

The five focal points of connective capacity as applied by Edelenbos et al. (2013) are considered within each of these tracks, as shown in Table 1.2.

The definition by Edelenbos et al. (2013) emphasizes that connective capacity counters fragmentation by crossing boundaries and by establishing linkages (Edelenbos et al., 2013). This thesis especially deals with connective capacity related to linking boundaries at different system levels in complex adaptive governance processes. Program management operates between the projection of concrete activities by project management and the more abstract considerations by line management. Program management faces the challenges of dealing with the boundaries of projects and strategic networks, while demarcating its own boundaries and ambitions in complex adaptive processes. Project management, line management and program management operate at different levels of scale, with other levels of projection and abstraction. They have different frames about the adaptive processes they operate in and other perceptions about e.g. the role of program management in these processes. This means the connective capacity of program management must deal with boundaries: stretching them, pushing against them, synchronizing and letting go of connections. Moreover, program management needs to make sense of the program as a relevant approach in complex adaptive processes (see Chapter 3). Program management, project management and strategic networks are in this thesis each considered as an action system. We elaborate on the meaning and application of action systems in Section 1.4.3. In Section 1.4.4 and 1.4.5 we discuss connective capacity from a complexity point of view. This is a continuation of the exploration of the complexity perspective as presented in Chapter 6. The complexity perspective has been applied to two cases in Chapter 7, resulting in an evolutionary analysis of the development of both programs and their connective capacity (Chapter 7).

In this thesis we derive five types of connectivity and boundary management that are relevant for the connective capacities of action systems in complex governance processes. We apply these to the analysis of the tracks 'projects – program' and 'program – strategic network' in Chapter 7.

Connection: the mutual beneficial relationship between two action systems in the governance process. This means the relation helps both actions systems to achieve their objectives in the governance process;

One sided relation: in this relation, one of the action systems is supported by another action system to achieve its objectives ;

Latent relation/connection: in the context of the case, a potential connection has been identified, which is not exploited by the involved action systems;

Transitional connection: interaction pattern resulting in a new round in the evolution of connective capacity in the specific case study;

Broken connection: disadvantageous relation between two action systems in achieving the program objectives in the governance process.

This thesis defines ‘connective capacity’ as the capabilities of program management (institutional, approach and actor) to:

- Counter fragmentation by creating synergy between relevant projects;
- Engage line management and other relevant stakeholders in the strategic network;
- Make sense of its own role and the relevant systems; and
- Find balance in the intensity of the above relations in the light of adapting complex governance processes in the physical environment.

1.2 RESEARCH QUESTIONS

It is argued above that a new type of programmatic approach has emerged in public management. In complex governance processes in the physical environment, program management arose in a response to fragmentation and increasing complexity. As a new temporal arrangement, program management is positioned between project management and strategic networks in adaptive governance processes. In dealing with the complexity of these processes, program management needs to address the challenge of connective capacity. This results in the following main question for this thesis:

What are the connective capacities of program management to deal with complexity in adaptive governance processes regarding the physical environment?

To answer this main question, this thesis needs to answer three subquestions. We have already briefly introduced program management as an approach. To be able to answer the main question, it is relevant to have a more in-depth understanding of the

background of program management and what types of program management are relevant in the context of this study. This results in following subquestion:

Subquestion I

How does program management emerge in complex governance processes and what types of program management can be distinguished in complex governance processes?

As mentioned in the main question above, this thesis is also about dealing with complexity in governance processes. We have already explained that this complexity perspective makes it relevant to apply an evolutionary approach to analyze the connective capacities of program management. The way program management evolves during governance process is addressed in the second subquestion:

Subquestion II

How do the connective capacities of program management evolve in complex governance processes and which strategies and logics influence this evolution?

A complexity perspective can bring new insights in how processes evolve and how actors can deal with the dynamics in these processes. To consider how program management deals with complexity, it is relevant to analyze the behavior of program management and exogenous process dynamics from a complexity point of view.

Subquestion III

How can the evolution of the connective capacities of program management be understood from a complexity point of view?

By answering these research questions, we aim to enhance the knowledge about the evolution of connective capacities of program management. Section 1.3 discusses the structure of this thesis and provides insight in how the subquestions are related to the chapters of this thesis.

1.3 EXPLAINING THE STRUCTURE

This thesis brings together lessons learned from a multiannual study of connective capacities of program management in complex governance processes in the physical environment.

These lessons are presented in the following chapters, which were originally published as scholarly articles. Chapter 2, 3, 4 and 6 were respectively issued in *International Public Management Review* (IPMR), *Public Administration Quarterly* (PAQ), *International Journal of Project Management* (IPJM) and *Emergence: Complexity and Organization* (E:CO). Chapter 5 has been published as a chapter in an edited book (Teisman et al., 2009). Except for the article in E:CO, the writing of the articles was a joint effort with the supervisors of this thesis and other academics. Therefore, the pronoun 'we' is used throughout the study to refer to the perspective of the writers. As the author of this thesis, I have collected all data for the cases Policy with Citizens and Amsterdam Metropolitan Region and I have written Chapter 1, 7 and 8 in retrospect. The contributions of supervisors and other authors have enriched my understanding and knowledge on these issues. For example, by comparing with other cases such as Decision-Making of the Scheldt (Chapter 2) and Metropolitan Development of the Randstad (Chapter 5), positioning this study within the fragmentation-integration debate in public administration (Chapter 3), cooperative relations (Chapter 4) and complexity theory (Chapter 5).

As Chapters 2-6 have already been published as a separate article or chapter, each of them can be read on its own. A disadvantage of this thesis structure is that there is some overlap between the chapters. Overlap is also stemming from the evolving character of the research and application of two case studies, which are also compared with other cases in Chapter 2 and 5. Table 1.3 provides an overview of each of the chapters in relation to the research questions.

The following sections of this chapter define how this thesis applies program management, connective capacity and complexity. We also explain the background of fragmentation in governance processes of the physical environment. Section 1.4 discusses program management in an era of complexity and Section 1.5 considers the methodological issues and constraints of the study as a whole. This is followed by a guide to the reader in Section 1.6.

Table 1.3 Overview of research questions and cases by chapter

| <i>Chapter / Subquestion</i> | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|--|---|--|--|
| I Emergence and types of program management (PGM) | | Background PGM in strat. planning, implementation, networks and response to fragmented projects | PGM in response to fragmented projects 3 types of PGM: Light coordination Shared service Integrated strategy | | Theoretical background of emergence of program management | Analysis emergence of PGM in case studies, linked to theory |
| II Evolution of connective capacity of program management | Theoretical background of governance capacity Evolution of PwC in several rounds | In-depth study about development of relations projects-program-strategic network in case PwC | In-depth study about development of relations projects-program-strategic network in case AMR | In-depth study of management strategies for integrated metropolitan governance in AMR | | Analysis of how connective capacity evolves in both cases in multiple rounds |
| III Complexity view on connective capacity of program management | Emphasis on change and consolidation in governance networks | Coevolutionary patterns between project management, program management and strategic network | Cooperation among projects and between project management and program management | Complexity and self-organization theory Analysis of management types in governance process | Complexity theory in relation to evolution of PGMs connective capacity Patterns of conservative and dissipative self-organization | Analysis of coevolution of management types. Analysis of self-organizing patterns in connective capacity of PGM |
| Case | Policy with Citizens and Scheldt Estuary | Policy with Citizens (PwC) | Amsterdam Metropolitan Region (AMR) | Randstad Region, including AMR | | PwC and AMR |

1.4 BACKGROUND: DEFINING PROGRAM MANAGEMENT IN AN ERA OF COMPLEXITY

1.4.1 Studies about program management and complexity

Rijke et al. (2014) argue that dealing with complexity is new to research about program management, although more commonly applied in governance research and organization studies. They recommend *“further investigation of the applicability of the insights about dealing with complexity from, for example, the governance and organizational literature, for program management.”* (Rijke, et al., 2014). Recently Castelnovo and Sorrentino (2017) have applied a complexity-based lens to the local implementation of a public program, to understand the possible misalignment of local outcomes with objectives at national level. They argue that recognizing a program as a self-organizing system that breeds emergence and coevolution, helps to identify potential threats for a program and supports operational success. Public managers in these processes need to engage with complexity instead of trying to reduce complexity (Castelnovo & Sorrentino, 2017).

These recent studies about program management in relation to adaptation and complexity put forward key arguments to sum up the endeavor of this thesis. They not only demonstrate the relevance of complexity theory to study the dynamics of program management, but also that a lot is still unknown and to be learned about program management in an era of complexity. This thesis can be seen as a contribution to this knowledge gap. It discusses how program management evolves, more specifically its connective capacity, in complex governance processes.

1.4.2 An era of complexity

To call the current period an era of complexity requires an explanation. As a Ph.D. student, I had the luck to be part of a research group which did not want to rest on the laurels of leading professors in studies about network governance. Complexity was already used in network governance to label the state of being of governance processes, although without providing much explanatory power (Teisman et al., 2009: preface). Network researchers recognize that networks are both stable and dynamic, but their conceptualizations and empirical studies focus on the former. Stability over time is often cited as a major characteristic of networks, in which relations are described in static terms (Morçöl & Wachhaus, 2009; Morçöl, 2012). Complexity theory brings a dynamic and evolutionary dimension to the study of networks in public administration (Teisman et al., 2009; Morçöl & Wachhaus, 2009; Gerrits, 2012; Morçöl, 2012). This makes it a relevant framework to analyze how connective capacities of program

management evolve over time in governance processes. We agree with Boons et al. (2009: 232):

“Coordination is not designed as a stable mechanism, but much more of an evolving process because of the dynamic interactions between self-organizing participants in governance processes, management interventions and unmanageable internal and external dynamics.”

As argued by Teisman et al. (2009), stability of governance systems seems to be the exception rather than the rule. This is also recognized in a recent study about the dynamics of public programs. These programs are in state of constant flux, driven by feasibility and the actions and interactions of all actors and stakeholders involved (Castelnovo & Sorrentino, 2017). Processes seem to unfold in unique and non-replicable ways, making it difficult to learn from successes and failures. One issue which is often emphasized to underpin this complexity is the failure of straight-forward infrastructure projects (Teisman et al., 2009; Gerrits, 2012). Project management-based approaches often ignore complexities. It seems that chance and coincidence play an important role in failing of projects, *“unforeseen things happen, resulting in unforeseen outcomes”* (Gerrits, 2012: 10). In public administration, many applied methods for governing processes are not necessarily methods of understanding and resolving complexity (Morçöl, 2012). Rational comprehensive methods in complex processes often ignore interdependencies, take shortcuts and apply simple routines. Morçöl (2012) argues that this approach of dealing with complexities may lead to further complications. Gerrits (2012) explains that the social realm is populated with humans who will respond to these complications and argues that these responses will provoke new reactions that require yet more responses (Gerrits, 2010, 2012). *“In other words: actions resulted in new circumstances that demanded new actions and the degree of complexity increased in step with these changes”* (Gerrits, 2012: 18). Complexity theories analyze these interactions in terms of interdependencies between systems, subsystems and processes, including how these evolve over time. Complexity comes down to that the real world consists of multiple elements, of different types, that are related, though sometimes loosely and whose mutual relationships are changeable over time (Gerrits, 2012: 16). Thus, the complexity of this world arises from the fact that the world is an enormously diverse place where local interactions between elements always render new and different outcomes.

This also has implications for applied methodologies, since emergent structures and evolving processes cannot be derived from an analysis in a linear fashion. This calls for a longitudinal and detailed approach to research (Buijs, Eshuis, & Byrne, 2009; Gerrits, 2008, 2011, 2012). Section 1.5 elaborates on the methodological considerations of this thesis.

This thesis will not provide a complete overview of all studies about complexity in public administration, nor will we unravel the complete background of theories of complex systems. A recent overview of the current state of affairs of complexity theory in public management can be found in Eppel and Rhodes (2017). Comprehensive studies about the background of complexity in relation to public management and policy are Teisman et al. (2009), Gerrits (2012) and Morçöl (2012). In this thesis, we apply complexity theory to gain insight in how program management evolves parallel to other management strategies and how it creates connective capacity in complex governance processes with a self-organizing character.

In next sections, we will apply insights from complexity theories to action systems in complex governance processes (Section 1.4.3). Self-organization patterns in governance processes are discussed in Section 1.4.4, including implications for the connective capacity of program management. Additionally, in Section 1.4.5 we discuss how the concept of coevolution helps to understand the dynamic relation between program management, project management and line management. These concept will be applied in Chapter 7 to analyze the empirical results of studied cases. In the concluding chapter, we will use the empirical results of this thesis to set out the added value of this complexity perspective for the fragmentation – integration debate in public administration.

1.4.3 Programmatic action systems in complex governance processes

The analytical lens of this thesis builds upon the concept of action systems (Crozier, 1964). The idea behind this concept is that individuals and teams are more than compliant components of an organization, since they produce social processes and norms by themselves (Hinssen, 1994). Action systems are about interrelated actions with a temporal, intensive, marked and meaningful character (Clarke & Crossland, 1985; Teisman, 2008). Much of daily life takes places in action systems, like projects or family relations. The activities of several individual actors, but also of groups or several organizations together, can be considered as a specific action system (Clark & Crossland, 1985; Teisman, 2008). In these action systems, organizational structures and processes are inextricably connected and center temporarily around specific

substantive issues (De Rynck, 1994). Development and outcome are enabled by interaction processes between contributors of action systems (Clark & Crossland, 1985). This also means that actions by individual actors as part of these action systems are not neglected, since they can influence the interaction in these processes. This aligns with the integrated perspective on carriers of connective capacity as pointed out in Section 1.1.3, including institutional arrangements, actors and approach.

Network studies consider action systems as more or less stable interaction patterns to interpret decision-making about policy issues with dispersed resources (De Rynck, 1994; Kickert et al., 1997). Network analysis mainly applies the concept of action systems to consider network structures at one or several moments in time (De Rynck, 1994). In applications of complexity theory in complex governance processes, the notion of action systems is extended to more continuous longitudinal observation (Gerrits, 2008; Buijs et al., 2009). In this thesis, programs are considered as action systems. In these action systems, program management is considered as a key actor in guiding programmatic action systems. It is however not the only actor operating in programmatic action systems. As we have seen in Section 1.1, the activities of project management and strategic networks are also relevant for how programs evolve. Moreover, other actors involved in complex governance processes will affect the programmatic action system by their initiatives, plans and visions. Projects, for example, can be seen as an action system on their own, guided by project management as a key actor. Since several action systems, such as projects and programs, are also interrelated, none of them is able to govern the complex governance processes in which they operate.

In a complexity perspective, action systems consist of multiple actors and can grow and shrink, merge and subdivide over time (Flood, 1999). Action systems are certainly not closed, its entities are dynamic and interact with other entities (Cilliers, 1998). In its essence, a programmatic action system is considered as a socially constructed system within a complex governance process. Action systems are able to develop their own perception of complex governance processes, to make sense of this and act accordingly (Teisman, 2005, 2008): *“Each action system consists of subsystems and is embedded in larger systems. Each system embedded in a larger system develops its own sense-making and action. If it is confronted with a process it will reinterpret (consciously or unconsciously) what the process is about and how to get on with it”* (Teisman, 2008: 344). Complexity theory assumes that complex processes contain a diversity of structures, content and processes. Individual actors contribute to their creation and are also influenced by them. The elements of structure, content and process are mutually

interrelated, which makes it complex to create an image of these systems and their boundaries (Flood, 1999: 72).

Boundaries of action systems in complex governance processes are defined by so called boundary judgements. These judgements are mental maps employed by managers to define, at a specific moment in time, which actors are part of the action system, which issues and dilemmas are considered in the action system and which goals are being pursued (Flood, 1999: 65). In this context, it is important to be aware that these mental maps vary per type of action system, like project and program. Gerrits (2012: 47-48) points out that boundary judgements set demarcations between a system and its environment, which defines the problem-and-solution space of an issue. Altering those boundaries enhances the understanding of the systemic nature of the issue. Chapter 7 will set out how the boundaries of the studied programs alter over time and how this affects connective capacities of program management. As an action system evolves, these boundaries can be considered from different perspectives. This results in multiple narratives of this action system and the complex governance process in which it operates. In the studied governance processes, this means that line management within the strategic network and project management can have different views on the demarcations of programs and their problem-solution-space.

1.4.4 A self-organization perspective on complex governance processes

The explanation of individual and collective action in relation to the programmatic action system, clarified that none of the involved actors can govern complex governance processes. Chapter 5 demonstrates this in the development of metropolitan regions. Not one of the discussed actors or action systems is fully in charge of the governance of Amsterdam Metropolitan Region. As argued in Section 1.4.2, these processes evolve depending on how the diverse (fragmented) elements in these processes interact. In governance processes, these elements can be both actors and action systems. Fragmentation and a desire for integration in these complex governance processes gives rise to a need for connective capacity of action systems operating in these processes. As pointed out in Section 1.1.2: *“to be able to come to effective steering in complex governance processes, there is a need for joint action - whether in competition, cooperation or both – rather than one single organization that is presumably in charge.”* (Teisman & Gerrits, 2014: 18)

Considering the evolutionary study of above dynamics in relation to program management in complex governance processes, it is relevant to apply a self-organization perspective to these dynamics. Self-organization is a core concept in network, adaptive governance and complexity theories (Ostrom, 2005; Teisman et al.,

2009; Morçöl & Wachhaus, 2009; Morçöl, 2012; Gerrits, 2012). In the common understanding of these theories, networks, complex systems and processes can organize themselves. Morçöl and Wachhaus (2009) argue that self-regulating (or self-organizing, self-steering) networks are a recurrent theme in literature (e.g. Rhodes, 1997; Koppenjan & Klijn, 2004; Agranoff, 2007). In this section and especially in Chapter 5 and 6, the concept and application of self-organization will be discussed in more detail. First, it is relevant to define this concept. According to Gerrits (2012: 128) the definition by De Wolf and Holvoet (2004: 7) is a relevant working definition, which summarizes its most important characteristics: *“Self-organization is a dynamical and adaptive process where systems acquire and maintain structure themselves, without external control.”*

Considering this definition, we briefly explained the absence of external control in action systems in Section 1.4.3. Another striking element is the twofold aspect of acquiring and maintaining structure in self-organization as a process. This is relevant for a complexity perspective of self-organization. As argued by Morçöl and Wachhaus (2009), network studies in public administration and policy studies particularly describe self-organization in static terms, whereas complexity theory projects a dynamic view about how boundary management and interactions evolve in governance processes. Morçöl (2014) summarizes the conceptualization of Cilliers (1998) to explain a dynamic understanding of self-organization:

“The capacity of self-organization is a property of complex systems which enables them to develop or change internal structure spontaneously and adaptively in order to cope with, or manipulate, their environment” (p.90). “In other words, a self-organizing system not only reacts to its environment, but also transforms itself through interactions with its environment” (p.108). “Self-organization is a self-transforming process; the system acts upon itself” (p.108). (Morçöl, 2014: 16, in reference to Cilliers, 1998: 90-108)

In Chapter 5 and 6, this dynamic character of self-organization is interpreted via conservative and dissipative patterns of self-organization. A distinction applied by many complexity theorists (Jantsch 1980, 1981; Probst, 1987; Heylighen, 1989; Van Olffen & Romme, 1995; Grothe, 1997; Wible, 2000; Fuchs, 2002; Farazmand, 2003; Mitleton-Kelly, 2003). Before we will apply these two types of self-organization later in this thesis, we will first discuss their relevance for complex governance processes.

As argued above, fragmentation is an inevitable characteristic of governance processes because of specialization. Governance processes take place at the boundaries,

or in between the boundaries, of organizations. As argued by Edelenbos and Teisman (2011), with reference to Luhmann (1982, 1990, 1995) and Moss Kanter (1983), interactions around these boundaries are mainly to confirm identity, autonomy and interests. Organizations often strive for autonomous space and maintaining, defending or enlarging that space. This search for autonomy in social sciences is coined as autopoiesis by Luhmann. In terms of complexity theory, this type of non-governed behavior of elements in complex systems is referred to as conservative self-organization (Teisman et al., 2009). This type of behavior enables fragmentation in complex governance processes. A feeling of controlling the action systems' activity is a powerful driving force for people in these processes, i.e. *"Organizations seek to transform confusing, interactive environments into less confusing, less interactive ones by decomposing domains and incline to treat their own subdomains as more or less autonomous."* (Edelenbos & Teisman, 2011: 12). For the specific action systems, this behavior is also recognized in literature about specific management types. In literature for example, the concept 'program rationale' has been applied to discuss the commitment to a program as an action system (Mandell, 1994; see Chapter 3). In relation to project management in Chapter 3 and elsewhere in this thesis, terms like 'no project is an island' or 'myopic visioning' are used to interpret self-referential behavior by project management in complex governance processes. For program management, this latter type of overspecialization contains the risk of becoming a collection of loosely linked projects without a clear narrative about their own activities.

In the above definitions of self-organization, the autopoietic or conservative type of self-organization can be recognized by self-referential behavior in relation to preliminary set boundary judgments, focused on maintaining the organization (structure, processes and content) of an action system. At the same time, there are indications that action systems can adjust to demands or changing circumstances (Cilliers, 1998; Heylighen, 2001), resulting in the emergence of new structures enforced by local interaction, without the imposition of any external or internal actors (Jantsch, 1980; Cilliers, 1998; Heylighen, 2001). Dissipative self-organization enables spontaneous change and adaptive behavior in interaction with the environment. As argued by Morçöl and Wachhaus (2009), evolving networks can also be considered as dissipative structures; action systems may decay or transform themselves into different forms of organization. Understanding could be enhanced by tracking the dissipative processes that transform networks and generate different levels of organizational integration in them (Morçöl & Wachhaus, 2009). Dissipative self-organization focuses on how complex governance processes and its action systems come about, develop and change (Teisman & Edelenbos, 2011). These processes evolve out of events, actions and

interactions and contribute to creating new institutional structures (Teisman et al., 2009). Dissipative self-organization is guided by the freedom of choice and reflexive capacity of actors and action systems that are able to receive, encode, transform and store information. They can use this information to consider their actions (Teisman et al., 2009: 9) in relation to system boundaries and potential connections. According to Teisman and Edelenbos (2011), this type of interaction is crucial for integration in complex governance processes. They conceptualize integration as a multi-sided interaction process of self-organization of several actors that are partly in charge. Integration in complex governance processes requires, amongst others, productive mutual adjustment between approaches of action systems (program management and project management) and functional line management.

Both conservative and dissipative self-organization are relevant for understanding the dynamics of action systems in complex governance processes (see Chapter 5 and 6; Boons et al., 2009; Morçöl & Wachhaus, 2009; Boonstra & Boelens, 2011; Teisman & Edelenbos, 2011; Van Meerkerk et al., 2013; Bressers & Edelenbos, 2014). In Chapter 7, we apply these conservative and dissipative patterns to connective capacities of program management in complex governance processes. The Table 1.4 provides an overview:

Table 1.4 Patterns of self-organization applied to connective capacity of program management

| Self-organization type | Conservative self-organization | Dissipative self-organizations |
|------------------------------------|---|--|
| Objectives | Self-referential to own objectives | Integrating objectives of diverse actors in collective processes |
| Adaptivity of action system | Strict boundary management of action system | Searching for connectivity beyond boundaries of action system |
| Type of connectivity | Stable and static | Dynamic and open |

1.4.5 Coevolutionary patterns between management approaches

As explained above, and more explicitly in Chapter 5 and 6, the concept of self-organization provides us insight in how a programmatic action system evolves in a complex governance process. This includes a dynamic perspective of conservative and

dissipative patterns in the boundaries and connections of program management. The mutual adjustments between different management approaches in complex governance processes brings us to the concept of coevolution. By combining self-organization and coevolution, we try to provide a comprehensive analysis of the complexity of the cases. The concept of coevolution provides relevant insight in coevolution between project management, program management and line management. The characteristics of, and relations between, these different management types have been discussed in Table 1.1. In next chapters, we address different types of relations between these types of management in the empirical case studies.

The concept of coevolution helps to understand how an action system evolves in relation to its environment (Morçöl, 2012). It emphasizes the mutual dependency of systems and their environment and the mutual dependency between components of systems. Coevolution enables analyzing the reciprocal relationships between groups of organisms (Odum, 1971; Norgaard, 1984); mechanisms (Edelenbos & Eshuis, 2012) or the interaction between physical and social systems (Norgaard, 1984; Gerrits, 2008; Kallis & Norgaard, 2010; De Roo, Hillier & Van Wezemaal, 2016; Tempels, 2016). In this thesis we apply coevolution to gain insight in the reciprocal patterns in connections and demarcations between action systems in complex governance systems. These action systems are all forms of (temporal) organizations: project management, program management and strategic networks. Hence, we will follow the definition of coevolution as provided by Uri Merry:

“When there is interdependence between organizations, this drives them to adapt to and suit themselves to the behavior of each other – to coevolve. Coevolution is the evolutionary mutual changes of species (or organizations) that interact with each other.” (Merry, 1999: 272)

In general, we can distinguish between two types of coevolutionary processes: symbiotic and inferential coevolution (Odum, 1971). Symbiotic coevolution indicates a mutually reinforcing relationship between action systems; interferential coevolution indicates a mutually weakening relationship between action systems (Teisman et al., 2009; Edelenbos & Eshuis, 2012). In Chapter 7 it will be considered if relevant coevolutionary patterns can be derived in the relations between discussed management approaches.

1.5 RESEARCH APPROACH

1.5.1 Introduction

In Section 1.4 we discussed the theoretical background of connective capacity of program management in complex governance processes. In next chapters, we will elaborate on this theoretical background combined with empirical results. Chapter 2 and 3 will discuss the methodology as applied in the case Policy with Citizens and Chapter 4 explains the methodology for Amsterdam Metropolitan Region. In this section, we will discuss a more generic background of methodological aspects of this thesis.

1.5.2 Background to the methodological perspective

The methodology to research complexity in this thesis is based on case study and action research based approaches (see also Buijs et al., 2009). Case study research aims at understanding one or more cases of a phenomenon in their natural context (Yin, 1984). In social sciences, it needs to be considered that cases are likely to be purposive, 'even having a self' according to Stake (1995: 2). The case itself is a bounded and integrated system with boundaries and working parts, which makes programs clearly prospective cases (Stake, 1995: 2). Detailed knowledge about a social phenomenon is obtained by observing and studying a phenomenon in its own environment during a certain period. Case studies are useful for complexity research because they provide the opportunity to research an entire social system and all its elements as a coherent whole (see e.g. Flood, 1999). It also gives the opportunity to study the case in detail, which is useful when one tries to understand the full complexity of a case. Lastly, since context is important in complexity studies, it is essential that case studies aim at studying cases in their natural context. In situated complexity research, it is assumed that a case and its context are strongly interrelated. Events and concerns that at first belong to the context of the case, become embedded in the case study if they appear to influence the case's development. Progressive contextualization (Vayda, 1983) or judgement of boundaries (Flood, 1999), both by actors and the researchers, are relevant to consider when the behavior of actors outside the case becomes pertinent during the research (Buijs et al., 2009). Boundaries of the case will be adjusted when new actors or events become relevant during the research. This means the cases' boundaries are considered as dynamic and temporary.

In social sciences a postpositivist (Yin, 1984, 2014), pragmatic constructivist (Merriam, 1998, 2009) and constructivist/interpretivist perspective (Stake 1995, 2006) are considered as the main philosophical orientations to approach case studies (Harrison, Birks, Franklin, & Mills, 2017). This thesis can be positioned in the

constructivist orientation, in between Merriam and Stake. This constructivist approach assumes that reality is constructed intersubjectively through meanings and understandings developed socially and experientially. Each of the specific cases align with the constructivist/interpretivist perspective on their own. Stake emphasizes discovering meaning and understanding of experiences in context. An interpretative position views reality as multiple and subjective, based on meanings and understanding (Harrison et al., 2017). In this thesis we reflect on the different views the actors in program management, project management and strategic network hold on the program as a case. To enhance knowledge of program management and connective capacity as phenomena, this thesis provides both an analysis of each case and a theoretical and historical background (Merriam, 1998; Harrison et al., 2017). Subsequently the results from both cases are brought together (see Chapter 7).

1.5.3 Case selection

The choice of the cases for this thesis fits in the above constructivist tradition and is based on an instrumental selection. Stake (1995) distinguishes between intrinsic, instrumental and collective case studies. Instrumental case studies are motivated by a need for understanding a phenomenon from which we can get insight by studying a particular case (Stake, 1995; 2006; Harrison et al., 2017). This was argued above for the issue of programmification in complex governance processes in relation to specialization and integration.

Stake brings 'to maximize what we can learn' forward as the most relevant argument for selecting cases. In this research we have approached the selection of cases as an evolving process. First demarcations of the research topic for this thesis have been developed in projects for TNO, like the learning process for WaterInnovatieBron (see Duijn, 2009). As a next step, we selected Policy with Citizens and Amsterdam Metropolitan Region as cases for this thesis. Considering limitation of time and access, the selected cases needed to be hospitable to our research (Stake, 1995). Above all the cases were selected to study the phenomena of program management and connective capacity in complex governance processes. We did not select other potential cases which were more focused on technological system innovations or learning processes, because of their deviant approach or focus. For example, a learning process about collaboration for sustainable rural development (see Slob, Buijs, Edelenbos & Haarmann, 2007) was not selected, since it does not include a programmatic approach.

Also for multiple case studies the opportunity to learn remains the most important selection criterion. Stake (1995: 6) argues balance and variety are key for selecting multiple cases. In Table 1.5 we provided an overview of both cases. The selection of these cases is balanced regarding the focus on program management to enhance coherence in complex governance processes in the physical environment.

Table 1.5 Overview of the cases PwC and AMR

| Case | Policy with Citizens (PwC) | Amsterdam Metropolitan Region (AMR) |
|--|--|--|
| Goal of the program | Enhancing citizen orientation in the policy processes of VROM | Enhancing metropolitan development of AMR via integrated decision-making |
| Home organization | Ministry of Housing, Spatial Planning and the Environment (VROM) | Ministry of Transport, Public Works and Water Management |
| Stakeholders in strategic network | Internal departments within VROM, parallel trajectories in other national departments, consultancy organizations with expertise about citizen orientation, NGOs in relation to the policy issues | Ministry of VROM; Ministry of Economic Affairs, Ministry of Agriculture, Nature and Food Quality; Ministry of Finance; Provinces of North Holland, Utrecht, Municipalities of Amsterdam, Utrecht, Almere and several other municipalities; Schiphol Airport, NGOs and business representatives |
| Projects | Diverse range of citizen orientation projects (see case analysis) | Static selection of 8 projects |
| Duration | 2003-2010 | 2003-2008 |

In both cases, program management aims for including new actors in these governance processes. Furthermore, these processes are characterized by a setting in which program management operates between project management and a strategic network with line management as the dominant management strategy. Both cases in this thesis must deal with a multitude of projects. Therefore, they can be considered as examples of the phenomenon of programmification in complex governance processes. Including two cases helped to gain understanding of this phenomenon, since there is a certain degree of variety between them. Policy with Citizens evolves as a program partially within a rather bureaucratic context, while the Amsterdam Metropolitan Region program is situated in a multilevel and multi-actor network. Both types of context can be compared as argued in Chapter 2, but their differences need to be acknowledged as well. This becomes for example reflected in a different perspective on selecting projects. The case Policy with Citizens focuses on changing a citizen organization within their home organization. In this case more organizational issues of the phenomenon of programmification are addressed, while Amsterdam Metropolitan Region is more

focused on the substantive issues of integrated metropolitan development. The governance process in Amsterdam Metropolitan Region is about decision-making, while in Policy with Citizens it is about policy-making processes and implementation of citizen-orientation within the organization. Since both cases have a different context, they are discussed as separate cases which enriches the results of this thesis. In this sense, this is not a comparative study. In instrumental case studies, we have to be modest about generalization considering the limited number of cases. Instrumental cases do allow to identify patterns and themes and to compare these with other cases (Stake, 1995; Grandy, 2010). Instrumental cases help to explore a phenomenon in-depth and to compare this with other cases to demonstrate the transferability of case study results about the studied phenomenon (Grandy, 2010). This thesis aims to create knowledge about how connective capacities of program management evolve in practice. The selected cases are balanced, variable and instrumental to enhance theory development of program management, connective capacities and complexity in the field of public administration.

1.5.4 Data collection

We discuss the applied methodology and techniques in respectively Chapter 2 and 3 for the case Policy with Citizens and Chapter 4 for Amsterdam Metropolitan Region. These programs have been intensively studied over several years; four years for Policy with Citizens and three years for Amsterdam Metropolitan Region. A case study approach was highly relevant considering the unique character of a programmatic approach at that time, and the need for detailed and contextual knowledge to gather data about the connections and demarcations of programmatic actions systems. The period of in-depth research in these cases is combined with historical analysis about the period before the in-depth research and retrospective analysis of major developments after the in-depth research.

We applied a combination of data-collection techniques. This kind of data triangulation supports the trustworthiness of the representation of the case (Stake, 1995; Grandy, 2010).

Document analysis has provided a solid foundation about the substantives issues in the programs and projects; the organization of programs, projects and strategic networks; relevant visions, developments or plans of other stakeholders in the governance process.

In both cases we could observe several and diverse meetings, such as program management meetings, moments of interaction between program teams and project representatives, discussions by line managers about progress of the programs and meetings of projects themselves with external stakeholders.

We conducted in each case approximately 15 interviews with members of the program team, project teams, public officials from the line organizations and representatives of stakeholders in the governance process. Some key actors, especially program managers, were interviewed several times. These interviews were semi-structured around the core concept ‘connections’ and features of different management types and their mutual relations. This included attitudes and expectations of involved actors towards other action systems (project, program, strategic network); specific actions in developing and implementing projects; specific actions for organizing program management; motives, resources and actions to develop connections and/or demarcations. We also applied workshops and group interviews, especially to validate prior findings from document analysis, observations and interviews. Finally, we organized feedback meetings with program management, where reflections were made about their actions and the findings that validated the data.

1.5.5 Rounds model to analyze evolving processes

As argued in Section 1.4.2, the focus on evolving processes in this thesis asks for a longitudinal and detailed approach to research (Buijs et al., 2009; Gerrits, 2008, 2011, 2012), since it would be difficult to gain insight into these processes via analysis in a linear fashion. As presented in Table 1.5, this thesis builds on two longitudinal cases in which we have studied the connective capacity of program management in complex governance processes. Originally, case studies were not directly equipped for application to evolving processes (Stake, 1995). To solve this issue, we have applied a rounds model in the analysis of these cases. The rounds model as developed by Teisman (2000) enables to capture the evolving character of complex processes in case studies (Teisman, Westerveld & Hertogh, 2009; Edelenbos et al., 2009; Van Meerkerk, Boonstra & Edelenbos, 2012; Meijerink, 2012; Teisman & Van Buuren, 2012). The rounds model can be elaborated by analysis of coevolving tracks, as applied by Van Buuren (2006) to fact-finding, framing and will-forming. Teisman and Van Buuren (2012) provide an overview of four models to analyze decision-making process, see Figure 1.1).

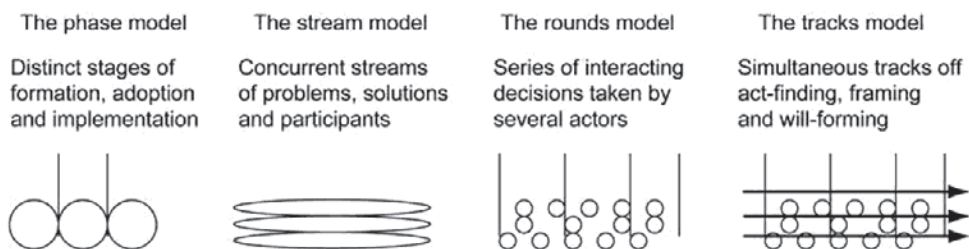


Figure 1.1

Four models for analysis of decision-making processes (Teisman & Van Buuren, 2012: 302)

In this thesis, we applied a combination of the rounds model and tracks model to the evolving connective capacities of program management. The interactions between program and strategic network, and program and projects are both analyzed in rounds (see Section 7.3). Additionally, the interactions between program management and its strategic network, program management and projects, and the development of program management itself are analyzed as tracks through the multiple rounds of development. These tracks are analyzed from a complexity perspective by applying coevolution and self-organization to the dynamics of the connective capacity of program management. As argued by Teisman and Van Buuren (2012, see Figure 1.1), elaboration of the rounds model with a track based model is helpful to describe the evolution in each of these separate tracks. This helps explain their mutual interaction and their impact on the governance process studied.

Analysis of complex governance processes can be considered a reconstruction of the study by the researcher. In this thesis, the researcher defined the rounds in retrospect, based on alterations in the connective capacity of program management or the context of the case that resulted in a new situation. It is based on the reconstruction of the empirical flow of events following desk research and interviews with actors participating in these processes. Based on the definition of decision-making by Teisman, this model can also be applied to other types of governance processes, beyond traditional decision-making. Teisman (2000) concludes that the distinction between problems and solutions proved to be far more complicated than was assumed in the stream model (see Figure 1.1). What used to be a solution for one actor, could easily be a problem for another. Participants bring along closely intertwined problems and solutions. Application of the rounds model enables to take into account the diversity of actors, objectives and solutions, the different perceptions of and the interactions between all these aspects in complex governance processes.

1.5.6 Action research approach

The reconstruction of a case study also relates to the constructivist orientation as argued in the methodological perspective. The case study is a reconstruction by the researcher, but is constructed intersubjective through meanings and understandings of the actors and the team of researchers involved in each of the cases. As pointed out by Gerrits (2012), the boundaries of observed phenomena are not defined unambiguously (Byrne, 2005). We will provide some background to the role of the researcher in this section, since it also depends on the perspective of the observer what constitutes, bounds and explains a complex development (Cilliers, 2001).

In case study research, interaction between participants and the researcher is required to generate data, which results in the researcher's perceptions and interpretations becoming part of the research (Stake, 1995, Meriam, 2009, Harrison et al., 2017). Subjectivity is openly acknowledged and to manage this, a reflexive stance has been applied within this thesis (Denzin & Lincoln 2011, Stake, 2006; Yin, 2014; Harrison et al., 2017). During the in-depth research, we worked with a team of researchers from Erasmus University Rotterdam and TNO Built Environment. In both cases, the writer of this thesis was the researcher working most closely with the practitioners in an action research setting. This provided the opportunity to closely observe the programs in progress. Considering the complexity point of view, not only the programs themselves have been studied, but the relations and interactions of program management with other elements. Complexity in governance processes cannot be understood by an analysis of individual elements (Gerrits, 2012). Although many action research studies have been applied at the level of individuals, teams and organizations, it is also an appropriate approach to study interlevel dynamics in complex systems (Coghlan, 2002). These interlevel dynamics provide us with frames for understanding participation of multilevel actors in complex social systems.

The action research setting enables reflecting on both the development of knowledge and the empirical situation (Byrne, 1998; Buijs et al., 2009). An action research approach helps researchers to understand complexity by operating in the middle of it. Researchers gain a thorough understanding by experiencing complexity while being part of it, taking action and reflecting. A core idea behind action research is that knowledge jointly produced by researchers and practitioners in the context social life, results in knowledge about reality that is more valid and more useful in practice. Regular meetings with public managers running the programs did not only provide relevant data, but sometimes also more informal insights in the reasons behind specific demarcations of the program, broken or created connections. Moreover, sessions were organized to validate (intermediate) results of the study. Meetings with the research team provided the opportunity to discuss and reflect on empirical results with several of the experts involved.

1.6 GUIDE TO THE READER

In this chapter we discussed the problem formulation in relation to practice, provided the methodological background of this thesis and introduced relevant theories. Section 1.3 explained the structure of this thesis in relation to the research questions. By

answering the main research question in Chapter 8 we would like to address several aims, considering theory, methodology and practice.

As stated in Section 1.2, the overarching aim of this thesis is to enhance knowledge about how connective capacities of program management evolve in practice. In the problem formulation of this thesis we have positioned the challenges of program management in the ongoing debate of specialization and integration in governance processes. Fragmentation is often perceived as problem, but it has to be considered as a fact of life in complex governance processes, as pointed out by Teisman and Edelenbos (2011). Let this be a reminder to the reader while reading the next chapters. This thesis aims to contribute to this debate by enhancing theory development on program management and application of complex systems theory in public administration. As can be observed in Table 1.1, programs are not new at all in public administration. Nevertheless, following the trend of programmification, the approach of program management seems to be a new kid on the block of management approaches with a specific focus on the specialization-integration debate. We can certainly say that it is quite a challenge to combine vertical and horizontal integration in complex governance processes. With the complexity perspective, we aim to gain a more in-depth understanding of the evolving connective capacity and adaptive character of programs as action system in complex governance processes.

With the applied research approach, we want to contribute to methodologies to study evolving interactions and interdependencies in multilayered governance processes. Analyzing the tracks of interactions between projects-program and program-strategic network provides multiple views on the dynamics in complex governance processes. Applying the rounds model in the analysis helps to get a grip on the evolving character of the connective capacity of program management. Table 1.3 shows which tracks and cases are handled in each of the chapters. The final analysis based on the methodological background, as discussed in Chapter 1, is included in Chapter 7.

Beyond the theoretical and methodological contribution of this thesis, this study can also be valuable for (public) managers participating in program management or comparable activities. It can help to gain insight in the perspectives of project management, line management and other stakeholders about program management. Secondly, several strategies can be derived from the case studies to deal with interdependencies between projects, program and strategic networks. Finally, we hope this thesis can support program managers to enhance their capacity to connect, adapt and let go in complex governance processes.

REFERENCES

- 6, P. (2004). Joined-up government in the western world in comparative perspective: a preliminary literature review and exploratio. *Journal of public administration research and theory*, 14(1), 103-138.
- Agranoff, R. (2007). *Managing within Networks; Adding Value to Public Organizations*. Washington DC: Georgetown University Press.
- Bauer, A., Feichtinger, J., & Steurer, R. (2012). The Governance of Climate Change Adaptation in 10 OECD Countries: Challenges and Approaches. *Journal of Environmental Policy & Planning*, 14(3), 279-304.
- Bloemen, P., Reeder, T., Zevenbergen, C., Rijke, J., & Kingsborough, A. (2017). Lessons learned from applying adaptation pathways in flood risk management and challenges for the further development of this approach. *Mitigation and Adaptation Strategies for Global Change*, 1-26.
- Boons, F., Buuren, M., Gerrits, L., & Teisman, G. (2009). Towards an Approach of Evolutionary Public Management. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems* (pp. 231-249). New York: Routledge.
- Boonstra, B., & Boelens, L. (2011). Self-organization in urban development: towards a new perspective on spatial planning. *Urban Research & Practice*, 4(2), 99-122.
- Bressers, N., & Edelenbos, J. (2014). Planning for Adaptivity. Facing complexity in innovative urban water squares. In J. Meek, & K. Marshall, *COMPACT II. Administrative Strategies for Complex Governance Systems*. Litchfield Park: Emergent Publications.
- Brunetto, Y., & Farr-Wharton, R. (2003). The impact of government practice on the ability of project managers to manage. *International Journal of Project Management*, 21(2), 125-133.
- Buijs, M., Eshuis, J., & Byrne, D. (2009). Approaches to Researching Complexity in Public Management. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Processes* (pp. 37-55). New York: Routledge.
- Busscher, T. (2014). *Towards a programme-oriented planning approach: Linking strategies and projects for adaptive infrastructure planning*. Groningen: University of Groningen.
- Byrne, D. (1998). *Complexity theory and the social sciences: an introduction*. London: Routledge.
- Byrne, D. (2005). Complexity, configurations and cases. *Theory, Culture & Society*, 22(5), 95-111.
- Castells, M. (2000). *The Rise of the Network Society: The Information Age: Economy, Society*. Oxford: Wiley Blackwell.

- Castelnuovo, W., & Sorrentino, M. (2017 (forthcoming)). Engaging with complexity in a public programme implementation. *Public Administration Review*, 1-19.
- Christensen, T., & Lægreid, P. (2006). Rebalancing the State: Reregulation and the Reassertion of the Centre. In T. Christensen, & P. Lægreid, *Autonomy and Regulation: Coping with Agencies in the Modern State* (pp. 359-380). Cheltenham, UK: Edward Elgar.
- Christensen, T., & Lægreid, P. (2007). *Transcending New Public Management: The Transformation of Public Sector Reforms*. Aldershot, UK: Ashgate.
- Cilliers, P. (1998). *Complexity and postmodernism: understanding complex systems*. London: Routledge.
- Cilliers, P. (2001). Boundaries, hierarchies and networks in complex. *International Journal of Innovation Management*, 5, 135-148.
- Clarke, D., & Crossland, J. (1985). *Action systems: An introduction to the analysis of complex behaviour*. London: Methuen.
- Coghlan, D. (2002). Interlevel dynamics in systemic action research. *Systemic Practice and Action Research*, 15(4), 273-283.
- Cooper, R., Edgett, S., & Kleinschmidt, E. (1997). Portfolio management in new product development: Lessons from the leaders - I. *Research Technology Management*, 40(5), 16-28.
- Crawford, L., Costello, K., Pollack, J., & Bentley, L. (2003). Managing soft change projects in the public sector. *International Journal of Project Management*, 21(6), 443-448.
- Crozier, M. (1964). *The bureaucratic phenomenon*. Chicago: The University of Chicago Press.
- De Roo, G., Hillier, J., & Van Wezemael, J. (2012). *Complexity and planning: systems, assemblages and simulation*. Farnham: Ashgate.
- De Rynck, F. (1994). *Streekontwikkeling in Vlaanderen Bestuurskundig bekeken: besturingsverhoudingen en beleidsnetwerken in*. Leuven: Katholieke Universiteit Leuven.
- De Wolf, T., & Holvoet, T. (2004). Emergence Versus Self-Organisation: Different Concepts but Promising When Combined. In S. Brueckner, G. Di Marzo Serugendo, A. Karageorgos, & R. Nagpal (Ed.), *ESOA 2004: Engineering Self-Organising Systems* (pp. 1-15). Berlin, Heidelberg: Springer.
- Denzin, N., & Lincoln, Y. (2011). Introduction: The discipline and practice of qualitative research. In N. Denzin, & Y. Lincoln, *The Sage handbook of qualitative research (4th ed)* (pp. 1-20). Thousand Oaks, CA: Sage.
- Dijkzeul, D. (1997). *The management of multilateral organizations*. Deventer: Kluwer.

- Duijn, M. (2009). *Embedded Reflection on Public Policy Innovation. A Relativist / Pragmatist Inquiry into the Practice of Innovation and Knowledge Transfer in the WaterINNOvation Program*. Delft: Eburon.
- Edelenbos, J., & Eshuis, J. (2012). The Interplay between Trust and Control in Governance Processes: A Conceptual and Empirical Investigation. *Administration and Society*, 44(6), 675-701.
- Edelenbos, J., & Teisman, G. (2011). Symposium on water governance. *International Review of*, 77(1), 5-30.
- Edelenbos, J. & Teisman, G.R. (2013). Water governance capacity: The art of dealing with a multiplicity of levels, sectors and domains. *International Journal of Water Governance*, 1(1-2), 89-108
- Edelenbos, J., Bressers, N., & Scholten, P. (2013). *Water Governance as Connective Capacity*. Farnham, Surrey: Ashgate.
- Edelenbos, J., Klijn, E.-H., & Kort, M. (2009). Managing complex process systems: surviving at the edge of chaos in. In G. Teisman, M. Buuren, & L. Gerrits, *Managing complex governance systems* (pp. 231-249). New York: Routledge.
- Edelenbos, J., Van Buuren, M.W., Klijn, E.-H. (2013). Connective capacities of network managers: a comparative study of management styles in eight regional governance networks. *Public Management Review*, 15(1): 131-159
- Edelenbos, J. & Van Meerkerk, I. (2015). Connective capacity in water governance practices: The meaning of trust and boundary spanning for integrated performance. *Current Opinion in Environmental Sustainability*, 12, 25-29
- Eppel, E., & Rhodes, M. (2017 (forthcoming)). Complexity theory and public management: a 'becoming' field. *Public Management Review*, 1-11.
- Farazmand, A. (2003). Chaos and transformation theories: A theoretical analysis with implications for organization theory and public management. *Public Organization Review*, 3(4), 339-372.
- Fayol, H. (1963). *General and industrial management*. (C. Storrs, Trans.) London: Sir Isaac Pitman and Sons.
- Flood, R. (1999). *Rethinking the fifth discipline: Learning within the unknowable*. London: Routledge.
- Foster-Fishman, P., Berkowitz, S., Lounsbury, D., Jacobson, S., & Allen, N. (2001). Building Collaborative Capacity in Community Coalitions: A Review and Integrative Framework. *American Journal of Community Psychology*, 29(2), 241-261.
- Friend, J., Power, J., & Yewlett, C. (1974). *Planning: The Intercorporate*. London: Tavistock.

- Fuchs, C. (2002). *Concepts of social self-organisation: NTAS Project "Human Strategies in Complexity" Research Paper No. 4.*
- Gerrits, L. (2008). *The Gentle Art of Coevolution.* Rotterdam: Erasmus University Rotterdam.
- Gerrits, L. (2011). A Coevolutionary Revision of Decision Making Processes: An Analysis of Port Extensions in Germany, Belgium and The Netherlands. *Public Administration Quarterly*, 35(3), 309-329.
- Gerrits, L. (2012). *Punching Clouds, An introduction to the complexity of public decision-making.* Litchfield Park: Emergent Publications.
- Gieske, H., Van Buuren, M.W., & Bekkers, V. (2016). Conceptualizing public innovative capacity: A framework for assessment. *The Innovation Journal: The Public Sector Innovation Journal*, 21(1), 1-25
- Grandy, G. (2010). Instrumental Case Study. In A. Mills, G. Durepos, & E. Wiebe, *Encyclopedia of Case Study Research* (pp. 474-475). Thousand Oaks: Sage.
- Grothe, M. (1997). Complexity and self-organization in socio-economic systems. In F. Schweitzer, *Self-organization of Complex Structures: from Individual to Collective Dynamics* (pp. 427-438). Amsterdam: OPA.
- Gulick, L., & Urwick, L. (1937). *Papers on the science of administration.* New York: Institute of Public Administration.
- Haasnoot, M., Kwakkel, J., Walker, W., & ter Maat, J. (2013). Dynamic adaptive policy pathways: a method for crafting robust decisions for a deeply uncertain world. *Glob Environ Chang*, 23(2), 485-498.
- Hall, T., & O'Toole Jr, L. (2000). Structures for policy implementation: An analysis of national legislation. *Administration & Society*, 31(6), 667-686.
- Harrison, H., Birks, M., Franklin, R., & Mills, J. (2017). Case Study Research: Foundations and Methodological Orientations. *FQS*, 18(1).
- Heylighen, F. (1989). Self-organization, emergence and the architecture of complexity. *1st European Conference on System Science*, (pp. 23-32). Paris.
- Heylighen, F. (2001). The science of self-organization and adaptivity. In L. Kiel, *Knowledge Management, Organizational Intelligence and Learning, and Complexity* (pp. 253-280). Oxford: EOLSS Publishers.
- Hinssen, J. (1994). Verstarring en dynamiek van de bureaucratie. *Bestuurskunde*, 3(8), 355-372.
- Hood, C. (2005). The idea of joined-up government: A historical perspective. In V. Bogdanor, *Joined-up Government* (pp. 19-42). Oxford: Oxford University Press.

- Innes, J.E., & Booher, D.E. (2002). The Impact of Collaborative Planning on Governance Capacity. *Annual Conference of the Association of Collegiate Schools of Planning*, (pp. 1-32). Baltimore.
- Innes, J.E. & Booher, D.E. (2003). Collaborative policymaking. In M. Hajer and H. Wagenaar (eds.), *Deliberative Policy Analysis: Understanding Governance in the Network Society* (pp. 33-59). Cambridge: Cambridge University Press:
- Jantsch, E. (1980). *he Self-organizing Universe: Scientific and Human Implications of the Emerging Paradigm of Evolution*. Oxford: Pergamon Press.
- Jantsch, E. (1981). Autopoiesis: A central aspect of dissipative self-organization. In M. Zeleny, *Autopoiesis: A Theory of Living Organization* (pp. 65-88). New York: Elsevier North Holland Inc.
- Kallis, G., & Norgaard, R. (2010). Coevolutionary ecological economics. *Ecological Economics*, 69(4), 690-699.
- Kallis, G., Kiparsky, M., & Norgaard, R. (2009). Collaborative governance and adaptive management. *Environmental Science & Policy*, 631-643.
- Kickert, W., Klijn, E.-H., & Koppenjan, J. (1997). *Managing Complex Networks*. London: Sage.
- Klievink, A., & Janssen, M. (2009). Realizing joined-up government - Dynamic capabilities and stage models for transformation. *Government Information Quarterly: an international journal of information technology management, policies, and practices*, 26, 275-284.
- Klijn, E.-H., & Edelenbos, J. (2007). Meta-governance as network management. In E. Sørensen, & J. Torfing, *Theories of Democratic Network Governance* (pp. 199-214). London: Routledge.
- Koppenjan, J., & Klijn, E.-H. (2004). *Managing uncertainties in networks: a network approach to problem solving and decision making*. London: Routledge.
- Korsten, A., de Jong, P., & Breed, K. (2010). *Regeren met programma's. Een onderzoek naar voortgang van kabinetsprogramma's en interdepartementale samenwerking onder het kabinet-Balkenende IV*. Den Haag: Boom Lemna.
- Koteen, J. (1997). *Strategic management in public and nonprofit organizations: managing public concerns in an era of limits*. Westport: Praeger.
- Leach, W., & Pelkey, N. (2001). Making watershed partnerships work: a review of the empirical literature. *Journal of Water Resource Planning and Management*, 127(6), 378-385.
- Luhmann, N. (1982). Autopoeisis, Handlung und kommunikative Verstaendigung. *Zeitschrift for Soziologie*, 4, 366-379.
- Luhmann, N. (1990). *Essays on Self-reference*. Columbia, OH: Columbia University Press.

- Luhmann, N. (1995). *Social Systems*. Stanford, CA: Stanford University Press.
- Lycett, M., Rassau, A., & Danson, J. (2004). Programme management: A critical review. *International Journal of Project Management*, 22(4), 289-299.
- Mandell, M. (1990). Network management: Strategic behavior in the public sector. In R. Gage, & M. Mandell, *Strategies for Managing Intergovernmental* (pp. 29-53). New York: Praeger.
- Mandell, M. (1994). Managing interdependencies through program structures: A revised paradigm. *The American Review of Public Administration*, 24(1), 99-121.
- Martinsuo, M, & Lehtonen, P. (2007). Role of single-project management in achieving portfolio management efficiency. *International Journal of Project Management*, 25, 56-65.
- Maylor, H., Brady, T., Cooke-Davies, T., & Hodgson, D. (2006). From projectification to programmification. *International Journal of Project Management*, 24(8), 663-674.
- Meijerink, S. (2012). *Conflict and Cooperation on the Scheldt River Basin*. Dordrecht: Springer.
- Merriam, S. (1998). *Qualitative research and case study applications in education (2nd ed.)*. San Francisco, CA: Jossey-Bass Publishers.
- Merriam, S. (2009). *Qualitative research: A guide to design and implementation (2nd ed.)*. San Francisco, CA: Jossey-Bass Publishers.
- Merry, U. (1999). The Organizational Strategy on Different Landscapes. *Systemic Practice and Action Research*, 12(3), 257-278.
- Ministerie van VROM. (2006). *Basisdocument Noordvleugel en NV Utrecht*. Den Haag: Ministerie van VROM.
- Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs: Prentice Hall.
- Mintzberg, H. (1994). *The rise and fall of strategic planning*. Beverly Hills: Sage.
- Mitleton-Kelly. (2003). *Complex systems and evolutionary perspectives on organizations: The application of complexity theory to organization*. Oxford: Elsevier.
- Morçöl, G. (2012). *A complexity theory for public policy*. London: Routledge.
- Morçöl, G. (2014). Self-Organization in Collective Action: *Complexity, Governance & Networks*, 1(2), 9-22.
- Morçöl, G., & Wachhaus, A. (2009). Network and Complexity Theories: A Comparison and Prospects for a Synthesis. *Administrative Theory & Praxis*, 31(1), 44-58.
- Moss Kanter, R. (1983). *The change masters. Innovation and entrepreneurship in the American corporation*. New York: Simon and Schuster.
- Mulgan. (2005). Joined-up government: Past, present, and future. In V. Bogdanor, *Joined-up Government* (pp. 175-192).

- Norgaard, R. (1984). Coevolutionary development potential. *Land Economics*, 60(2), 160-173.
- Odum, E. (1971). *Fundamentals of ecology*. Philadelphia: W.B. Saunders Company.
- Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press.
- O'Toole Jr., L., & Meier, K. (2004). Public Management in Intergovernmental Networks: matching structural networks and managerial networking. *Journal of public administration research and theory*, 14(4), 469-494.
- O'Toole Jr., L., Hanf, K., & Hupe, P. (1997). Managing implementation processes in networks. In W. Kickert, E.-H. Klijn, & J. Koppenjan, *Managing Complex Networks: Strategies for* (pp. 137-151). London: Sage.
- Pellegrinelli, S. (2002). Shaping context: The role and challenge for programs. *International Journal of Project Management*, 20(3), 229-233.
- Pellegrinelli, S., Partington, D., Hemingway, C., Mohdzain, Z., & Shah, M. (2007). The importance of context in programme management: An empirical review of programme practices. *International Journal of Project Management*, 25(1), 41-55.
- Platje, A., Seidel, H., & Wadman, S. (1994). Project and portfolio planning cycle. *International Journal of Project Management*, 12, 100-106.
- Pollitt, C. (2003). *The essential public manager*. Maidenhead: Open University Press.
- Pollitt, C. (2003). *The essential public manager*. Maidenhead: Open University Press.
- Pollitt, C., & Bouckaert, G. (2004). *Public Management Reform: A Comparative Analysis*. Oxford: Oxford University Press.
- Pollitt, C., Van Thiel, S., & Homburg, V. (2007). *New Public Management in Europe: adaptation and alternatives*. Houndmills: Palgrave MacMillan.
- Pressman, J., & Wildavsky, A. (1973). *Implementation*. Berkeley: University of California Press.
- Probst, G. (1987). *Selbst-organisation: ordnungsprozesse in sozialen systeme aus ganzheitlicher sicht*. Berlin: Paul Parey Verlag.
- Rhodes, R. (1997). *Understanding Government*. Buckingham: Open University Press.
- Rijke, J., Herk, v. S., Zevenbergen, C., Ashley, R., Hertogh, M., & Heuvelhof, E. t. (2014). Adaptive programme management through a balanced performance/strategy oriented focus. *International Journal of Project Management*, 32(7), 1197-1209.
- Rogers, D., & Whetten, D. (1982). *Interorganizational Coordination: Theory*. Ames: Iowa State University Press.
- Sabatier, P., Focht, W., Lubell, M., Trachtenberg, Z., Vedilitz, A., & Matlock M. (2005). *Swimming upstream: collaborative approaches to watershed management*,

- American and comparative environmental policy series*. Cambridge, Massachusetts: MIT Press.
- Scharpf, F. (1978). Interorganizational policy studies: Issues, concepts and perspectives. In K. Hanf, & F. Scharpf, *Interorganisational Policy Making* (pp. 345-370). London: Sage.
- Shao, J., & Müller, R. (2011). The development of constructs of program context. *International Journal of Project Management*, 947-959.
- Slob, A.F.L., Buijs, M.J., Edelenbos, J. & Haarmann, W. (2007). *Leren om samen te werken aan duurzame plattelandsontwikkeling. Eindrapport Leertraject SDPO*. TNO-rapport 2007-D-R0515/A. Delft: TNO
- Sørensen, E., & Torfing, J. (2007). *Theories of Democratic Network Governance*. New York: Palgrave Macmillan.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage.
- Stake, R. (2006). *Multiple case study analysis*. New York: Guilford.
- Taylor, F. (1947). *Scientific management*. New York: Harper & Row.
- Teisman, G. (2000). Models for research into decision-making processes: On phases, streams and decisionmaking rounds. *Public Administration*, 78(4), 937-956.
- Teisman, G. R. (2005). *Publiek management op de grens van chaos en orde: Over leidinggeven en organiseren in complexiteit*. Den Haag: Sdu Uitgevers bv.
- Teisman, G. R. (2008). Complexity and management of improvement programmes: an evolutionary approach. *Public Management Review*, 341-359.
- Teisman, G., & Edelenbos, J. (2011). Towards a perspective of system synchronization in water governance: A synthesis of empirical lessons and complexity theories. *International Review of Administrative Sciences: an international journal of comparative public administration*, 77(1), 101-118.
- Teisman, G., & Gerrits, L. (2014). The Emergence of Complexity in the Art and Science of Governance. *Complexity, Governance & Networks*, 1(1), 17-28.
- Teisman, G., & Van Buuren, M. (2012). Models for research into decision-making processes: On phases, streams, rounds and tracks of decision-making. In E. Araral, A. Fritzen, M. Howlett, M. Ramesh, & X. Wu, *Routledge Handbook of Public Policy*. Routledge Handbooks Online.
- Teisman, G., Buuren, M., & Gerrits, L. (2009). *Managing Complex Governance Systems: Dynamics, Self-Organization and Coevolution in Public Investments*. New York: Routledge.
- Teisman, G., Westerveld, E., & Hertogh, M. (2009). Appearances and Sources of Process Dynamics: The Case of Infrastructure Development in the UK and the

- Netherlands. In G. Teisman, M. Van Buuren, & L. Gerrits, *Managing Complex Governance Systems* (pp. 56-75). New York: Routledge.
- Tempels, B. (2016). *Flood resilience: a co-evolutionary approach : residents, spatial developments and flood risk management in the Dender Basin*. Ghent: Ghent University InPlanning.
- Turner, J., & Müller, R. (2003). On the nature of the project as a temporary organization. *International Journal of Project Management*, 21, 1-7.
- Turner, R. (2000). An encyclopaedia for the profession of project management. In R. Turner, & S. Simister, *Gower handbook of project management* (pp. 1-25). Aldershot: Gower.
- Turner, R., & Keegan, A. (1999). The versatile project-based organization: governance and operational control. *European Management Journal*, 17(3), 296-309.
- Van Buuren, M.W. (2006). *Competente Besluitvorming: Het management van meervoudige kennis in ruimtelijke ontwikkelingsprocessen*. Utrecht: Lemna
- Van Gunsteren, H. (1976). *The quest for control: a critique of the rational-central-rule approach in public affairs*. London: John Wiley and Sons.
- Van Meerkerk, I., Boonstra, B., & Edelenbos, J. (2013). Self-organization in urban regeneration. A two case comparative research. A two case comparative research. *European Planning Studies*, 21(10), 1630-1652.
- Van Meerkerk, I., Edelenbos, J., & Klijn, E-H. (2014). Connective management and governance network performance: The mediating role of throughput legitimacy. Findings from survey research on complex water projects in the Netherlands. *Environment and Planning C: Government and Policy*, 33(4): 746-764.
- Van Olffen, W., & Romme, A. (1995). The role of hierarchy in self-organizing systems. *Human Systems Management*, 14(3), 199-206.
- Vayda, A. (1983). Progressive contextualization: Methods for research in human ecology. *Human Ecology*, 11(3), 265-281.
- Weber, E., Lovrich, N., & Gaffney, M. (2007). Assessing Collaborative Capacity in a Multidimensional World. *Administration & Society*, 39(2), 89-116.
- Wible, J. (2000). What is complexity? In D. Colander, *Complexity and the History of Economic Thought: Perspectives on the History of Economic Thought* (pp. 15-30). London: Routledge.
- Williams, P. (2002). The competent boundary spanner. *Public Administration*, 80(1), 103-124.
- Yin, R. (1984). *Case Study Research: Design and Methods*. Beverly Hills, CA: Sage .
- Yin, R. (2014). *Case study research: Design and methods*. Los Angeles, CA: Sage.

CHAPTER 2

CONSOLIDATING GOVERNANCE CAPACITY IN COMPLEX NETWORKS: CHANGING PERCEPTIONS, RELATIONS AND INSTITUTIONS IN DIFFERENT CONTEXTS

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ABSTRACT

In this chapter we address the question how differences in organizational contexts influence the consolidation of governance capacity and thus the sustainability of successful governance reforms. We analyze the outcomes (in terms of consolidation of governance capacity) of two change trajectories in the Dutch public domain in rather different institutional contexts. The first case is a bilateral planning process between Flanders and the Netherlands in which a new way of collaborative decision-making for the Scheldt estuary was established. After decades of stalemate negotiations, the governments of Flanders and the Netherlands decided to initiate a collaborative governance process with a variety of public, private and societal actors which was intended to result in an integral (broadly supported) vision on the future of the estuary. The second case assessed is a program in the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM), intended to get more interaction between policy-makers and citizens as well as to improve citizen orientation with the organization. A variety of projects were launched to experiment with new ways of working and to enhance the openness of the policy process with regard to environmental policy.

2.1 INTRODUCTION

In the past few decades two major types of change in public sector organizations can be distinguished: public management reform (based upon the New Public Management doctrine) and governance approaches of reform (Klijn & Snellen, 2009). The NPM-reforms are directed at securing greater productivity and value for money, while in the governance approach the development and strengthening of interorganizational partnerships and networks are emphasized (Ferlie et al., 2003; Klijn & Teisman, 2000; Pierre & Peters, 2000; Kettl, 2002).

The starting point for governance reforms can be highly different. They can be introduced in a highly bureaucratic and state-oriented environment. In such a context they often include the development of new organizational arrangements to involve new actors in the process of policy-making or implementation. But they can also be introduced in a fragmented network context in which multiple stakeholders already are involved in the decision-making process but in which arrangements have to become more collaborative, more open and transparent, more inclusive etcetera.

When change trajectories succeed, they result in changed (inter)organizational repertoires to realize existing ambitions more efficient or to realize new, more sophisticated ambitions. During a successful change trajectory an organization or

network ideally gets more grips on the objectives of the intended reform and the way it can be realized. In this sense, change trajectories can be looked at as learning processes in which new competencies are developed by individuals, organizations and networks to realize their goals. In the public domain these competences ultimately have to do with realizing legitimacy and effective public policies. These competencies are labeled in the literature as governance capacity (Innes & Booher, 2003; Van Buuren, 2009).

However, when the results of this learning process are not consolidated, the 'capacity' to continue governance successes evaporates and the ability to realize the purposes of the change trajectory across a longer time period dissipates. Thus the 'sustainability of change' can be considered as the extent to which the change results in durable renewed, adjusted or extended forms of governance capacity.

In this chapter we answer the question how differences in organizational contexts influence the consolidation of governance capacity and thus the sustainability of successful governance reforms. We analyze the outcomes (in terms of consolidation of governance capacity) of two change trajectories in the Dutch public domain in rather different institutional contexts.

The first case is a bilateral planning process between Flanders and the Netherlands, in which a new way of collaborative decision-making around the Scheldt estuary is established. After decades of stalemate negotiations, the governments of Flanders and the Netherlands decide to start a collaborative governance process with a variety of public, private and societal actors, which had to result in an integral (broadly supported) vision upon the future of the estuary.

The second case is a program at the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM), intended to get more interaction between policy-makers and citizens as well as to improve citizen orientation in the organization. A variety of projects was launched to experiment with new ways of working and to enhance the openness of the policy process with regard to environmental policy.

With their objective to improve policymaking by intensifying the involvement of stakeholders in the policy processes both trajectories fit in the broader trend towards governance and horizontal organizational arrangements aimed at collaboration and interaction. Although they are rather different in context and structure, they show remarkable resemblance in management strategies and orientation on collaborative governance. In both cases improving the cooperation between actors and developing new routines for joint problem-solving were crucial objectives. Both cases are exponents of new ways of governance in which cooperation, dialogue, and interactive policy-making are central elements. In both cases changing existing habits, strategies and structures, based on old-fashioned routines and values – as we will show – is

difficult. Retaining changed practices and learned competencies is even more difficult due to the dynamic context in which these changes take place.

In this chapter we first theorize about the relation between governance reforms and the development and consolidation of governance capacity (as a result of learning processes). We also reflect upon the possible relations between organizational context and the possibilities for capacity consolidation. We suppose that change is more difficult in a bureaucratic context (the VROM case) due to the ingrained routines which dominate the working practices, but that consolidating governance capacity is much more difficult in a network context (the Scheldt case) due to the volatility, highly dynamic constellations, the temporariness of arrangements, and strategic uncertainty of a governance network. We then analyze the development of the two change processes within the public domain, and how these change processes result in new organizational 'capacity', i.e. competencies and knowledge. We compare the consolidation of governance capacity in these two trajectories and reflect upon the differences we found. These differences (but also the similarities) learn us more about managing and sustaining governance change in different contexts.

2.2 LEARNING FROM CHANGE

Change trajectories do not only result in new or changed organizational structures, arrangements, strategies or ambitions. They do also result in second-order effects: new or changed perceptions about crucial variables for realizing strategic goals, the organizational environment and about the own position within this environment, new competences to implement strategies, new relationships with other actors et cetera.

These second-order effects are crucial for maintaining the realization of the change objectives in the future and thus for consolidating the success of a specific change program (Nahapiet & Ghoshal, 1998; Healey, 1998; Hennestad, 1998). Knowledge development plays a central role in this. We see knowledge as the ability to fulfill a task, may it be individually, social or organizational (Kessels, 2001). Change trajectories are aimed at learning to perform an existing task more effectively or efficiently (doing things right), or finding new tasks that meet the organizational goals better than the current ones (doing the right things). The outcome of such a trajectory consists thus not only in the realization of this specific goal but also in the knowledge and capabilities to do this.

This new developed knowledge becomes embedded in organizational practices, embrained in members of these organizations, encultured in their habits and embodied

in the structures of organizations or newly developed interorganizational structures (Blackler, 1995). This interplay between knowledge development and change is acknowledged in many contributions to the literature about knowledge management and organizational resources. In this literature knowledge is seen as embedded in organizational members, relations, processes and structures. This type of 'embedded' knowledge is conceptualized with the notion of organizational competencies or capabilities or dynamic capabilities (Van den Bosch et al. 1999; Spanos & Prastacos, 2004; Grant, 1996; Teece et al., 1997). These capabilities are of crucial importance for an organization to survive in a dynamic environment.

In public management sciences the notion of strategic capabilities comes down to the concept of 'governance capacity'. Innes and Booher (2003) describe it as follows: *"A governance system with capacity is resilient – that is, it responds quickly to new conditions, events, opportunities and problems, and adapts and changes its procedures, heuristics and relationships as needed (...). It is in a constant state of institutional evolution as it adjusts to maintain a sustainable system."*

The most important elements of governance capacity are: trust, inclusive arrangements, active participants, collaborative relationships, mutually complementing roles and deliberative institutions (see also Connick & Innes, 2001). More governance capacity makes a governance system (a network, platform or arrangement) more capable to realize collective goals in future, fitting in the dynamic context in which such a system has to operate and in which it has to cooperate to realize broadly supported and legitimate actions. The concept of governance capacity is multi-faceted and multi-leveled. We conceptualize it on three levels (see Van Buuren, 2006).

First of all, we see the development of governance capacity in the mental frames and the competencies of persons, their perceptions and opinions about their goals and how they can be realized, their perceptions of other actors, the usefulness of some strategies compared to others et cetera. Actors develop intellectual capital (Klein, 1998) or human capital (Nahapiet & Ghoshal, 1998).

Secondly, we see governance capacity at the level of relations and interactions. People change the way in which they cooperate or compete. On a basis of mutual trust, and increased understanding of the added value of other actors, agents are willing to do things together. With the words of Cross and Baird (2000: 74):

"Important relationships build up from experience as a result of working with members of a project team or functional department liaison. Two important features of these relationships make them useful in future organizational initiatives and thus a component

of organizational memory. First, time spent interacting on work tasks helps establish a sense of reciprocity and trust with certain colleagues (...). Second, by working closely together, colleagues build up an understanding of each member's unique knowledge and skills."

The third level is the organizational or institutional level. On this level the development of competencies becomes visible in new organizational structures, new procedures, new or changed organizational arrangements and so on (see for example Healey et al., 2004). These organizational forms of new competencies are in the literature known as organizational capacities (Spanos & Prastacos, 2004), dynamic capabilities (Teece et al., 1997) and strategic competencies (Amin & Cohendet, 2004). This categorization will be helpful in reconstructing the consolidation of capacity. We summarize them in Table 2.1.

Change trajectories thus ideally results in increased levels of governance capacity: by formulating new goals and implementing tools to realize them involved actors develop new competencies, relations and arrangements or change existing ones in order to realize the change objectives. But to carry on and maintain these changes it is necessary that this capacity is consolidated.

Table 2.1 Governance capacity: levels and background

| | <i>Perceptions</i> | <i>Relations</i> | <i>Institutions or arrangements</i> |
|-------------------|---|--|---|
| <i>Indicators</i> | Changed or new frames of reference, interpretations, beliefs and values, embraced in agents or encoded in documents | Changed interactions, improved relationships, new forms of cooperation or competition, enhanced trust, encultured in relations | New organizational structures and procedures, to facilitate interaction and joint action embodied in arrangements |

2.3 CHANGE AND CONSOLIDATION IN DIFFERENT CONTEXTS

Realizing change and consolidating the capacity developed in change trajectories can evoke highly different challenges due to differences within the organizational context the change trajectory is implemented in. As noted in the introduction of this chapter we compare two change trajectories, implemented in totally different contexts.

The first change trajectory regards the bilateral governance network around the Dutch-Flemish Scheldt Estuary that for a long time was characterized by go-alone strategies, win-lose games, stalemate negotiations and so on. After the Port of Antwerp did a new request for deepening the fairway to Antwerp, both governments decide to invest in a process that had to result in better cooperation, consensual decision-making and integral solutions (Van Buuren & Warner, 2009).

The second regards the Dutch Ministry of VROM, a classical rule-based bureaucracy which had to shift towards a more open-minded, citizen oriented attitude. For a long time environmental policy was made in closed networks of officials and organized stakeholders. But after a decision of the Dutch parliament the ministry had to change this way of doing and started a citizen-orientation program in order to develop new routines and competencies in interactive policy-making.

Our assumptions with regard to the way these change trajectories result in new competencies or capabilities are twofold.

First we assume that the challenges to realize change within these two contexts are rather different. In the Scheldt casus change in the way stakeholders work together can be very beneficial for all of them. It can prevent for long-lasting and troublesome negotiations. It can result in solutions which are attractive for all of them. In the highly dynamic environment of international negotiations and complex policy games about the future of the estuary actors are experienced in adapting their strategies to new situations. A governance reform can contribute to faster decision-making and to fewer problems in the implementation phase. Its reception and thus its effects seems beforehand not problematic. In the VROM case policy-making is by many assumed to be easier without involvement of citizens. Policy proposals which have to be approved by parliament can be more efficiently realized without input from many (inexperienced, non-involved) lay people. A bureaucracy is characterized by its many highly formalized procedures and standard operating procedures. These are difficult to change. Involving other actors into the process of policy-making conflicts with existing habits and practices and is therefore difficult to realize let alone to maintain in the long term.

However, secondly, for retaining the newly developed competencies the reverse seems to be true. Within a governance network – which is characterized by its dynamic composition, fast changing structures and arrangements – consolidating competences seems to be a difficult job. A governance network doesn't have much institutional embedding and depends on the availability of temporal forums, network arrangements and ad hoc arenas. After finalizing a specific governance episode, the newly developed experiences and competences lack a provision for their consolidation towards a new policy round. Conversely, a bureaucratic organization, with a clear organizational structure, clear managerial strategies, official guidelines and policy ambitions, seems to

be a more fruitful context for retaining newly developed and proven competencies. When change in a bureaucratic context is successful it can easily be translated into new guidelines, arrangements and structures.

With these expectations about the relation between change, context and consolidation we start our empirical analysis. Both change trajectories took several years and we have studied them over a period of four years in which we conducted an in-depth case study approach. During these longitudinal case studies we carried out some 20 interviews per case with involved managers, administrators and stakeholders during the change trajectory. We also observed a couple of official and informal meetings in both cases. Third, we conducted archival research and analyzed the numerous documents produced by both project organizations responsible for the change trajectory.

2.4 THE SCHELDT CASE

The Scheldt Estuary is a Flemish Dutch river basin that forms the access to the Port of Antwerp. In the change trajectory we analyzed the specific aim was to realize a more integral and cooperative way of policy making. The history of bilateral policy-making was for decades non-cooperative and politicized (Meijerink, 1998). The former deepening of the Scheldt (1997) was approved by both national governments in a package deal about some transnational dossiers after years of grimly negotiations and despite fierce resistance from the regional governments and nature organizations.

The interests of the various parties are very different. The Flemish government supports the economic interests of the Port of Antwerp. The nature organizations are afraid about the deterioration of the estuary. Farmer organizations are not happy with a possible further deepening because when this causes loss of nature, this has to be compensated by developing nature on their pastures. The regional authorities of Zeeland have less interest in the economic growth of Antwerp and thus are they not enthusiastic about a further deepening because that could result in an European obligation to compensate for nature harm by reclaiming agricultural land to the estuary.

2.4.1 Long term vision 2030

However, in 1999 both governments decide to develop a joint Long Term Vision for the estuary, to improve their mutual relations and to develop a better and integral policy and management strategy for the estuary. Most parties involved support the accomplishment of the Long Term Vision. An intensive process of deliberation and negotiation develops from which a document arise with rather broad ambitions for the future of the estuary. Future policy proposals have to offer solutions that give equal

attention to the economic potential of the estuary, its safety and its quality of nature. Interventions in the system have to safeguard the dynamic behavior of the estuary. And finally, future policy and management has to be realized in good cooperation between the two national governments, the involved regional and local authorities and the diverse stakeholders.

In 2001 both governments approve the Vision and decide to work out a set of concrete proposals for the short term (2010), containing a further deepening of the fairway, as well as substantial investments in nature development and a proposal to improve the safety of the estuary. A temporal but autonomous project organization was set up and officials from the Flemish and Dutch government were posted at this organization.

A profound research process following the principles of joint fact-finding was set up. A Strategic Environmental Impact Assessment was made as well as an Integral Costs-Benefits Analysis. In consultation with experts from interest groups the researchers did their work. Three working groups and a Steering Committee unite stakeholders and experts and facilitated collaborative dialogues between them about the research results. From this process a broadly supported research report resulted. Compared to the history of intensive debates about research and data – best characterized by ‘fact-fighting’ instead of ‘fact-finding’ - this was a great leap forwards.

An intensive deliberation process was also set up in which the most important stakeholders and various governmental agencies participate. Two independent chairs directed this process and a neutral secretary facilitated it. The stakeholders had the competence to give a weightily advice to both ministers. They realized a unanimous advice about the Development Plan.

At the end of 2004 both ministers approved the Development Plan and took decisions about the continuation of the trajectory. A new project organization is set up and gets the mandate to work out and implement the Development Plan. Both the research and collaboration process is continued to fine-tune the various measures.

Most persons involved in realizing the Development Plan are also detached to the new project organization and its different forums. Their tasks are laid down in a new international treaty between Flanders and the Netherlands.

2.4.2 Visible changes

Compared to the realization of the Long Term Vision the accomplishment of the Development Plan was still more characterized by stakeholder involvement and joint action. Especially the process of joint fact finding was intensified. And the project organization succeeds in integrating the insights of the main stakeholders in the analysis of the experts. All involved actors supported the research results. In addition

the research process was organized as a real interdisciplinary process in which scientists were obliged to work together.

Second, a successful arrangement for involving stakeholders (including regional and local authorities) was set up and their input got a formal status. The intensive processes of deliberation change the frames of actors. Strong 'enemy pictures' are abandoned and nuanced perceptions develop. Actors begin to acknowledge the fairness of the wishes of other actors and try to find mutual attractive solutions (improving the economic potential of the Port of Antwerp and at the same time the ecological quality of the estuary). This frame reflection was furthered by the research findings. Environmental interest groups and regional authorities nuanced the negative impact of a deepening on the environmental value of the estuary. That opens the way to a joint search for solutions for the accessibility of Antwerp and the improvement of the quality of the estuary (Klinkers, 2006; Van Buuren, 2009).

These changes in frames resulted in better actor relations. During the process relations between Flemish and Dutch researchers were intensified because actors see the added value of a better cooperation. The same holds true for the relation between the Port of Antwerp and the nature organizations. They recognize their mutual dependency and choose a more cooperative strategy. The national governments also try to find mutual attractive deals and intensify their interactions. The ministers met each other at least two times a year and regular contacts between Flemish and Dutch regional authorities emerge.

On the institutional level the change process results in new arrangements for interaction and collaboration. Although most of them were intended to be temporal, a couple of them remain functioning after the Development Plan was ready. The stakeholder platform was continued as well as the research working groups. A new long-term research and monitoring project was set up. A search towards a regional organization of the very centralistic organized "Technical Commission on the Scheldt" (the official body for the daily management of the Scheldt) was started.

2.5 INDICATIONS OF KNOWLEDGE CONSOLIDATION IN THE SCHELDT CASE

We see how on three levels changes were realized: on the cognitive level of perceptions, on the social level of relations and on the institutional level of arrangements and procedures. But can we also witness some indicators of consolidation of these changes?

2.5.1 Perceptions

To sustain the presence of changed perceptions it is necessary to sustain the presence of their primary bearers within the governance network. In our case we see that a

majority of the people involved remain available for the next round at least in the wider governance network. Roughly 60% of the involved persons stay active in the network after finalizing the Development Plan. After the preparation of the implementation phase some 30% of the original employees switched over to the subsequent arrangement.

Within the standing organizations (ministry, water board, RWS and so on) the continuity of staffing is even higher. In both countries there are closed circles of officials (in policy, implementation, and expertise functions) who rotate regularly but stay within this cycle. That implies the maintenance of their expertise in the governance network.

Another indication for knowledge consolidation is the continuation of the Consultation Group (with stakeholders). This group was set up at the start of the process and is continued to accompany the implementation process. In this group the main cleavages between the economical and the environmental interest groups are bridged and the sustained interaction between them guarantees the continuing of the learning process.

Changed frames are reflected in the Development Plan and the advice of the Consultation Group. These documents are formally approved and thus get an official status. In latter negotiations these 'frozen' images forms the starting point and the point of reference for other actors. So the development in frames is consolidated through documents and the way in which they get an official status.

2.5.2 Relations

The continuing of fruitful forums or the creation of new ones in which actors can meet each other are important mechanisms for the consolidation of changed interaction patterns. The continuation of the Working Groups, consultations forums and the project organizations are important mechanisms for the consolidation of relations in the implementation round of the Development Plan. However, in 2008 most of them are abolished because the implementation actually begins.

The involved organizations develop new relations through new working patterns and the development of joint programs. An important example of this is the Long Term Research and Monitor Program on the Scheldt Estuary, a research program in which public authorities and research institutes closely work together in order to get a better insight in the complex dynamics of the estuary. Their improved mutual relations are consolidated through this program in which they have to show these new relations.

However, after the preparation of the implementation of the projects only an Executive Secretary remains in function with some advising bodies. Most platforms are abolished. Therefore there seems to be an important loss of social capital because of the

termination of the project organization. Before new developments impel the involved actors to come together they fall back on their old routines.

2.5.3 Institutional arrangements

A strong mechanism for knowledge consolidation was the juridical structure laid down in a series of international Treaties between the Flemish and Dutch government. In these Treaties the next step in the process is approved. The ministers follow a funnel structure: from an abstract Vision, to a more concrete Development Plan, to very concrete implementation proposals.

Another strong mechanism is the continuation of the project organization. The Long Term Vision is prepared by an ad hoc project group, composed of officials who work part-time for this group. The Development Plan and its implementation are prepared by a standing project organization with a body of assisting and administrative personnel. During the last months of the preparation of the Development Plan a 'quartermaster' is active to safeguard a smooth transition to the implementation phase. His involvement is very crucial for the organization of the 'memory' of the temporal project organization, because an important shortcoming of temporal project organizations is its 'amnesia' after the termination.

Another institutional facility to consolidate knowledge is the Technical Commission on the Scheldt (TCS). A discussion is started about its optimal organization. The regional authorities want to be involved in this Commission. Through their involvement in the policy process around the Development Plan they become known with the TCS and they realize that participation in the TCS enlarge their possibilities to influence the management of the Scheldt in a much more direct manner. Therefore they try to change the structure of the TCS which can also be seen as a consolidation of the governance reform.

2.6 POLICY WITH CITIZENS

2.6.1 Introduction to the case

The second trajectory that we analyze is a 'citizen orientation' program of the Dutch Ministry of VROM. This multiannual program started as a consequence of an amendment in the House of Commons to improve support and involvement of citizens in environmental policy development. During the elaboration of the amendment in the ministry two main objectives are set: to involve the citizens' agenda in policymaking and implementation processes by applying a wide variety of participative and coproduction instruments *and* to strengthen 'citizen orientation' among policy makers.

At the end of 2002 a program team was formed for the stimulation program 'Citizen and Environmental Policy' consisting of four employees of the Department of Environment and three hired experts. The initial strategy comes down to improving the relation with citizens by creating opportunities for participation within regular policy projects. The program management stimulated citizen orientation in more or less 30 projects, while project responsibility remained in the line-organization.

In most projects the actual organization of citizen involvement, however, appeared to be contracted out to consultancy organizations. There was almost no direct interaction between policy makers and citizens. The applied citizen orientation methodologies were relatively passive. Participating citizens were consulted about their view on the ministerial agenda and didn't have the opportunity to put issues on the agenda.

During the first phase, the program almost immediately started with a learning evaluation to inform the House of Commons about program development and preliminary results, but also to learn as program team about their approach (see Edelenbos et al., 2003). This learning approach focused on frequently providing feedback to the program team by reflections on various projects (Edelenbos and Van Buuren 2005: 598).

The evaluation resulted in a phase in which the program management had to rethink their strategy in deliberation with the hierarchical organization (2004-2006). The program team started to prepare two prominent projects, 'Citizen Platform' and 'Public Agenda & Citizen Participation', that are proposed to have substantial impact on the policymaking process. In the "Citizen Platform" citizens and experts from the ministry select and elaborate a problematic policy issue in several meetings to work out concrete advices for the Minister. The 'Public Agenda & Citizen Participation' project started during 2005. By an extensive campaign the ministry asked citizens to express their interest and opinion on issues in the ministries' policy domains.

Besides the program team invested in a training and guidebook to prepare policymakers on working with citizens and to transfer knowledge. They also started preparations for a communication offensive to enforce top-down commitment and to inform and motivate policy-makers bottom-up. These diverse developments were not very successful and disappeared to the background when the program entered a new phase, although some of them return partially.

Together with the preparation of the major projects and inspired by the advices of the learning evaluation it was decided to broaden the program in 2006 to all policy related

departments of the ministry. The name is changed into 'Policy with Citizens' program and the new team consists of a new program manager, representatives from the diverse departments and project advisors.

The broadened program has continued with the original objectives, although with more focus on organizational change. It is acknowledged, by the program team, that the main problem in improving the relation with citizens is the ministry itself. During the preparation for the major projects many barriers against the programmatic change exemplified in the hierarchical organization. The program had to fight against high level managers who, very easily, expressed that the program would be superfluous rather soon. The program management has further to deal with lack of support from middle managers.

The program management has changed its strategy from stimulating into supporting projects and policy makers. It tries to shift attention to transferring and managing knowledge about citizen orientation, to prevent that the developed knowledge and expertise on citizen involvement will be lost after program expiration. For this reason they study on possibilities to generate more continued effects of citizens' advices in the policy-making process, since actual impact seems insignificant.

2.6.2 Visible changes

The program started by spreading a message to involve citizens in policy-making over a multiplicity of projects from a belief that experiencing working with citizens would convince employees to absorb this in their policy-making routines.

In the initial program the ministerial agenda was clearly dominant in the citizen projects. The ministry had the perception that they have the best expertise for environmental policy making, which had the effect that most projects consulted citizens on the VROM agenda and not the other way around. During the intermediary phase this perception changed to an awareness that issues brought up by citizens can be of added value for the policy-making processes by reframing policy issues. Coproduction with citizens in the Citizen Platform and the Public Agenda projects led to a change of frames on some policy issues and an increasing openness in the agenda-setting phase of policy-making.

Also the perception about the program has changed. At the start the program was mainly seen as a stimulation program that financed efforts of citizen involvement in projects. Project managers were mainly focused on a successful accomplishment of their project without attention for the programmatic change process. In the third phase the need for cultural change is recognized in a meeting of the high-level management. Workshops and consultation with project managers has created awareness of the importance of an organizational change process.

The program management has broadened its orientation, which also result in changing relations. The other policy related departments became involved in the PwC program. The major projects created more participative relations of citizens. The Public Agenda project resulted e.g. in five coproduction processes with almost equivalent positions for citizens and policy-makers. In the third phase the program management has increased deliberation with project managers and line-managers in the ministry to improve the change process. The program management also started to interact with other citizen orientated projects to share knowledge and experiences.

Institutional changes are hardly visible. The only changes we witnessed have taken place regarding the program and the program management, but these changes are merely organizational.

2.7 INDICATIONS FOR KNOWLEDGE CONSOLIDATION IN POLICY WITH CITIZENS

On the three levels of perceptions, relations and institutions we now analyze which changes are consolidated.

2.7.1 Perceptions

The SPCEP and PwC operate as a temporary program organization within the hierarchy of the Ministry of VROM. During its development the program has to deal with diverse and continuous changing perceptions, which make it difficult to accomplish change and consolidation. Later the program management deliberates more actively with higher management levels to receive confirmation and commitment for their perception of a need for organizational change. Although these management layers officially acknowledge this need, their priority for citizen orientation remains doubtful.

The major projects were highly visible in the organization and created a feeling of urgency to listen to the public in the ministry's policy-making processes, which contributed to the awareness for citizen-orientation in the organization. This also resulted in more attention for continued effects of citizen advices in policy-making processes. There are nevertheless serious doubts about the consolidation of these frames in new policy projects. After the projects are finished in most cases old routines gain advantage. The program management has increased the monitoring of project results in general and started a study to increase continued effects to overcome these old frames. The training course was another attempt to consolidate a citizen orientation frame among policy-makers by enhancing knowledge, skills and competences. Since the training appeared not to match with the questions and needs of policymakers, this was not very successful.

It appears that a small group of people in and around the program is enthusiastic and works along a citizen-orientation frame of policy-making. These are also the policy-makers who are participating in the citizen-projects. Continuity and commitment of these people does contribute to consolidation of knowledge on citizen orientation among them, although it has limited effect on the organization.

2.7.2 Relations

In the evaluation of 2007 e.g. it is noticed that despite the program is positioned at the Inspectorate department, the program management is able to maintain and create necessary connections through the organization (see also Pröpper et al., 2007). Contrary to these lasting internal connections the program management has variable relations with a diversity of consultants and experts from knowledge organizations. The discontinuation of cooperation with experts in the program team after the first phase is exemplary.

The relation between consultants and the program is also interesting in the light of interactions with citizens. For many projects consultants are hired to apply their methodology. This eventuates in that a great deal of interactions with citizens is done by consultants. This indirect way of interaction with citizens, does not contribute to relation-building between policy-makers and citizens.

Further, most of the projects are organized as part of their line-department, which makes it difficult to combine them in an integral program. The projects and involved policy-makers have their own arrangements for interaction and communication. Certainly in the first phase the program management does not actively stimulate knowledge transfer and mutual learning between projects in the realm of a programmatic change process. The program management gradually tried out workshops to bring project managers together, to discuss their projects and difficulties this approach up, although they have a tendency to apply formats and procedures instead of stimulating interactions.

Other mechanisms for knowledge consolidation are the relations in the bureaucracy of the Ministry of VROM. The program management has invested in better relations with middle and higher management levels to improve the embedding of the program and its results. The program management received acknowledgement of their objectives from the board of directors and started conversations with middle managers to anchor the program in the organization.

Mainly in the third phase the program management participates in an emerging network of citizen-oriented programs. Exchanging methodologies, knowledge and experience among these programs creates possibilities for the survival of citizen-orientation knowledge in the diversity of national government departments.

2.7.3 Institutions

The installment of the program organization within, but also relatively unattached to, the line-organization of VROM, is an important institutional mechanism. It is a driving and continuous factor in the citizen-orientation process in the ministry.

The broadening of the program is one of the most important institutional changes during the process. The involvement of the other policy departments of VROM creates opportunities for spreading knowledge. Although there is growing attention in the program for relational knowledge consolidation mechanisms, the program management still has a focus on determining explicit knowledge by procedural mechanisms like formats for projects, documentation of applied methodologies, et cetera.

Rather soon after the broadening the programmatic approach survived a tendency in the ministry to become defined as a success, without actual insight in the progress of the change process and clear sight on how the acquired knowledge could be consolidated. The program management succeeded to make this clear to the higher management levels and gained support to continue till 2010 with the intention to realize an institutionalized arrangement within the organization for citizen-orientation support and knowledge.

2.8 CASE COMPARISON

Table 2.2 Case comparison

| | Scheldt | Policy with Citizens (VROM) |
|-----------------------------|---|---|
| Overall trend | Quite substantive changes in behavior of actors and organization of the network | Only modest changes in the behavior of actors and no visible organizational changes |
| Implementation logic | New ways of doing are developed within the network and replace old routines. | New ways of doing are 'contracted out' to consultants and are not acquired by bureaucrats. Projects remain pilots – besides the daily bureaucratic routines |
| Organizational form | Strong project management that coordinates all activities part of the change trajectory | Program management initiates a lot of projects without strong connections to the line management |

As said, the contextual differences between our two cases are enormous. The Scheldt case is a typical complex network setting, while the VROM case is posited within a complex bureaucratic context. When we compare the two cases with regard to their relative successes, Table 2.2 resulted.

The observed changes in the Scheldt case are much more visible and straightforward compared to the VROM case. An important explanation for this difference is the perceived need for change in the Scheldt case: everybody knew that another way of working was necessary to realize effective policy outcomes, while in the VROM case most civil servants were hesitant to open up their own practices for the involvement of lay people. The main differences in consolidated change between both cases are presented in Table 2.3.

Table 2.3 Differences in consolidation

| Consolidation | Scheldt | Policy with Citizens (VROM) |
|----------------------|---|--|
| Perceptions | Actors know their mutual dependency and are willing to look for mutual attractive solutions | No real change in perception about how to organize legitimate policy processes |
| | Actors have better understandings of the possibilities for mutual attractive deals | Citizen involvement remains framed as an additional difficulty in complex policy processes |
| Relations | New, collaborative relations are developed | Relations are temporal: within temporal projects new relations are build up but ended when the project is finalized |
| | Relations are consolidated in new, formalized arenas for interaction | Relations are mainly instrumental: aimed at realizing the project ambitions |
| Institutions | Some institutional changes are made, especially with regard to the structure of the TSC | The program approach is for the time being prolonged. |
| | A couple of agreements are institutionalized in formal treaties. | There are no visible organizational changes: the program remains as separate unit the only carrier of the new philosophy |

Based upon this comparison we can conclude that both the changes realized in the Scheldt case as the extent to which they are consolidated in changed perceptions, relations and institutions, are much more convincing than the VROM case. In the Scheldt case the whole governance network was affected by the change trajectory and was even part of it where in the VROM case the change program was organized as an island in a highly inert organization with its own logic and routines.

An important observation has to be made. Although we characterized before the VROM case as a bureaucratic change process, in practice we can see that it is actually well conceivable as a complex governance network. The program management responsible for implementing the program was highly dependent upon the (voluntary) collaboration of other ministerial agencies and was actually constantly lobbying for support. The change process within the department was seen by many administrators as an experiment without formal obligations, a political hype without serious consequences. For many of them the change objective remains therefore on a distance.

2.9 CONCLUSIONS

Based upon this case comparison we can nuance our assumption that 'the organizational context is crucial for consolidating governance capacity'. There are other elements much more important for explaining the success of the change trajectory as such and its consolidation. These elements are fourfold.

First, we have to take into account the relative costs and benefits of a change trajectory for involved actors. In the VROM case the costs were rather high: existing routines which were normally rather effective, has to be replaced by laborious experiments in which new actors has to be mobilized and heard. In the case of the Scheldt nearly everyone was convinced about the necessity of changing existing routines to realize more legitimate and effective outcomes. That makes the willingness for change and the investments in consolidating its results much higher.

Second, and related to this point, we have to consider the origin of the desire for change. In the Scheldt case this origin laid in the people involved in the network of decision-making. There was not only a political desire for change (expressed by Parliaments and Cabinets) but also by the stakeholders involved. In the VROM case only a Parliamentarian majority was supporter of reform. This intrinsic motivation in the Scheldt case can also be seen as an important explanation for more consolidation efforts.

A third notion has to do with the organization of the change trajectory is organized. The VROM case shows an experiment in which the new philosophy is

dispersed by ways of multiple local projects which functions as carriers of the new ideas. Although we can imagine that such an approach is helpful in 'spreading the word', we can learn from this case that it is very difficult to consolidate the effects of this approach. Many small initiatives don't count towards a big one. The Scheldt case is much more a coherent change project in which all activities to rearrange the network fit into a coherent project. However, at the same time the context of change in the Scheldt is also an important barrier for real change: the learning process occurs in the temporal project organization in which only a small part of the involved officials are working and which keep up relatively loose couplings with the standing organizations. That means that the largest part of the network do not experience this learning process and thus that change in the broader governance network will depend upon a few 'ambassadors'. The resistance against change in organizations which were no part of the change process can be substantially.

Finally, we have to reconsider our assumption about the possibilities for consolidating change in a network context. In fact, we can conclude that the volatility of a network is a strong stimulus to invest in provisions to safeguard the consolidation of successful changes. A wide variety of instruments is actually applied to consolidate the newly developed governance capacity. Within a bureaucratic context, consolidating change cannot without strong commitment of the top and real organizational reshuffle.

We can conclude that consolidating the revenues of change processes not so much depend upon the organizational context of the changing governance system in terms of more hierarchical or network characteristics, but on the more specific characteristics of the change program and its implementation, the motivation of its members and the degree of attachment of the people involved to the change program.

REFERENCES

- Baird, L., Deacon, S., Holland, Ph. (2000) From action learning to learning from action: implementing the after action review, In: R.L. Cross & S.B. Israelit (eds.) *Strategic learning in a knowledge economy: individual, collective and organizational learning process*, pp. 185-202. Boston: Butterworth Heinemann
- Blackler, F. (1995) Knowledge, knowledge work and organizations: an overview and interpretation. *Organization Studies*, 16(6): 1021-1046.
- Boogers, M., B. Becker & P. Tops. (2005) *Experiment Burgerplatform VROM*: Tilburg: Tilburg University
- Boonstra, J.J. (2004) *Dynamics of Org. Change and Learning*. Chichester: Wiley
- Buuren, M.W. van (2006) *Competente Besluitvorming*. Lemma: Utrecht.
- Castells, M. (1996) *The Rise of the Network Society, The Information Age: Economy, Society and Culture, Vol. I*. Cambridge: Blackwell Publishers.
- Connick, S. & Innes, J. (2001) Outcomes of collaborative water policy-making: applying complexity thinking to evaluation. University of California at Berkeley, Institute of Urban and Regional Development. Working paper 2001-08.
- Cross, R. & Baird, L. (2000) Technology Is Not Enough: Improving Performance by Building Organizational Memory. *Sloan Management Review*, 41(3): 69-79.
- Dickens, L. & Watkins, K. (1999) Action research: Rethinking Lewin. *Management Learning*, 30(2): 127-140.
- Edelenbos, J. (2005) Institutional implications of interactive governance: insights from Dutch Practice. *Governance*, 18 (1): 111-134.
- Edelenbos, J. & Buuren, M.W. van (2005) The learning evaluation: a theoretical and empirical exploration. *Evaluation review*, 29(6): 591-612
- Ferlie, E., Hartley, J. & Martin, S. (2003) Changing Public Service Organizations: Current Perspectives and Future Prospects. *British J. of Manag.* 14(s1): 1-14
- Grant, R.M. (1996) Prospering in Dynamically-competitive environments: organizational capability as knowledge integration. *Org. Science*, 7(4): 375-387.
- Greenwood, D. & Levin, M. (1998) *Introduction to Action Research. Social Research for Social Change*. London: Sage.
- Hajer, M. & Wagenaar, H. (eds) (2003) *Deliberative policy analysis: understanding governance in the network society*. Cambridge University Press: Cambridge
- Hall, T.E. & O'Toole, L. J. (2000) Structures for policy implementation: an analysis of national legislation, 1965-1966 and 1993-1994. *Administration & Society*, 31(6): 667-686
- Heffen, O., Kickert, W. & Thomassen, J. (eds) (2000) *Governance in modern society: effects, change and formation of government institutions*. Dordrecht: Kluwer

- Healey, P. (1998) Building institutional capacity through collaborative approaches to urban planning, *Environment and Planning A*, 30(9): 1531-1546.
- Hennestad, B.W. (1998) A constructive triad for participative learning, *Journal of Management Inquiry*, 7(1): 40-53.
- Innes, J.E. & Booher, D.E. (1999) Consensus building and complex adaptive systems. A framework for evaluating collaborative planning, *Journal of the American Planning Association*, 65(4): 412 - 423.
- Kessels, J.W.M. (2001) *Verleiden tot kennisproductiviteit*. Rede, uitgesproken bij het aanvaarden van het ambt van hoogleraar Human Resource Development aan de Faculteit der Toegepaste Onderwijskunde, 8 februari 2001, Twente [in Dutch].
- Klein, D.A. (ed.) (1998) *The strategic management of intellectual capital*. Boston: Butterworth Heinemann,
- Klijn, E-H. & Teisman, G.R. (2000) Managing public-private partnerships: influencing processes and institutional context of public-private partnerships, In O. Heffen, W. Kickert & J. Thomassen (eds) *Governance in modern society: effects, change and formation of government institutions*, pp. 329-348. Dordrecht: Kluwer
- Meijerink, S.V. (1998) *Conflict and Cooperation on the Scheldt River Basin*. Zwolle.
- Mintzberg, H. & Waters, J.A. (1985) Of strategies, deliberate and emergent. *Strategic Management Journal*, 6(3): 257-272
- Nahapiet, J. & Ghoshal, S. (1998) Social capital, intellectual capital, and the organizational advantage. *The Academy of Management Review*, 23(2): 242-266.
- Osborne, S.P. & Browne, K. (2005) *Managing change and innovation in public service organizations*. New York: Routledge
- Pollitt, C. & Bouckaert, G. (2000) *Public Management Reform: A Comparative Analysis*. Oxford University Press: Oxford.
- Spanos, Y.E. & Prastacos, G. (2004) Understanding organizational capabilities: towards a conceptual framework. *Journal of Knowledge Manag.* 8(3): 31-43
- Teece, D.J., Pisano, G. & Shuen, A. (1997) Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7): 509-533.
- Teisman, G.R. & Klijn, E.H. (2002) Partnership Arrangements: Governmental rhetoric or Governance Scheme. *Public Administration Review*, 62(2): 197-205.
- Teisman, G.R., Edelenbos, J., Klijn, E.H. & Reudink, M. (2004) *State of the Art Coproductie: STIP-Studie*. Den Haag: Kenniscentrum Grote Steden [In Dutch].
- Turner, J.R., Keegan, A. and Crawford, L. (2000) *Learning by experience in the project-based organization*. ERIM Report Series Research in Management,
- Van den Bosch, F.A.J., Volberda, H.W.; De Boer, M. (1999) Coevolution of firm absorptive capacity and knowledge environment: organizational forms and combinative capabilities. *Organization Science*, 10(5): 551-568.
- Wenger, E. (1998) *Communities of Practice*. Cambridge: Cambridge University Press.

CHAPTER 3

CONNECTIVE CAPACITY OF PROGRAM MANAGEMENT: RESPONDING TO FRAGMENTED PROJECT MANAGEMENT

This chapter is based on: M.J. Buijs & J. Edelenbos (2012). Connective Capacity of Program Management: Responding to Fragmented Project Management. *Public Administration Quarterly*, 36 (1), 3-41.

ABSTRACT

This chapter discusses the emerging of program management as a response to fragmentation in public administration. The objective of this study is to provide empirical insight into how programs evolve in a contemporary program management perspective. Program management is considered as a deliberate attempt to interconnect single projects in an overarching program and to connect this program to a line organization. Connective capacity is derived as one of its main features. In this chapter the connective capacity of program management is studied in the cases Policy with Citizens program within a Dutch ministry. This program was selected since it exemplifies the complexity of connections between project - program, and program - line organization. The chapter concludes with insights from the case study and how these support and deliver added value to the existing body of literature. It is concluded that program management is a process of sense making. Further conclusions are drawn about the deficiency of conditions for the development of coherent programs in public organizations. Finally the chapter provides challenges and advice for program management to act in a two-fold coevolutionary process with projects and line organizations.

3.1 INTRODUCTION

In the last decades program management has emerged as a new type of management between line management and project management approaches. For a long time, the dominant management paradigm in management theory and practice has been functional hierarchical line management (Turner & Keegan 1999). According the organization principles of Fayol, Urwick and Taylor the ideal organization is divided into functional specialties clearly bounded from one another. Line managers were appointed on higher hierarchical levels to integrate and coordinate these specialized domains and sectors within organizations (Moss Kanter, 1983: 58-61). However, coordination and integration remains a problem in fragmented organizations (Koteen, 1997).

Since the 1950s, private and public sector organizations have adopted project-based approaches to cope with fragmentation and to realize functional integration in organizations (Koteen, 1997; Turner & Keegan, 1999). This project management approach is trying to transcend organizational line structures and to bring more integration between specialized domains (Koteen, 1997). The growth in the use of project management in the last decades is sometimes called 'projectification' (Maylor et al., 2006). Its failure in bringing more coherence and coordination in public organizations is also widely discussed (e.g. Turner & Keegan 1999; Crawford et al.,

2003; Maylor et al., 2006). Projectification is discussed as a new way of fragmentation of projects operating in isolation from each other. Projectification is nowadays followed by a move towards 'programmification', in which project clusters or portfolios are being created (Koteen, 1997; Maylor et al., 2006;) to ensure that individual projects are properly attuned, connected, integrated and coordinated (Koteen, 1997; Crawford et al. 2003; Lycett et al., 2004; O'Toole & Meier, 2004). We explicitly define program management as managerial attempts to bring closer connection between single projects and with the line organization (c.f. Maylor et al., 2006). However, empirical studies on these benefits and on the broader issue of program management in the public sector are rare (O'Toole & Meier, 2004).

Our objective in this chapter is to provide more empirical insight in the dynamics of program management in the public sector. We especially focus on how program management activities succeed or not in realizing more connectedness between singular projects and how these projects become more connected with line management in public organizations. Our research question is therefore: how evolves program management in public sector organizations and what affects the connective capacity of program management in the public sector? We discuss and analyze a case study on the Policy with Citizens program at the Dutch Ministry of Housing, Spatial Planning and Environment (abbreviated in Dutch as *VROM*: 'Volkshuisvesting, Ruimtelijke Ordening and Milieubeheer').

The structure of this chapter is as follows. In the next section we introduce a theoretical framework, in which we discuss program management as a response to fragmentation in organizations. We finish this section by describing the analytical focus we will be using for the case study. Subsequently we explain the research methodology. We start the empirical part with background information on the case and describe the structure and functioning of this program. Next, we present our findings of the case and conclude with a discussion in the final section.

3.2 PROGRAMMATIC APPROACHES IN PUBLIC MANAGEMENT

3.2.1 Fragmentation and integration in public organizations

Fragmentation and integration are core concepts in the field of public administration (Alter & Hage, 1993; Peters, 1998; 6 et al., 2002; Pollitt, 2003; Bryson et al., 2006; Keast et al., 2007; Laegreid & Wise 2007; Christensen & Laegreid 2007). Scholars in public administration are familiar with the departmental structure of governmental organizations. In the beginning of the twentieth century, various management theories

emphasized the efficient functioning of organizations. Fayol and Urwick conceptualized management as a process of planning, organization, command, control and coordination. The division of labor and the specialization of tasks continue to be basic organization principles. Organizations evolved by precisely demarcating tasks and functions, and were organized hierarchically along clear lines of responsibilities (Whetten, 1977; Peters, 1998; Keast et al., 2007). The ideal organization is divided into functional specialties that have clear boundaries between each other, with managers appointed on a higher hierarchical level to coordinate these specialized and functional areas. Organizations were perceived to be machines, composed of different parts that could be managed and coordinated mechanically (Morgan, 1986: 27).

Fragmentation is a consequence of the pursuit of specialization, a driving force for wealth and development (Pollitt, 2003). Simon (1962, 1981) formulated his famous decomposition-coordination thesis on this topic. First, work is decomposed (through differentiation and specialization) into separate units to realize efficiency and productivity in organizations. Second, line and middle managers are appointed to coordinate and integrate the separated work units to realize general organizational goals (Blake & Mouton, 1963; Lawrence & Lorch, 1967; Galbraith, 1973; Pfeffer, 1978; Mintzberg, 1979). Through coordination activities one tries to ensure that specialized activities fit together in a coherent and beneficial way (Moss Kanter, 1983: 58-61; 6 1997; Peters, 1998; 6, et al., 2002; Keast et al., 2007).

In the last few decades the negative effects of fragmentation have shadowed the positive impacts of specialization. The perception of organizations as machines was supplanted with the understanding that organizations are complex systems composed of different subunits. Morgan (1986: 37-38) has argued that a focus on departmental and segmented interests and pet projects may subvert the working of the whole. Separate actions guided by subgoals and individual time frames and action schemes may become dysfunctional at the level of the overall system, especially for solving societal problems (Whetten, 1977; Alter & Hage, 1993; March, 1999). Moss Kanter (1983:31-32) described the problem thus:

“The structural barriers to communication, to exchange of ideas, to joint efforts to solve problems are matched by attitudes that confine people to the category in which they have been placed, that assume they are defined by that category, and that fail to allow them to show what they can contribute beyond it.”

Public organizations have become even more fragmented as the philosophy of New Public Management (NPM) took hold. NPM aimed to reform public administration by using new business management models that would lead to lean and decentralized structures, market- oriented delivery of public services, a focus on outputs and

efficiency, and an increase in the importance of measurement, quantification, managerialism and empowerment (see e.g. Crawford et al., 2003; Koppenjan & Klijn, 2004; Pollitt & Bouckaert, 2004; Pollitt et al., 2007).

These NPM reforms provided a breeding ground for project management approaches in public management. If public management employees can define a unique task with a limited scope, limited time span and clear budget lines, they normally tend to launch a project (Crawford et al., 2003; Maylor et al., 2006). Projectification meant that the same question was asked as with the earlier trend towards specialization: how could these autonomous projects be related and connected to each other and the larger public organization (Teisman 2005)? The project management approach has a rational and well-ordered management orientation that is based on a closed and mechanistic system perspective (Jaafari, 2003; Thiry & Deguire, 2004; Jugdev & Müller, 2005). As with specialization, projectification might result in fragmentation within public organizations.

A response to NPM took place, moving away from structural devolution, disaggregation and single-purpose organizations (6 et al., 2002; Keast et al., 2007), towards a so-called Whole-of-Government or Joined-up-Government approach (Pollitt, 2003; Christensen & Laegreid, 2006). These initiatives are described as the opposite of departmentalism, tunnel vision and vertical silos. They denote an aspiration to achieve horizontal as well as vertical coordination and integration (Pollitt, 2003; Christensen & Laegreid, 2007).

3.2.2 Program management as a response to fragmentation

Program management approaches can be viewed as a response to the fragmentation that was caused by projectification (Teisman, 2005; Maylor et al., 2006). Contemporary program management has emerged out of the interdependencies between projects (Thiry & Deguire, 2004). However, there is some ambiguity about the concept of a 'program' and how it can help to manage fragmentation. In the public administration context, programs are used in many different settings (see also Mandell, 1994). Perhaps Kettl (1988) has expressed the broadness of the term 'program' best by arguing that eventually most activities in the public domain can be structured as part of programs. Here, we discuss program management as a response to the fragmentation that exists in public organizations.

In the public administration literature, programs are often discussed in the context of PPBS and other mechanisms that are used to enhance accountability in budgeting and planning (see e.g. Pressman & Wildavsky, 1973; Van Gunsteren, 1976; Mintzberg, 1994). Despite the widespread adoption of similar approaches across the world, PPBS was not very successful. However, programming remained as an important mechanism in the strategic planning cycle of functional line management for

structuring activities (Mintzberg, 1994). Programs in this cycle are used to implement strategies that were developed earlier, which is one way in which 'grand design' plans can be divided into concrete activities (Mintzberg, 1994). This classic interpretation of programs leads to further fragmentation in organizations.

Pressman and Wildavsky (1973), in their well-known study, argued that a program should be considered to be an evolving whole whose development depends on the interaction and interconnection of many interdependent elements. Moreover, future processes cannot be predictably planned in advance:

"Something should be left open to the unfolding events. Then as latent conflicts become manifest, the original agreements have to be renegotiated and a new and possibly more antagonistic situation emerges." (91-92).

Many contemporary approaches to program management focus on interconnecting different autonomous project activities into a larger whole. Program management is about realizing connections among various projects and the hierarchical line structure within organizations (Mandell, 1994; O'Toole et al., 1997; Hall & O'Toole, 2000; Lycett et al., 2004). Majone & Wildavsky (1984: 166) claim that two processes are at play during implementation: on the one hand, the borders of what is feasible have to be explored continuously; on the other, there is a constant effort to interconnecting and integrating the diverse components (projects) of a program.

As we argued in the introduction, the concept of program management can create new possibilities for averting the shortcomings of line management and project management approaches in public organizations. Project management approaches create planned isolation to enable projects to develop relative separately from their environment. However, since no project is an island, interdependencies among projects will appear regularly during their development (Engwall, 2003). As a consequence, a program is not a stable but a dynamic concept that is built on moving and interconnected projects. During the development of a program and its mutually intertwined projects, there will be irrevocable effects on the structure and interaction patterns of the line organization. The relation of program management and line organization is a continuous process of connection and disconnection (Lehtonen & Martinsuo, 2008). While a program, the projects it contains, and line management are separately distinguishable components, they are mutually interdependent and highly co-related (Partington, 2000). Program management can thus be considered to be an adaptive process where there is a constant search for a temporary interconnection between the various projects and line structures within organizations.

Browne and Wildavsky (1984: 237) warned that overspecialization and a preference for internal stability in organizations could counteract the opportunities for reciprocal adaptation between a program and its context during implementation. Overspecialization and a focus on internal stability can be risky for the interplay between projects, program and line organization. An internal focus and non-cooperative behavior of actors in a network disturb their mutually interdependent processes (Klijn & Teisman, 2003: 141), which may result in systemic inertia and program stagnation (Teisman, 2005). Deliberate isolation of projects can create myopic visioning by stimulating a focus on a-priori well-defined content and self-referential behavior. This may result in overestimation of the project organization's own procedures and delivery (Klijn & Teisman, 2003; Riis & Pedersen, 2003). At the level of program management, Mandell (1994) introduces the concept of 'program rationale'. Individuals involved in the implementation of a program are usually committed to that program. A surplus of this commitment can lead to detachment from their line organization. As Kettl (1988) and O'Toole et al. (1997) show, in the network around programs, participants of line organizations primarily act out of responsibility to their own sub-network. From this position, they try to ensure their own interests and attempt to influence the development of the program as much as possible. Klijn and Teisman (2003) indicate that such behavior carries the risk that programs will become collections of loosely-linked projects.

Murray-Webster and Thiry (2000) view contemporary program management as an emerging arrangement that provides organizations optimal advantage for interconnecting and integrating project activities. An important characteristic of program management, which distinguishes it from project management, is the creation of a framework that shapes the context for projects by grouping, initiating and directing them. Gardiner (2005) argues that many projects take place as part of a portfolio of projects. However, program management differs from portfolio management as, it not only coordinates projects and allocates resources across them, it also aims to deliver an additional benefit by stimulating development beyond the individual project objectives (Turner & Müller, 2003; Partington et al., 2005). Its focus on interconnectedness among projects highlights the synergetic character of program management (Dijkzeul, 1997; Gardiner, 2005; Maylor et al., 2006). Projects are evaluated in terms of their coherence and synergy (Turner, 2000; Pellegrinelli, 2002; Teisman, 2005). Moreover, program management can be seen as a series of management activities to interconnect both projects and line structures (Lundin & Soderholm, 1995; Turner & Müller, 2003). From this perspective, program management can be viewed as a temporary organization, where program managers shape the content, structures and processes of their

programs in connection to the diversity and fragmentation of the aims and interests of various project and line managers (Lehtonen & Martinsuo, 2008).

3.2.3 Analytical focus: connections between program, projects, and line

Thus, the core focus of program management is to realize synergetic coherence among projects in relation to organizational line structures. In this view, program management is about realizing productive and meaningful connections with projects on the one hand and line organization on the other hand (Lundin & Soderholm, 1995; Turner & Müller, 2003; Lehtonen & Martinsuo, 2008. Program management connects strategic planning processes at the level of the line organization with concrete activities at the project level (Koteen, 1997; Crawford et al., 2003; Lycett et al., 2004; Murray-Webster & Thiry, 2000).

In this research we define program management as ‘a deliberate attempt to interconnect single projects in an overarching program and to connect this program to the line organization’. The definition emphasizes the notion of *connective capacity* of program management, which is the capacity of a program to connect fragmented and sometimes isolated projects to the specific goals and priorities of the program, and to integrate these within the strategic planning processes in the line organization.

We focus on the management activities of project, line and program managers in the case. Our units of analysis are the individuals who manage programs. In line with our definition we explicitly investigate the capacity of these managers to connect: 1) programs with projects and 2) programs with the line organization. We thus study the connective capacity of program management on two levels.

1. *The connections between projects and program: the level of interrelatedness between the program management team and the project managers of single projects.*

Here, we focus at the attempts, or lack of them, by program management to create connections amongst projects by considering: the number and diversity of projects supported by the program managers; the distribution of resources (knowledge, financial, people) by the program team over projects; and the way in which program managers manage interrelations between projects to create synergy between them and to make sense of these interrelations at program level.

2. *The connections between program and line organization: the level of embeddedness of the program management in the line organization and the approach of line managers with respect to a program (and its projects).*

Here, we take into account the initial position of program managers in relation to the line organization and the development of this position. We concentrate on the attitude of line management towards the program, attempts of program managers to interact more frequently with line managers, and the development of mechanisms to increase the embedding of (integral) programmatic results in the content, structure and processes of the line organization.

3.3 RESEARCH METHODOLOGY

To analyze the two levels of connective capacity of program management we conducted case study research. We selected the program 'Policy with Citizens' developed and implemented by the Ministry of VROM. The development of 'projectification' can be witnessed at this ministry (Vermeulen & Schrijver, 1996; Teisman, 2005). This case is furthermore interesting and relevant for this study because program managers deliberately sought out project cohesion, program development, and embeddedness in the line organization of the ministry. Program management was developed and implemented within this ministry aimed to connect single projects and to connect the program to the ministry's line organization. Therefore it is considered useful for this research. We are aware that we study only one case, on a specific governmental level (national government), within a certain field (Spatial Planning and Environment) and within a specific country (The Netherlands). However, our ambition is not to generalize insights from this research, but to generate deeper understanding in a specific case on how connective capacities of program management evolve in practice. This ambition corresponds with the supposed added values of the study and the main question posed in the introduction of this chapter.

We gathered data in a number of ways: 1) document analysis (of policy documents, project portfolios, meeting minutes, etc.); 2) semi structured interviews with 10 key actors (program managers, project managers, line managers, and civil servants active in projects, programs and line organization); 3) participatory observation (of program meetings, project meetings and meetings of middle managers in the line organization); and 4) workshops / group interviews (one session with the program team and one with project managers). The first two methods were the foundation of our research, whereas the last two methods were used to validate and sometimes further elaborate (prior) findings. coming from the first two research methods. They were used for testing and controlling the findings coming from document analysis and interviews The study resulted in an evaluation report for VROM (Buijs, Edelenbos & Slob 2006).

We studied the case throughout a number of years in the period 2004-2007. This historic analysis provided us the chance to observe the evolution of the program and the connective capacity of program management over a longer period of time. We interviewed the 10 key actors for a number of times, some of them even three times (for example the program manager). In total we conducted 25 semi-structured interviews. The interviews were all structured around the core concept 'connections'. We explicitly asked project managers, line managers, and program managers questions on their *attitude* towards other projects, the program and line organization, their *specific actions* in developing and implementing the projects and program, and the *attitude, motives, resources and actions to (not) develop and establish connections* to other projects, the program and the line organization. We also asked for *results* and *conflicts* in realizing connections with projects and line organization. These concepts were also used for analyzing the documents.

Next, we provide some background information on the case, followed by an analysis based on our two focal points.

3.4 CASE DESCRIPTION: POLICY WITH CITIZENS PROGRAM

In this section, we describe the program Policy with Citizens at VROM. This program was selected since it exemplifies the complexity of two connections levels (between project - program, and program - line organization). The program was implemented as part of an effort to improve the relationship between the ministry's policy-makers and the diverse citizens in society. The program was all about developing more citizen orientation and participation in the Ministry of VROM. Program management in this context was confronted with a variety of projects and a hierarchical line organization that caused fragmentation regarding to citizen orientation and participation in projects. The deliberate intention of the initiators of Policy with Citizens was to create an integrated program, which placed citizen-orientation at the center of policy-making.

The program Policy with Citizens is best referred to as an organizational change program. Compared to social intervention programs, like neighborhood, housing, or welfare programs, Policy with Citizens is rather focused on the organization of the ministry instead of directly on the well-being of citizens. Further, this study is not focused on the potential of the program's policy, it considers the dynamics and management of the program.

3.4.1 Background information

At the end of the 1990s, VROM's Environmental Department became aware that its relations with citizens needed to be reoriented. The environmental policy existing then

was too technical and did not correspond with the lifeworld of citizens. To prepare a new national environmental policy plan, the ministry began experimenting with various citizen-oriented projects. In a study on the preparation of this policy plan, Beckers et al. 2000 concluded that, while many interesting and mostly small-scale projects and initiatives existed in this field, they were not connected to each other. Thus, even though attention was paid to citizens within VROM, the overall impact was highly fragmented and divergent (Beckers et al. 2000).

During the budget debate in 2002 for VROM in the Dutch Parliament, a motion was adopted that requested the ministry set up the national environmental policy such that it was *of, for and by the citizens* to a greater extent (Dutch Parliament 2001-2002, 28 000 XI, nr. 21). Due to this motion, allowance was provided in VROM's budget for a program to stimulate the involvement of citizens in the field of environmental policy-making. The then-Minister of VROM followed through by starting up a multi-year program 'Citizens and Environmental Policy', which was later called 'Policy with Citizens'. This program included, among other things, the coproduction and

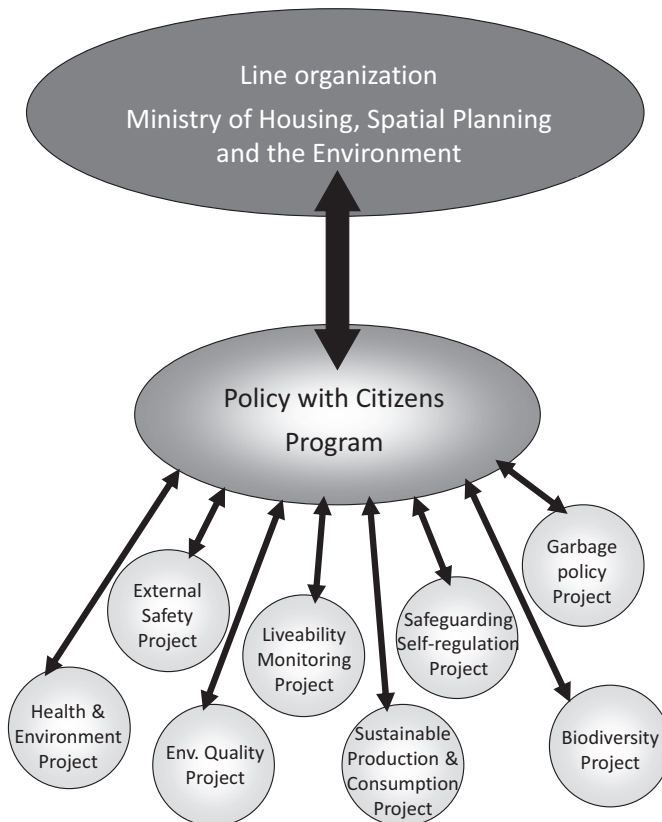


Figure 3.1 Impression of relations between program, projects and line

participation of citizens in the decision-making processes of the Environment Directorate-General (abb. DGM). From the start, the program's focus was on intensifying citizen-orientation among civil servants and project managers in policy preparation. Other directorates of the department (Spatial Planning, Housing and Inspectorate) were involved later on, from 2007 onwards. Our study focuses on the period until 2007.

A combined program team was created to carry out the program. It was made up of four DGM employees and four external specialists/consultants in citizen-involvement. The team advised and offered different types of support (financial, knowledge, etc.) to a variety of projects (see Figure 3.1).

3.4.2 Civil servants and the 'Policy with Citizens' projects

The program management made connections to a number of projects in areas such as external safety, biodiversity, garbage policy, environmental pollution, and spatial quality and livability (see Figure 3.1). In general, there was a reasonable degree of enthusiasm among the policy makers and civil servants in these projects for a citizen-oriented approach. However, along the way, the program team met a variety of barriers. First, almost every project manager felt they did not possess the competencies to include citizen-orientation in policy projects. They argued: 'I am not trained to involve citizens adequately in my project'; 'I have learned some things about project management, but not about citizen-involvement and orientation'; 'This is a totally new ballgame' (Project manager, 2006). 'Some colleagues had sleepless nights, because they did not know what to do in this citizen-orientation way of working' (Project manager, 2006).

Four project managers indicated that they didn't want to change their work routines, because the new drive was merely a political wind that would blow over. 'Why should I invest in all these new methods and skills: it is just a phase that soon will be over. It is just one of the many ideas from top management within our department' (Project manager, 2005). Previous initiatives that stimulated citizen engagement and interactive policy making within VROM, such as the Implementation Challenge and the Pegasus Program, had not succeeded in bringing about any structural and behavioral changes in the organization. Moreover, almost all interviewed civil servants and project managers questioned the purpose and added value of citizen orientation, because they themselves were the experts in the field: 'why involve citizens in this complex project, as they don't have the proper knowledge to understand what is going on. Moreover, I don't see any added value in involving citizens: what can they teach me in the field of environment?' (VROM employee, 2006). This indicated the overall reluctant attitude of project managers and civil servants to engage in the program 'Policy with Citizens'.

Two respondents indicated that they already had developed a citizen-orientation in policy making: 'I'm already doing this. Why should I invest in participation in a program; this only takes time' (VROM employee, 2005). There were two civil servants who questioned the whole idea to develop citizen-orientation from a normative (democratic) point of view: 'Why should we listen directly to citizens? They are not my principals. My job is to provide information to top and executive managers from the department' (VROM employee, 2005).

A common complaint was that they were judged according to end-results during their staff appraisals; thus, process-related issues, such as citizen-orientation, did not count for much. It was commonly acknowledged that middle management was mainly content-oriented. The employee appraisal system gave virtually no incentives to employees for becoming project managers in the program and for adopting a more citizen-oriented approach. 'Why should we invest in a time-consuming consultation process with citizens, when we are assessed on the substance of our policy? Consequently, employees focused on short-term aims and their individual scores, while long-term objectives and process-oriented developments were not appreciated at the middle-management level.

3.4.3 The programmatic nature of Policy with Citizens

Strikingly, line management approached the Policy with Citizens program as a single project, with one objective, namely, the involvement of citizens. Despite the minister's commitment, political assignment from parliament, and the approval of the goals by the Board of Directors, it remained uncertain how far line management in general supported the goal of culture change and recognized the long-term nature of the program. The program management was continuously insecure about the consolidation of the line management's commitment and felt that they had to deal with a conservative attitude among civil servants and public managers on new ways of policy making with citizens.

Moreover, all project managers did not perceive the program as a change process. They were focused more on meeting their project goals within the existing parameters formulated by line management, than on finding out how the project could add value to the program, and to the overall change process within the ministry. This is hardly surprising, since they are appraised on how efficiently they manage projects. 'I am not assessed on the citizen-oriented way of policy-making, I am assessed on what I realize (substance of environmental policy) and if this is realized in an efficient way' (Project manager, 2006). There are no incentives from middle management for their employees to be citizen-oriented. These incentives hampered the ambition of program management to generate coherence and interconnectedness of the projects and its connection to line organization, particularly middle management.

All project managers of Policy with Citizens projects were mainly interested in their own isolated projects. 'Why should I be concerned or interested in other projects or in the general program? I have my own project assignment that is sharply defined' (Project manager, 2005). There was a lack of sense of the embeddedness of individual projects in an integrated program. This approach was legitimate in the eyes of the project managers because they were assessed on their specific projects, not on their involvement in other projects, how embedded they were in the program, or their level of contribution to program goals. Their orientation was not on connecting their projects to other projects, but to keep their own project safe from disturbances by external dynamics.

Projects remained isolated from each other and, to a lesser degree, from program management. Projects stayed within their limits; no interconnection among projects within a programmatic view was realized. As a consequence, information and experiences on citizen-orientation from individual projects was rarely consolidated at the level of the program or the organization. Projects were coordinated and supported by the program team in an ad hoc way, by, for example, helping project staff develop project proposals and financial plans. A one way directed connection was realized, project managers were enthusiastic as long as the interference of program management contributed to the goals of the project. Program management didn't hold the bigger picture and were busier filling the program with as many project as possible. 'In the program team, we were mainly oriented on realizing as many 'Policy with Citizens projects' as possible, especially at the beginning of the program' (Program team member, 2005). Initially, less attention was given to the content of the projects, the way citizens were involved in the process, and how each project related to other projects in the program. Projects got their specific place within the program but made few connections with other projects and remained isolated within the total program, with little development at the program level as a consequence. The program was more a collage of unlinked projects.

Project workers and managers at the ministry were criticized for not thinking more strategically or for not developing and sharing their knowledge. However, the program team did not facilitate or incentivize these behaviors by, for example, providing time and financial resources. 'We thought and hoped that project managers developed a community in which knowledge and experiences were shared. However, this didn't happen spontaneously. We had to reserve time for these kinds of activities. We organized this too late, projects were already up and running and didn't feel any urge to get connected to other projects or in a total program on citizen orientation' (Program team member, 2006).

3.4.4 Program versus line organization: clashing structure and culture

While the program was intended to work in an integrated manner, this intention conflicted with the existing organizational chart and routines of the line management. Given the program's aims and its desired way of working, it made sense to have it stand outside the ministry's existing hierarchical structure. However, the rigidly organized departmental responsibilities put pressure on the program to adapt itself to work within the existing structure as soon as the two sides had to interact. As a result, the program's coherence and interconnectedness became lost. The citizens' agenda not only failed to take into account the internal organization of the ministry, but was also at odds with the way accountability is distributed in the layers of the organization. 'These kind of integrated programs are hampered by the existing hierarchical structures and lines within the departmental organization. Employees are well aware in which divisions they work, which tasks they have and what responsibilities to bear. A political whim will not change this easily' (Former Program team member, 2006).

3.5 CASE ANALYSIS: A CLOSER LOOK AT CONNECTIONS ON TWO LEVELS

Here, we analyze the case more systematically. We make our observations along the two focal points: (1) the connection between projects and the program, and (2) the connection between the program and the line organization.

3.5.1 Connection between the program and projects: projects under a program umbrella

VRoM's project managers approached the Policy with Citizens program as a project. They perceived the program to be a project aimed at increasing the involvement of citizens in the departments' day-to-day procedures. Project managers focused mainly on the content of their own projects, without studying how they fit with the overall program. Their main priority was to meet the goals of their project. What was learnt did not make its way beyond the individual or project team levels. This insight is reflected in literature on project and program management (c.f. Koteen, 1997; Maylor et al., 2006). Each project has its own rationale and ambition, and doesn't appreciate dynamics coming from other projects frustrating the course of the project. Projects within the program remained isolated, with little connections made between different projects.

In our case, the program team did not make any effort to bring the projects together under the umbrella of the whole program. The program was not more than a portfolio of isolated projects (c.f. Gardiner, 2005). The program managers approached each project separately, without providing room for knowledge and experience-sharing

among the diverse projects. There was no 'natural' inclination within the projects to connect to other projects, because staff working on the projects were not prepared to spend their 'own project time' on activities that did not contribute to the core of the project, i.e. the content of the project itself. There was no intrinsic motivation or outside stimulation (from the program team or middle management) to look beyond their own particular projects, and towards interconnecting their projects to other projects. Insights from this case study learn us that program management has to be much more about creating the right conditions to attract projects to the program. In building a program it has to become a stimulating environment for project managers to exchange information and experiences with other project managers and workers.

The program's integrated working approach appeared to be in conflict with the ministry's organization structure. During the implementation of the projects, there was constant pressure (from middle management) to adapt them so that they fit within the departmental 'boxes' of the organization. There was no counter pressure from the program team to maintain cohesion in the program, and to re-integrate projects that were fragmenting. This research stresses the pressure coming from existing structures intervening with the program management ambition to interconnect projects coming from different organizational boxes. This insight strikingly resembles insights in project management literature, where project managers also experience pressure from existing organizational structures (Engwall, 2003).

The program team focused mainly on the efficiency and scheduling of single projects, even though the concept of program management assumes that the team should have an overarching view and think beyond the limits of particular projects. Despite the initially high number of projects and their diverse nature, the program team continued to create more projects, rather than seek out possible synergies between them. In this way, projects became further fragmented and drifted.

The program team had a top-down perspective that led it to emphasize coordination between projects, by monitoring their interrelatedness. Supplementary to existing literature we found in our case study that program management is much about directing and controlling interconnectedness in a program (c.f. Gardiner, 2005), whereas it doesn't pay much attention to establishing an environment in which project managers are stimulated to meet other project managers in order to find interesting insights that can be learned from other projects in developing citizen orientation. Program management is then more about developing the right circumstances and stimuli to develop coherence between projects in a program. The program managers failed to appreciate that a bottom-up approach to projects (by facilitating the transfer of knowledge and experiences among staff from the various projects by, for example, bringing them together and providing them time) could contribute more to the overall

program and the change toward citizen orientation in the line organization of the Ministry of VROM.

3.5.2 Connection between program and line management: anchorage in middle management

Another observation from our study was that, although some of the project managers and workers were extremely enthusiastic about the new approach, there were also signs that it failed to generate similar enthusiasm at higher levels (department heads and directors). The interconnection of the program at middle management level was poorly organized. Project managers bemoaned the lack of support and priority given to their activities by middle management in the program's framework. Some of them even mentioned that they had to carry out citizen-oriented project activities in their own private time (in the evening).

There was no specific supervision from middle management for implementing citizen-orientation on a daily basis. It was more likely that middle management tolerated it or paid lip-service to citizen-orientation, at least as long as it did not disturb day-to-day procedures too much. Middle managers were not rewarded for citizen-orientation by top management, or even encouraged to develop this orientation within their direction or group. Few positive incentives to do so were offered by middle managers. For them, the move towards citizen-orientation, consisting of diverse projects and the Policy with Citizens program, was but one of several items on their agendas, and certainly not something easy to score on during their annual appraisals either. Without this incentive structure the connection of the program and the projects to middle management was largely absent. This insight that programs were hanging loose in line organization and is hampering a good and coherent functioning of programs is supported by other scholars (Hall & O'Toole, 2000; Lycett et al., 2004).

At the management level, the program continues to be perceived as 'a project' with only one goal, namely the involvement of citizens. It is still questionable to what extent the goal of 'culture change', as well as the recognition that this is a long-term journey, is shared. This insight from our case study is widely shared: the development and implementation of programmatic approaches requires a change in working practices, which have to be supported and encouraged by top and middle management (Vermeulen & Schrijver, 1996; Turner & Müller, 2003; Maylor et al., 2006).

3.6 CONCLUSIONS AND DISCUSSION

The objective of this chapter was to provide empirical insights on the capacities of program management in connecting a program with individual projects and the line

organization in the Dutch Ministry of Housing, Spatial Development and Environment. In the theory development section, we suggested that program management depends crucially on the capacity of its organizing connections, which manifests in two different ways. The first connection is between projects and the programs that contain them. A program is built on a number of different projects, which have their own development course, but are also partly dependent on other projects. The degree to which these projects are connected determines the cohesion of the program. The second connection is between programs and line management. Projects as well as programs are embedded. The latter are embedded in the line structure of an organization or several organizations. Program managers' activities lie not only in laying out the connections between projects, but also between their program and the line management of their parent organization. With this 'double connection view' we wanted to provide better empirical understanding what problems and opportunities program managers experience in developing a program of coherent projects that is firmly embedded in a line organization.

We can draw some conclusions from our case study, although we have to be cautious in generalizing from these outcomes too quickly. Our findings are based on only one case on a specific departmental, national governmental level, in a specific country (The Netherlands) and in a special field (environmental issues). These aspects can cause some biases in the research and hamper the generalization of the findings to other sectors, countries and governmental levels. With these limitations in mind, we present the following findings and conclusions in this final section.

The first finding from our case study is that many perspectives exist on what a program should be or look like. 'Work floor' managers working on specific projects within a program have a project-perspective, and approach the program as a potential hindrance or support to their own projects. Project ambitions are their starting point, and the program's ambitions are secondary. Line managers approach and see the program as only one of several 'big projects' in the strategic evolution of their organization. These different perspectives and approaches make it hard to develop and realize a program of coherent projects that are embedded firmly in VROM's line organization. Each manager, from line, project and program organization, approaches the program differently. We can conclude that program management is a process of sense-making in which through interaction a common ground or point of departure has to be developed. In today's literature on program management this sense-making perspective is largely absent. A first lesson, therefore, is that it is important to first invest in developing a more or less common view through a process of mutual sense-making of the program from different points of view and positions. For a more accurate understanding of these processes, studies in the field of complex social systems may be

of added value (e.g. Cilliers, 1998; Flood, 1999; Teisman et al., 2009). *“Each action system consists of subsystems and is embedded in larger systems. Each systems embedded in a larger system develops its own sense making and action. If it is confronted with a process it will reinterpret (consciously or unconsciously) what the process is about and how to get on with it”* (Teisman, 2008: 344).

A second finding from our case study is that the connections between the individual projects within the overall program are weak. Each project has a tendency to develop in ‘splendid isolation’, with project managers focused on their own specific project goals and interests. However, at the same time, program managers were unable to integrate the individual projects under a single umbrella. This flaw of program management has been emphasized in the literature on program management (Kettl, 1988; O’Toole et al., 1997; Dietrich, 2007). When this occurs, a program becomes nothing more than a collection of, at the most, very loosely- (but often non-) linked projects (Gardiner, 2005). The challenge lies in connecting projects in such a way that something arises which is more developed than a program structure, inside which the as-yet fragmented projects are separately shaped. In the case study, program managers did not perform many activities to break the isolated character of many projects. The program managers were busy bringing projects under the program rationale of citizen involvement and in doing so didn’t pay attention to create interconnection among the projects. The difficulty of this is known (c.f. Gardiner, 2005; Maylor, 2006), however, in our case study we have provided insights into the reasons behind this problem. In public organizations the right conditions are often not present for developing a coherent program. In our case study, the program managers were focused on creating a visible and big as possible program and thus maximizing their yearly budget. In an environment that is dominated by project approaches, the most obvious way for program management to accomplish this objective is to ‘score’ as many projects as possible. Project managers received extra funding from the program for developing their projects, but they were not held accountable for not realizing program targets (including having to pay penalties if program goals were not reached).

This orientation also led to a third finding, namely that of little interconnection between the projects within the program. A lively program with interacting projects did not occur in practice. An insight from our case study is that project managers do not see connecting with other projects, e.g. to share experiences, knowledge, results, as part of their core business. This insight is also broadly recognized in studies on knowledge management within the field of project management (see Bresnen et al., 2003; Engwall, 2003; Huang & Newell, 2003; Sydow et al., 2004; Newell et al., 2008). Knowledge management in complex project environments requires a construction of social patterns by joint efforts to share experiences, meaning and understanding (Bresnen et al., 2003: 129). Thus, to bring this about, program managers should deliberately

stimulate and organize meetings among project managers. For a lively program with an emergent character, it is important that program managers put incentives in the framework of the program in such a way that project managers see it as their task and responsibility to interconnect their project with other projects. At the same time this meeting with other project managers must be perceived as a rich environment in which project managers can obtain information and knowledge and exchange experiences with each other. We believe that this insight, supported by literature about learning in a project environment, provides added value on how program management can create synergy between diverse projects. Program management is about facilitating interaction between projects by encouraging and seducing project managers to exchange experiences with other project managers. In the case study, many project managers went about finding out how they could develop and implement citizen orientation in practice. A learning community on this issue could work as an attractor to developing interactions between single projects.

A final finding is on the connection between the program (and its projects) and the (middle) line organization of the department. This link is often stressed in the literature on program management (Koteen, 1997; Crawford et al., 2003; Lycett et al., 2004). Our case study indicates that the interconnection of the program (and its projects) to line management, and specifically to middle management, can be considered problematic. Middle line management in our case was not interested in program developments, because they were not (formally) linked to the in-house systems and working routines and procedures. This insight is in line with other literature (Lycett et al., 2004). Our study shows that the missing link with middle management reinforces the missing or undeveloped link between program and projects and the connection among projects. In our case line management did not put much weight on the program, and as a consequence project managers were not inclined to act to meet program ambitions. Project managers were not assessed by middle management on paying attention to these ambitions. Program management can therefore be considered organizing and maintaining multiple links among projects and with the line organization in developing a coherent and synergetic program. A concrete lesson is that the internal staff appraisal system has to be used to realize connections between program and line organization. Embedding the program, for example in annual plans and job descriptions, could also be useful. Since departments, to some degree, establish their responsibilities based on their annual organizational plans, it is essential to create the impetus for the program's ambitions in them.

So, program management is about developing and organizing double connections at the same time with projects and line organizations where these two links reinforces each other. At the same time we have come to the insight that program management is not

solely about enforcing cohesion and connection in a top down manner. It is about creating the incentive structure and environment in which projects are encouraged and stimulated to meet and interconnect in a bottom up way as well. A few scholars have already underlined that space for evolution and variability is crucial to success (Pressman & Wildavsky, 1973, 1984; Partington, 2000).

Program management can be considered to be a two-fold coevolutionary process with projects and line organizations, in which program managers have to influence the ambitions, motives, and ways of working of the institutions involved in the line organization and project implementations so that they move in the direction of the program. Managing a program does not imply that every aspect of it has to be controlled in favor of its unity at a specific point in time. Instead, it also implies releasing time and room for separate projects to grow on their own, before they can be re-integrated with other projects in the program at a later point. This creates the possibility for projects to provide new dynamics to the program and to add value to the program objectives. For program management, this implies that while a specific project needs to be provided with freedom of action, the resulting turnover simultaneously serves to couple it with other projects in the program. In this manner, new, related and continual processes and program development can arise.

REFERENCES

- Alter, C., & Hage, J. 1993. *Organizations working together*. Newbury Park: Sage.
- Buijs, M.J., Edelenbos, J. & Slob, A.F.L., 2006. *Strategische Ontwikkeling Programma Beleid met Burgers: Belemmeringen en Kansen*. Rotterdam: Erasmus Universiteit Rotterdam.
- Blake, R.R. & Mouton, J.S. (1963). *The Managerial Grid*. Houston: Gulf.
- Beckers, T., Spaargaren, G. & Bargeman, B. (2000). *Van Gedragspraktijk naar Beleidspraktijk. Een analytisch instrument voor een consument-georiënteerd milieubeleid*. Tilburg: Globus.
- Bresnen, M., Edelman, L., Newell, S., Scarbrough, H. & Swan, J. (2003). Social practices and the management of knowledge in project environments. *Int. J. of Project Management*, 21 (3), 157-166.
- Browne, A. & Wildavsky, A. (1984). Implementation as Mutual Adaptation. In J. Pressman & A. Wildavsky, *Implementation*. Berkeley: University of California Press, pp. 206-231.
- Bryson, J.M., Crosby, B.C. & Middleton Stone, M. (2006). The Design and Implementation of Cross-Sector Collaboration: Propositions from the Literature. Special issue, *Public Administration Review*, 66: 44 – 55.
- Christensen, T. & Lægreid, P. (2006). Rebalancing the State: Reregulation and the Reassertion of the Centre. In Christensen, T. & P. Lægreid (eds.) *Autonomy and Regulation: Coping with Agencies in the Modern State*. Cheltenham, UK: Edward Elgar, 359 – 80.
- Christensen, T. & Lægreid, P. (2007). *Transcending New Public Management: The Transformation of Public Sector Reforms*. Aldershot, UK: Ashgate.
- Crawford, L. K. Costello, J. Pollack & Bentley, L. (2003). Managing soft change projects in the public sector. *Int. J. of Project Management*, 21 (6), 443-448.
- Cilliers, P. (1998). *Complexity & postmodernism: Understanding complex systems*. London:Routledge.
- Dietrich, P. (2007). *Coordination strategies in organizational development programs*. Espoo: Helsinki University of Technology.
- Dijkzeul, D. (1997). *The management of multilateral organizations*. Deventer: Kluwer.
- Engwall, M. (2003). No project is an island: Linking projects to history and context. *Research Policy*, 32 (5), 789-808.
- Galbraith, J. (1973). *Designing Complex Organizations*. Reading: Addison-Wesley.
- Flood, R. L. (1999). *Rethinking the fifth discipline: Learning within the unknowable*. London:Routledge.
- Gardiner, P. D. (2005). *Project management: A strategic planning approach*. Hampshire: Palgrave MacMillan.

- Hall, T. E. & O'Toole, L. J. (2000). Structures for policy implementation: An analysis of national legislation. *Administration and Society*, 31 (6), 667-686.
- Huang, J.C. & Newell, S. (2003). Knowledge integration processes and dynamics within the context of cross-functional projects. *Int. J. of Project Management* 21, 167-176.
- Jaafari, A. (2003). Project management in the age of complexity and change. *Project Management Journal*, 34 (3), 47-57.
- Jugdev, K. & Müller, R. (2005). A retrospectpective look at our evolving understanding of project success. *Project Management Journal*, 36 (4), 19-31.
- Keast, R., K. Brown & Mandell, M. (2007). Getting the right mix: Unpacking Integration, Meanings and Strategies. *Int. Public Management Journal*, 10 (1), 9-34.
- Kettl, D.F. (1988). *Government by Proxy: (Mis?)Managing Federal Programs*. Washington: Congressional Quarterly.
- Klijin, E-H. & Teisman, G.R. (2003). Institutional and strategic barriers to public-private partnerships: an analysis of Dutch cases. *Public Money and Management*, 23 (3), 137-146.
- Koppenjan, J.F.M. & Klijin, E-H. (2004). *Managing uncertainties in networks: a network approach to problem solving and decision making*. London: Routledge.
- Koteen, J. (1997). *Strategic management in public and nonprofit organizations: managing public concerns in an era of limit*. Westport: Praeger.
- Lægreid, P. & Wise, L.R. (2007). Reforming Human Resource Management in Civil Service Systems. In J.C.N. Raadschelders, Th.A.J. Toonen and F.M. van der Meer, *The Civil Service in the 21st Century: Comparative Perspectives*. London: Palgrave Macmillan.
- Lawrence, P.R. & Lorsch, J.W. (1967). *Organization and Environment*. Irwin: Homewood.
- Lehtonen, P. & Martinsuo, M. (2008). Change program initiation: Defining and managing the program-organization boundary. *Int. J. of Project Management*, 26 (1), 21-29.
- Lundin, R.A. & Söderholm, A. (1995). A theory of the temporary organization. *Scandinavian Journal of Management*, 11 (4), 437-455.
- Lycett, M., A. Rassau & Danson, J. (2004). Programme management: a critical review. *Int. J. of Project Management*, 22 (4) 289-299.
- Majone, G., & Wildavsky, A. (1984). Implementation as evolution, in J. Pressman & A. Wildavsky, *Implementation*. Berkeley: University of California Press.
- Mandell, M.P. (1994). Managing interdependencies through program structures: a revised Paradigm. *American review of public administration*, 24 (1), 99-121.
- March, J.G. (1999). *The pursuit of organizational intelligence*. Oxford: Blackwell
- Maylor, H., T. Brady, T. Cooke-Davies & Hodgson, D. (2006). From projectification to Programmification. *Int. J. of Project Management*, 24 (8), 663-674.

- Mintzberg, H. (1979). *The Structuring of Organizations*. Englewood Cliffs: Prentice Hall.
- Mintzberg, H. (1994). *The rise and fall of strategic planning*. New York: The Free Press.
- Morgan, G. (1986). *Images of Organization*. Beverly Hills: Sage.
- Moss Kanter, R. (1983). *The change masters. Innovation and entrepreneurship in the American corporation*. New York: Simon and Schuster.
- Murray-Webster, R. & Thiry, M. (2000). Managing programmes of projects. In J.R. Turner & S. Simister (eds), *Gower handbook of project management*. Hampshire: Gower, pp. 47-63.
- Newell, S. Goussevskia, A. Swan, J., Bresnen, M. & Obembe, A. (2008). Interdependencies in Complex Project Ecologies. *Long Range Planning*, 41, 33-54.
- O'Toole, L.J., Hanf, K.I. & Hupe, P.L. (1997). Managing Implementation Processes in Networks. In W.J.M. Kickert, E-H. Klijn & J.F.M. Koppenjan (eds). *Managing Complex Networks: Strategies for the Public Sector*: London: Sage, pp. 137-151.
- O'Toole, L.J. & Meier, K.J. (2004). Public Management in Intergovernmental Networks: matching structural networks and managerial networking. *Journal of public administration research and theory*, 14 (4), 469-494.
- Partington, D. (2000). Implementing strategy through programmes of projects. In J.R. Turner & S. Simister (eds). *Gower Handbook of Project Management*. Hampshire: Gower, pp. 33-46.
- Partington, D., Pellegrinelli, S. & Young, M. (2005). Attributes and levels of programme management competence. *Int. J. of Project Management*, 23 (2), 87-95.
- Pellegrinelli, S. (2002). Shaping context: The role and challenge for programmes. *Int. J. of Project Management*, 20 (3), 229-233.
- Peters, B.G. 1998. Managing Horizontal Government: The Politics of Coordination, *Public Administration* 76, 2, 295-311.
- Pfeffer, J. (1978). *Organizational Design*. Arlington Heights, Illinois: A.H.M. Publishing.
- Pollitt, C. (2003). *The essential public manager*. Maidenhead: Open University Press.
- Pollitt, C., & G. Bouckaert. 2004. *Public Management Reform: A Comparative Analysis*. Oxford: Oxford University Press.
- Pollitt, C., S. Van Thiel & V. Homburg. 2007. *New Public Management in Europe: adaptation and alternatives*. Houndmills: Palgrave MacMillan.
- Pressman, J.L. & A. Wildavsky. 1973, 1984. *Implementation*. Berkeley: University of California Press.
- Riis, J., & F. Pedersen. 2003. Managing organizational development projects by paradoxes, *Production planning and control*, 14 (4), 349-360.
- Simon H.A. (1962): *The Architecture of Complexity*, Proceedings of the American Philosophical Society 106, p. 467-482. Reprinted in: Simon, H.A. (1981). *The Sciences of the Artificial* (2nd ed.). Cambridge MA: MIT Press.

- Sydow, J. Lindkvist, L. & R. DeFillippi. 2004. Project-Based Organizations, Embeddedness and Repositories of Knowledge: Editorial, *Organization Studies*, 25, (9) 1475–1489.
- Teisman, G.R. 2005. *Publiek management op de grens van chaos en orde*. The Hague: SDU.
- Teisman, G. R. (2008). Infrastructure investments on the edge of public and private domains. In G. Arts, W. Dicke & L. Hancher (Eds.), *New perspectives on investment in infrastructures* Amsterdam: Amsterdam University Press / WRR, pp. 319-147.
- Teisman, G. R., Van Buuren, M. W. & L. M Gerrits. 2009. *Managing complex governance systems: Dynamics, Self-Organization and Coevolution in Public Investments*. New York: Routledge.
- Thiry, M. & Deguire, M., 2004. Programme management as an emergent order phenomenon, *Proceedings of the PMI Research Conference*. London: Project Management Institute.
- Turner, J.R. 2000. An encyclopaedia for the profession of project management. In J.R. Turner and S. Simister (eds.), *Gower handbook of project management*. Hampshire: Gower, pp. 1-25.
- Turner, J.R. & A. Keegan. 1999. The versatile project-based organization: governance and operational control, *European Management Journal*, 17, 3, 296-309.
- Turner, J.R., & R. Müller. 2003. On the nature of the project as a temporary organization, *Int. J. of Project Management*, 21 (1), 1-8.
- Van Gunsteren, H. 1976. *The quest for control: a critique of the rational-central-rule approach in public affairs*. London: John Wiley and Sons.
- Vermeulen, A.H. & H.W.N. Schrijver. 1996. Management Development in a Dutch Ministry: getting things started, *International journal of public sector management*, 9 (2), 52-56.
- Whetten, D. 1977. Towards a Contingency Model for Designing Inter-organizational Service Delivery Systems, *Organization and Administrative Sciences* 8 (2), 77-96.
- 6, P. (1997). *Holistic Government*. London: Demos.
- 6, P., Leat, D., Seltzer, K. & Stoker, G. (2002). *Towards Holistic Governance: The New Reform Agenda*. Houndmills: Palgrave MacMillan.

CHAPTER 4

PROGRAM MANAGEMENT AND THE CREATIVE ART OF COOPETITION: DEALING WITH POTENTIAL TENSIONS AND SYNERGIES BETWEEN SPATIAL DEVELOPMENT PROJECTS

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ABSTRACT

Public ambitions have traditionally been implemented by line managers. Project management has become more prevalent in recent decades, especially in the domain of spatial investments. Recently, a new branch of management has emerged: program management. This can be seen as an attempt to overcome the fragmentation caused by several autonomous project organizations working side by side in the larger regional system. This chapter describes the application of program management in comparison with project management. Both these types of management are aimed at integrating interrelated activities that are otherwise dealt with separately. Program management also aims to synchronize project implementation trajectories. A case study is conducted of a program management experiment in the Amsterdam Metropolitan Region, where an analysis of how program and project management compete and complement each other is conducted. The case study shows that program management will not and cannot be a substitute for project management, but that attempts to combine the strengths of both have to be made.

4.1 INTRODUCTION

Decision-making on urban and regional development is challenging and difficult (Salet, 2003; Teisman, 2008; Teisman et al., 2009). It requires not only 'rational' competencies such as the ability to generate a well-defined problem definition, to develop alternative strategies and to choose between these alternatives, but also the ability during the implementation of the 'best' alternative to navigate and compromise between a variety of emerging claims and interests, and to take into account the consequences of external events and developments. Collective decision-making about regional development is not completed after the choice of the 'best' alternative is made. A variety of implementation studies have shown how challenging the implementation can be (Flyvbjerg et al., 2003; Szyliowicz & Goetz, 1995).

Implementation has traditionally been done by public line managers. During the last few decades, however, the implementation of spatial investments has more often than not been placed in the hands of project managers. This has meant that a temporary organization has been established particularly for the implementation of one decision and a project manager has been appointed to complete the job within a fixed time span and budget (Glasbergen & Driessen, 2005).

However, the main characteristic and focus of project management seems to also be its main disadvantage: it tends to focus primarily on the realization of one single project ambition, suffers from a singular logic and is limited in terms of scope and time. In complex social and governance systems this can become problematic. There are

often a variety of problems as well as a variety of projects in these systems. All these projects have to be realized in the same implementation space. In cases where there are conflicts, project managers seem to behave in the same way as their fellow line managers have behaved: they choose defensive and combative strategies to safeguard their initial scope and conditions and to minimize external interventions (Newell et al., 2008).

An in-depth case study of the Amsterdam metropolitan region provides a good example of how many projects are run at the same time within one regional area. Every project has specific elements of public interest and delivers a specific objective of regional development. However, high quality regional development does not result from a single project or even from a multitude of isolated projects. Rather, it depends on the aggregated effects of a set of projects and on the mutual impact of and synergies between these projects.

The goal of integrated development calls for approaches in which separate economic, transport, spatial and environmental objectives can be considered as a whole and can thus be combined into multi-functional sets of connected projects (Priemus, 2007).

A recently introduced branch of management theories that is potentially helpful and increasingly utilized in this context is that of program management. In this approach, the processes of project development as well as the potential interrelatedness between projects and actions are managed with the goal of accomplishing high quality and integral development of, for instance, metropolitan areas (Williams, 2006, Buijs et al., 2009).

This chapter analyzes the theory of program management in light of the strengths and weaknesses of project management, and shows its application in the Amsterdam Metropolitan Area. It deals with the following question: does program management integrate project actions, organizations and processes and generate added value by achieving cohesiveness, or does it weaken the advantages of project management (single goal, purposeful, efficient organization) and undermine the potential of diversity and competition between projects?

First, a brief overview of the theory and application of project management in the field of spatial planning and regional development is provided. The shortcomings of such an approach are highlighted. Then, the idea of program management is introduced as a way to deal with the weaknesses of project management. The chapter discusses how program management can deal with the integration of project actions into program objectives and how a separation can be made for the sake of the efficient realization of project ambitions. It establishes how both approaches deal with the challenge of project *coopetition*: the fragile balance between fruitful cooperation and vital competition between projects within a program.

4.2 METHODOLOGY

The research question was addressed by conducting an extensive longitudinal case study in the Amsterdam Metropolitan Area. The Dutch Cabinet decided in 2003 to apply a program management approach to this and three other regions, as a reaction to the disappointing ineffectiveness of the various isolated projects.

From the start of the program organization, the researchers were invited to follow the work of the program team up close. This was set up as an action research project, in the sense that the researchers and practitioners aimed to produce joint knowledge (Argyris, 1985; see also Gibbons et al., 1994 about Mode II knowledge). The knowledge that has been accrued can be applied to academic knowledge development and theory building by scholars and to reflection and adaptation on the part of the researchers in the development of the program approach. Over a period of three years, some 15 in-depth interviews were conducted with members of the program team, representatives of the project teams that were involved, the public officials responsible for the project and representatives of institutional stakeholders. The interviews were based on a semi-structured list of items that focused on project and program management features and their mutual relationship. In particular, the interviewees were asked what kinds of tensions between the two management styles project and program managers experienced and how they dealt with them. Several official meetings of the program organization as well as moments of interaction between the program team and the project representatives were also observed. In addition, the relevant documents (notes, reports, policy documents and letters) about the program and the projects involved were analyzed, especially with regard to their management and the way in which both management approaches have coevolved. In feedback sessions with the program management, reflections were made about their actions and the findings that validated the data. In this way, the action research took the process of reflexivity out of the epistemological debate and into social life (Byrne, 2005).

A case study was chosen because up until now, the program approach in spatial planning has been rather unique, not only in the Netherlands but also abroad. In addition, relatively little is known about the coevolution between project and program management and certainly not in the context of spatial planning. A single case study allows for detailed knowledge about a social phenomenon to be obtained by following the phenomenon in its natural context over a certain period of time (Yin, 1984). Case studies are aimed at gaining detailed and contextual knowledge of complex governance processes (Buijs et al., 2009) and provide the opportunity to approach a social system and all of its elements as a coherent whole (Flood, 1999).

4.3 THEORY AND PRACTICE OF PROJECT MANAGEMENT

Project management has its origins in large engineering projects (Meredith & Mantel, 2000). Nowadays, however, it is applied by a variety of organizations to the planning and implementation of a diverse range of initiatives (Partington, 2000; Pellegrinelli, 2002; Partington et al., 2005). Project management approaches are now applied to product development and innovation (Bresnen et al., 2003), as well as to strategic planning and the management of strategic change initiatives (Huang & Newell 2003).

The project management approach is frequently utilized in the field of infrastructure and spatial development. The most pure project management approaches can be found in the implementation of policy decisions on specific investments, like new highways or rail tracks. Here, there is a single principal (e.g. the Ministry of Transport) and a single project leader who is directly responsible for the realization of a well-defined objective within a specific time frame, with a specific quality and within specified budget constraints (see Atkinson, 1999; Crawford et al., 2003; Turner & Muller, 2003).

In Dutch practice, the project management approach is applied to most public investments in infrastructure, public transport, city development, nature development and other spatial projects. Temporal (or semi-structural) project teams or organizations consist of members from different types of organizations (departments, regional authorities, executive agencies) and the involvement of private organizations and NGOs is also increasing in public projects in this complex network society (see for e.g. Teisman & Klijn, 2002; Klijn & Teisman 2002, 2003; Teisman, 2008). Increasing diversity and the power of project stakeholders are increasing the complexity of challenges for project management in general (Winch, 2004).

Project management has proven to be difficult. Cost overruns and delays are common in the majority of infrastructural and spatial projects (Flyvbjerg et al., 2003). For this reason, much has been invested in improving its practice, especially through the competency development of project teams, better financial control mechanisms, improved risk management and planning procedures (Wijnen et al., 1990; Grit, 2000; Rosenau & Githens, 2005).

The strengths of the project approach are its orientation to a defined scope of activities, its ability to define (as narrowly as possible) the problem and engage in the activities required to solve the problem. It has also been praised for its ability to protect a spatial plan in its implementation phase against unforeseen interferences from the environment. Through its use of a multidisciplinary team and its focus on a specific task over a fixed time frame, a project organization is free to adapt its content, processes and

arrangements to specific requirements (see Johansson et al., 2007). Traditional types of organizations have not been able to easily achieve this. At the same time, these advantages of project management are also its pitfalls.

4.4 SHORTCOMINGS OF PROJECT MANAGEMENT

The clearly defined scope of a project and its relative isolation from its environment is not only an advantage but also one of its most significant weaknesses. Its clearly demarcated boundaries with the outside world are often rigidly defined and last for the entire duration of the project (Engwall, 2003). New demands for quality, requests for a redefinition of the scope, resistance and other negative outside events that can affect the course, quality and results of the project, are often overlooked or seen as causes for cost overruns and delays. Pure project management approaches relate to a closed and mechanistic system perspective and a rational and orderly management orientation (Jaafari, 2003; Thiry & Deguire, 2004; Jugdev & Muller, 2005; Teisman, 2005). This means that specific projects satisfy only the specific ambitions that are defined in advance by the principal of the project. The outcomes of projects are increasingly contradictory to other ambitions and goals in adjoining policy fields and levels of government.

For these reasons, there have been louder and louder calls for integrated approaches and an initiation of the search for a management response. The search for project integration focuses on three dimensions of decision-making: integrating content, joint organizational structures and the melding of fixed and separate procedures into more adaptive joint decision-making processes.

Discontent with project approaches results mainly from the fragmentation of *content*. Each project has its own ambitions. The overall results of projects can be disappointing even when project ambitions are fulfilled, since the quality of the region does not improve as a whole. Improving the parts does not guarantee an improvement of the whole when it comes to complex systems (Flood, 1999).

Fragmentation of content can be traced to organizational fragmentation. The dominant *organizational logic* of line and project organizations focuses on separation. Line and project organizations are responsible for just one part of spatial development, such as a geographical interest, or functional interests like housing, infrastructure, public transport or water management. There is often a combination of geographically bound levels and functional separation. The trend in organizing projects tends towards strategies of separation. A project orientation stimulates myopic vision, in its focus on a-priori well-defined content, and self-referential behavior in overestimating the

priorities of its own procedures and deliverables (Klijn & Teisman, 2003; Riis & Pedersen, 2003). The need for integration on the level of content clearly contradicts this tendency.

The tension between increasingly interrelated content and organizational separation affects the *process* dimension of spatial projects. Organizations that are responsible for specific segments of urban development tend to organize their own decision-making processes and procedures, without taking into account the (possible) interferences to other processes and procedures and the eventual relations between them (Van Buuren & Gerrits, 2008). Spatial planning projects are part of a complex project ecology of regional development with all kinds of interdependencies and interrelations (Newell et al., 2008).

The usual organizational tendency is to have a distinct strategy and minimize the amount of interaction. However, if project leaders are confronted with a situation in which they can realize their own ambitions only by looking for possibilities to integrate them with other activities and projects and adapt to other goals in order to mobilize the required support and (financial) means, a new kind of process management arises. The management of joint problem solving and decision-making processes must deal with the interdependencies between a variety of objectives and interests (Koppenjan & Klijn, 2004: 10). Thus arises the need for program management.

4.5 PROGRAM MANAGEMENT AND ITS POTENTIAL

Many researchers have described program management as a way to avert the shortcomings of the project approach. Murray-Webster and Thiry (2000) see program management as an emerging arrangement that ensures that organizations hold optimal advantages from the integration of project management activities (see also Thiry, 2004). The terms project and program are often used unsystematically, although their meanings are quite different (Gardiner, 2005). Turner (2000: 8) has shown that a majority of projects are part of a portfolio. He describes program management as a way to coordinate projects and prioritize the sharing of resources in order to deliver additional advantages. Others take this one step further. Partington et al. (2005) view program management as a high profile approach to strategy implementation. They acknowledge that a program is not simply a collection of projects. Murray-Webster and Thiry provide the following definition:

“A program is a collection of change actions (projects and operational activities) purposefully grouped together to realize strategic and/or tactical benefits.” (Murray-Webster & Thiry, 2000: 48).

There is a wide variety of definitions of programs, multi-project work and portfolio management (Thiry & Deguire, 2007). In our view, program management (as well as portfolio management) can be seen as a form of multi-project management (Elonen & Artto, 2003). Internal coherence between the constituent projects and an overarching substantive ambition is an important hallmark of project management, while this coherence is almost completely absent in portfolio management (Hans et al., 2007).

Programs therefore focus on marshalling projects and resources, but also aim to accomplish strategic objectives that would not be taken into consideration by project managers working separately (Pellegrinelli, 2002; Gardiner, 2005). Within the context of spatial planning, a program is aimed at realizing integral regional development by means of a couple of spatial investments organized in projects. The creation of a framework that shapes the context for projects by grouping, initiating and directing them, is an important part of program management. Program managers safeguard projects from external pressures. This makes it possible to forge alliances with project managers.

According to Gardiner (2005), project and program management share the objective of accomplishing change in a controlled way (see also Cummings & Worley 2001; Boonstra 2004). They differ on the level to which external change is controlled. Projects have a relatively clear set of deliverables and tasks, a clear beginning and end. Programs tend to be ongoing, with constantly emerging, unrealized and almost completed projects. If a program is terminated, it often appears again later in another form.

Gardiner argues that program management is concerned with interdependencies between projects. Programs have shared resources at their disposal, giving program managers the ability to prioritize and adjudicate between competing projects. When program managers create a framework for several projects, this can result in cost and efficiency gains, increase the possibility of creating package-deals and opportunities for sharing and reducing risks.

Program management aims to solve the problems of separation in terms of content, organization and process. However, this depends on the degree to which the program is harnessed. Three levels of intensity of program management are identified:

- Program management as a light coordination mechanism for multiple projects (type 1);
- Program management as a 'shared service center' for projects (type 2);
- Program management as an integrated development strategy in which projects are building blocks for the overarching program objective (type 3).

The first type of program management reflects what Gray (1997, in Pellegrinelli et al., 2007) calls mutual adaptation based upon open information, or what others refer to as portfolio management, relying on coordinating activities with a low level of influence on the internal management of individual projects. The third type relies on hierarchical direction from a goal-oriented program management arrangement (Pellegrinelli, 1997). The second type is different because it integrates a variety of project functions, but respects project autonomy in goal-setting and prioritizing.

The first type of program management focuses on fine-tuning existing project development processes: it is meant for realizing temporal and procedural coherence between projects. These projects have different time-paths, procedural requirements and agreements. It is helpful for the projects and their organizations to manage these potential disruptions. An integrative level is set up above these projects, functioning as a platform for project authorities to make decisions about the projects in mutual cohesion. This prevents fragmentation in several decision-making processes. Ferns (1991) calls this the business-cycle program model. Programs contribute to a higher-level fine-tuning of project ambitions, without altering the planning and budget cycles of the separate projects.

The second type goes one step further in the staff organization of multiple projects. Financial, juridical, administrative and other services are integrated into one 'service center' that is used by various projects. This improves efficiency. The projects are able to design their own process logic and dynamics by pursuing their own ambitions (content), while making use of the same organizational purveyances.

The third type is the most far-reaching. It starts from a vision of the spatial development of a specific region and tries to realize this vision by working out different projects. Here, the projects are outcomes of program thinking, which is quite different from the first two types. This type of program management features integration on all three dimensions. Ferns (1991) call this a single-objective program model. The content or aim of these projects is determined by the goals of program management. Subsequent projects must realize parts of this overarching program ambition. However, it should be emphasized that looking out for the interests of the whole does not necessarily have to lead to a new single objective. If this is the case, the program can easily lead to a new – super – project management approach. What is important here is that the program is intended to shape and reshape projects from a joint interest.

In practice all hybrid sorts of program management do occur (Pellegrinelli et al., 2007). Program management in practice is often a hybrid of a top-down implemented management tool and an emerging management strategy that gets its meaning from the strategies and interventions of a variety of participating actors from the projects and

program organizations. Context is crucial to understanding the form of program management that ultimately results.

Program management in a political-administrative planning context does have its own challenges. Projects and programs within the context of spatial planning cannot be executed in a classical business-like or hierarchical mode (Hans et al., 2007), but are implemented within a political context in which preferences are ambiguous, dynamic, conflicting and unstable. The principal is not a unitary actor, but is composed of a hybrid constellation of public, private and societal actors, all of whom have their own agendas, ambitions and strategies. Strategic planning (setting objectives that are decisive for the long term) does not fit well into the logic of political planning (selecting objectives that attract a majority of voters in the short term). Even tactical or operational planning on the project and program level is difficult due to the involvement of stakeholders and the multiple interferences between project/program and its (political, administrative, societal and media) environment.

4.6 QUESTIONS ON PROGRAM MANAGEMENT

One question that arises in designing and performing the management of multiple projects and programs is whether the projects come first or the program. When the program comes first, projects are derivatives of the program and thus the emphasis is on the program and on the integration of content, process and organization. When the projects come first, the program complements them and functions as a safety net for the shortcomings of project management. The program management then has to compete with the project managers. The last group of managers have a natural tendency to protect their project autonomy (Dovey & Fenech, 2007). In practice, however, this question cannot be answered in a straightforward manner. In the beginning there are always projects, but when program management is strong it is able to lend more energy to some and less to other projects, and even to new projects. The level of integration on the three aspects of content, organization and processes will be the outcome of a dynamic interplay between project forces and program interventions.

It is this interplay that this chapter focuses on. Program management is a rather new phenomenon in the case study. It was considered normal for all organizations to develop their own policy scheme and use this as an implementation scheme for project activities. Program management was introduced to overcome the shortcomings of stand-alone project management. In this case, the program was introduced as an overarching umbrella for existing projects, all of which were facing implementation problems. The program management had more space to manoeuvre when participating project leaders became convinced of the effectiveness of a joint approach. The case is

described in the following section, after which the program management and the way in which the dilemma of integration and separation was dealt with are analyzed.

4.7 PROJECT AND PROGRAM MANAGEMENT IN AMSTERDAM METROPOLITAN REGION

The Amsterdam Metropolitan Region (AMR) is an area in which, while there are many governments and agencies involved, none of them is in charge (Crosby & Bryson, 2005). Powerful metropolitan governments 'in charge' are rare due to resistance from communities and municipalities on the one hand and the 'habit' of regional governments and national governments to intervene in metropolitan affairs on the other.

AMR is one of the many polycentric metropolitan regions with separate local, regional and national governments involved. Although the municipality of Amsterdam is perceived as a strong actor, it clearly needs the support of many other municipalities, provinces and national departments in order to implement its spatial policies and projects. The AMR is embedded in the larger Randstad Holland area, a horseshoe shaped polycentric metropolitan region in the western part of the Netherlands that encompasses the urban areas of Amsterdam, Rotterdam, The Hague and Utrecht together with many suburban and smaller cities. AMR faces a lot of pressure on specific complex interrelated problems and challenges. All the governments that are active in AMR and Randstad Holland have developed a set of schemes and plans to deal with these challenges.

A decade ago the national government decided that the traditional approach to regional development was no longer satisfactory and announced a Program Management Approach for specific regions. This study focuses on the application of this approach in the AMR.

4.7.1 The introduction of program management

The most important reason for the introduction of a program approach seems to have been the fear of losing a competitive advantage over other (European) metropolitan areas. For a long time, the Randstad and particularly the AMR had a strong position in the international economic competition between metropolitan regions, although this position has come under pressure.

In order to maintain its position in the top five European Metropolitan Areas, the national government shifted its focus from a project to a program approach. Diverse governments had been bringing their ambitions together, but only on a mono-functional basis: to improve the road system, public transport, mainports,

environmental quality, housing or business locations. This approach had been used effectively for several decades. Although some projects were implemented successfully, a growing set of projects for regional development have been facing implementation problems. For example, most of the delayed projects in the national 'Multi-annual infrastructure and transport program' are in Randstad Holland (EIB, 2002).

Several long lasting and complex projects in this region have been running for decades (such as the highway connection A9 between Amsterdam and Almere). Although many stakeholders see these projects as being important for the metropolitan development of the AMR, each avoids responsibility for the problems (Teisman et al., 2004). Both project delays and loose couplings between the diversity of mono-functional projects appear to be a problem.

Here, project management seemed to have lost its advantage, partly as a consequence of the involvement of many stakeholders with a diversity of interests. For instance, the A9 project directly or indirectly involved six national departments (Transport, Public Works, Spatial Planning, Economic Affairs, Nature and Finance), three provinces, over 10 (inner – inter) municipalities and some governmental planning agencies, and also included employers', mobility, environment and nature preservations agencies, as well as several experts and consultants. The OECD (2007: 398) suggested in its territorial review on the Randstad:

“Administrative crowdedness is a particular problem at the regional level. This is not only an expression of failed attempts to reform the government structure, but also of the growing relevance of the regional level for many issues. There is huge overlap in the territories and responsibilities.”

This growing complexity in terms of structure and content seems to be an important bottleneck for the governance of metropolitan development projects. In the administratively fragmented region each organization seems to develop its own strategy to deal with the growing number of stakeholders with various interests. The Amsterdam Metropolitan Area can thus be described as a densely populated policy and implementation arena. The situation therefore is that of a crowded implementation arena in which many projects must be realized at the same time and place, generating interferences and competition, and often leading to cost overruns and delays.

The Dutch policy scheme National Spatial Strategy (VROM, 2004) argues that projects still have to be implemented, but that a new approach is required. A program approach is established. Existing projects are taken as points of departure. A program approach should create the ability to deal with these projects in coherence:

“In the implementation agenda of the National Spatial Strategy the programmatic approach is introduced as a selection of issues that contribute to a substantial reinforcement and development of the national spatial structure. These issues cannot be realized timely without a direct involvement of central government. In a program central government will consider issues, projects and instruments in their mutual coherence. (...) Hence, in the programs is a selection of projects adopted with as aim to implement them in mutual coherence.” (Ministry of VROM, 2006: 15).

4.7.2 The aim of interdepartmental integration

The program approach is presented as a joint action by several national ministries: Housing, Spatial Planning & the Environment (VROM), Transport, Public Works & Water management (V&W), Agriculture, Nature & Food quality (LNV), and Economic Affairs (EZ). Responsibility for implementation is assigned to the Department of Transport.

Initially, the objective was to improve coordination between national departments. The Department of Transport, however, also used the program approach as an internal coordination mechanism for the implementation of projects that were the responsibility of the department itself (Program planning North Wing, 2005). Therefore, the program approach was really aimed at coherence between projects, but the set of projects included did not make up the whole population of projects in the Amsterdam Metropolitan Area and not even the relevant spatial projects. It were mainly transport projects that were taken into consideration. Thus, although the interrelatedness between policy fields was recognized, the adopted approach still respected the departmental lines of policy responsibility.

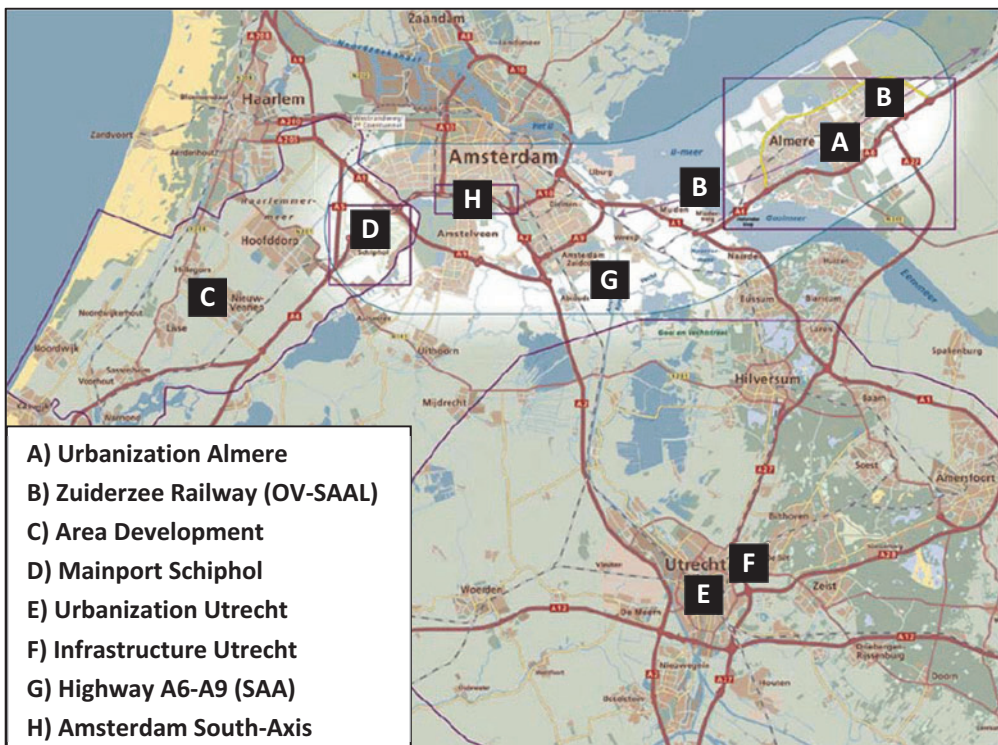
This was also seen in the selection of staff. The director and manager of the program were staff of the Department of Transport. The rest of the team consisted of employees from four ministries. The program management approach in this case is thus limited in terms of integration beyond the boundaries of policy fields. The only innovation is the interdepartmental composition of the program team on the lower and middle levels, and improved collaboration between the Departments of Transport and Spatial Planning at these levels.

4.7.3 The aims of multilevel governance integration

The change with respect to multilevel governance integration was more ambitious. The program management integrated a joint steering committee of local, regional and national governors and included two representatives of local government in the program team. This integration of local government interests within a national program marks a substantial improvement in the interaction between local and national government in this region. Local and regional participation in this program approach also encouraged integration and mutual adjustment on regional and local levels.

Table 4.1 Description of selected projects within the AMR program

- A) Urbanization Almere:** project aimed at decision-making to build 60.000 houses in Almere between 2010 – 2030;
- B) Zuiderzee railway (OV-SAAL):** decision-making project for a new railway connection between Schiphol Airport - Amsterdam South-Axis - Almere and the north;
- C) Area Development:** exploration of possibilities for housing areas in relation to airport development, natural environment, infrastructure and agriculture;
- D) Mainport Schiphol:** study of accessibility of Schiphol Airport by highway and public transport development;
- E) Urbanization Utrecht:** project aimed to create new housing areas by restructuring and transformation in relation to infrastructure and environmental quality;
- F) Infrastructure Utrecht:** Regional network analysis of infrastructure around Utrecht;
- G) Highway A6-A9 (SAA):** planning for highway connection between Airport Schiphol – Amsterdam – Almere;
- H) Amsterdam South-Axis:** decision-making project about displacing and embedding a diversity of infrastructure in an extensive office and house–building project on the southern transport axis of Amsterdam.

**Figure 4.1 Map of Amsterdam Metropolitan Region and selected projects**

4.7.4 The aim to increase coherence between projects

Earlier it was argued that existing projects can be starting points for program management, where integration or at least mutual adjustment can be the objective of the program managers. The program management approach clearly fits into the case study. The projects were selected at an early stage, and clearly preceded the program. Together with local governments, the program management selected eight existing projects (see Figure 4.1 and Table 4.1).

The management agreed that they would focus on these eight projects only. From the coherence perspective, which is so central in program management theory, the programmatic quality of the applied approach in this case must be questioned. The aim seems to be mainly to support existing project management approaches. Solving integration problems seem to be less dominant than speeding up existing project implementation processes. This can also be seen in the acceptance of existing responsibilities. Responsibility for the projects remained in the hands of their home organizations. The program was mainly perceived as a 'linking pin through existing projects'. In this manner the organization of the program is loosely coupled. The demarcations between the different fields of policy are made a little permeable, but remain separated. The integration is mainly focused on voluntary mutual persuasion.

4.7.5 An attempt to integrate and speed up project implementation: joint decision-making

In summer 2006, the program management aimed for a more efficient project implementation through an integrated decision by the Council of Ministers. From a program management theory perspective, this was an interesting and curious attempt to speed up decision-making. A well-known traditional line-management approach was used: making an all-decisive step by bringing all activities together at one moment and in one place. This is contrary to the idea that integration in a governance field where nobody is in charge has to be realized through mutual adjustment and cooperation. In this case, the program management assumed that the integrated decision as apotheosis of a joint process would fulfil the ambitions of interdepartmental cooperation, multi-level governance collaboration, connectivity among projects and collaboration with NGOs and private organizations. In fact, integration methods from project and line-management have been copied and presented as a program management approach. However, this does not answer the question of why an integrated decision is easier to achieve than eight project decisions and how the national government is able to decide upon an integrated decision that also included the responsibilities of many others. They seem to have assumed that a program approach creates a government that is able to be in charge in the Amsterdam Metropolitan Area. This assumption, however, is clearly false. As the moment approached, many officials and managers became nervous and the

decision that was finally made was more of a process-oriented one, leaving a lot of things ambiguous.

4.7.6 An attempt at programmatic visioning

Bringing regional development activities together through a single decision does not seem to fit with the characteristics of development in a complex metropolitan arena; this, however, does not necessarily mean that the program approach was a failure. The management approach generated new forms of analysis and management. Important lessons were learnt about the drawbacks of programmatic visioning.

The program management invested in the creation of a shared vision on the regional development of the AMR integrating the diversity of stakes. They assumed that an interaction between the stakeholders involved in the eight projects would generate a joint vision that could prevent each of the stakeholders from actions that would disturb the separated processes of project implementation.

Although the ambition of program management was to operate as a light and lean structure, a rather formal trajectory of vision creation was set up, by following the line management procedures of writing and agreeing upon policy reports. However, such a vision is usually that of one single organization and minister and do not fit within the context of multiple projects with their own actor coalitions. Therefore, the process became painful and challenging. Although there was some progress in interdepartmental cooperation and collaboration, an overarching vision connecting the projects was mainly realized on paper. A truly joint vision that guided the actions of all the stakeholders could not be achieved.

4.7.7 An attempt to become champion of the main project contaminating the whole program

The program management approach not only focused on supporting the realization of existing projects, it also became a passionate supporter of the earlier mentioned A9-project: a new missing motorway link between Amsterdam and new town Almere were 60.000 new houses should be built between 2010 and 2030. The missing motorway link however also crosses the Naardermeer, an old National Park in the Netherlands. For that reason the idea for that motorway is already promoted by several governments and challenged by NGO's and other governments for more than thirty years. The program management nevertheless headed for realizing. The A9-project proposal activated a large NGO to start a campaign against this motorway. Soon this led to arousal and media attention. This attention led to a situation in which the program became almost synonym with the project under attack. The disproportionate amount of attention on one single project undermined the authority of the program management in its independent position above the different projects as well as in its relation to each

individual project. Some project leaders considered the program approach to become a danger for project development. They withdraw temporarily from the program and applied once again a separated strategy.

4.7.8 Envisioning program Management in the Field: an appraisal

Several of the project managers were asked to evaluate the need for program management. Many recognized that project management has changed in the last decade. They are aware of the intensified dynamics in their environment and beyond. Program management has the capacity to monitor and deal with various sources of environmental dynamics. They tended to agree that the program approach has added value in achieving coherence among projects. They acknowledged that the inter-visibility between projects as well as a joint decision-making deadline helped them remain on course and take other projects into account. The program also motivated collaboration among local authorities. Moreover, regional collaboration motivated national government departments to engage in mutual cooperation. It can be concluded that most participants were satisfied with the improved levels of integration and collaboration. Program management will not prevent them from having conflicts, but it facilitates dealing with intergovernmental conflicts.

There are some criticisms, however. Project managers continue to argue that theirs is the most important implementation approach. They do not want program management to hamper their freedom to act and maintain control over their projects. Project managers tend to focus on completing their project within their own specified timeframe and budget, without attributing much significance to the program approach. For that reason several projects, like the South-Axis in Amsterdam continued to operate autonomously. This was possible because it was able to organize its own decision-making.

In general the program has had a positive appraisal. Although the integrated decision in the Cabinet and in the Second Chamber was postponed, the program approach did prepare a solid basis for (partly separated) decision-making of the eight projects.

The highway A9 project remains controversial and will probably be opposed by societal groups and politicians. The program approach was not able to effectuate a breakthrough in this project. Nearly all other projects were brought closer to implementation. And what is perhaps the most important observation for the future of program management is that the new Cabinet has adopted a more sophisticated program with 33 projects for the whole Randstad Metropolitan Area. This program is fully in action now other ministries seem now really active involved in this program.

4.8 CONCLUSIONS AND REFLECTIONS

Program management in the context of spatial planning has been applied as a mechanism to achieve coherent and integral regional development. It seeks to achieve a consistence and a shared focus among projects to stimulate spatial synergy. The case study highlighted a program management arrangement which has the ambition to fulfil this function, but which must compete with project arrangements and is ultimately not able to facilitate 'joint decision-making' on a national scale about a variety of spatial ambitions in the Amsterdam Metropolitan Region. The pressure from actor coalitions around the various projects on their own ambitions is too strong to enable this program ideal.

Our case shows that in spatial planning program management can be easily framed as an additional complicating factor for project managers busy to realize their own objectives. In our case we found several moments and instances of reluctance from project managers against the attempts of the program management to organize integration and cooperation. Especially when these attempts result into time delays, less political attention for the individual project or reduced opportunities to organize the own project, the willingness for cooperation declined.

We found out that project managers assume there is only a facilitating and subordinated role for program managers and that program managers should not be in a position to overrule project managers. To say it in a popular way: program managers are reluctantly accepted as long as they do not really interfere with project implementation. In that sense project and program managers seem to compete about the question 'who is in charge'? In our case the program management is an arrangement without strong formal obligations. It has to rely on the power of persuasion and the development of a sense of mutual benefits to be able to realize a programmatic ambition.

The interplay between program management and project management can be characterized as a cooperative modus of value creation (Nalebuff & Brandenburg, 1996; Teisman, 2001). Managers seem to share a dual awareness. As a result of interdependency, managers realize that they need cooperation in order to realize their own objectives. In theory, they are in favor of achieving mutual added value. At the same time, they want to focus on realizing their own project/program ambitions. In cases of perceived controversies, competitive strategies are easily applied.

This tension between project and program management seems to be inescapable. It could even be argued that a fruitful tension can contribute to the integrated and synchronized development of a complex system, such as a metropolitan region. The two are complementary in their strengths and the delicate balance between programmatic integration and powerful projects provides the necessary ingredients for

successful regional development. The project approach is helpful in conducting decisive action on well-defined single-value issues, while the program approach is necessary to realize synergy and coherence. Too much program management can undermine the potential of project management, but the opposite is also true.

Further investigation of the strategies that project and program managers alternately or simultaneous use to deal with the tensions between diversity and integration is required in order to shed more light on the coevolution of both management types in the practice of urban and regional planning.

REFERENCES

- Atkinson, R. 1999. Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management*, 17(6): 337-342.
- Boonstra, J. J. 2004. *Dynamics of Organizational Change and Learning*. Chichester: Wiley.
- Bresnen, M., Edelman, L., Newell, S., Scarbrough, H., & Swan, J. 2003. Social practices and the management of knowledge in project environments. *International Journal of Project Management*, 21(3): 157-166.
- Buijs, M. J., Van der Bol, N., & Teisman, G. R. 2009. Metropolitan Regions as Self-organizing Systems. In G. R. Teisman, M. W. Van Buuren, & L. M. Gerrits (Eds.), *Managing Complex Governance Systems*: 97-115. New York: Routledge.
- Buuren, M.W. van & Gerrits, L. (2008). Decisions as Dynamic Equilibriums in Erratic Policy Processes. *Public Management Review*, 10(3), 381-399.
- Crawford, L., Costello, K., Pollack, J., & Bentley, L. 2003. Managing soft change projects in the public sector. *International journal of project management*, 21(6): 443-448.
- Crosby, B. C., & Bryson, J. M. 2005. *Leadership for the common good: Tackling public problems in a shared-power world* (2 ed.). San Francisco: Jossey-Bass.
- Cummings, T. G., & Worley, C. G. 2001. *Organization Development and Change* (zevende editie ed.). Cincinnati: South-Western College Publishing.
- Dovey, K. & B. Fenech. 2007. The role of enterprise logic in the failure of organizations to learn and transform. A case from the financial services industry. *Management Learning*, 38 (5): 573-590.
- EIB. 2002. *Evaluatie voortgang infrastructuur. 1997-2002*. Amsterdam: Economisch Instituut voor de Bouwnijverheid.
- Elonen, S. & K.A. Artto. 2003. Problems in managing internal developments projects in multi-project environments. *International Journal of Project Management*. 21: 395-402.
- Engwall, M. 2003. No project is an island: linking projects to history and context. *Research Policy*, 32: 789-808.
- Ferns, D. C. 1991. Developments in programme management. *International Journal of Project Management*, 9(3): 148-156.
- Flood, R. L. 1999. *Rethinking the fifth discipline: learning within the unknowable*. . London: Routledge.
- Flyvbjerg, B., Bruzelius, N., & Rothengatter, W. 2003. *Megaprojects and risk : an anatomy of ambition*. Cambridge: Cambridge University Press.
- Gardiner, P. D. 2005. *Project Management: a strategic planning approach*. Hampshire: Palgrave McMillan.

- Glasbergen, P. & Driessen, P.P.J. (2005). Interactive planning of infrastructure: the changing role of Dutch project management. *Environment and Planning C: Government and Policy*, 23, 263-277.
- Grit, R. 2000. *Projectmanagement. Projectmatig werken in de praktijk*. Groningen: Wolters-Noordhoff.
- Hans, E.W., W. Herroelen, R. Leus, G. Wullink. 2007. A hierarchical approach to multi-project planning under uncertainty. *Omega*, 35, 563-577.
- Huang, J. C., & Newel, S. 2003. Knowledge integration processes and dynamics within the context of cross-functional projects. *International Journal of Project Management*, 21(3): 167-176.
- Jaafari, A. 2003. Project management in the age of complexity and change. *Project Management Journal*, 34(3): 47-57.
- Johansson, S., Löfström, M., & Ohlsson, O. 2007. Separation or integration? A dilemma when organizing development projects. *International Journal of Project Management*, 25(5): 457-464.
- Jugdev, K., & Müller, R. 2005. A retrospectpective look at our evolving understanding of project success. *Project Management Journal*, 36(4): 19-31.
- Klijn, E.-H., & Teisman, G. R. 2002. Barrières voor de totstandkoming van publieke private samenwerking en de mogelijkheden deze te overwinnen: een institutionele invalshoek. In H. v. Ham, & J. Koppenjan (Eds.), *Publiek-private samenwerking bij transportinfrastructuur: wenkend of wijkend perspectief?*: 47-76. Utrecht: Lemma.
- Klijn, E.-H., & Teisman, G. R. 2003. Institutional and strategic barriers to public-private partnerships: an analysis of Dutch cases. *Public Money and Management*, 23(137-146).
- Koppenjan, J. F. M., & E.-H., K. 2004. *Managing uncertainties in networks: a network approach to problem solving and decision making*. London: Routledge.
- Meredith, J. R., & Mantel, S. J. 2000. *Project management: a managerial approach* (4 ed.). New York: Wiley.
- Ministerie van VROM, VenW, LNV en EZ. 2004. *National Spatial Strategy*. Den Haag: Ministerie van VROM
- Ministerie van VROM. 2004. *Voortgang verstedelijking VINEX 2004*. Den Haag: Ministerie van VROM.
- Ministerie van VROM. 2006. *Basisdocument Noordvleugel en NV Utrecht*. Den Haag: Ministerie van VROM.
- Murray-Webster, R., & Thiry, M. 2000. Managing programmes of projects. In R. Turner, & S. Simister (Eds.), *Gower Handbook of Project Management*, derde editie ed.: 47-63. Hampshire: Gower.
- Nalebuff, B. J., & Brandenburger, A. M. 1996. *Co-opetition*. New York: Doubleday.

- Newell, S., A. Goussevskaia, J. Swan, M. Bresnen, A. Obembe. 2008. Interdependencies in complex project ecologies. *Longe Range Planning*, 41: 33-54.
- OECD. 2007. *OECD Territorial Reviews: Randstad Holland, Netherlands*. Paris: OECD.
- Partington, D. 2000. Implementing strategy through programmes of projects. In R. Turner, & S. Simister (Eds.), *Gower Handbook of Project Management*: 33-46. Hampshire: Gower.
- Partington, D., Pellegrinelli, S., & Young, M. 2005. Attributes and levels of programme management competence: an interpretive study 23 87-95. *International journal of project management*, 23(2): 87-95.
- Pellegrinelli, S. 1997. Programme management: organising project-based change. *International Journal of Project Management*. 15 (3): 141-149.
- Pellegrinelli, S. 2002. Shaping context: the role and challenge for programmes. *International Journal of Project Management* 20(3): 229-233.
- Pellegrinelli, S.; D. Partington, C. Hemingway, Z. Mohdzain, M. Shah. 2007. The importance of context in programme management. An empirical review of programme practices. *International Journal of Project Management*, 25: 41-55.
- Priemus, H. 2007. System Innovation in Spatial Development: Current Dutch Approaches. *European Planning Studies*. 15 (8): 992-1006.
- Programma Noordvleugel. 2005. *Programmaplan Noordvleugel*. Den Haag: Programma Noordvleugel.
- Riis, J., & Pedersen, F. 2003. Managing organizational development projects by paradoxes. *Production planning and control*, 14(4): 349-360.
- Rosenau, M. D., & Githens, G. D. 2005. *Successful project management, a step-by-step approach with practical examples*. Hoboken NJ: Wiley.
- Salet, W. 2003. Amsterdam and the north wing of the Randstad. In W. Salet, A. Thornley, & A. Kreukels (Eds.), *Metropolitan Governance and Spatial Planning*: 175-188. London: Routledge/Spon.
- Szyliowicz, J. S., & Goetz, A. R. 1995. Getting realistic about megaproject planning: The case of the new Denver International Airport. *Policy Sciences*, 28(4): 347-367.
- Teisman, G. R. 2001. *Ruimte mobiliseren voor coöpetief besturen: over management in Netwerksamenlevingen (Inaugurele rede, Erasmus Universiteit Rotterdam)*. Rotterdam: Erasmus Universiteit Rotterdam.
- Teisman, G. R. 2005. *Publiek management op de grens van chaos en orde*. Den Haag: SDU.
- Teisman, G. R. 2008. Infrastructure Investments on the Edge of Public and Private Domains. In G. Arts, W. Dicke, & L. Hancher (Eds.), *New Perspectives on Investment in Infrastructures*: 319-147. Amsterdam: Amsterdam University Press / WRR.

- Teisman, G. R., Edelenbos, J., Klijn, E.-H., & Reudink, M. 2004. State of the Art Coproductie (STIP-Studie). Den Haag: Kenniscentrum Grote Steden.
- Teisman, G. R., & Klijn, E.-H. 2002. Partnership Arrangements: Governmental rethoric or Governance Scheme? *Public Administration Review*, 62(2): 197-205.
- Teisman, G. R., Van Buuren, M. W., & Gerrits, L. M. 2009. *Managing complex governance systems*. New York: Routledge.
- Thiry, M. 2004. Programme management: a strategic decision-management process. In: Morris, P.W.G.; Pinto, J.K. (eds.) *The Wiley Guide to project management*. New York: John Wiley & Sons. Chapter 12.
- Thiry, M. & M. Deguire. 2007. Recent developments in project-based organizations. *International Journal of Project Management*. 25: 649-658.
- TNO. 1994-2005. Randstadmonitor. Delft: TNO.
- Turner, R. 2000. An encyclopaedia for the profession of project management. In R. Turner, & S. Simister (Eds.), *Gower Handbook of Project Management* derde editie ed.: 1-25. Hampshire: Gower.
- Turner, J. R., & Müller, R. 2003. On the nature of the project as a temporary organization. *International Journal of Project Management*, 21: 1-8.
- Wijnen, G., Renes, W., & Storm, P. 1990. *Projectmatig werken*. Utrecht: Uitgeverij Spectrum.
- Williams, G. 2006. Collaborative partnerships and urban change management: The renewal of Manchester city centre. *International Journal of Sociology and Social Policy*, 26(5/6): 194-206.

CHAPTER 5

METROPOLITAN REGIONS AS SELF-ORGANIZING SYSTEMS

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ABSTRACT

This chapter is a study of organizational and managerial behavior in multilayered and, multi-scaled systems in metropolitan regions. We focus on the polycentric metropolitan region of the Randstad. This metropolitan area suffers from erratic governance systems. None of the governments of these cities has enough power and resources to play a dominant role in international competition. They need to develop cooperative management strategies in order to keep their metropolitan region economically, socially and creatively competitive. The chapter explores the strategies that emerge from more informal networks and arenas as attempts to ensure survival, and separates the effective from the redundant (Teisman, Van Buuren, Gerrits, 2009: 11).

Mutual autopoietic self-organization seems to lead in this case to zero-sum games and mutual dissatisfaction. There are numerous attempts to restore authority and control in this interdependent metropolitan governance system but they are destined to failure. Each subsystem seems to be powerful enough to frustrate any proposal that will redistribute its resources to others or a new formal entity. (Boons, Van Buuren, Gerrits & Teisman, 2009: 237)

In the metropolitan area, there are many manifestations of dissipative self-organization, especially in terms of program management and alliances. Program management is the attempt to increase the synchronicity in terms of the content among a variety of projects. It gives self-organizing governments the ability to combine their self-interest manifested in projects with some kind of joint interest developed in program ambitions and aims. It appears to be a promising way to synchronize interests and even to develop joint interests. The content of what policy-making is about is reconsidered and new boundary judgments are set. (Boons et al., 2009: 237)

5.1 INTRODUCTION

Several authors (Portugali, 1997; Lombardo, 1998; Byrne, 1998) have argued that self-organization is a crucial element in the development of metropolitan regions, and one that has been too often neglected by scholars in public administration. The concept of self-organization questions the guiding ability of single governmental agencies. Allen (1996) and Byrne (1998: 149) have argued that governmental decision-making in complex societies does remain possible, however, but that the effects of governmental actions are highly influenced by the spontaneous actions of many other agents. This underlines the importance of understanding the concept of self-organization. Allen (1996: 71) explains the character of self-organization as such:

“In a complex system of interdependent entities the decisions made by individuals, or by collective entities representing certain localities, lead to the emergence of large scale structure, which is not anticipated in their thinking, and which later will in fact determine the choices which are open to them.”

According to Allen, spatial structures of cities, regions and urban networks emerge from the continuous interaction between individuals, their goals, their aspirations and the macrostructure that they have allowed to emerge. As Stacey (2003: 264) argues: “new directions for an organization emerge from both their [managers’] choices and the patterns of responses these evoke from others in a self-organizing way.” This chapter explores the concept of self-organization to understand the way in which metropolitan areas develop and attempts to improve our understanding of how different types of self-organization can reinforce or weaken governmental action. Section 6.2 elaborates on the concept of self-organization and distinguishes between conservative and dissipative self-organization. This results in a conceptual framework for analyzing the self-organizational character of governance. This framework is applied to metropolitan governance, and more specifically to recent governance practices in the metropolitan region of Randstad Holland: a polycentric urban area consisting of cities such as Amsterdam, Rotterdam, The Hague and Utrecht. Based on this analysis, conclusions are drawn about various appearances of self-organization in governance systems and the possibilities for steering.

5.2 A THEORY ON CONSERVATIVE AND DISSIPATIVE SELF-ORGANIZATION

Self-organization is guided by local interaction, not by the imposition of any external or internal actors (Cilliers, 1998; Heylighen, 2002; Jantsch, 1980). Because all actors are part of the system, control over the system is distributed across many actors (Heylighen, 2002: 8). Metropolitan governance is a result of a variety of self-organizing actions. Dynamics in metropolitan systems and metropolitan governance processes is therefore quite common. The existence of non-linear dynamics in governance processes is demonstrated in Van Gils, Gerrits & Teisman (2009) and Teisman, Westerveld & Hertogh (2009).

This chapter focuses on the contribution of self-organization to metropolitan governance processes. When applied to management issues, the notion of self-organization is derived from an autopoietic stream of thought—often focused on organizational closure (see Klijn & Snellen, 2009; Kickert, 1993; Dempster, 1998). On the other hand, the concept of self-organization is inspired by Prigogine and Stengers’ (1984) idea of dissipative structures that focuses on the *“property of complex systems*

which enables them to develop or change internal structure spontaneously and adaptively in order to cope with, or manipulate, their environment" (Cilliers, 1998: 90). The latter is, for instance, uttered in the development of strategic alliances between different organizations in a complex system (Koza & Lewin, 1999; Pyka & Windrum, 2003). Urban regime theory (Stoker, 1995), like several theories about metropolitan governance, acknowledges this type of self-organization. These theories reflect self-organization as opposed to an organization perspective and emphasize its dissipative capacity to build vital coalitions.

In a complexity theory perspective on self-organization, a distinction is acknowledged to exist between conservative and dissipative self-organization (Jantsch 1980, 1981; Probst, 1987; Heylighen, 1989; Van Olffen & Romme, 1995; Schweitzer, 1997; Dempster, 1998; Wible, 2000; Fuchs, 2002; Farazmand, 2003; Mitleton-Kelly, 2003).

Before further analyzing the concept of self-organization, two issues that are often raised in the discussion of this concept should be clarified: the relationship between self-organization and organization, and intentionality in organizing. The perspective of organization has dominated the social sciences for a long time. It depicts organizations as continuous and relatively stable structures. Actors participating in these structures are perceived to collaborate under the assumption that by working together, they will achieve more than by working alone. Human actors are considered to have an inclination for control and planning, and steering is deemed achievable to some extent. Dobuzinskis (2006) argues that, in a sense, it is true that bureaucracies are not self-organizing, but he acknowledges that in a post-positivistic public administration this objection may not be irrefutable. Complexity theory argues that in essence, all structures in complex systems are self-organizing (Jantsch, 1980). Lombardo (1998) explains that in situations with many perturbations, which is the case in complex systems, the property of self-organization reveals itself to the observer, leaving the organization perspective of diminishing importance. Plans and goals arising from existing hierarchical organizations, however, may seem rather intentional. Tschacher and Haken (2007) explain that these 'intentional' plans and goals are synergetic pattern formations that are based on the phenomena of self-organization (see also Grothe, 1997). Thus, the observation of self-organization in relation to intentional organization seems to be a matter of perception.

5.2.1 Conservative self-organization

Conservative self-organization comes down to the capacity of a system to govern itself and focuses on the self-referential character of the system (Jantsch, 1980). Schweitzer, for example, argues that conservative self-organization can be observed as processes of

structure formation that occur through a relaxation into an equilibrium state (Schweitzer, 1997: xxi). Jantsch (1981) explains that conservative self-organization is about balancing equilibrium between stable and inert system states (see also Teisman et al., 2009; Edelenbos, Klijn & Kort, 2009). Conservative self-organizing systems possess a significant element that remains constant and invariant over time (Wible, 2000), such as organizational structure and patterns of interaction. However, Kickert (1993) states that stability should not be confused with closure of a system: “...in social reality, closed systems do not exist. Most social systems are by definition open ...Strict organizational closure is an unrealistic notion.” (Kickert, 1993: 272)

Conservative, self-referential organization allows actors to have a sense of a planned development within the dynamic system they act in (Teisman, 2005). It is deemed to be in the nature of most actors to have a tendency to plan the development of the systems they are a part of, for their own well-being. However, there is also a risk to this type of self-organization. Too much focus on control by actors or organizations is likely to restrict their ability to adapt to developments taking place in their dynamic system. Negative feedback processes in the system will weaken the stimuli provided by the systems’ environment. A more or less continual recurrence of these processes could end in static stability and an inert state of the system.

To many, a self-organization perspective to governance means passing out hierarchy. Inspired by the ideas on dissipative structures and the assumption that these structures generate creative and innovative capacity, advocates seem to forget about the conservative character of self-organization. Bootsma and Lechner (2002) have shown that hierarchical organizations are natural phenomena in human systems. Cilliers (2001) argues that complex systems, as a result of their internal diversity, all have a certain hierarchical structure. Conservative self-organization is a main characteristic of hierarchical organizations. Conservative self-organization is focused on the exploitation of existing information and the replication of existing practices (Van Olfen & Romme, 1995).

5.2.2 Dissipative self-organization

The other direction in which self-organization may evolve is referred to as dissipative self-organization, inspired by the discovery of dissipative structures by Prigogine and Stengers (1984). In contrast to conservative self-organization, dissipative structures can be interpreted as being far from equilibrium: “*dissipative structures represent a kind of self-organizing dynamic order that maintains itself through continuous exchange of energy with the environment.*” (Jantsch, 1981: 66)

Dissipative processes are deemed capable of creating synergy between the system and its environment. Accordingly, dissipative self-organization stands for a cooperative quality of organizations (Jantsch, 1981), which is able to instigate the

convergence of internal strengths in interactive processes. Leaving room for spontaneity, this convergence may lead to the emergence of new structures and entities, enabling positive feedback between a system and its environment. This process would ultimately strengthen the development of innovative initiatives resulting from the internal system or its environment. In this way, processes of dissipative self-organization are considered to prevent systems from becoming locked in internal processes. Kickert (1993) argues that the idea of dissipative structures broadens the 'traditional' understanding of autopoiesis in public administration.

Conservative autopoietic systems generate and continuously regenerate the same type of organization, whereas dissipative self-organization is about crossing organizational boundaries and realizing new connections. In contrast to conservative self-organization, dissipative self-organization is focused on the exploration of information (Van Olffen & Romme, 1995), which enlarges its capacity for innovation and creativity. In terms of the system states mentioned in Teisman et al. (2009): it brings a system into a situation of dynamics, but without the stabilizing forces of conservative self-organization it also has the potential to cause chaos.

Dissipative self-organization has the risk of becoming superfluous, when too many actors in a system go about their activities in a dissipative fashion, looking for synergy but without the ability to realize their own ambitions, let alone collective ones.

5.2.3 Self-organization and its application to metropolitan governance research

This chapter will apply the described self-organization approach to a specific object of study: governance behavior in complex metropolitan systems. We want to understand how governments confronted with a large variety of demands and complex governance networks are dealing with this complexity. Governmental actions will be sought out and analyzed in terms of conservative and dissipative self-organization. Four appearances of self-organization are presented through an analysis of cases within Randstad Holland: two with conservative characteristics and two with dissipative characteristics (Table 5.1), which are either oriented on the structure of metropolitan governance or its content.

In the cases discussed, four types of reactions to the multitude of problems the Randstad region encounters can be distinguished. First, there is a discussion with regard to revising the governing structure (one metropolitan authority). Second, there is an inclination to integrally develop spatial projects (A4 project). Third, there are attempts to coordinate on a regional collaborative level within informal alliances and partnerships (North and South Wing case). Finally, movements towards enrichment of singular (infrastructure) projects to more inclusive (spatial) programs (A4 project) can be identified.

Table 5.1 Self-organization and its application to metropolitan governance research

| | Conservative self-organization | Dissipative self-organization |
|---------------------------|---|---|
| Structure oriented | Organizational restructuring in order to create a new government in charge Cases: Metropolitan authority and Randstad Province | Building alliances and partnerships in order to create joint agendas and actions Cases: North and South Wing alliances |
| Content oriented | Creating powerful project leadership in order to carry through plans Cases: A4 project first phase | Expanding project ideas into joint programs of regional development Cases: A4 area development second phase |

Three issues will be discussed in the conclusion; starting from the assumption from theory that both conservative as well as dissipative self-organization can be identified in complex social systems. First, it will be illustrated to what extent both approaches can be traced back in our case. Second, the effects of these two different patterns of self-organization will be demonstrated. Finally, the interaction between both occurrences of collective action will be elaborated upon.

5.3 THE CASE OF THE METROPOLITAN RANDSTAD HOLLAND REGION

Before elaborating on the nested cases presented in the preceding scheme, this section introduces the main object of research: the metropolis of Randstad Holland. Randstad Holland is a horseshoe-shaped polycentric region in the Netherlands. About six to seven million people live and work in the region, making it one of the largest and most crowded metropolitan regions in Europe. It encompasses the urban centers of Amsterdam, Rotterdam, The Hague and Utrecht; their suburbs; and many smaller cities (see e.g. Jobse & Needham, 1988; Kantor, 2006). The so-called 'Green Heart', an agricultural and preserved natural area, is situated in the middle of the horseshoe. The Randstad region and other polycentric areas, like Los Angeles and the Ruhr area, are distinct from metropolitan regions where a single city is dominant, such as Paris and London (Hall, 1977; Kooij & Van der Laar, 2003).

The Randstad was acknowledged as a metropolis in the 1960s (Hall, 1966; Jobse & Needham, 1988). Regulation of urban expansion became an important focus of governments in charge of spatial planning. Urban sprawl was considered to be the actual, but also undesirable, result of the self-organization of citizens and businesses. Governments decided to channel this development into ‘new towns’ near the central cities. From an urban planning vision, this was a second best solution. The Department of Spatial Planning preferred the option of housing within existing cities. This option, however, was set aside as being unrealistic, considering the preferences of citizens and businesses. While people

moved to the new towns, economic activities remained stationed in the cities. The unintended outcome of this combined process of guidance and self-organization was increasing amounts of commuters (Priemus, 1998; Schwanen et al., 2004), pressurizing the existing mobility system of highways and public transport. This discrepancy between the governments’ intentions to decrease the distance between homes and work and the actual development continues to be one of the persuasive illustrations of the inability to combine guidance and self-organization in a symbiotic way.

Today, metropolitan governance of the Randstad has to grapple with several interrelated issues. Due to urban expansion, cities and new towns have grown closer to one another (Priemus, 1998; Schwanen et al., 2004). The Dutch main ports (Port of Rotterdam and Schiphol Airport) require room and accessibility, often in competition with their surroundings. Also, the region is faced with a sizable qualitative and quantitative housing demand. In addition, the mobility system is confronted with a lock-in: incorporating new infrastructure is complex since building space is scarce, environmental quality is decreasing and expansion of infrastructure is seen to be incapable of dealing with congestion in the region. At the same time, European rules exert an increasing influence on the metropolitan governance of the area. Furthermore, the Randstad Holland is in fierce competition with other metropolitan regions in terms of its economic attractiveness. In accordance with Florida (2002), regions compete on an international scale in order to attract thriving companies and workers. This competition is also reflected in all kinds of rankings of metropolitan regions such as the



Figure 5.1 Randstad Holland (Buijs et al., 2009)

annual European Cities Monitor (by Cushman & Wakefield), the Economic Intelligence Unit (EIU), the World Economic Forum (WEF) and the Institute for Management Development (IMD).

5.3.1 Governmental situation

Drawing from this analysis, the Randstad region faces various issues in the spatial context. In the Netherlands, four levels of government are formally involved in spatially developing the region. On the one hand is the national government, within which spatial development is on the agenda of several ministries, mostly VROM (Housing, spatial development and environment), V&W (Transport, Public Transport and Water management) and EZ (Economic Affairs). Also, the Ministry of Finance plays an important role in facilitating development. On the other hand, 12 provinces, of which four are represented in the Randstad, namely, North Holland, South Holland, Flevoland and Utrecht, are responsible for more regional coordination. Third, there are many municipalities responsible for spatial development (reflected in Figure 5.2). Fourth, formal collaborative 'Wgr-regions' (an abbreviation for regions that result from the law of collective regulations), are responsible for municipality-exceeding issues such as infrastructure (more on these Wgr-regions in the following paragraph). Although some of these organizations do have responsibilities they lack democratic anchorage.

Dutch spatial development is fixed by the Law for Spatial Planning. This law commands the division of responsibilities in dealing with spatial difficulties among different governing units. Accordingly, over a hundred municipalities in the Randstad area are responsible for establishing spatial specific destinations for areas within their constituency, which are then judged by one of the four provinces. These provinces compare the municipal destination plans to their own area plans. In turn, the provincial plans are derived from national strategic spatial plans, which are drawn up under coordination by the national government.



Figure 5.2 Governmental structure of Randstad, overview of municipalities (Buijs et al., 2009)

Even though the Dutch planning system is known for its ability to structure spatial development, several studies as well as the analysis of the OECD on the region make clear that the issues governmental organizations have to deal with have exceeded their formal boundaries (OECD, 2007).

5.4 DISCUSSING GOVERNING STRUCTURE REVISION

The variety of metropolitan issues portrayed in the preceding section, such as pressures on the housing market, congestion and competition with other metropolitan regions, means that governmental organizations in the Randstad are posed with a grave task. In reaction to this, in 1966, a strategic note published by the national government stated that spatial arrangement should dictate managerial organization (Van der Cammen & De Klerk, 2003: 217). This implied that administrative entities in the Randstad should cooperate at different levels (Hall, 1977). This note can be perceived as the starting point for administrators to search for the most appropriate governmental structure for the Randstad. The search culminated in the discussions on installing so-called 'city provinces' and a 'Randstad province' as new managerial organizations.

The underlying argument on introducing city provinces was to install a governmental body that would be responsible for the development of conurbations, consisting of multiple municipalities. After lengthy preparation, the instalment of city provinces was planned for the 1990s, preceded by a civil referendum. The plans were, however, upset by an unexpected no-vote by the public, which was afraid of a loss of local identity (Boogers and Hendriks, 2006; OECD, 2007). Coinciding with the civil rejection, frictions emerged among existing governmental bodies. In the case of the Amsterdam city province for instance, forgoing the referendum, the municipality of Almere had been forced to leave the administrative process by the province of Flevoland. The province had been reluctant to lose its most promising municipality and Almere in turn did not want to be overrun by Amsterdam (Van Dam et al., 1996; Van der Lans, 2006). The attempt to install city provinces had led to deteriorated relations among the municipalities within the conurbations (Salet, 2003). The boundary-exceeding issues, however, remained on the agenda. Eventually, the national government introduced the Joint Arrangements Act (Wgr), in which municipalities were coerced into collaborating on issues such as public transport and juvenile care within so-called Wgr-regional organizations. These regional organizations, working with municipal representatives, are only indirectly democratically anchored.

Where the discussion on city-provinces focused on the largest cities and their surroundings, the second half of the 1990s came with an increasing awareness that the area had evolved into a metropolitan network (Teisman, 2006). This brought forth a renewed structured discussion focusing on the instalment of a Randstad authority: a new governmental structure that in most proposals is predetermined to take over the role of the four involved provinces and some of the authorities of the cities and national government.

With the intention of creating more coordination in the governance of the Randstad, five departments within the national government introduced the

'Administrative Committee Randstad'. In order to collectively interact with this committee the four provinces, the four largest cities and the Wgr-regions started collaborating within 'Regio Randstad' (Storm, 2004). This collaboration involved the coordination of points of view and the regulation of one another's activities. In 2002, the structure of this collaboration became formalized with the establishment of a bureau and a joint regulation. This was all an attempt to create the central node of Randstad governance (Storm, 2004). Responsibilities and influence remained within the existing organizations, restraining this formalization from bringing about a joint approach to Randstad development. Collaboration between the involved actors conversely seemed to decrease, allowing them to focus again on their own objectives (Teisman et al., 2005). Collaboration within the Regio Randstad organization was discontinued after a critical evaluation questioning its capacity to deal with metropolitan issues in Randstad Holland (Teisman et al., 2005).

The installment of a Randstad authority, however, is continuously debated. In 2002 for instance, the Institute for Inter-provincial Consultation established the 'Geelhoed Committee', consisting of actors from several fields in society. This committee advised the national government to merge the existing 12 provinces into four regions, creating a single Randstad provincial authority.

In 2006, the four largest cities established another committee to provide advice on this issue. This 'Burgmans committee' advised the replacement of the existing provinces and Wgr-regions by one Randstad authority. Also in 2006, the 'Kok Committee', which was installed to research the possibilities of Randstad governance, released their advisory report. Its most quoted recommendation was the establishment of a Randstad province. As with the other advisory reports, this call for a new structure resulted in a cacophony of reactions in the media about different models for a new governance structure for the Randstad. Eventually, the National Government chose to discard the central recommendation of the Kok Committee, opting for subsistence of the existing structures in the Randstad. However, it is unclear how long the structure discussion will be closed in this region where actors are continuously dealing with boundary-crossing issues.

5.5 INTEGRAL DEVELOPMENT OF PROJECTS

5.5.1 First round: towards strong project management

In addition to discussions on governing structure, another development with regard to Randstad governance deserves attention. Through the increasing scale of spatial developments, spatial projects can no longer be executed by single governmental organizations. This motivates actors to look up new contacts in their attempts at

realization. The project for the realization of the A4 highway connecting Rotterdam and The Hague is an exemplary illustration of this.

The road was opted for by the province of South Holland in 1952; they wished to extend the highway that already connected Amsterdam and The Hague, generally referred to as the A4/Rijksweg 19. After several years, a policy was established by the national government, making the construction possible. Local municipalities did, however, object to the road, by referring to expected noise pollution and deprivation of the landscape. They proceeded to put a call out to politicians to prevent construction, a call which was successful.

The ministry responsible for roads remained in favor of construction. This was conveyed in their First Structure Scheme for Transportation of 1977. In this way, the road remained on the agenda of the national government, something that also becomes clear when maps of the region are reviewed, as the A4 can be seen to have already been drawn in with a dotted line. Starting from 1993, years of formal decision-making procedures followed, resulting in an official choice by the Minister for Transport to construct the road.

This time too, however, municipalities as well as non-governmental actors did everything in their power to prevent the road from being constructed, and again they succeeded by gaining the support of national politicians.

In 2004, regional authorities, including the province and the Wgr-regions of The Hague and Rotterdam, together with local companies, appealed to the Ministry of Transport to resolve this impasse. Among the requestors was a politician from the Province of South Holland, Marnix Norder, who had also described the necessary conditions for resolving the impasse. This call to action, in combination with improved possibilities for public-private financing, resulted in the Minister of Transport allowing Norder to work out his ideas.

5.5.2 Second round: towards an inclusive spatial program

Norder made contact with the local municipalities involved (Stuurgroep IODS, 2001: 65). These actors then made clear under which conditions they would agree to the construction of the A4, resulting in a regional collaboration under the name of IODS 'Integral Development between Delft and Schiedam'. This plan, which was the result of a collaborative effort among the different actors involved, concerned not only constructing the A4, but also improving the quality of the landscape surrounding it. When the IODS plan was conveyed to the national government in order to formalize the decision, it became clear that this government was not about to give in to all the wishes the local authorities had agreed upon. This became a reason for these actors, who were already having difficulties conveying their agreement on building the A4 to their own constituencies, to withdraw their support.

The departure of Marnix Norder as politician for the province left his successor to mediate between the different parties, resulting in a frail regained trust. In 2007, the newly appointed Minister for Transport made the construction of the A4 Midden-Delfland, which is how the road is commonly referred to, one of his top priorities. However, difficulties with previously drawn up justifications for choosing the A4 to solve accessibility problems again stalled the progress of the development.

The A4 Midden-Delfland project has proven to be a typical project in the Randstad. The project has many similarities with the long-ago planned highway between Amsterdam and Almere (the A6–A9 connection, also drawn in a dotted line on many maps). This project led to the emergence of a collaborative network (called The Way Out) comparable to IODS. What is especially noticeable and recurrent in most projects in the Randstad is that actors have come to agreements on difficult, long-running projects within collaborative structures, but are also confronted with organizations that are not a part of the agreement and that focus on their own goals. In the A4 Midden-Delfland and A6–A9 projects, the national government acted in line with their own aims with regard to finance and development, thereby halting the negotiations once more. Local governments and NGOs, on the other hand, attempt to accommodate all the wishes of participating actors in their collaborations and sometimes lose track of the rules and restricted resources of national departments.

5.6 COORDINATION ATTEMPTS AT ‘WING’ LEVEL

The early years of the new century were a breeding ground for new collaborative structures. This seems to have especially increased the impact of the critical evaluation of Regio Randstad in 2005. Accordingly, the managerial climate in the country induced governmental actors to collaborate on various issues.

In the northern region of the Randstad, various municipalities including Amsterdam, Almere, the Wgr-regions and provinces joined hands in reaction to the task posed by the national government to realize some 150,000 residences in the area. Each of the organizations could have responded to this task all by itself, but an alderman of the city of Amsterdam and a member of the Provincial executive initiated a regional approach. The ‘North Wing’ conference that followed turned out to be the first in a series of meetings where diverse authorities met one another in a non-hierarchical setting. After having reacted to the housing issue, actors began collaborating on an approach to tackle the mobility and economic issues of the region. The North Wing conferences are mostly aimed at accomplishing a coherent and integral spatial strategy for the northern Randstad region. The governments in the regions also invited several NGOs and representatives of the business world to participate in the conferences. In

addition to mutual coordination, the region also attempted to obtain commitment from the national government to support their strategy and projects.

A similar development took place in the southern part of the Randstad. Aldermen and officials of the two largest municipalities in the region, The Hague and Rotterdam, began to collaborate on shared issues, such as mobility. Politicians noticed, after quite some time, the potential of collaboration in solving long-lasting spatial project problems in the region. However, they found that support was required for the collaboration to get this desired effect. In order to gain support, the collaborating actors together with the province called on the national government to install a 'South Wing commission', whose formally attributed task would be to explore the possibilities for more formalized managerial collaboration on a South Wing level.

Several high-level bureaucrats from the ministries involved noticed the interactive tendency in these dense urban regions. In a period of political perturbation, these public managers were facing shortcomings from the traditional project approach to spatial development. In informal deliberations, they concluded that the spatial development of regions like the North and South Wing could benefit from improved collaboration between national departments and more coherence between projects divided by sector. These were the main arguments for the establishment of a programmatic approach by the national government.

In the North Wing, this led to the nomination of the Department of Transport to provide with the program management of a spatial development program for the region. The program management became responsible for the coordination of the national departments involved and aimed at mutual adjustment between the national government and regional authorities. They allowed two regional governmental representatives to join the program team. Regional governments continued with the North Wing conferences to coordinate their agenda, but also to act upon the development of the program. Most actors involved in the preparations and the making of decisions endeavored to create a multilayered governance setting. The Ministry of Finance, however, was more reserved. It insisted upon decision-making within the boundaries of the national government. Besides intergovernmental collaboration to prepare decision-making by administrators, the main function of the program was to manage the interrelations between projects. The program management facilitated regular deliberation among project managers. After some hesitation, project managers received this enthusiastically for as long it came down to mutual learning among project managers, without the imposition of tasks from the program.

In the South Wing, the commission that was called for was installed, and in 2001 published its final report. Confirming the need for collaboration, it advised the installment of an administrative 'South Wing bureau' to support South Wing

collaboration. Inherent in this formalization, the South Wing collaboration became a platform from which municipalities, regions and provinces could negotiate with the national governmental departments. The approach for the South Wing consisted of a political arena where local actors decided on issues and an administrative arena where the groundwork on issues was done and political decisions were prepared.

Most actors within the North and South Wing collaborative structures acknowledge the added value of collaboration in tackling difficult spatial development issues in their respective areas. In practice, however, there are several threats to its functionality.

For one, smaller municipalities often consider themselves disconnected or even ignored in the collaboration between the (larger) cities, Wgr-regions, provinces and national departments. Smaller municipalities are rarely invited as interlocutors in the collaboration and are merely indirectly represented by Wgr-regions and/or provinces. The latter also scarcely have any influence on the interplay between the larger cities and national departments.

Another issue involves the project-orientation of actors involved in the North and South Wing collaboration. In the North Wing program, for instance, fairly early in deliberations with local actors, a list was drawn up naming eight projects. It was agreed upon that this would be a static selection, where throughout the course of the program no new projects could be introduced onto the agenda. Selection was not only based on the priority of the project, but also on the interrelatedness of the set of projects. The intention was announced that these projects should have coordinated deadlines in their decision-making processes. Nevertheless, responsibilities and say in the projects remained with the line organizations. This reinforced the sentiment that the program was a 'linking pin through existing projects'. In addition, according to project organizations this 'linking pin' caused unnecessary hindrance due to imposed deadlines. Although these were introduced to stimulate a timely project course, they became problematic when the deadline drew near and money was tight. At such times, actors avert attention from the Wing collaboration, agitating against the 'impossible deadlines' set from outside the project itself. It is argued that their projects had already been running and already had their own planning, agenda and dynamics.

The tendency of organizations to focus mainly on their own projects is reflected in the sentiment that grew in the North Wing, that the coordinating department paid a disproportionate amount of attention to infrastructural projects, which reduced the amount of attention paid to stimulating integral development and coherence among projects. In the South Wing, the projects central to discussions can also mostly be brought back to the three most influential actors in the region: The Hague, Rotterdam and the province of South Holland. The involvement of other actors in the region seems to emanate from their need to be informed of any developments that may harm their

own intentions. In general, actors other than the ones pursuing their own objectives feel that they are of minor importance to regional development. In a similar vein to the difficulty of representation by Wgr-regions, this causes actors to focus inwards on their own goals and intentions.

One of the approaches that seem to have had success in dealing with the difficulties described is the introduction of a broader view on spatial development in the Wings. This was an attempt to regain the trust of actors in the region. In the South Wing, this was done by introducing work groups that were to focus on future needs within specific sectors, such as the urbanization strategy. In the North Wing, although the program management received several requests to focus on the creation of an integral view for the regions' future, prioritization and the setting of deadlines for projects remained high on the agenda. Nevertheless, in order to fulfill the requests, documents were composed describing the most important tasks, their interrelatedness, future expectations and goals of the government organizations involved. Besides deliberation with national departments, regional governments and project managers, the program management also organized consultation sessions about their documents with NGOs and representatives of the business world. Although it appeared rather difficult to bring everything together in documents, the interaction and adjustment with these actors also lent support to decision-making. Actors were motivated to follow the program's schedule and to take the other projects of the program into account. Future development of the region is framed from current bottlenecks and policies of the governmental organizations that are already involved, although regional governments are working on an integral strategy for the development of the North Wing as well. The involvement of NGOs and businesses in strategy and decision-making processes remains mostly limited to consultation about government documents.

5.7 CONCLUSIONS ABOUT SELF-ORGANIZING GOVERNMENTS

This chapter has dealt with the concept of self-organization. It has been applied to government actions in the complex Randstad Holland metropolitan region. In metropolitan regions, governments have to deal with interrelated and jurisdictional boundary-exceeding issues such as housing shortages, economic viability and international competition. Four appearances of conservative and dissipative self-organization were identified: governance restructuring, strong project leadership, governance alliances and joint program approaches.

5.7.1 Conservative self-organization: restructuring and project leadership

Conservative self-organization is manifested in two ways. The first is the search for new or adjusted formal government arrangements. These arrangements are suggested to replace existing multi-actor situations, decreasing the number of agents in the system and thereby recovering, at least for a part, control and guidance. They intend to re-establish strict governmental boundaries. This conservative type of self-reorganization by governments receives a tremendous amount of attention. Many governmental officials and representatives see this as an attractive option.

At the same time, it is striking to see that almost none of the proposed options to reinvent government, capable of guidance and control, were implemented. Some of the options were abandoned by citizens in referenda. Others were undermined by existing government officials who were not willing to give up power. There were also options handed over to the national government, but rejected by the new Cabinet, basically because they did not want to start a new lengthy reorganization without certainty about the outcomes. This leads to an important conclusion: even attempts to restore guidance and control cannot be carried out if they do not fit in with the ambitions of a variety of self-organizing subsystems already active in the governance system. These observations underline the importance of self-organizing capacities in governance systems, the relevance of the distinction between conservative and dissipative self-organization and the complex relationship between the two.

The second appearance of conservative self-organization can be found in the proposals and actions to improve project leadership so that it is able to push the plan through, despite all the resistance from citizens and social groups. A variety of attempts to apply a more hierarchical and power-centered legal system to support project leadership were proposed. Several of them were even applied. In all cases, the project is assumed to contribute to the interests of the whole metropolitan system, while the opposition is accused of being egoistic.

In the A4 project presented earlier, the ministry had been attempting for dozens of years to execute the implementation, mainly by issuing (new) laws and pursuing regulatory procedures. This conservative practice, however, clearly had reversed results. It adversely induced local actors to focus even more strongly on their own aims, strengthening their own (conservative) self-organizational capacities. This leads to a second intriguing conclusion, namely, that conservative approaches by one of the agents in a governance system will incite conservative approaches from others. At the beginning of the twenty-first century, a whole variety of projects in the Randstad Region was characterized by a fierce, often juridical, fight between leaders of projects and governmental and social resistance, leading to endless procedures. It seems to be extremely difficult to perform single-project leadership in complex governance systems.

5.7.2 Dissipative self-organization: programs and joint strategic partnerships

In the same A4 Highway case, there is an interesting occurrence of one of the two appearances of dissipative self-organization that have been identified, i.e. the program approach. While the Department of Transport on the one hand and local governments and societal groups on the other were clearly involved in a rather inert interaction, performing a variety of actions without much progress and sticking to their own positions for a long time, a new governmental agent appeared on the scene, a member of the Provincial executive. When he initiated new talks on a broader subject than just road-building, trust among actors was renewed and more dissipative interaction beyond existing and fixated system boundaries emerged. Actors shifted their focus outward more and allowed themselves to think more innovatively and from an integrative perspective on the issue. New dynamics appeared. This program approach evaporated, however, because the national government held on to its conservative attitude, deviating from the IODS agreement in terms of content as well as ways of acting. This leads to a third intriguing conclusion, namely, that processes of dissipative self-organization focusing on building joint interests can easily be destroyed by existing forms of conservative self-organization.

A second appearance of dissipative self-organizing capacities can be found in the ability to create alliances that are able to meet the multiple ambitions that arise in metropolitan regions. It was discovered that there are as many attempts to build up alliances in the Randstad Holland area as there are attempts to create a new government authority. In dissipative attempts like the program approach in the Wings, actors in metropolitan governance often acknowledge the necessity of crossing organizational boundaries. This is reflected, for instance, in the creation of the program approach. On the other hand, they have a tendency towards conservative behavior, which can be observed in the focus of the Department of Transport on infrastructure projects while they were also responsible for integral program management. In this sense, the preferences for dissipative and conservative self-organization approaches seem to be balanced out in this case study. This could be a manifestation of confusion among governments about how to deal with complex systems.

In the Randstad Holland case, two instances of building alliances were highlighted. The first focused on the North Wing region. This alliance was rather positively reviewed by agents involved in the case. The unique characteristic of this alliance was that it was initiated by an alderman of the city of Amsterdam and a member of the Provincial executive. This bottom-up process was combined with a national program approach focusing on the same region. In general, both processes were integrated and worked quite well.

The second instance of alliance-building was the collaboration in the southern part of Randstad Holland. Due to difficulties of representation and a focus on specific

projects, the alliance became merely a vehicle to obtain money from the national government.

Both alliances have yet to prove their success. However, both seem to be unable to create innovative and appealing agendas. Further, the alliances are facilitating existing project developments. This leads to the fourth conclusion, namely, that connecting forms of leadership in metropolitan areas are clearly elaborated upon. At the same time, however, it seems to be extremely difficult to generate 'real' dissipative behavior in terms of content innovation and joint interest.

5.7.3 In search of the coevolution of self-organizing capacities

In general, it can be concluded that conservative and dissipative self-organization are at work in complex systems. This has been confirmed in the Randstad Holland case as discussed in this chapter. It is clear that governments facing complexity are in search of improvements, but are in great doubt as to where improvements can be found. All four options identified, i.e. restructuring government, strengthening project leadership, developing program approaches and building alliances, occur. From our analysis, no evidence was found that any one of the four strategies to deal with complexity is superior to the others. Instead, a variety of failures and non-implementation was observed.

It is assumed that governance capacity on complex systems such as the Randstad Holland metropolitan region can only be improved if the two appearances of self-organization are capable of enabling each other's strengths. In governance reality it takes little to nothing to disturb carefully prepared proposals for restructuring, project leadership and program or strategic collaboration. We are only now beginning to gain a better understanding of the coevolution between the options applied in recent years. The added value of the concept of self-organization and the distinction therein between conservative and dissipative forms has been shown in this chapter.

In this sense, the added value of applying the self-organization perspective is clear. Where literature on metropolitan governance has mostly focused on specific actions and discussed their merits, the self-organization perspective allows for an understanding of actions on a broader scale with attention paid to the power of dynamics, the interplay between reorganization and bottom-up forms of self-organization.

It is also clear that our understanding of the coevolution between conservative and dissipative self-organization must be considerably improved. The issue of coevolution is explored more explicitly in Chapter 1 and 7 of this thesis.

REFERENCES

- Allen, P. M. (1996). *Cities and Regions as Self-Organizing Systems*. London: Taylor & Francis.
- Boogers, M. J. G. J. A., & Hendriks, F. (2006). Naar een toekomstbestendig middenbestuur. *Bestuurswetenschappen*, 60(4), 274-293.
- Bootsma, P., & Lechner, J. 2002. Complexiteit: werkwijzen bij organisatieverandering. In F. Eijnatten van, M. Kuijs, & J. Haffmans (Eds.), *Verdieping van chaosdenken in theorie en praktijk*: 58-77. Assen: Van Gorcum.
- Byrne, D. (1998). *Complexity theory and the social sciences: an introduction*. London: Routledge.
- Cilliers, P. (1998). *Complexity & Postmodernism: understanding complex systems*. London: Routledge.
- Cilliers, P. (2001). Boundaries, Hierarchies and Networks in Complex Systems. *International journal of Innovation Management*, 5(2), 135-147.
- Dempster, M. B. L. 1998. *A self-organizing systems perspective on planning for sustainability*. University of Waterloo, Waterloo.
- Dobuzinskis, L. 2006. From positivism to postpositivism: an unfinished journey. In T. D. Lynch, & P. L. Cruise (Eds.), *Handbook of Organization Theory and Management: the philosophical approach*: 555-593. Boca Ration: Taylor and Francis.
- Edelenbos, J., Klijn, E-H., & Kort, M. Managing Complex process systems: surviving at the edge of chaos. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems*: 172-192. New York: Routledge.
- Farazmand, A. (2003). Chaos and transformation theories: a theoretical analysis with implications for organization theory and public management. *Public Organization Review*, 3(4), 339-372.
- Florida, R. (2002). *The rise of the creative class and how it's transforming work, leisure, community and everyday life*. New York, NY: Basic Books
- Fuchs, C. (2002). *Concepts of Social Self-Organisation*. Research paper 'Human strategies in complexity' #4 INTAS project
- Grothe, M. 1997. Complexity and self-organization in socia-economic systems. In F. Schweitzer (Ed.), *Self-Organization of Complex Structures*: 427-438. Amsterdam: Gordon and Breach Science Publishers.
- Heylighen, F. 1989. *Self-Organization, Emergence and the Architecture of Complexity*. Paper presented at the 1st European Conference on System Science Paris.
- Heylighen, F. (2002). *The Science of Self-organization and Adaptivity* from [<http://www.eolss.net>]
- Jantsch, E. (1980). *The self-organizing universe: scientific and human implications of the emerging paradigm of evolution*. Oxford: Pergamon press.

- Jantsch, E. (1981). Autopoiesis: a central aspect of dissipative self-organization. In M. Zeleny (Ed.), *Autopoiesis: a theory of living organization*: 65-88. New York: North Holland Publishers.
- Jobse, R. B., & Needham, B. (1988). The Economic Future of the Randstad Holland. *Urban Studies*, 25(4), 282-296.
- Kantor, P. (2006). Regionalism and reform: A Comparative Perspective on Dutch Urban Politics. *Urban Affairs Review*, 41(6), 800-829.
- Kickert, W. (1993). Autopoiesis and the Science of (Public) Administration. *Organization Studies*, 14(2), 261-278.
- Kooij, P., & Laar van de, P. (2003). The Randstad conurbation: a floating metropolis in the Dutch Delta. In H. v. Dijk (Ed.), *The European Metropolis 1920-2000*, Proceedings of a Conference at The Centre of Comparative European History Berlin 2002. Berlin: European Science Foundation.
- Koza, M., & Lewin, A. (1999). The coevolution of network alliances: a longitudinal analysis of an international professional service network. *Organization Science*, 10(5), 638-653.
- Lombardo, S. (1998). Assessing Uncertainty and Complexity in Urban Systems. In C. S. Bertuglia, G. Bianchi & A. Mela (Eds.), *The City and Its Sciences*. Heidelberg: Physica-Verlag.
- Mitleton-Kelly, E. (2003). *Complex systems and evolutionary perspectives on organizations: the application of complexity theory to organizations*. Oxford: Elsevier.
- OECD. (2007). *OECD Territorial Reviews: Randstad Holland*, Netherlands. Paris: OECD.
- Portugali, J. (1997). Self-organizing cities. *Futures*, 29(4-5), 353-380.
- Priemus, H. (1998). Contradictions Between Dutch Housing Policy and Spatial Planning. *Tijdschrift voor Economische en Sociale Geografie*, 89(1), 31-43.
- Prigogine, I., & Stengers, I. (1984). *Order out of chaos: man's new dialogue with nature*. Toronto: Bantam books.
- Probst, G. J. B. 1987. *Selbst-Organisation: Ordnungsprozesse in sozialen systeme aus ganzheitlicher sicht*. Berlin: Paul Parey Verlag.
- Pyka, A., & Windrum, P. (2003). The self-organisation of strategic alliances. *Economics of innovation and new technology*, 12(3), 245-268.
- RPB (2006). *Vele steden maken nog geen Randstad*. Rotterdam, NAI Uitgevers
- Salet, W. (2003). Amsterdam and the north wing of the Randstad. In W. Salet, A. Thornley & A. Kreukels (Eds.), *Metropolitan Governance and Spatial Planning*: 175-188. London: Routledge/Spon.
- Schwanen, T., Dijst, M., & Dieleman, F. M. (2004). Policies for Urban Form and their Impact on Travel: The Netherlands Experience. *Urban Studies*, 41(3), 579-603.

- Schweitzer, F. (Ed.). (1997). *Self-Organization of Complex Structures*. Amsterdam: Gordon and Breach Science Publishers.
- Stacey, R. (2003). *Strategic Management and Organisational Dynamics: the challenge of complexity* (4e editie ed.). Londen: Prentice Hall.
- Stoker, G. 1995. Regime theory and urban politics. In D. Judge, G. Stoker, & H. Wolman (Eds.), *Theories of Urban politics*: 54-71. London: Sage.
- Storm, E. (2004). *Managing Randstad Holland*. Paper presented at the ISoCaRP Congress, July 2004, Geneva
- Stuurgroep IODS (2001). *Kansen benutten, impasses doorbreken*
- Teisman, G. R. (2005). *Publiek management op de grens van chaos en orde*. Den Haag: SDU.
- Teisman, G. R. (2006). *Stedelijke Netwerken: Ruimtelijke ontwikkelingen door het verbinden van bestuurslagen*. Den Haag: Nirov.
- Teisman, G. R., Twist van, M., Schulz, J., & Puma, D. (2005). *Stagnatie of Transitie: evaluatie van de bestuurlijke samenwerking Randstad*. Den Haag: Berenschot.
- Teisman, G.R., Westerveld, E., & Hertogh, M. (2009). Appearances and sources of process dynamics: the case of infrastructure development in the UK and the Netherlands. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems*: 56-75. New York: Routledge.
- Tschacher, W., & Haken, H. (2007). Intentionality in non-equilibrium systems? The functional aspects of self-organized pattern formation. *New Ideas in Psychology*, 25, 1-17.
- Van Dam, M. J. E. M., Berveling, J., Neelen, G. H. J. M., & Wille, A. C. (1996). Draagvlak gezocht: Beslissen over veranderingen in het binnenlands bestuur. *Bestuurskunde*, 5(7), 317-329.
- Van der Cammen, H., & De Klerk, L. (2003). *Ruimtelijke ordening: van grachtengordel tot VINEX-wijk*. Utrecht: Uitgeverij het Spectrum
- Van der Lans, J. (2006). *Kleine Geschiedenis van de Stadsregio Amsterdam*. Wormer: Inmerc.
- Van Gils, M., Gerrits, L.M. & Teisman, G.R. (2009). Non-linear dynamics in port systems: change events at work. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems*: 76-96. New York: Routledge.
- Van Olffen, W., & Romme, A. G. L. 1995. The Role of Hierarchy in Self-Organizing Systems. *Human Systems Management*, 14(3): 199-206.
- VROM, (2007). *Randstad 2040 Facts and Figures*. Den Haag: VROM
- Wible, J. (2000). What is Complexity? In D. Colander (Ed.), *Complexity and the History of Economic thought: perspectives on the history of economic thought*. London: Routledge.

CHAPTER 6

UNDERSTANDING CONNECTIVE CAPACITY OF PROGRAM MANAGEMENT FROM A SELF-ORGANIZATION PERSPECTIVE

This chapter is based on: M.J. Buijs (2010). Understanding Connective Capacity of Program Management from a Self-Organization Perspective. *Emergence: Complexity and Organization*, 12 (1), 29-38.

ABSTRACT

In this chapter the concept of program management in complex governance processes is considered from a self-organization perspective. First the emergence of program management is discussed. Subsequently it is argued that the major challenge for program management in complex processes is about realizing connective capacity. The chapter concludes with the creation of a self-organization theory framework to analyze connective capacity in complex governance processes, built on insights from conservative and dissipative self-organization in complex systems.

6.1 INTRODUCTION

In this chapter the concept of program management in complex governance processes is considered from a self-organization perspective. First the emergence of program management is discussed. Subsequently it is argued that the major challenge for program management in complex processes is about realizing connective capacity. This chapter concludes with the creation of a self-organization theory framework to analyze connective capacity in complex governance processes, built on insights from conservative and dissipative self-organization in complex systems.

6.2 EMERGENCE OF PROGRAM MANAGEMENT

To demystify the current rise and challenge of program management its development is discussed by a brief history in line management, the rise of project management approaches, and its characteristics in complex governance processes. In public administration the concept 'program' is used many times in many different settings. Perhaps Kettl (1988) has expressed the broadness already at best by arguing that most of the public domain activities can be structured programmatically. In the traditional planning processes of functional line management programs are an important mechanism to structure activities and to create more accountability (Pressman & Wildavsky, 1973; Van Gunsteren, 1976). These programs are characterized as hierarchical arrangements to realize laid down strategies by converting and dividing them in concrete implementation pieces (Kettl, 1990; Mintzberg, 1994). For successful accomplishment they require a stable climate, loosely coupled ties and simple operations (Mintzberg, 1994).

These pieces of implementation are currently well-known as 'projects'. Rising difficulties with implementing grand design plans and increasing perceptions of complex issues resulted in 'projectification of society' (Maylor et al., 2006). The New

Public Management shift from bureaucratic line management towards more flexible structures, managerialism and empowerment provided a breeding ground for project management approaches (Crawford et al., 2003; Pollitt & Bouckaert, 2004). If it is possible to define a unique task with a limited scope, time span and clear budget lines, officials normally tend to start up a project (Maylor et al., 2006). Subsequently a relatively autonomous project management become responsible for realization of these objectives within this iron triangle (Turner & Muller, 2003). Project management creates focus in complex governance processes with strict boundary setting (Engwall, 2003; Johansson et al., 2007). Planned isolation enables project to demarcate from its environment, trying to avoid complexity (Johansson et al., 2007). This management strategy has clear advantages, since project management stays focused at task accomplishment without continuously bending its mind to disturbances in its surroundings.

Although rising expectations from a diversity of stakeholders in complex governance processes makes that no project is an island (Engwall, 2003; Johansson et al., 2007). New demands show up during implementation, or project objectives appear to be conflicting with other projects. This makes the timeframe uncertain and the performance criteria rather ambiguous, leading to tensions with the project management approach. The normal organizational tendency of project management is to go along with a separated strategy and minimize the amount of interactions with their environment to safeguard its initial scope and conditions. This strict boundary management ignores interdependencies and interferences that are relevant for the effects and end results of projects (Ivory & Alderman, 2005). Project management has a rational and orderly management orientation that is related to a closed and mechanistic system perspective (Jaafari, 2003; Thiry & Deguire, 2004; Jugdev & Muller, 2005). In complex governance processes a project approach might result in myopic visioning in terms of focusing on a-priori defined content and self-referential behavior in terms of overestimating the priority of its own procedures and deliveries (Klijn & Teisman, 2003; Riis & Pedersen, 2003).

In this way a project approach can frustrate ambitions for integrated development in complex governance processes. Complex governance processes have become a multiple issue affair, organized in a variety of temporal and interconnected projects. It is in this fragmentation that a need for new programmatic approaches arises.

The concept of program management can be considered as an emerging order phenomenon out of the interdependencies between projects in complex processes (Thiry & Deguire, 2004). Maylor et al. (2006) indicate a trend from projectification to programmification, meaning a shift in approach from central decision-making and

project accomplishment to management of programs. This concept of program management creates new possibilities to avert shortcomings of project and line management approaches in complex governance processes.

Program management is characterized by the creating a framework that shapes the context for projects by grouping, initiating and directing them. Program management is concerned with interdependencies between projects that can be of various natures. It differs from portfolio management since it does not only coordinate projects and divides resources over them, but also has the aim to deliver additional advantage by stimulating processes of development that would not be taken into consideration by project managers working apart (Pellegrinelli, 2002; Turner & Muller, 2003; Partington et al., 2005). With its focus on interrelations and coherence between projects, program management has a synergetic character (Dijkzeul, 1997; Turner, 2000; Pellegrinelli, 2002; Maylor et al., 2006).

Program managers are also increasingly involved in the strategic planning and development processes of line organizations. Not to implement decisions that are made at top of the hierarchy, but rather to guide long-term change and development process that groups together a collection of change actions (Murray-Webster & Thiry, 2000; Crawford et al., 2003).

Although network studies on programmatic approaches almost take no notice of the complexity of interrelated projects and their connection to programs in complex governance processes, they provide insight in the relation between evolving programmatic approaches and line organizations. Network studies on programmatic approaches in complex governance processes stress that these go beyond the classic programming approaches and through boundaries of hierarchical structures. Program structures are perceived as socially constructed constellations of several interdependent actors (O'Toole Jr. et al., 1997). The management of programs is primarily focused on tuning the diversity of goals from involved actors in collective processes. Network studies stress the relation between relative autonomous program structures and hierarchical line organizations (O'Toole Jr. et al., 1997; Hall & O'Toole Jr., 2000).

In a dynamic and fluid context this new type of programmatic approach is currently perceived as a way to deal with complexity by breaking through functional structures of line management and creating synergy between various projects (Teisman, 2005; Dietrich, 2007).

6.3 A CHALLENGE OF CONNECTIVE CAPACITY

In complex governance processes the concept of program management promises the ability to form a binding link between project and line management. In these processes no entity can be considered as acting independently, interactions and negotiations between the diverse actors involved have to be taken into account. Actors in complex governance processes are to a large extent defined by their connections (Richardson, 2007). The effectiveness of program management is contingent on the capacity of the connections created between the various actors in complex governance processes (Lycett et al., 2004; Maylor et al., 2006).

However, to become meaningful in complex governance processes program management cannot exist without creating and directing its activities and managing its boundaries. Program managers and employees manage these boundaries by shaping demarcations, representing the program, creating legitimacy, exploring and processing information, enhancing continuity, and protecting the program from external disturbances (Lehtonen & Martinsuo, 2008). This identity creation is also essential for its connective capacity. Program management has to create a recognizable and representative entity that makes sense for project managers, line managers and other stakeholders to connect with.

From the discussion above three lines of connections are distilled that seem essential for the connective capacity of program management in complex governance processes:

- Program and projects;
- Program and line organization;
- Program and stakeholders in its environment.

The first connection deals with the development of separate projects and their interconnectedness at program level. The connection between program and the line organization is about the boundary management and autonomy of the program in relation to adaptation to changes in the line organization and the embedding of programmatic results. In its own environment program management is confronted with stakeholders like non-profit organizations, private organizations, or other programs that might disturb or contribute to the program during its development.

Before this chapter delves into this challenge of connective capacity, a brief clarification about the position of programs and its management in this study is needed. In this chapter programs are considered as action systems in complex governance processes (Flood, 1999; Teisman, 2008; Teisman et al., 2009). *“Each action system consists of subsystems and is embedded in larger systems. Each system embedded in a larger system*

develops its own sense-making and action. If it is confronted with a process it will reinterpret (consciously or unconsciously) what the process is about and how to get on with it." (Teisman, 2008: 344).

Action system programs are guided by program management as an actor. Although program management is an essential actor in the development of the program, the action system is more comprehensive than the program management. The project portfolio and line organization(s) also belong to the action system. All these actors/entities are considered as relative autonomous subsystems within the program as an action system. Since these actors are also mutually interrelated none of them governs the program. In its essence as a social constructed system, the action system is considered as an open system.

The search for connections in complex governance processes stems from the need to overcome differences between diverse actors, to focus at mutual interdependencies and to stimulate creativity (Swink, 2006), necessary to create governance capacity in these processes (Innes & Booher, 2003).

In many cases of program management there is an underlying assumption that it always makes sense to strive for as much connectivity as possible (Lehtonen & Martinsuo, 2008), which appears to be an unachievable mission in complex governance processes (Richardson, 2007).

The ability or inability to connect depends on the amount of entities and their diversity (Dooley, 2002). With a surplus of connections the energy of program management becomes dispersed over many links and will not become meaningful for its own practice, i.e. if an entity becomes too connected it becomes impossible to achieve anything coherent (Richardson, 2007). The creation of connections in complex governance processes is seen as more successful when it doesn't result in displacement of existing functions (Teisman et al., 2004). In complex governance processes e.g. the specific activities of project management remains important for realization of issues. Only projects that are strong on their own can provide added value for the system as a whole. Sometimes it is useful to temporarily disconnect projects from a program and to reconnect after the project has made progress (Van Buuren & Edelenbos, 2006).

Within this need for connective capacity in complex governance processes there is besides the risk of being too connected also a risk of stagnation as a result of non-cooperative behavior (Klijn & Teisman, 2003). Around programs participants primarily act out of responsibility to their subsystem and try to ensure their interest from this position in the network (Kettl, 1988; O'Toole Jr. et al., 1997).

If a program is fragmented into a collection of loosely coupled subsystems, there is a significant risk that there will be no progress in the development of the complex

governance process (Browne & Wildavsky, 1984). From a project perspective the introduction of new program structure is often considered as a hierarchic arrangement that tries to influence the activities and course of project management (Dietrich, 2007). In this light it is for projects not always naturally stimulating to connect to a program.

Too much fragmentation of activities and overspecialization are also counterforces against reciprocal adaptation between a program and line organization (Browne & Wildavsky, 1983). Program management has to make itself on the one hand distinct from activities in the line organizations, containing a risk of too much commitment to the program rationale (Mandell, 1994). On the other hand it has to provide information and to embed results within the line management, making adaptations to changes in the line management and political wishes sometimes necessary. The relation of program management and line organization is a continuous process of connection and disconnection (Lehtonen & Martinsuo, 2008).

In relation to the program environment it is argued that standard approaches of program management often assume a rational environment, whereas in reality most program managers act in a vulnerable environment of mutual interdependencies (Pellegrinelli et al., 2007). In the current governance setting program management has to be familiar with acting in an environment that is characterized by global initiatives and fluid alliances (Pellegrinelli, 2002). Standard approaches are focused on setting and realizing objectives by executing procedures. They trivialize the necessary connections with the programs' environment (Pellegrinelli, 2002). In complex processes it is considered as essential that program management brings together a variety of stakeholders with their own interest and expectations in the program (Thiry, 2002, 2004). In this arena it becomes possible to interact and deliberate about several interrelated projects at the same time, without acting as a direct representative of a line organization.

Resulting from the above it can be posed that program management in complex governance processes is confronted with a challenge of connective capacity in the development of a complex governance process by connecting projects, line organizations and relevant stakeholders in its environment. However, it also has to manage its own boundaries. It seems that program management has to balance its connections in order to enhance integrated development.

In the next section a framework is developed to analyze the dynamics of connective capacity in complex governance processes from a self-organization perspective.

6.4 SELF-ORGANIZATION PERSPECTIVE ON CONNECTIVE CAPACITY

In this section the concept of self-organization is explored using insights from theories on complex systems, resulting in a framework for analyzing connective capacity in complex governance processes. First self-organization as a perspective on complex governance processes is explained. Subsequently conservative and dissipative patterns of self-organization are discussed, bringing them together in a dynamic interplay.

With the rise of network theories and early complexity theory studies in the social sciences an idealized image of joint action and equivalency among actors in spontaneous networks became opposed to a rational organization perspective. This latter depicts organizations as continuous and relatively stable structures and assumes that an actor directs via controllable and reasoned procedures highly organized systems with a hierarchical structure, goal-oriented rationality and internal coordination (Heylighen, 2002; Jessop, 2003; Kooiman, 2003). The emergence of spontaneous network structures is seen as a self-organizing reaction against the organization approach. Some argue for replacing hierarchies by network driven, decentralized and flexible organizational arrangements (Stacey, 1995; Volberda, 1998). These kind of studies only focus on the 'dissipative' character of self-organization (Van Olffen & Romme, 1995; Cilliers, 1998).

Central to a self-organization perspective in complex systems is that patterns come about by local interaction and are not imposed by any actor (Cilliers, 1998; Heylighen, 2002). Control over a system is dispersed over many actors and none of them is considered as being 'above' the system as in a more traditional organization perspective (Heylighen, 2002). In complex systems all structures are considered as self-organizing, moreover all complex systems have a certain degree of hierarchy (Jantsch, 1980). All structures of order and spontaneous organization in complex open systems are the result of the shaping and breaking boundaries by self-referential actors and as result of their internal diversity (Heylighen, 1989; Cilliers, 2001). Lombardo (1998) explains that in situations with many perturbations, the property of self-organization reveals itself to the observer, leaving the organization perspective of diminishing importance. Observation of self-organization seems to be a matter of perception. Plans and goals coming from hierarchical organizations in complex systems may although seem rather intentional, these are actual synergetic pattern formations based on the phenomena of self-organization (Grothe, 1997; Tschacher & Haken, 2007).

This discussion results in a categorization (see Table 6.1) of different process perspectives and modes of 'organizational' analysis that are all present and interrelated in complex reality. This chapter takes this more radical stance and considers complex governance processes as self-organizing, consisting of as well conservative as

dissipative patterns (see also Jantsch, 1980, 1981; Van Olffen & Romme, 1995; Schweitzer, 1997; Farazmand, 2003). This perspective could contribute to the needed knowledge about the capabilities and dynamics of self-organizing mechanisms in governance systems (Feiock, 2009).

Table 6.1 Process Perspectives and Modes of Organization

| <i>Process Perspective</i> | <i>Mode of Organization</i> |
|----------------------------------|---|
| Simple governing processes | Organization |
| Complicated governance processes | Self-organization vs. organization |
| Complex governance processes | Self-organization: conservative and dissipative |

6.4.1 Conservative self-organization

Self-organizing systems are in essence open systems that interact with their environment, although they also show the ability to create boundaries and 'conservative' capacity to consolidate structures. Conservative self-organization comes down to the capacity of a system to govern itself and focuses on the self-referential character of systems (Jantsch, 1980). It can be observed as a process of structure formation that occurs through a relaxation into an equilibrium state (Schweitzer, 1997). Conservative self-organizing systems possess a significant element that remains constant and invariant over time (Wible, 2000).

In public administration, the notion of conservative self-organization is related to an autopoietic stream of thought, in which continuous self (re)production and relative closure of systems is stressed (Kickert, 1993).

Jantsch (1981) explains that conservative self-organization is balancing around an equilibrium between stable and inert system states. Too much focus on control by actors is likely to restrict their ability to adapt to developments taking place in their surroundings. A more or less continual recurrence of these processes can result in inertia.

6.4.2 Dissipative self-organization

The other direction in which self-organizing processes may evolve is referred to as dissipative, related to the idea of dissipative structures (Prigogine & Stengers, 1984). Dissipative self-organization is a property of complex systems that enables them to develop or change internal structure spontaneously and adaptively in relation to its environment (Cilliers, 1998). It is considered as preventing systems to become locked

in within internal processes. In contrast to conservative self-organization, dissipative structures can be interpreted as being far from equilibrium and interacting to a high degree with its environment. *“Dissipative structures represent a kind of self-organizing dynamic order that maintains itself through continuous exchange of energy with the environment”* (Jantsch, 1981: 66).

This cooperative and synergetic quality enables positive feedback between a system and its environment that may lead to the emergence of new structures, content and processes (Jantsch, 1981). With a focus on a high diversity of connections, looking for synergy, dissipative self-organization can eventuate in an action system becoming superfluous.

6.4.3 Dynamic interplay around self-organized criticality

Conservative and dissipative self-organization describe both a specific pattern related to connections of action systems in complex governance processes. It can be posed that the appearance of dissipative self-organization mitigates the risks inherent to conservative self-organization, and vice versa (Kickert, 1993).

Conservative systems generate and continuously regenerate the same type of organization, whereas dissipative self-organization is about organizational renewal and innovation (Van Olffen & Romme, 1995).

It is argued in complexity theory that both patterns of self-organization circulate around self-organized criticality. This concept is coined by Per Bak in order to describe the edge between conservative and innovative patterns of self-organization (Kauffman, 1993). It is further explained by Cilliers (1998: 97):

“A self-organizing system will try to balance itself at a critical point between rigid order and chaos. It will try to optimize the number of attractors without becoming unstable... It is clear that a system that behaves chaotically is useless. On the other hand, a system that is too stable is also handicapped.”

Patterns of conservative self-organization create stable entities with sharply defined boundaries and encompass a risk of inertia. Although development of complex governance processes will not be accomplished by a collection of individually strong entities (Teisman, 2005). Mutual strengthening and cooperation between entities is necessary to develop rich and meaningful processes in complex systems (Cilliers, 1998). Patterns of dissipative self-organization open up possibilities to enrich and integrate activities of an action system from the diversity in its environment. Although too much diversity in its connections can also be harmful to the development of the action system. If an entity spreads its energy and attention over many and a high variety of connections, it will reach a point beyond self-organized criticality in complex

systems. The organizational connective capacity of the system can be overwhelmed and the behavior of the system becomes highly unstable (Kauffman, 1993).

6.5 CONCLUSIONS: CONSERVATIVE AND DISSIPATIVE PATTERNS IN CONNECTIVE CAPACITY OF PROGRAM MANAGEMENT

It is discussed that the connective capacity of program management consists of connections with projects, line organization(s) and stakeholders in the program environment. Conservative and dissipative patterns of self-organization can be applied to analyze each type of connection in the connective capacity of program management. For analyzing the connective capacity of program management in complex governance processes at first it is essential to address the emergence of a programmatic approach, also to substantiate its self-organizational character. Often new programs are officially established by line organizations, but what are the considerations and processes in the interplay between projects and line organization leading to the emergence of this programmatic approach? During the development of the program the focus shifts to connections within the action system and with its environment. In Table 6.2 patterns of self-organization are presented in each of the essential connections of program management.

Table 6.2 Patterns of self-organization applied to the connections of program management

| | | Pattern of self-organization | |
|-----------------------------------|---------------------------|---|---|
| | | <i>Conservative</i> | <i>Dissipative</i> |
| Connection of program with | <i>Projects</i> | Strict project portfolio | Adaptive project portfolio |
| | <i>Line</i> | Stick to original objectives | Continuously adapting to changes in the line organization |
| | <i>Environment</i> | No stakeholder involvement at program level | Shaping the program together with stakeholders |

It can be concluded that program management has to become an entity on its own, has to respect and provide freedom of action by project- and line-management, but somehow also has to connect these activities in the of the program as an action system. This all without becoming inert or losing itself in a variety of connections. This chapter

concludes with some mechanisms that might be useful for balancing in the connective capacity of program management:

Punctuated equilibrium within each type of connection.

Conservative and dissipative patterns are considered as two ends on a continuum. Sometimes the program management should try to facilitate more freedom of action for example projects (conservative) and other times the program management should try to bring project managers together to facilitate mutual learning, knowledge transfer and bottom-up ideas for the direction of the program (dissipative).

Ambidexterity between the diverse type of connections.

It is discussed that is impossible to be continuously adaptively connected to all stakeholders in complex governance processes. Program management should strive for combining dissipative patterns in one type of connection with rather conservative patterns in other types of connections. To make this balancing act meaningful for the action system the program management should regularly synchronize developments between its various connections.

REFERENCES

- Browne, A. & Wildavsky, A. (1984). "Implementation as mutual adaptation," in J.L. Pressman & A. Wildavsky (eds.), *Implementation: How Great Expectations in Washington are Dashed in Oakland: Or, Why It's Amazing That Federal Programs Work At All*, ISBN 9780520053311, pp. 206-231.
- Cilliers, P. (2001). "Boundaries, hierarchies and networks in complex systems," *International Journal of Innovation Management*, ISSN 1363-9196, 5(2): 135-147.
- Cilliers, P. (1998). *Complexity & Postmodernism: Understanding Complex Systems*, ISBN 9780415152860.
- Crawford, L., Costello, K., Pollack, J. and Bentley, L. (2003). "Managing soft change projects in the public sector," *International Journal of Project Management*, ISSN 0263-7863, 21(6): 443-448.
- Dietrich, P. (2007). *Coordination Strategies in Organizational Development Programs*, ISBN 9789512290765.
- Dijkzeul, D. (1997). *The Management of Multilateral Organizations*, ISBN 9789041103567.
- Dooley, K. (2002). "Organizational complexity," in M. Warner (ed.), *Int. Encyclopedia of Business and Management*, ISBN 9781861521613, pp. 5013-5022.
- Engwall, M. (2003). "No project is an island: Linking projects to history and context," *Research Policy*, ISSN 0048-7333, 32: 789-808.
- Farazmand, A. (2003). "Chaos and transformation theories: A theoretical analysis with implications for organization theory and public management," *Public Organization Review*, ISSN 1566-7170, 3(4): 339-372.
- Feiock, R.C. (2009). "Metropolitan governance and institutional collective action," *Urban Affairs Review*, ISSN 1078-0874, 44 (January): 356-377.
- Flood, R.L. (1999). *Rethinking the Fifth Discipline: Learning Within the Unknowable*, ISBN 9780415185301.
- Grothe, M. (1997). "Complexity and self-organization in socio-economic systems," in F. Schweitzer (ed.), *Self-organization of Complex Structures*, ISBN 9789056990275, pp. 427-438
- Hall, T.E. & O'Toole Jr., L.J. (2000). "Structures for policy implementation: An analysis of national legislation, 1965-1966 and 1993-1994," *Administration & Society*, ISSN 0095-3997, 31(6): 667-686.
- Heylighen, F. (2002). "The science of self-organization and adaptivity," in L.D. Kiel (ed.), *Knowledge Management, Organizational Intelligence and Learning, and Complexity*, <http://www.eolss.net/outlinecomponents/Knowledge-Management-Organizational-Intelligence-Learning-Complexity.aspx>.
- Heylighen, F. (1989). "Self-organization, emergence and the architecture of complexity," *1st European Conference on System Science*, Paris. 23-32.

- Innes, J.E. & Booher, D.E. (2003). "Collaborative policymaking," in M. Hajer & H. Wagenaar (eds.), *Deliberative Policy Analysis: Understanding Governance in the Network Society*, ISBN 9780521530705, pp. 33-59.
- Ivory, C. & Alderman, N. (2005). "Can project management learn anything from studies of failure in complex systems?" *Project Management Journal*, ISSN 8756-9728, 36(3): 5-16.
- Jaafari, A. (2003). "Project management in the age of complexity and change," *Project Management Journal*, ISSN 8756-9728, 34(3): 47-57.
- Jantsch, E. (1981). "Autopoiesis: A central aspect of dissipative self-organization," in M. Zeleny (ed.), *Autopoiesis: A Theory of Living Organization*, ISBN 9780444003850, pp. 65-88.
- Jantsch, E. (1980). *The Self-Organizing Universe :Scientific and Human Implications of the Emerging Paradigm of Evolution*, ISBN 9780080243122.
- Jessop, B. (2003). "Governance and metagovernance: On reflexivity, requisite variety, and requisite irony," in H.P. Bang (ed.), *Governance, as Social and Political Communication*, ISBN 9780719061547, pp. 101-116.
- Johansson, S., Löfström, M. & Ohlsson, O. (2007). "Separation or integration? A dilemma when organizing development projects," *International Journal Project Management*, ISSN 0263-7863, 25(5): 457-464.
- Jugdev, K. & Müller, R. (2005). "A retrospectpective look at our evolving understanding of project success," *Project Management Journal*, ISSN 8756- 9728, 36(4): 19-31.
- Kauffman, S. (1993). *The Origins of Order: Self- Organization and Selection in Evolution*, ISBN 9780195079517.
- Kickert, W. (1993). "Autopoiesis and the science of (public) administration," *Organization Studies*, ISSN 0170-8406, 14(2): 261-278.
- Kettl, D.F. (1990). "The perils - and prospects - of public administration," *Public Administration Review*, ISSN 0033-3352, 50(4): 411-419.
- Kettl, D.F. (1988). *Government by Proxy: (Mis?)Managing Federal Programs*, ISBN 9780871874290.
- Klijn, E.H. & Teisman, G.R. (2003). "Institutional and strategic barriers to public-private partnerships: An analysis of Dutch cases," *Public Money and Management*, ISSN 0954-0962, 23: 137-146.
- Kooiman, J. (2003). *Governing as Governance*, ISBN 9780761940364.
- Lehtonen, P. & Martinsuo, M. (2008). "Change program initiation: Defining and managing the program-organization boundary," *International Journal Project Management*, ISSN 0263-7863, 26(1): 21-29.
- Lombardo, S. (1998). "Assessing uncertainty and complexity in urban systems," in C.S. Bertuglia, G. Bianchi & A. Mela (eds.), *The City and Its Sciences*, ISBN 9783790810752.

- Lycett, M., Rassau, A. & Danson, J. (2004). "Programme management: A critical review," *Int. Journal of Project Management*, ISSN 0263-7863, 22(4): 289-299.
- Mandell, M.P. (1994). "Managing interdependencies through program structures: A revised paradigm," *The American Review of Public Administration*, ISSN 0275-0740, 24(1): 99-121.
- Maylor, H., Brady, T., Cooke-Davies, T. & Hodgson, D. (2006). "From projectification to programmification," *Int. J. Proj. Manag* ISSN 0263-7863, 24(8): 663-674.
- Mintzberg, H. (1994). *The Rise and Fall of Strategic Planning*, ISBN 9780273650379.
- Murray-Webster, R. & Thiry, M. (2000). "Managing programmes of projects," in R. Turner & S. Simister (eds.), *Gower Handbook of Project Management*, ISBN 9780566081385. pp. 47-63.
- O'Toole Jr., L.J., Hanf, K.I. & Hupe, P.L. (1997). "Managing implementation processes in networks," in W.J.M. Kickert, E. Klijn & J.F.M. Koppenjan (eds.), *Managing Complex Networks: Strategies for the Public Sector*, ISBN 9780761955481, pp. 137-151.
- Partington, D., Pellegrinelli, S. & Young, M. (2005). "Attributes and levels of program management competence: An interpretive study," *International Journal of Project Management*, ISSN 0263-7863, 23(2): 87-95.
- Pellegrinelli, S., Partington, D., Hemingway, C., Mohdzain, Z. & Shah, M. (2007). "The importance of context in program management: An empirical review of program practices," *Int. Journal Project Management*, ISSN 0263-7863, 25(1): 41-55.
- Pellegrinelli, S. (2002). "Shaping context: The role and challenge for programs," *International Journal of Project Management*, ISSN 0263-7863, 20(3): 229-233.
- Pollitt, C. & Bouckaert, G. (2004). *Public Management Reform: A Comparative Analysis*, ISBN 9780199268498.
- Pressman, J.L. & Wildavsky, A. (1973). *Implementation: How Great Expectations in Washington are Dashed in Oakland: Or, Why It's Amazing That Federal Programs Work At All*, ISBN 9780520053311 (1984).
- Prigogine, I. & Stengers, I. (1984). *Order Out of Chaos: Man's New Dialogue with Nature*, ISBN 9780553340822.
- Richardson, K.A. (2007). "From complicated to complex: On the relationship between connectivity and behavior," *Emergence: Complexity & Organization*, ISSN 1521-3250, 9(1-2): 194-206.
- Riis, J. & Pedersen, F. (2003). "Managing organizational development projects by paradoxes," *Production Planning and Control*, ISSN 0953-7287, 14(4): 349-360.
- Schweitzer, F. (ed.) (1997). *Self-Organization of Complex Structures*, ISBN 9789056990275.
- Stacey, R.D. (1995). "The science of complexity: An alternative perspective for strategic change processes," *Strategic Management Journal*, ISSN 0143-2095, 16: 477-495.

- Swink, M. (2006). "Building collaborative innovation capability," *Research Technology Management*, ISSN 1930-0166, 49(2): 37-47.
- Teisman, G.R., Van Buuren, M.W. & Gerrits, L.M. (2009). *Managing Complex Governance Systems: Dynamics, Self-Organization and Coevolution in Public Investments*, ISBN 9780415459730.
- Teisman, G.R. (2008). "Infrastructure investments on the edge of public and private domains," in G. Arts, W. Dicke & L. Hancher (eds.), *New Perspectives on Investment in Infrastructures*, ISBN 9789053566084, pp. 319-147.
- Teisman, G.R. (2005). *Publiek Management op de Grens Van Chaos en Orde*, ISBN 9789052614045.
- Teisman, G.R., Edelenbos, J., Klijn, E. & Reudink, M. (2004). *State of the Art Coproductie (STIPstudie)*, Den Haag: Kenniscentrum Grote Steden.
- Thiry, M. (2004). "For DAD': A programme management life-cycle process," *International Journal of Project Management*, ISSN 0263-7863, 22: 245-252.
- Thiry, M. & Deguire, M. (2004). "Program management as an emergent order phenomenon: An inductive longitudinal study in a natural work environment," PMI Research Conference, London.
- Thiry, M. (2002). "Combining value and project management into an effective program management model," *Int. J. Proj. Manag.* ISSN 0263-7863, 20: 221-227.
- Tschacher, W. & Haken, H. (2007). "Intentionality in non-equilibrium systems? The functional aspects of self-organized pattern formation," *New Ideas in Psychology*, ISSN 0732-118X, 25: 1-17.
- Turner, R.J. & Müller, R. (2003). "On the nature of the project as a temporary organization," *Int. Journal of Project Management*, ISSN 0263-7863, 21: 1-8.
- Turner, R.J. (2000). "An encyclopaedia for the profession of project management," in R. Turner, & S. Simister (eds.), *Gower Handbook of Project Management*, ISBN 9780566081385, pp. 1-25.
- Van Buuren, M.W. & Edelenbos, J. (2006). Innovations in the Dutch polder: Communities of practice and the challenge of coevolution," *Emergence: Complexity & Organization*, ISSN 1521-3250, 8(1): 41-48.
- Van Gunsteren, H.R. (1976). *The Quest for Control: A Critique of the Rational-Central-Rule Approach in Public Affairs*, ISBN 9780471899204.
- Van Olffen, W. & Romme, A.G.L. (1995). "The role of hierarchy in self-organizing systems," *Human Systems Management*, ISSN 0167-2533, 14(3): 199-206.
- Volberda, H.W. (1998). *Building the Flexible Firm*, ISBN 9780198295952.
- Wible, J. (2000). "What is complexity?" in D. Colander (ed.), *Complexity and the History of Economic Thought: Perspectives on the History of Economic Thought*, ISBN 9780415133562, pp. 15-30.

CHAPTER 7

**COPING WITH COMPLEXITY
VIA CONNECTIVE CAPACITY:
A TWO CASE ENCOUNTER**

7.1 INTRODUCTION

In this chapter we bring together the main results of the two program management cases studied in this thesis; respectively the *Policy with Citizens* (PwC) program and the *Amsterdam Metropolitan Region* (AMR) program. In this publications-based thesis, Chapter 1 provided a background to program management's challenges in an era of complexity. Each of the following Chapters 2 – 6 were published as autonomous publications. These chapters described and analyzed the two cases, either on their own or in comparison with other cases. Policy with Citizens was studied in Chapter 2 (in comparison with the Scheldt case) and Chapter 3. Amsterdam Metropolitan Region was studied in Chapter 4 and Chapter 5 (as part of metropolitan development of the Randstad region). Chapter 6 provides a more in-depth view of complexity theory in relation to the connective capacity of program management.

In this pre-final chapter, we will apply the knowledge we developed in both cases to answer the subquestions of this thesis. As argued in Chapter 1, we selected both cases to maximize the opportunity to learn about the connective capacity of program management. We will answer each subquestion in a separate section, respectively 7.2, 7.3 and 7.4. In Chapter 8, we will draw an overall conclusion to answer the main question of this thesis:

What are the connective capacities of program management to deal with complexity in adaptive governance processes regarding the physical environment?

7.2 PROGRAM MANAGEMENT IN COMPLEX GOVERNANCE PROCESSES

To answer the main research question, we asked three subquestions. This section discusses the results regarding the first subquestion:

How does program management emerge in complex governance processes and what types of program management can be distinguished in complex governance processes?

To answer this subquestion, we will discuss which lessons can be drawn from the emergence of program management. We will also set out the different types of program management in complex governance processes observed in this study.

7.2.1 Emergence of program management

As argued in Chapter 1, programmatic approaches are quite common in governance processes in the physical environment. Programs are not new in public management at

all, as presented earlier in Table 1.1 (repeated as Table 7.1). This provides an overview of several roles programs can have in relation to different management types.

Table 7.1 Management approaches in governance processes

| Approach | Specialization | Integration | Role of program | Paradigm |
|--------------------------|--|---|---|--------------------------------------|
| Line management (LM) | Demarcated tasks and functions, organized in departments | Hierarchical coordination and control | Element of strategic planning and implementation. POSDCORB (Gulick & Urwick, 1937; Taylor, 1947; Fayol, 1963); Implementation (Pressman & Wildavsky, 1973); Strategic Planning (Mintzberg, 1994) | Bureaucracy Scientific management |
| Process management (PCM) | Specialists and resources dispersed over network | Mutual dependency Horizontal integration | Program as network structure (Mandell, 1994; O'Toole Jr. et al., 1997; Hall & O'Toole Jr., 2000). Boundary spanning role in networks | Network approaches |
| Project management (PJM) | Unique task within iron triangle | Project as integration mechanism of specialists | Collect projects via portfolio management (Platje et al., 1994; Cooper et al., 1997; Turner & Müller, 2003; Martinsuo & Lehtonen, 2007). Managerialism: program budgeting and accountability (Crawford et al., 2003; Brunetto & Farr-Wharton, 2003) | New Public Management |
| Program management (PGM) | Specialization via projects | Horizontal and vertical integration | Programs as adaptive governance arrangements (Teisman, 2008; Kallis et al., 2009; Busscher, 2014; Rijke et al., 2014) | Complex governance processes |

With the rise of a new type of programmatic approach, we can observe how program management emerges as a new approach of (public) management in complex governance processes. A program management approach was introduced in Policy with Citizens and Amsterdam Metropolitan area. As a management approach, program management is not only a new coordination mechanism, it can also be considered a new action system in complex governance processes.

We introduced programmatic action system as a concept in Chapter 1 and discussed this more elaborately in Chapter 6. In these action systems, organizational structures and processes are inextricably connected and center temporarily around specific substantive issues (De Rynck, 1994). This is precisely what we can observe in complex governance processes with the rise of programmatic approaches. In the studied governance processes, we see program management arising in physical investments for metropolitan development (Amsterdam Metropolitan Region) and in citizen-oriented policy making by the Ministry of VROM (Policy with Citizens). In both cases, program management was shaped in a temporal organizational structure. It consisted of a program team led by a program manager, operating between the structure of the line organization(s) and project organizations.

Introducing a programmatic approach did not come from out of nowhere in each of the cases. Processes were already running on spatial investments in metropolitan development in AMR and on citizen-oriented policy making in the Ministry of VROM. These processes were organized via projects, where public managers and other stakeholders were confronted with the negative effects of fragmentation. As argued in Policy with Citizens in Chapter 2, before the introduction of a programmatic approach, various projects were running to experiment with new ways of working and to enhance coproduction of policy. Chapter 4 shows that the implementation of spatial investments was often placed in the hands of project managers. As a result, many sectoral projects ran simultaneously within the Amsterdam Metropolitan area.

“Every project has specific elements of public interest and delivers a specific objective of regional development. However, high quality regional development does not result from a single project or even from a multitude of isolated projects. Rather, it depends on the aggregated effects of a set of projects and on the mutual impact of, and synergies between, these projects.” (Chapter 4)

This quote from Chapter 4 emphasizes the observed need for more coherence in this governance process about metropolitan development. In Chapter 1, we explained that the emergence of program management in these complex governance processes can be seen as a new attempt to create joint action. This desire for more integration is a response to fragmentation that occurs when projects specialize in decision-making, policy-making or implementation. In the AMR case, projects were running on urbanization and housing, business district development, mainport development of Schiphol Airport and infrastructure investments for improving highways and railways. Several citizen-oriented projects were running in different departments of the Ministry of VROM, which covered housing, spatial planning and the environment. This makes the

third type of fragmentation as provided by Teisman and Edelenbos (2011, see also Chapter 1) very relevant: *“managers responsible for one policy domain are organizing processes of implementation separately, and often without much knowledge about what the managers in other domains are doing”*. Regarding the second type of fragmentation, the dominant project orientation in these governance processes is crucial: *“different organizations and departments are not working together”*. Temporary organizations (like projects and programs) are a significant factor in governance processes in the Dutch physical environment. Therefore, it seems relevant to extend the description of this type of fragmentation as follows: *different (temporal) organizations and departments are not working together*

Based on the cases, the negative effect of fragmentation between specialized projects is an important driver for the programmatic approach emerging in governance processes to adapt the Dutch physical environment. As noted in Chapter 3, many small-scale projects did not have an impact on enhancing citizen-orientation in the organization’s policy-making processes. Or as argued in Chapter 4, program management arises from projects when governance processes become too complex, or ambitions too high to realize them via project management.

Besides project management as described above, process management is also relevant in explaining how program management has developed. Process management is especially pertinent in the strategic processes between ministerial departments, multiple levels of government and other stakeholders like business and NGOs. Amsterdam Metropolitan Region provides a good example of this process management approach. The program director and program manager were previously involved in an infrastructure project in the Schiphol – Almere corridor. They also had informal meetings with civil servants from different national departments (VROM, V&W, EZ and LNV). In parallel, all departments faced problematic project accomplishment and administrative crowdedness in metropolitan regions. All departments above had their own responsibilities, policy schemes, projects and procedures in the corresponding governance processes. In a time of political impasse, they did not expect solutions from politics. Meanwhile, involved civil servants (including AMR’s later program director and program manager) noticed a more cooperative tendency among local and regional governments. Chapter 5 described this in relation to the North Wing conferences. A shared challenge of building 150.000 houses in the area, was an important driver for a regional process management approach. In their informal meetings, the civil servants from national departments discussed that improved collaboration between those departments could support metropolitan development. It was in these informal meetings that the idea for a programmatic approach arose. Building alliances at regional and national level and creating joint agendas shows the relevance of process

management. Program management is considered as a next step to create joint action in complex governance processes by connecting strategic networks with actual projects.

In literature about temporary organizations, this shift from a projectified environment towards a program-oriented environment is called a trend 'from projectification towards programmification'. Based on the cases we studied, this thesis aligns with this observation. It can be concluded that the emergence of program management in governance processes in the Dutch physical environment is driven by projectification and a desire to increase joint action in adapting the physical environment. From this conclusion it can be derived that the trend of programmification is also relevant for public management, in which program approaches attempt to link project management activities with process management approaches.

7.2.2 Types of program management

In Chapter 4 of this thesis, we distinguished three types of program management in complex governance processes:

- Type 1 Program management as a *light coordination mechanism* for multiple projects ('skewer')

This type is closely related to portfolio management, relying on coordinating activities with a low level of influence on the internal management of individual projects. It is based on mutual adaptation built upon open information. Projects can fine-tune their development based on coherence with other projects. Program management functions as a platform for project organizations to take interdependencies into account and fine-tune project ambitions, without altering the planning and budget cycles of projects.

- Type 2 Program management as a *shared service center* for projects

This type of program management goes one step further in the staff organizations of multiple projects. Financial, juridical, administrative and other services are integrated into a program as 'service center' that is used by various projects. Improving efficiency is the main idea behind this type of integration. The projects can design their own process logic and dynamics by pursuing their own objectives, while making use of the same organizational purveyances. Program management as a shared service center integrates a variety of project functions, but respects project autonomy in goal-setting and prioritizing.

- Type 3 Program management as an *integrated development strategy* ('super project')

The third type is the most far-reaching. It relies on hierarchical direction from a goal-oriented program management arrangement. It starts from a vision about a specific development to be realized by working out different projects. Here, the projects are outcomes of program thinking, which is quite different from the first two types. Subsequent projects must realize parts of this overarching program ambition. This type of program management features integration on content, structure and process.

These types can be considered as archetypes which emphasize specific characteristics of program management. Nevertheless, elements of these archetypes can be recognized in practice.

The initial shape of the Policy with Citizens program shows, for example, a rather high resemblance with a light coordination mechanism (see Chapter 2). Program management stimulated citizen orientation in about 30 existing policy projects by providing these projects with extra funding. Project management used its funding to contract consultancy organizations to apply their citizen participation methodology in the project. The report of this workshop, or comparable method, was reported to the program. Program management had no vision about citizen participation in policy processes and did not take initiative to stimulate mutual learning or exchange of knowledge between projects. The type of program management of Policy with Citizens changed during the program, for example by taking on bigger projects with a more coproducing role for citizens. In the next section, we will discuss more in-depth how program management and these relations with projects have evolved.

Although AMR program management had opted for a light coordination mechanism (type 1 'skewer') instead of program management as a 'super-project' (see 7.3.2), at a certain moment program management corresponded largely with this type 3 approach. Program management operated more or less as an integrated development strategy (see Chapter 4). In this program, a rather formal trajectory of vision creation was set up, by following the line management procedures of writing and agreeing upon policy reports. Program management invested in creating a shared vision on the regional development of AMR, integrating a diversity of stakes. They assumed that interaction between the stakeholders in the eight projects would generate a joint vision to prevent each stakeholder from disturbing the progress of the projects. However, this type of approach did not match with the context of multiple projects with their own objectives and actor coalitions. Important lessons were learnt by program management about the drawbacks of programmatic visioning. An overarching vision connecting the projects was mainly realized on paper. A true joint vision that guided the actions of all stakeholders could not be achieved. Developing an integrated vision did not match

program management's aim to operate as a light and lean structure. The appearance of program management, type 3 in this case, was also a snapshot, a specific moment in time, in which program management resembled one of the specific types. In next sections we will elaborate on how program management has evolved in both cases. These examples highlight two extremes in which program management took shape as type 1 and type 3 in the cases. This does not mean that it mostly operated as type 2, a shared service center. Typical tasks of a shared service center, like judicial affairs, finance and administration, were in these cases primarily part of the line organization. Communication is often integrated in both project management and program management activities. In its role as 'shared service center', program management had a role in issues such as exchanging knowledge between projects (to deal with interdependencies and bring together lessons learned), managing stakeholder relations and helping projects gain support by line management. After several years, the Policy with Citizens program was supposed to become a more formal shared service center within the ministry, but this was then overtaken by an interdepartmental shared service center (see Section 7.3 for a more detailed explanation).

In practice, we observed that program management operated as a hybrid sort of above types. For example, program management in AMR started as a light coordination mechanism, before evolving towards a type 3 approach. As argued in Chapter 4, in actual cases of program management it is crucial to understand the type of program management that ultimately emerges. To understand the role of program management in governance processes, we need more insight into the interactions between program management and other actors. This includes taking into account that perceptions of the type of program can differ between actors. As we have seen in this thesis, project managers and line managers can have very diverse views on the type of program. As argued in Chapter 3, this makes program management a process of sense-making through which common ground has to be developed.

7.3 EVOLVING CONNECTIVE CAPACITIES OF PROGRAM MANAGEMENT

As mentioned in the main question above, this thesis is about dealing with complexity in governance processes. In the introduction we already explained that this complexity perspective in processes makes it relevant to apply an evolutionary approach to analyze the connective capacities of program management. The way program management evolves during this process is addressed in the second subquestion:

How do the connective capacities of program management evolve in complex governance processes and which strategies and logics influence this evolution?

Next, we will discuss specific connections between program management and other actors, and how program management strategies and other organizational logics influence these connections. But first we provide, for each case, a schematic overview of how the connective capacity of program management evolved over time.

The next page contains an overview of Policy with Citizens (Section 7.3.1), followed by the analysis about how connective capacities of program management have evolved in this case. This overview is presented in four distinct rounds of the evolution of program management (see Section 1.5 about methodology). Section 7.3.2 presents a schematic overview and analysis about the connective capacity of program management in Amsterdam Metropolitan Region.

The legend in Figure 7.1 explains the types of relations that we distinguish in the evolution of the connective capacity of program management. The capital letters (A, B, C, etc.) in Figure 7.2 for PwC and small letters (a, b, c, etc.) for AMR in Figure 7.3 indicate where this example is discussed in the text of this section.

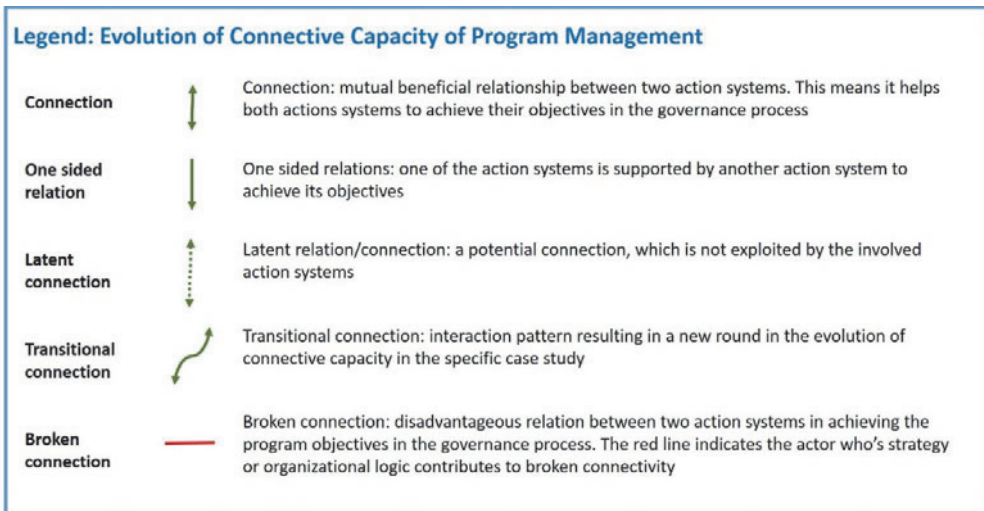
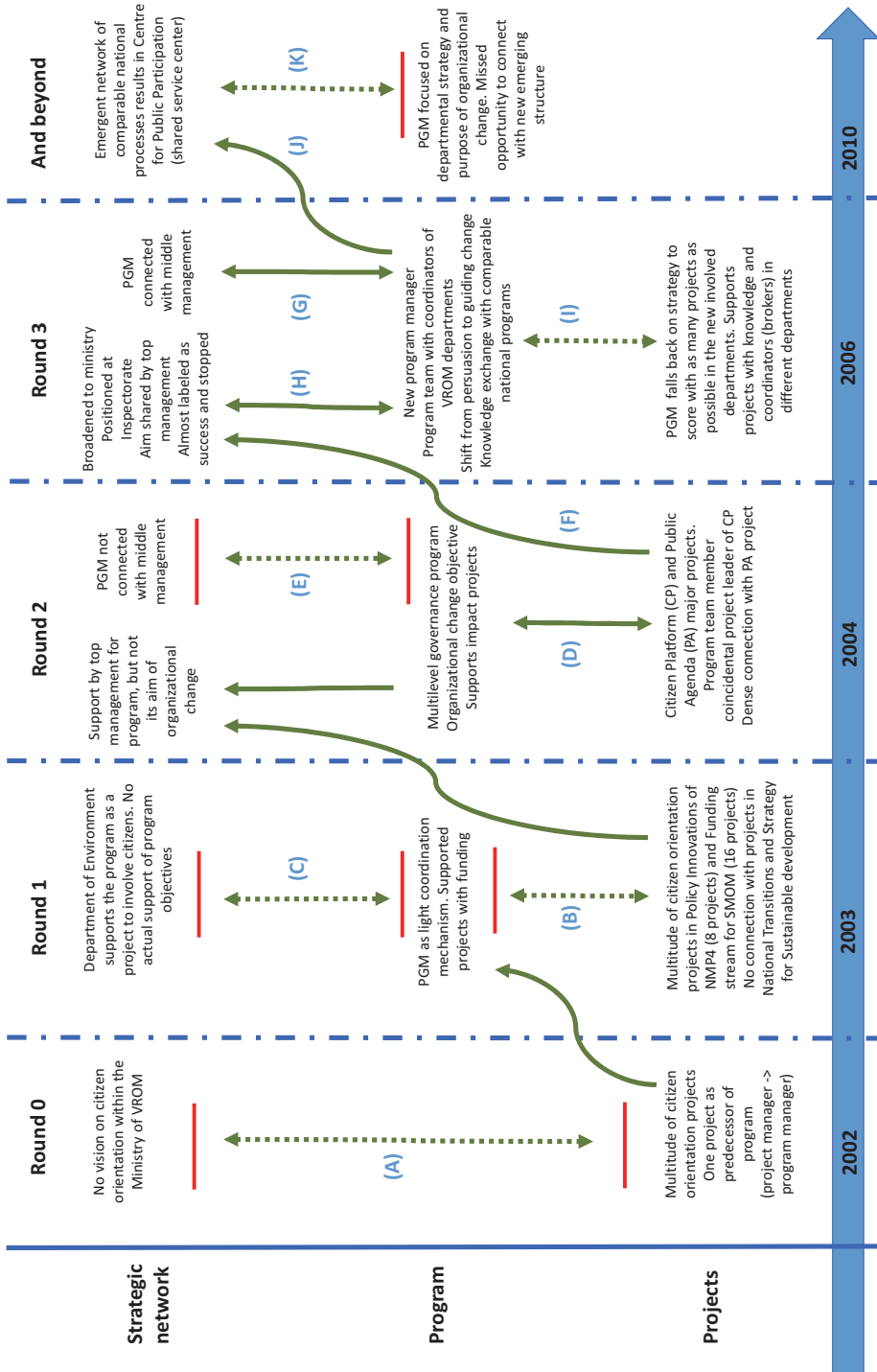


Figure 7.1 Legend: Evolution of Connective Capacity of Program Management

Figure 7.2 Evolution of Connective Capacity of Policy with Citizens Program



7.3.1 Connective capacity of Policy with Citizens program

Round 0

In Figure 7.2 we see how the connective capacity of program management has evolved. In Round 0, we consider the situation before program management became part of this governance process. We previously discussed the situation (A) without connectivity between projects and line organization in Section 7.2.1 about the emergence of program management. The program was formally established via an amendment in the House of Commons (see Chapter 2 and 3). Two main objectives were set: 1) to involve the citizens' agenda in policymaking and implementation processes by applying a wide variety of participative and co-production instruments and 2) to strengthen citizen orientation among policy makers. Below we will discuss how connective capacity evolved in different rounds, including relevant programmatic strategies and other organizational logics.

Round 1

The initial strategy of program management comes down to stimulating as many projects as possible to experiment with citizen participation. In previous sections we already highlighted this strategy of program management in Round 1 as a light coordination mechanism. A lot of the work in the program team and in applying citizen participation methodologies was outsourced to consultants. Therefore, there was hardly any direct interaction between policy makers and citizens and these projects lacked learning effects (Chapter 2). This approach made it very difficult to consolidate the effects of investing in program management. Many small initiatives do not count towards a big one. As observed in Chapter 3, citizen participation was new for many project managers. However, they did not perceive the program as a change process and were not willing to invest time in programmatic processes. They saw the funding and support by program management as something extra to add to their project. They were rather focused on meeting their project goals within the existing parameters formulated by line management. Collaboration by project managers depended on if, and how, the program's objective and methods fit into the iron triangle of their project. As argued in Chapter 2, most of these projects were organized as part of their line-department, which made it difficult to combine them in an integrated program. The projects and policy-makers involved had their own arrangements for interaction and communication. Program management did not actively stimulate knowledge transfer and mutual learning between projects in the realm of a programmatic change process. A one-way connection was realized; project managers were enthusiastic as long as program management's interference contributed to their project goals. Program management did not have a big picture view; they were too busy filling the program

with as many projects as possible. *“In the program team, we were mainly oriented on realizing as many Policy with Citizens projects as possible, especially at the beginning of the program”* (Program team member, 2005, see Chapter 3). Project workers and managers at the ministry were criticized for not thinking more strategically or for not developing and sharing their knowledge. However, the program team did not facilitate or incentivize these behaviors. *“We thought and hoped that project managers developed a community in which knowledge and experiences were shared. However, this did not happen spontaneously (B). We had to reserve time for these kinds of activities. We organized this too late, projects were already up and running and project managers did not feel any urge to connect to other projects or in a total program on citizen orientation”* (Program team member, 2006; Chapter 3).

At the same time, line management approached the program rather as a project with one objective, namely involving citizens in policy processes (Chapter 3). Despite the Minister’s commitment, political assignment from parliament and the Board of Directors’ approval of the goals, it remained uncertain how far line management in general supported the goal of culture change and recognized the long-term nature of the program (C).

Round 2

This second round is dominated by a new type of connectivity between program management and projects (D). As shown in Chapter 2 and 3, program management initiated two major projects: ‘Citizen Platform’ and ‘Public Agenda & Citizen Participation’. With these projects, program management aimed to have substantial impact on the policymaking process. As argued in Chapter 2 and 3, program management was strongly connected with these major projects. This was an indirect effect of the difficult relation with the line organization regarding citizen orientation. None of the line departments was willing to adopt the Citizen Platform project, which resulted in the appointment of a program team member as project manager of this project. Via this combined function, program management learned important lessons about the effectiveness of their approach to projects. Program management became aware of barriers in its home organizations and the significance of elaborating project results in continuing policy processes. Hence, the program became more focused on the connection between the citizen participation processes in the projects and policy processes in the line organization. Moreover, this coincidental strong relation with project management, provided program management with valuable knowledge and experience for its relation with projects in general. For program management this was reason to invest in a strong relation with the Public Agenda project. Since this project was partially initiated by program management, they were also in position to create a tight connection.

Contrary to the many small experiments, these major projects delivered innovative results with substantive impact on the governance process about citizen orientated policy-making (see Chapter 2).

“Coproduction with citizens in the Citizen Platform and the Public Agenda projects led to a change of frames on some policy issues and more openness in the agenda-setting phase of policy-making. The Public Agenda project resulted e.g. in five coproduction processes with almost equivalent positions for citizens and policy-makers. This integrated approach resulted in a broadening of the scope of program management” (Chapter 2).

Support by program management was essential, since both project management and line management considered themselves not responsible for the impact of the project results on the policy-making processes. Program management of Policy with Citizens discovered the added value of their approach in the governance process by enabling strong relations between the program and projects, facilitating interconnectivity among projects via sharing knowledge and experiences and by linking project results with processes in the line departments.

In the beginning of this Round 2, program management itself invested in several activities at program level, like a training and guidebook about citizen participation to prepare policymakers for working with citizens in their projects (Chapter 2). These activities were not very successful, although they helped program management to create an identity by delivering products and services for projects at program level.

New developments in the governance process were mainly derived from the project activities in the two major projects. They created a feeling of urgency, which contributed to the organization’s awareness for citizen-orientation. This also resulted in more attention for continued effects of citizen advice in policy-making processes, since in most cases old routines regained ground after the projects had finished.

However, the integrated citizen agenda also clashed with the structure and culture of the line organization (Chapter 3). The rigidly organized departmental responsibilities put pressure on the program to adapt to working within the existing structure as soon as the two had to interact. During the implementation of the projects, there was constant pressure from middle management to make projects fit within the organization’s departmental boxes. Project managers bemoaned a lack of support and priority for their activities in the program’s framework. As a result, coherence and interconnectedness were lost:

“These kind of integrated programs are hampered by the existing hierarchical structures and lines within the departmental organization. Employees are well aware in which divisions they work, which tasks they have and what responsibilities to bear” (Former Program team member, see Chapter 3).

It became clear that the connection between the program and the organization’s middle management was poorly organized **(E)**. For middle management, the move towards citizen-orientation was just one of many items on their agenda. Higher level management did not encourage middle management and apparently program management did not engage them in programmatic processes. Chapter 3 concluded that the program was hanging rather loose in the organization, which hampered the program’s integration and effective functioning.

Overall, these major projects had three effects in relation to the connective capacity, namely that program management:

- 1) Changed its strategy from stimulating to supporting projects and policy makers. It tried to shift its attention to transferring and managing knowledge about citizen orientation, to prevent that the knowledge and expertise developed would be lost after the program has ended.
- 2) Became aware about its disconnection with middle management.
- 3) Became broadened to all policies of the Ministry of VROM. Program management received support to broaden the program formally to the whole organization. The impact of major projects enabled meetings with higher level management about the program’s aim. This ushered a new round in the evolving connective capacity in this governance process **(F)**.

Round 3 and beyond

Resulting from the impact of the major projects and deliberating the program objectives with high level management, program management was broadened to all policy departments of the ministry (see Chapter 2). Representatives of all these departments joined the program team, which was led by a new program manager (former program team member and project manager Citizen Platform). Several project advisors completed the program team.

With support from high level management, the program team aimed at an organizational change process to make the ministry more citizen oriented. Program management also invested in improving the relationship with middle management. The organization’s middle management focused on the substance of policy and less on the process and participative character of the policy-making process. This made it difficult for them to support and appraise project managers for citizen-oriented activities

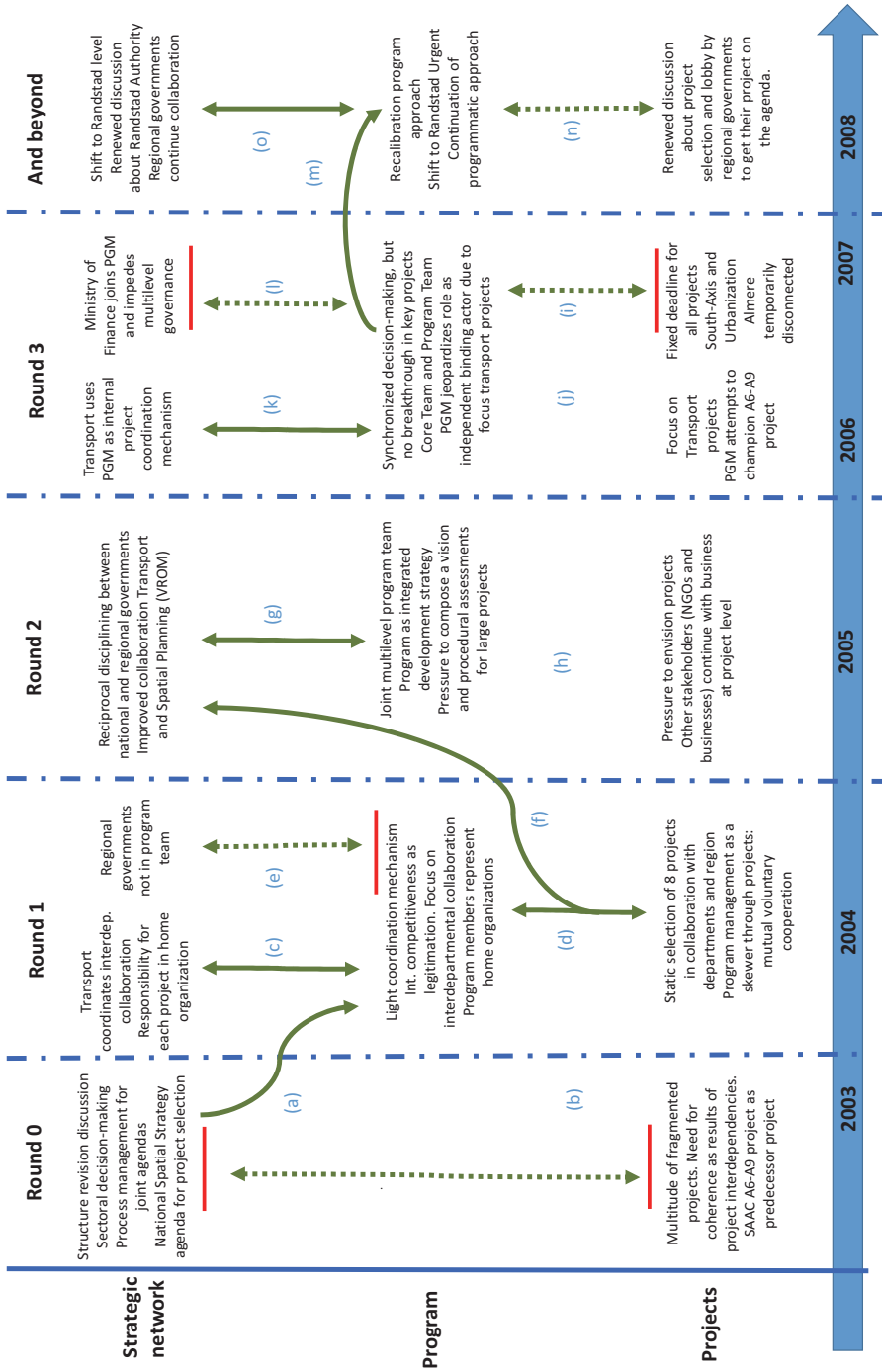
(Chapter 3). Insight into the functioning of middle management and their perception towards developments like citizen orientation, was an important prerequisite to connect with middle management and anchor their program in the strategic development processes of the organization (G).

Appraisal and success of process-oriented projects and programs is a matter of perception. This also appeared when, rather soon after the broadening, the program was almost labeled as a success by line management. At that moment, there was no actual insight into the progress of the change process and no clear view on how the acquired knowledge could be consolidated (Chapter 2). Program management succeeded to make these uncertainties clear to the higher management levels and gained support to continue until 2010 (H). They aimed to realize an institutionalized arrangement within the organization, that would continuously support citizen-orientation and consolidate the lessons learned from the program. In other words, their intention was to develop the program into a more permanent shared service center.

From its improved relation with middle management, program management learned that investing time and energy into connectivity with other actors in the programmatic action system could benefit the program's effectiveness. Based on this insight and experience with major projects, program management started to search for more connectivity with projects in the governance process. They stimulated and facilitated new project managers in an informal way to become acquainted with the program and other project managers. They also organized substantive support for project management via the programmatic coordinators in the diverse departments. However, evolving interactions between projects and program demonstrated that program management could not determine its own strategy. Program management would have liked to continue and to expand its strategy with major projects but was unable to connect to new projects with comparable impact as the Citizen Platform and Public Agenda. It also appeared difficult to realize a more deliberate selection of smaller projects with mutual coherence. This resulted in program management's relapse into an explorative strategy with a multitude of projects, but this time throughout the whole organization. Despite its ambitions, program management's relation with most projects came down to monitoring project progress, or *'thermo-metering projects'* to quote the program manager. One of the project managers noted this meant *"each citizen participation project comes down to a drop in the ocean, disappearing in the whole"*. This project manager pointed out that without a reciprocal relation between the project and program, relevant knowledge of and experience with the project will remain unexploited by program management (I).

As discussed in Chapter 2, during Round 3, program management of Policy with Citizens started to participate in an emerging network of citizen-oriented programs in national government (J). This resulted in a programmatic exchange of knowledge and experience about citizen participation. This resulted in several attempts to institutionalize this interdepartmental collaboration in a joint program, which could function as a shared service center for citizen participation in projects by national government. Two times (in relation to 'Participatie Nieuwe Stijl' and 'Centrum voor Publieksparticipatie'), the program management of PwC hold on their program as autonomous entity and its aim of an organizational change process within the Ministry of VROM. They regarded this whole national approach as a threat to the program's continued existence as independent structure (K). In their view, interdepartmental cooperation would best serve as 'icing on the cake'. To withstand this external pressure, program management requested its team members to focus their energy on continuing the program. Program management explored new project opportunities in a changing political landscape, hoping that complex issues like cultural integration, climate adaptation and energy would provide new funding for citizen participation projects. Nevertheless, a new national government structure for citizen participation came about. The interdepartmental network evolved into an interdepartmental knowledge center for consultation and participation (Centrum voor Publieksparticipatie, today Platform Participatie). This center incorporated some of the working methods of Policy with Citizens. However, by opting for its departmental strategy program, PwC's management had missed out on an opportunity to embed its heritage into this new governance structure.

Figure 7.3 Evolution of Connective Capacity of Amsterdam Metropolitan Region program



7.3.2 Connective capacity of Amsterdam Metropolitan Region program

Round 0

To understand the governance process of metropolitan development in Amsterdam Metropolitan Region, it is necessary to get insight into the governance process of decision-making in the Randstad area in the past decades. For a long time, this process was dominated by discussing governmental structure revisions. Chapter 5 presents an overview of this debate. Then, a process management approach emerged in regional governance, complemented with interdepartmental collaboration at national level **(a)**. Together with the fragmentation between projects in specific sectors (as discussed in Section 7.2.1) **(b)**, this gave rise to a programmatic approach (see Chapter 5).

Round 1

As argued in Chapter 1, a national programmatic approach became established in four areas which were confronted with complex challenges for integrated development. The approach is introduced as an interdepartmental program to consider issues, projects and instruments in mutual coherence (Chapter 4 and 5). Each of these programs was coordinated by one of the involved line organizations. Considering the importance of infrastructure projects, the Department of Transport (Ministry of V&W) insisted on a leading role in the AMR program. This created the foundation for a tight connection between line management and program management **(c)**.

Program management initially approached the governance process of metropolitan development as rather undefined and thus explored its possibilities as a programmatic approach between real projects and policy-oriented line organizations. Program management discussed two different models: the 'super-project' and 'skewer' model. In the first, the program director would leave line management and become an overall leader of the program as a super-project with final responsibility for all projects. They opted for the 'skewer' model. The program director remained part of the line organization and the program manager became responsible for the program's daily affairs. Each involved department remained responsible for its projects and specific policy domains. In terms of types of program management as discussed in 7.2.2, the 'skewer' can be seen as a light coordination mechanism (type 1), while the 'super-project' approach comes down to an integrated development strategy (type 3). Program management aspired to create coherence among projects via mutually voluntary cooperation **(d)**. They tried to achieve this via:

- Gaining insight into the interrelations between projects;
- Making project managers aware about their position and contribution to AMR;
- Facilitating a platform to exchange information, experience and interim results.

Some project managers appreciated program management's efforts, whereas others regarded interrelations with projects in their environment as a function of project management itself. For example, Amsterdam South-Axis' project managers specifically chose to integrate these activities into their own realm. South-Axis was also one of the largest projects involved in the program and actively managed its own stakeholders. With the light coordination mechanism and voluntary cooperation as its strategy, program management tried to operate alongside projects, rather than hierarchically above them.

The program team and steering committee consisted of representatives of the four involved ministries. They were responsible for consulting other governments and stakeholders in the region. Many actors considered aligning these different line organizations as a major challenge for program management. From its start, regional governments pressed for representation in the program team. Initially, program management held off on this (e), because it prioritized putting the program and the interdepartmental coordination in order (see Section 7.2.2).

The program's agenda was mainly influenced by the Department of Transport (Ministry of V&W) and Department of Spatial Planning (Ministry of VROM). Main transport corridors and urbanization were the key issues. In search for legitimacy, the involved line organizations proclaimed improving international competitiveness as the motive for the programmatic approach (see Chapter 4). This makes it even more remarkable that the program did not incorporate issues about the capacity of Schiphol Airport. The Department of Air Traffic (DGTL, Ministry of V&W) considered Schiphol Airport as its core business and had its own instruments to consider airport development in relation to other regional developments. With the start of the programmatic approach, DGTL and the Department of Transport (DoT) decided to keep their approaches separated. DoT argued it was likely Schiphol and DGTL would dominate the program, leaving less room for coherent decision-making about other projects. Also, water management and its coordinating department DGW (Ministry of V&W) were not included in the programmatic approach. The program based its project selection on the National Spatial Strategy. Regional governments also clearly recognized their input into selecting issues, even though they would have welcomed including more projects. National government and regional authorities agreed on a static project selection (see Figure 4.1). This project agreement was the onset for a process of reciprocal disciplining between the national interdepartmental network and the regional governance network, resulting in a joint program team in the next round (f).

Round 2

Besides a static project selection, the process of reciprocal disciplining was also aimed at minimizing administrative crowdedness and number of meetings in Amsterdam Metropolitan Region. As argued above, program management initially held off on representation of regional governments in the program team. During its development they opened up to a multilevel governance setting. On behalf of all regional and local governments in AMR, two civil servants joined the program team; representing respectively the Amsterdam and Utrecht area (together considered as Amsterdam Metropolitan Region in this thesis, see Chapter 5). Program management asked these representatives to operate as knowledge brokers between regional government and national departments. To ensure a smooth decision-making process, program management depended on reliable and timely knowledge from key actors. These regional civil servants became bidirectional representatives, just like the program team members from most national departments. They claimed to put the program first, but also acknowledged to keep regional interests in mind. According to most participants, the programmatic approach encouraged integration and mutual adjustment among regional governments, resulting in substantially improved multilevel interaction between involved governments (g) (Chapter 4 and 5). With the reciprocal disciplining between national and regional government, program management contributed to the multilevel character of the governance process.

Program management initially planned to continue the multi-actor process which had emerged in relation to the regional North Wing conferences. In their program design they had ambitious plans to connect with a high diversity of stakeholders: *"...also the input of other actors is essential, like business, nature and environmental organizations. Also, citizens in the region, for whom this eventually is done, will become actively involved in our preparations."* (Factsheet Program Design, 2004). Program management explored opportunities to cooperate with businesses beyond the level of individual projects. It became clear that public-private relations at program level did not match with project procedures about public-private collaboration. Businesses perceived more chances for public-private cooperation at project level. Also, the managing director of Natuurmonumenten, a relevant NGO in the area, considered projects as the most convenient level to do business. By keeping relatively disconnected from the program, Natuurmonumenten, remained free to participate in one project and to raise objections to others. This became clear in their role in the A6-A9 project, in which this nature preserving NGO started a media campaign against one of the studied highway alternatives.

At program level relations with business, NGOs and citizens remained limited to consultation. Program management did not actually connect with actors beyond governmental boundaries in programmatic development (see Chapter 5). Actual

collaboration got shape at project level. For some of these projects, program management was able to deliver added value by stakeholder consultation. As argued above, projects like South Axis already organized stakeholder management at project level by themselves.

While developing the governance process in AMR, program management faced requests to deliver more products at program level. Several actors (parliament, assessment agencies and some project managers) argued that program management needed to comply with the formal procedures for 'large projects'. Parliament had previously designed extra measures to increase their control on large infrastructure projects. Program management was asked to compose a Structure Vision ('Structuurvisie') and an Environmental Impact Assessment (MER in Dutch). Expectations increased to develop a substantive vision on metropolitan development as a program.

Program management had started from scratch and, at that time, deliberately opted for a light program model ('skewer'). At the start, they did not have any aspiration to deliver these kinds of products at program level. *'There is not a theoretical right way to shape these kinds of programs and we had no idea we would obtain substantive responsibilities'* (Interview Program Manager AMR). In response to increasing external pressure and expectations, program management was inclined to incorporate more substantive activities within the program. This generated a difficult challenge for program management. They brought all these requests together in a visionary document (Structure Document), which demonstrated the interrelations between projects and their contribution to the region's metropolitan development.

Program management needed permission from line management to produce this 'Structure Document', which they received only after several requests. Line management attached great importance to the decision-making deadline, which was based on the political agenda. They urged program management to speed up deciding on projects instead of creating a new vision. This deadline created extra pressure to deliver the Structure Document on time. Program management responded by copying known integration methods from project management and line management and presented this as a program management approach (Chapter 4). *"In the Structure Document the program management provided an overview of the interrelations and expected effects of the projects on the themes mobility, land-use, economics, nature, environment and water."* (Rijksprogramma Noordvleugel, 2006). Diverse stakeholders considered the document itself as a paper exercise (h). Nevertheless, it helped to bring important actors closer together, such as the Departments of Transport (V&W) and Department of Spatial Planning (VROM). Most participants in Amsterdam Metropolitan Region were satisfied with the improved integration and collaboration in metropolitan

governance. Program management had facilitated dealing with, and preventing, intergovernmental conflicts.

Round 3

When the process approached the decision-making deadline set by the Council of Ministers, de-synchronization about the program's purpose arose. This was because of diverging expectations by line managers of different departments and by other stakeholders in the program's environment. The Council of Ministers' deadline gave rise to a tipping point in how the connective capacity of program management evolved. This tipping point resulted in new dynamics in the relation between program management and project management. This was no longer based upon mutual voluntary cooperation; project management became dependent on program management for decision-making about their projects. Program management proceeded to synchronize the decision-making processes of all eight projects at one fixed moment. This caused agitation among several project managers, since they were initially responsible for planning their own decision-making process. The South-Axis project management experienced negative effects from synchronized programmatic decision-making. They considered associated uncertainties of other projects as possible disturbances for their planning process. A delay in one of the projects could result in delay of their project. Project management of South-Axis considered itself capable to manage its own interrelations and observed a low degree of coherence with other projects in the program **(i)**.

In the synchronized decision-making process, a strong connection between program management and the A6-A9 project arose almost naturally **(j)**. This project in the Schiphol-Amsterdam-Almere corridor (SAA) was rather important for program managements' home organization and showed many interrelations with other projects in the program. The home department already stressed this close connection at the start of the program, when it appointed program management as principal for the A6-A9-project **(k)**. Moreover, both the program director and program manager were previously involved in a predecessor of this project.

When working towards the decision-making deadline, the A6-A9-project received a lot of attention from diverse stakeholders and the media. Natuurmonumenten, protested against possible construction of the A6-A9 highway through one of its main areas: the Naardermeer. Just as project management in several previous attempts, program management was unable to realize a breakthrough in the decision-making process of this lingering challenge of combining mobility, economics and nature preservation (Buijs & Teisman, 2006).

Program management became increasingly engaged and tried to champion this project, as it was hugely important to its home organization (Chapter 4). With the synchronized decision-making, this also caused program management to jeopardize its position as an independent binding actor in the governance process (Chapter 4). It created uncertainty among project managers about the progress of their project in the governance process. The project management of Urbanization Almere decided, at least temporarily, to disconnect from the synchronized decision-making process of the program (i). They returned to the traditional line of decision-making in the project's home department (Ministry of VROM). The Department of Transport's line management also used program management as an internal coordination mechanism for implementing projects that belonged to the department's responsibility (Chapter 4).

The Ministry of Finance had a distinctive role in this integrated governance process. This department did not participate in the initial programmatic approach but got involved at the time of decision-making. The Department of Finance (DoF) joined the program team and its steering committee. The DoF's influence increased when the decision-making deadline approached. DoF representatives insisted on decision-making within boundaries of national government (Chapter 5), which impeded program management's multilevel governance ambitions (ii). DoF stressed a joint agreement within national government, before its minister – together with the ministers of Transport and Spatial Planning – would meet with regional administrators. They argued that regional governments use the program's multilevel governance setting to settle financing for the projects on their 'wish list'.

The decision-making deadline also made the other representatives concentrate on the objectives for which the line management of their home organization held them responsible. This created a cacophony of interests in the program meetings. Program management feared this would jeopardize its objectives and tried to regain control over the program as a binding entity in the governance process. Therefore, program management divided its structure into a core team and a program team. This core team met frequently and was composed of program management's staff (manager, secretary and environment/stakeholder manager), representatives of the Department of Spatial Planning, Department of Finance and Amsterdam region. The broader program team continued with all participants, but its influence and meetings' frequency decreased. In the core team, DoF representatives were clearly more reserved towards multilevel governance than representatives from other national departments. Since Amsterdam area's regional representative was also a core team member, DoF tried to shift preparing interdepartmental decision-making to the program's steering committee, in which regional governments had no say. If this was not accepted, they would bring the process of aligning the interests of involved national departments to the Council of

Ministers. In this way, DoF tried to force decision-making within the boundaries of national government. DoF preferred to do business with regional governments at the level of concrete projects, rather than multilevel integration at program level.

And beyond

Most project managers gave the programmatic approach the benefit of their doubt, even though programmatic decision-making had not delivered the aspired breakthroughs in the projects A6-A9, Urbanization Almere and Public Transport Schiphol-Amsterdam-Almere-Lelystad (SAAL). After the decision-making deadline, program management and coordinating line departments expected a new cabinet would continue the programmatic approach. This gave rise to Amsterdam Metropolitan Region's program management to reflect on their approach in consultation with line management, project management and other stakeholders. Their basic assumption was to recalibrate and enrich the existing approach for a new decision-making round (m).

They viewed these consultations as a momentum to reconsider project selection and the program's strategy. Some actors argued that program management needed to become more than a 'skewer' through existing projects and had to continue with an integral vision for the AMR. In this perspective, projects would become subordinate to this vision. Others argued that program managements' main function is to supplement the shortcomings of project management. In this process of recalibration, program management maintained its original project selection criteria. Program management emphasized interrelations between projects as a main selection criterion in its external communication. Implicitly, involved line organizations' interests were an important driver for selecting. Projects. Moreover, program management avoided including risky projects which could (politically) endanger the program as a whole. Program management stated they considered integrated metropolitan development primarily as an ambition, not as a realistic target for the program. Despite some differences in project boundaries, the planned project selection remained the same as in the previous round. Most program participants were satisfied with this static selection, since this averted an energy-consuming struggle to get new projects on or off the program's agenda.

Besides these internal reconsiderations within the program, diverse actors, especially those involved line organizations, reacted upon other dynamics regarding metropolitan development of the Randstad area. The Department of Internal Affairs had installed a committee to study administrative scenarios to strengthen the metropolitan governance capacity of the Randstad (Committee Kok, 2007). This committee advised to work towards a centralized Randstad authority and to install an urgency program for metropolitan development in the short term. Together with other reports and

accompanying discussion, this resulted in boundary reconsiderations in the governance process. Management of line departments shifted their focus from the wings, to the Randstad as a whole. The new cabinet announced Randstad Urgent as the new programmatic approach for metropolitan development. Consequently, national departments and regional governments started new negotiations about project selection **(n)**. Anticipating on Randstad Urgent, regional representatives shifted focus and started new lobbies to get their projects on the agenda of Randstad Urgent.

AMR program management had developed a solid identity in the governance process, because of effective collaboration between the departments of Transport, Spatial Planning and regional governments. AMR program management obtained a major role in program management of Randstad Urgent. Via combining its own strength, responsiveness to external dynamics and adaptive capacities, AMR program management was able to evolve in the new context of the governance process of metropolitan development **(o)**.

7.3.3 Evolving connective capacities

In previous sections, we have seen how, in each case study, the connective capacities of program management evolved over time. To answer the second subquestion of this thesis, Section 7.3.1 provided an overview of the relevant relations in the case PwC. Section 7.3.2 did the same for the case AMR. From these overviews we can derive that the way connective capacity of program management evolves depends on:

- Strategies by program management;
- Other organizational logics of actors involved in the governance process; and
- The interaction between both.

In Chapter 2, program management itself was defined as a deliberate attempt to interconnect single projects in an overarching program and to connect this program to the line organization. By focusing on the connective capacities, it becomes clear that program management also highly depends on projects and strategic networks to become meaningful in governance processes.

As we have seen in Section 7.2, the emergence of program management has its roots in the latent connections between projects and strategic networks. This defines program management as management of interdependencies in governance processes.

In 7.3.1 and 7.3.2 we have seen that the connective capacities of program management are influenced by strategic choices of program management itself. These strategic choices can be related to the different types of program management as discussed in Section 7.2. In the case AMR for example, we have seen that program

management initially kept regional governments at a distance in shaping the program. This helped them to first embed the programmatic approach in the departmental organizations at national level. In the case PwC we observed that program management, especially during its first years, was hanging loose in the line organization. The program was formally initiated by an amendment in parliament and started with focusing on a multitude of projects. In Round 2, program management became aware of the need to make sense of the program in its strategic network. To define its strategies, program management needed to be aware of the different perceptions by project managers and the strategic network about the program and its objectives.

As these perceptions and dynamics in the governance process evolve over time, program management also adapts its strategy. We have seen this in the example of PwC. In Round 2, program management became aware of its dependency on middle management to realize the program objectives. This resulted in adapting its strategy based on the organizational logics of line management. In the case AMR, program management, had deliberately opted for a light coordination mechanism. But we have also seen that it turned into some kind of super-project in Round 3. This was not a deliberate choice by program management, but a result of the external pressure. Namely that program management was urged to create an integrated vision: a more formal overview of the interdependencies between projects.

Above we have seen that connective capacity depends on the organizational logics of the strategic network. As we will explain below, the connective capacity of program management also depends on the organizational logics of project management. In this thesis we have seen highly diverse projects, but in general, each project can be considered as a separate project action system in the governance process. Project management has its own objectives, which sometimes align with other objectives in the governance process but can also (partially) define its own boundaries. In the case AMR, we explicitly noted the boundary management of project management. This happened when the South Axis project and Urbanization Almere project temporarily disconnected from the program after synchronized decision-making had been forced upon them. Overall, project managers appreciated program management's support when it helped them realize their objectives.

Considering that we only studied two cases, we have to be modest in drawing generic conclusions about how the connective capacity of program management evolves. One advantage of highlighting two cases is that it helps to emphasize the relevance of context and how this affects connective capacity.

In both cases, we saw examples of program management's focus on major projects, respectively the A6-A9 Highway project in AMR and the Citizen Platform and

Public Agenda projects in PwC. The strong relation between program management and major projects had completely different effects in each case. In PwC this was a stimulus for more connectivity in the governance process, since it enabled program management to support projects, discuss the program's objectives with the strategic network and create impact in the governance network. In AMR, this emphasis on a major project resulted in the opposite. It endangered integrated development at project level, where projects temporarily disbanded from the programmatic action system.

This shows that program management can use comparable strategies which have completely different effects regarding connective capacity in governance processes. In PwC, the emphasis on major projects contributed to understanding the barriers in the organization and sense-making of the programmatic objectives in relation to line management and project management. It helped program management to gain insight in the interdependencies in this governance process, without causing negative effects for other involved projects or actors. In AMR, the focus on a major project limited the attention given to interdependencies in the governance process. It came down to returning to the situation in Round 0, in which each department focused on realizing its own sector oriented projects.

Context is crucial to understand how the connective capacity of program management evolves over time. It can be derived from the above that the interactions between different action systems affect the course of the connective capacity of program management. This is besides program management's strategies and other organizational logics in the governance process. As presented in Figure 7.2 and 7.3, both cases are characterized by a high degree of variety in relations. This variety manifests in 1) strategic connections respectively with the projects and the strategic network and 2) within each of these action systems. Considering projects, we previously discussed the differentiation between major projects and a multitude of projects. For the strategic network, we saw in PwC that this consisted of multiple departments within its home organization, different logics between high level and middle management and the development of comparable programs in other national departments. In AMR, the multilevel governance setting, substantive interdepartmental collaboration and role of the Department of Finance contributed to a high degree of variety of relations. From the overview in Figure 7.2 and 7.3 in several rounds of development, we can derive that the connective capacities of program management in both cases evolved via a dynamic pattern. Situations are rare where there is a strong connectivity of program management with both projects and the strategic network. This means program management continuously needs to adapt its strategies and consider its attention for each of these partnerships, including the variety between projects and within their strategic network.

As discussed in Chapter 6, complex governance processes have become a multiple issue affair, including various temporal and interrelated projects and interdepartmental processes. Analyzing the connective capacities of program management over time helps to understand how program management evolves as an adaptive structure in managing interdependencies in complex governance processes.

7.4 A COMPLEXITY VIEW ON EVOLVING CONNECTIVE CAPACITIES OF PROGRAM MANAGEMENT

As argued in Chapter 1, complexity theories specifically address interactions in terms of interdependencies between systems, subsystems and processes, including how these evolve over time. Complexity boils down to that the real world consists of multiple elements, of different types that are related, but sometimes loosely, and whose mutual relationships are changeable over time (Gerrits, 2012: 16). For our third subquestion, we will consider from a complexity perspective on how the connective capacities of program management evolve.

How can the evolution of the connective capacities of program management be understood from a complexity point of view?

As set out in Chapter 1, we will apply both a coevolutionary and a self-organization perspective to the analyzed dynamics of the case studies. Since as well coevolution as self-organization contains multiple patterns, we have separated these in the text in two different sections. In Section 7.5, we will delve into phenomena of coevolution as can be observed in the evolution of connective capacity of program management. The concept of coevolution helps us to interpret the mutual relations between actors in the programmatic action system. Subsequently, in Section 7.6 we draw conclusions about conservative and dissipative patterns of self-organization in the studied cases. Self-organization addresses the behavior of actors and overall development of governance processes in relation to fragmentation and integration. In Chapter 8 we bring the results from the coevolutionary and self-organization perspective together to argue how connective capacities enable program management to cope with complexity.

7.5 APPEARANCES OF COEVOLUTION

7.5.1 Introduction

In this section we reconsider the connective capacities of program management as discussed in Section 7.3. As can be observed in Figure 7.2 and 7.3, these capacities are

dynamic in their development and depend on organizational logics and strategies in the studied governance processes. As pointed out in Chapter 1, the concept of coevolution is applied here to gain insight into the connective capacities of program management. This section can be seen as a follow-up to the conclusions and recommendations of Chapters 3 and 4. Based on both cases (PwC in Chapter 3 and AMR in Chapter 4), it is considered relevant to gather insight into the coevolutionary processes between program management and other action systems in governance processes. In Chapter 3 we concluded that connective capacities of program management can be considered as a two-fold coevolutionary process. In Chapter 3 we also argued that these interactions can enhance developments in the governance process (symbiotic coevolution) but can also reinforce negative effects (interferential coevolution). In Chapter 4 we elaborated the cooperative relation between project management and program management, which resulted in the recommendation that *“further investigation of the strategies that project and program managers alternately or simultaneous use to deal with the tensions between diversity and integration is required in order to shed more light on the coevolution of both management types”* (Chapter 4). Section 7.3 provided an overview of these dynamics and strategies for the tense relation between project, program and strategic network. Based on this overview, we apply the distinction between interferential and symbiotic coevolution to gain insight into the reciprocity of the evolution of programmatic actions system in relation to its strategic network and project management. We identified relevant coevolutionary phenomena for both symbiotic and interferential patterns.

7.5.2 Appearances of interferential coevolution

Ignoring interdependencies

Although the mutual effects are debatable, ignoring relevant interdependencies in selecting projects or integrated decision-making can be considered as a phenomenon of interferential coevolution.

In the studied cases, we have seen examples of ignorance of interdependencies, both aware and unaware. A typical example of this would be the ignorance on the role of middle management in the first round of PwC. Later in this case, program management did recognize interdependencies with other citizen orientation trajectories in national departments but ignored these when reframing objectives and structures. Program management stuck to its objectives and did not adapt in relation to the emerging structure ‘Centrum voor Publieksparticipatie’ (interdepartmental center for citizen participation).

As observed in Section 7.3.2, DoT and DGTL ignored the interdependencies of air traffic with transport, housing and spatial planning activities in Amsterdam

Metropolitan Region. Since these departments were aware of these interdependencies, they also knew that sooner or later developments in these trajectories would meet. For the sake of developing each trajectory, it could be beneficial to temporarily ignore specific relations. In AMR, it also became clear that NGOs and businesses deliberately did not act on the interdependencies at programmatic level. They preferred to keep their hands free to intervene in specific projects. As argued in Round 2 of AMR (Section 7.3.2), the actual business is done at project level. Participating at program level and interfering with interdependencies among public investment projects, makes NGOs and business vulnerable in relation to their interests at project level.

Parasitism

Parasitism is one of the well-known coevolutionary patterns. This term is often used with a negative connotation, but here we only apply this to describe how actions systems behave. It comes down to a non-mutual relationship between systems, where one actor benefits at the expense of another actor. A typical example of this phenomenon is the relation between the projects in Round 1 of PwC. The multitude of projects benefited from the funding program management provided to experiment with citizen orientation. There was hardly any reciprocity in this relation. As specified in Chapter 3, projects used the program's resources as long as this contributed to the goals of the project. Projects received budget from the program, but were not accountable for program targets. As argued in Round 1 of PwC, connections between individual projects do not arise spontaneously. Project management did not feel any urge to get connected to other projects or the programmatic objectives.

Interferential competition

Chapter 4 showed that in AMR, program management can be easily framed as an additional complicating factor for project managers who are busy realizing their own objectives. In this case, we found several instances of project managers' reluctance against program management's attempts to organize integration and cooperation. Their willingness for cooperation declined, especially when these attempts resulted in delays, less political attention for the individual project or reduced opportunities to organize their own project. Above we discussed examples about the South-Axis project and Urbanization Almere in relation to synchronizing decision-making in Amsterdam Metropolitan Region. A joint deadline became problematic when time was short and not enough money was available to realize all projects (Chapter 5). Projects have their own planning, agenda and budgets.

Championing

This phenomenon of coevolution shows a hierarchic relation in which there is a willingness to score with results of other action systems. An example is of this relation is demonstrated in how program management in AMR dealt with the A6-A9 project. Program management tried to realize a breakthrough in this lingering project. Program management would have scored praise from their home department if they would succeed. As we have demonstrated above, the effects on other interdependencies in the programmatic action systems can be huge. Program management jeopardized its position as a binding actor in the governance process.

Besides actually trying to achieve and score with success, the resemblance of success can also be seen as a coevolutionary phenomenon. We noticed this in the case PwC where the departmental management almost labeled the program as a success, without having actual insight into its results and progress.

Overarching

As we noticed in this thesis, there are different perceptions about the role and position of program management in the interplay with project management and line management. Traditionally, programs are part of a hierarchic strategic planning processes, while in complex governance processes we see them mainly operating next to project management. In Chapter 4, we found out that project managers assume that program managers only have a facilitating and subordinated role; program managers should not be able to overrule project managers. To say it in a popular way: program managers are reluctantly accepted as long as they do not interfere with project implementation. In that sense, project and program managers seem to compete about the question 'who is in charge'? This risk for program management is really apparent when it operates by an integrated development strategy. For example, when AMR program management started to develop a new vision for metropolitan development.

7.5.3 Appearances of Symbiotic coevolution*Collaboration*

We have observed a lot of examples of collaborative interactions in the relations between involved actors. We found a range of mutually beneficial relations, especially between project management and program management. In this regard, it is highly relevant to gain insight into other actors' interests in and perceptions about the programmatic approach.

We have seen this in the relation of the PwC program with middle management. When program management became aware of middle management's role, they first perceived this as a barrier for achieving their objective of organizational change. After

consulting middle management about their interests and perceptions in relation to citizen orientation, program management enhanced its understanding of mutually reinforcing relations. This also applies to the relation with projects. As noticed in Chapter 5 (AMR), project management was positive about program managements' role in the interdependencies between projects, as long as they focused on mutual learning.

Reciprocal disciplining

In AMR, 'reciprocal disciplining' meant the relationship in which national government departments and regional governments mutually agree on a need for coordination, limiting their desires to put their own projects on the agenda. This phenomenon generated not only a static project selection during the evolution of the governance process, but also minimized the number of meetings and administrative crowdedness. The role of the regional representatives in the program team was key in this process of reciprocal disciplining. The Amsterdam area representative created a regional core team with members of the most involved local and regional governments. He selected members from his network with capacities to represent their home organization and to act integrally. In this team, he obtained necessary information from all local and regional governments for the program. Because of his role in the program, he was also able to communicate directly with directors and administrators of several governments.

Integration (without losing specialism)

In the studied governance processes, we could observe several examples of integrating structures, processes and content. In both cases, program management evolved as adaptive structure into a new organizational arrangement within the governance process. For PwC and AMR these new structures were respectively: the Center for Public Participation and the Randstad Urgent program. For the latter it appeared that regional collaboration around the projects continued after ending the AMR program, although questions can be raised if specialization was not lost by shifting towards Randstad level.

The joint decision-making deadline resulted in difficulties in relation to some projects. Nevertheless, it also contributed to projects to stay on track and to take interdependencies with other projects into account in decision-making. For projects for which this was too risky, there was an escape route by temporarily disconnecting and applying the traditional decision-making route within their sector.

Synergetic

Some relations do not just result in successful integration of two or more specific components, but added value arises beyond the sum of these elements. In the case Policy with Citizens, both the Public Agenda project, Citizen Platform project and the program were making progress by themselves, but the combination impacted the governance process beyond expectations. Chapter 2 argues that these projects resulted in a change of frames on some policy issues and opened policy agendas for citizen participation. These major projects, managed in close connection with other stakeholders within the ministry, had impact on citizen orientation within the organization and improved connectivity between ministry and society.

7.5.4 Lessons learned from coevolution

As we have seen in answering subquestion II, the strategies of program management, organizational logics of other action systems and the interactions between both are relevant for the connective capacity of program management. Supported by the observed coevolutionary phenomena, we can underpin the conclusion of Chapter 3 that the connective capacity of program management can be considered as a twofold coevolutionary process. The concept of coevolution provides a relevant perspective to analyze the reciprocal effects of the strategies, organizational logics and their interactions. Above, several reciprocal developments can be observed between both projects and programs and between programs and strategic networks. In the studied governance processes, we saw a high diversity of coevolutionary phenomena between relevant action systems. The identification of these phenomena in the relations between project management, program management and strategic management can help (public) managers in comparable situations. Naturally, these relations and expected effects cannot be copied directly to another context. Nevertheless, recognizing these phenomena can help in creating awareness of reciprocal effects that emerge from strategies and interactions between actions systems in complex governance processes.

It appears difficult to derive interferential or symbiotic patterns between actions systems in the studied governance processes. From the above discussed phenomena and Section 7.3's overview of the dynamics, we can conclude that there is a high diversity of reciprocal effects between the relevant action systems. In the evolving connective capacity of program management there is a continuous interplay in which project management, program management and strategic management affect each other. Since the reciprocal effects also depend on the context and interactions between these action systems, it is difficult to predict these effects or to position them in clear interferential or symbiotic patterns. The detailed focus on relatively small action systems makes it difficult to derive more generic patterns in the coevolution between

management approaches in this thesis. On the other hand, this erratic evolving of processes is also exemplary for a complexity point of view.

Chapter 4 identified one of these more generic patterns as a cooperative modus of value creation (Nalebuff & Brandenburger, 1996; Teisman, 2001):

“Managers seem to share a dual awareness. As a result of interdependency, managers realize that they need cooperation in order to realize their own objectives. In theory, they are in favor of achieving mutual added value. At the same time, they want to focus on realizing their own project/program ambitions. In cases of perceived controversies, competitive strategies are easily applied” (Chapter 4).

As argued in Chapter 4, both management types are necessary ingredients to successful regional development, but there is a delicate balance between project and program management as complementary management types. The observed coevolutionary phenomena help to gain insight into this tense relationship.

In line with the conclusions of Chapter 3 and supported with the observed coevolutionary phenomena above, we can conclude that this cooperative modus is also relevant for the relation between program management and its strategic network. This is for example demonstrated in the coevolutionary phenomenon of reciprocal disciplining between the programmatic organization and organizations in the strategic network of Amsterdam Metropolitan Region. They interacted to set the boundaries of the programmatic action system and regional development by e.g. agreeing on a static project selection for the decision-making round. This means that for the considered period, regional governments did not have to compete to get their projects on the agenda and the representatives in the programmatic action system could focus on aligning interdependencies in a collaborative setting.

At another moment new competition arose about the relevant level of decision-making. Program management opted for bounded but integrated decision-making at program level, while the Department of Finance hold on to decision-making within national government. As argued in Chapter 4, this cooperative modus indicates a delicate balance between project management, program management and line management. In a cooperative modus we need to be aware of the above identified coevolutionary phenomena between projects – program management and program management – strategic network.

Competition was originally applied to cooperation between corporations which are simultaneously in competition (Brandenburger & Nalebuff, 1996). The relevance for complex governance processes was addressed by Teisman (2001, 2005) and Nooteboom (2006). In the studied governance processes, each of these actors can be seen as a complementor. In Table 7.1 it can be observed that project management,

program management and line management are different management strategies which each have their own added value in relation to specialization and integration. In both case studies we have seen that these management strategies operate in relation to each other and have the potential to create added value in the studied governance process. They complement each other because of their different objectives and approach in complex governance processes. As concluded in Chapter 4, project management and program management are:

“Complementary in their strengths and the delicate balance between programmatic integration and powerful projects provides the necessary ingredients for successful regional development. The project approach is helpful in conducting decisive action on well-defined single-value issues, while the program approach is necessary to realize synergy and coherence” (Chapter 4).

There are also similarities between the diverse approaches resulting in competition. With program management as a new actor in the studied governance processes, raises for example questions about ‘who is in charge’ in decision-making. The header ‘Overarching’ above demonstrates this for the relation between project management and program management. Considering the discussion about the Department of Finance and program management, line management and program management also compete about responsibilities. We have also seen that program management, in its attempt to champion a specific project, can become a kind of substitute for project management. Finally, there is also competition in the process about limited budgets and organizational capacity. This is for example observed in the difficulties by the Policy with Citizens program to find capacity within the organization for the Citizen Platform project (Section 7.3.1 Round 2). None of the line departments was willing to provide staff for this project initiated by program management. Projects amongst each other, and in relation with program management, compete for staff, budget and agendas of decision-makers. Chapter 4 pointed out that a fruitful tension between project management and program management can contribute to integrated and synchronized development of a complex governance process. If one of the two management strategies becomes too dominant, this can also undermine the potential of the other. By applying the symbiotic and interferential coevolutionary appearances, we have more in-depth knowledge about how management strategies complement and compete with one another.

7.6 PATTERNS OF SELF-ORGANIZATION

7.6.1 Introduction

In Chapter 1 we have used the definition by Cilliers to explain a dynamic understanding of self-organization. Cilliers (1998) puts forward that a self-organizing system not only reacts to its environment, but also transforms itself through interactions with its environment. In Section 7.3 and 7.5 we have seen that in the studied governance processes, (co-)evolutionary patterns are highly influenced by organizational logics and strategies of projects and strategic networks. Moreover, the development of connective capacities is also the result of the interactions between programmatic strategies, project management and strategic network logics. This implies that none of these actors can direct the governance processes in which they are involved. This results in a self-organizing governance process, not despite, but because of the diversity of steering and coordination by all actors.

In this section we will draw conclusions about program management's connective capacities based on a self-organization perspective. In addition to the interdependencies and connectivity as discussed in Section 7.3 and the coevolutionary effects in 7.5, we use the concept of self-organization to provide insight into when action systems pursue their own objectives and when are they open to connect their objectives to other aims in the governance process. In Section 7.6.3 and 7.6.4 we apply conservative and dissipative patterns of self-organization to draw conclusions about the main relations in program management's connective capacity in the cases. Respectively on the relation projects – program in Section 7.6.2 and the relation program – strategic network in Section 7.6.3. Accordingly, we delve into what this means for evolving connective capacities (Section 7.6.4).

As argued in Chapter 1, 5 and 6, it is relevant to distinguish conservative and dissipative patterns in self-organization processes to understand processes of fragmentation and integration in complex governance processes. Conservative patterns of self-organization are considered as an important driver for fragmentation in governance processes, whereas dissipative self-organizations enable interaction that is crucial for integration in complex governance processes (see Chapter 1; Teisman & Edelenbos, 2011). In Table 1.4 (here Table 7.2) a brief overview of both patterns is provided (see also Chapter 1). In Chapter 6 we applied this dynamic framework of self-organization to program management and connective capacity as theoretical concepts. In this section, we will apply insights from self-organization theory to the results about program management's connective capacities that we presented so far.

Table 7.2 Patterns of self-organization applied to connective capacity of program management

| Self-organization type | Conservative self-organization | Dissipative self-organizations |
|------------------------------------|---|--|
| Objectives | Self-referential to own objectives | Integrating objectives of diverse actors in collective processes |
| Adaptivity of action system | Strict boundary management of action system | Searching for connectivity beyond boundaries of action system |
| Type of connectivity | Stable and static | Dynamic and open |

7.6.2 Self-organization patterns in the relation projects – program

Policy with Citizens

The relation between projects and program management in the case Policy with Citizens is dominated by shifts between a multitude of projects and a focus on major projects. Above we interpreted the initial relation between program management and a multitude of projects in Round 1 as parasitism. Multiple projects benefited from funding by program management to experiment with citizen orientation and there was almost no reciprocity in this relation. Program management had hoped for a dissipative process of self-organization among project managers, as can be observed in Section 7.3: “We thought and hoped that project managers developed a community in which knowledge and experiences were shared. However, this did not happen spontaneously” (Program team member, 2006. See Chapter 3). In this case, such spontaneous behavior of project managers was not observed. As specified in Chapter 3, projects used the program’s resources as long as this contributed to the project goals. Apparently, program management was not aware of this characteristic of project management. They thought that funding projects to experiment with citizen participation would automatically result in contributions to the program beyond project boundaries. As argued in Chapter 3, program management did not perform many activities to break the isolated character of projects. They tried to bring projects under the program rationale of citizen involvement and, in doing so, they did not pay attention to interconnectivity among projects. Program management focused on creating a visible program that was as big as possible and thus on maximizing their yearly budget. In an environment that is dominated by project approaches, the most obvious way for program management to accomplish this objective was to ‘score’ as many projects as

possible. Program management did not pay attention to boundary management of projects and to project selection. Both project management and program management showed self-referential behavior to their own objectives, resulting in a fragmented governance process. Despite program management's ambitions, we saw that program management had to fall back on this strategy of a multitude of projects in Round 3. This emphasized how limited program management was in its options to steer these complex governance processes.

In Round 2 we saw a situation in which project management and program management could connect their aims when they had the opportunity to initiate new projects. An important factor in this process was the boundary spanning role of one of the program team members as the project manager of the Citizen Platform project. This double function was never intended by program management, but a coincidental result of unwillingness of ministerial departments to adopt this project and to deliver a project manager. The dense relation between program management and major projects resulted in impact within the policy processes of the Department of VROM. As argued in Chapter 2, there were issues with consolidating effects of projects. Projects are 'par excellence' carriers of new ideas, but as temporary arrangements they are not suitable to guide change in complex governance processes. Program management also has a temporary character, but generally has a longer time horizon than projects and can adapt to evolving circumstances in governance processes. As appeared in the PwC case, program management had an important role in integrating and monitoring project results in the line organization. Program management had a boundary spanning role between innovative projects and bureaucratic structure of the line organization. This required dissipative behavior in crossing boundaries and connecting with relevant actors in the line organization and strategic network.

Program management was unable to continue in this role in Round 3, in which it returned to a strategy of stimulating as many projects as possible. As observed in Section 7.3.1, monitoring by program management came down to thermo-metering projects. Stimulating all kinds of new projects and experiments without investing in reciprocal relations by program management, resulted in a rather chaotic situation. Without consolidation, project results evaporated without having actual impact in the governance process.

Amsterdam Metropolitan Region

Compared to the Policy with Citizens case, in Amsterdam Metropolitan Region more attention was given to the boundary management of selecting projects. Not only project and program level had an important role in this process, this also goes for considerations in the strategic network of national, regional and local governments. As argued in Section 7.3, including air traffic would have dominated the program, leaving

less room for coherent decision-making about other projects. It can be relevant to choose parallel trajectories for the sake of integration. For a balanced project selection, it can be appropriate to organize separate trajectories and temporarily 'ignore' risky interdependencies.

Integrating all issues could have resulted in stagnating the whole metropolitan development process. Program management avoided including projects that were too risky, both for the program itself and for the projects in the program. In this way, the program takes into account its own objectives and the project's objectives. The process of reciprocal disciplining also emphasizes the role of the strategic network in this process. The challenge for program management is to align relations at project level and in its strategic network. Agreeing on static project selection shows a conservative pattern in its urgency to make next steps in metropolitan development. For the sake of coherence in decision-making, all involved governments and temporal organizations acted jointly to continue a conservative pattern of project selection. They agreed to continue this until the next decision-making round.

However, when the deadline for synchronized decision-making came closer it appeared difficult to remain this temporary balance in the governance process. As we have seen in Section 7.3, this upcoming deadline led to an increase of self-referential behavior in the relation between projects and in relation to the program. Program management strongly identified with the objectives of the A6-A9 project in the Schiphol-Amsterdam-Almere corridor (SAA). Program management was appointed as principal for the A6-A9-project by its home department and both the program manager and director were involved in the predecessor of this project. This provided an opportunity for program management to score with this project in its home organization, which resulted in attempts to champion this project. It appeared to be difficult to act at the same time as program management for all projects. This jeopardized its position as independent binding actor in the decision-making process. Program management operated in this phase rather as some kind of super-project management for the A6-A9 project.

For some other projects, the program and its synchronized decision-making process turned into a risk instead of an opportunity. The response of the project management of Urbanization Almere can be seen as an increase of self-referential behavior. Since program management endangered the iron triangle of the project, project management started to focus again on strict boundary management of its own objectives (see Chapter 6). Project management of Urbanization Almere decided, at least temporarily, to disconnect from the synchronized decision-making process of the program. This aligns also with the conclusions of Chapter 5, in which we described that conservative patterns by one of the actors will incite conservative behavior by others.

As argued in Chapter 6, this contains a risk of stagnation because of non-cooperative behavior in the programmatic action system.

7.6.3 Self-organization patterns in the relation program – strategic network

Policy with Citizens

Line management played a double role in the relation between the PwC program and the strategic network. On the one hand it was the home organization to which program management was accountable and on the other hand, line management became subject of change in the programmatic aim to make the Ministry of VROM more citizen oriented. This organizational change objective of the program was not explicitly mentioned in the amendment from which the program departed, but it was elaborated in the program design. During the development of the program, it remained for a long time doubtful to what extent line management supported this programmatic objective. Chapter 3 identified self-referential behavior, based on interviews with employees to defend the current approach. The following quotes demonstrates this self-referential behavior:

- *“Why should I invest in all these new methods and skills: it is just a phase that soon will be over. It is just one of the many ideas from top management within our department.”*
- *“Why involve citizens in this complex project, as they don’t have the proper knowledge to understand what is going on. Moreover, I don’t see any added value in involving citizens: what can they teach me in the field of environment?”*
- *“I’m already doing this. Why should I invest in participation in a program; this only takes time’*
- *“Why should we listen directly to citizens? They are not my principals. My job is to provide information to top and executive managers from the department.”*
- *“Previous initiatives that stimulated citizen engagement and interactive policy making within VROM, such as the Implementation Challenge and the Pegasus Program, had not succeeded in bringing about any structural and behavioral changes in the organization.”*

In Round 2, it became clear that both higher management and middle management at first did not support the aim for organizational change. The program was rather perceived as a project to involve citizens in policy processes of VROM. As we noticed in the relation with project management, program management had hoped that organizational change would organize itself in dissipative way, like a snowball effect. However, it resulted in a process of conservative responses, since all actors in the process had their own objectives and they considered the program as the action system

to take care of citizen participation. In relation to middle management, program management learned it needs to create connectivity with other actors (e.g. via discussing perceptions about objectives and potential shared interests) in order to enable dissipative effects.

During Round 3 and beyond, a dissipative network of comparable national initiatives emerged and broadened the governance process. In relation to the strategic network, program management of PwC continued with a self-referential strategy to its objective of organizational change. In response to these external dynamics, PwC program management exchanged knowledge and experiences with other departmental citizen participation initiatives but remained focused on its original aim. In this way it missed an opportunity to connect with this emerging network and to evolve as adaptive structure.

Amsterdam Metropolitan Region

In the strategic network of Amsterdam Metropolitan Region, various attempts were initiated to restructure governance, reconsider decision-making and deal with integrated metropolitan development. As argued in Chapter 5, this governance process of metropolitan development can be perceived as a self-organizing process. In this perspective, program management was acknowledged as a dissipative initiative in metropolitan development. See also the concluding chapter (Boons et al., 2009:237) of the edited book (Teisman et al., 2009), in which Chapter 5 has been published originally. In Chapter 5, we compared program management in metropolitan governance with initiatives like organizational restructuring, building alliances and powerful project leadership.

In the previous section we focused on the relation between projects and program. Here, we thoroughly investigate the dynamics of the connective capacities of program management. The emergence of the programmatic approach, in which both alliances at national level and at regional level merged into a programmatic approach, has been considered as dissipative process in Chapter 5. Actors in metropolitan governance acknowledged the necessity of crossing organizational boundaries.

Above, we saw that program management also had an active role in boundary management. Initially they kept regional governments out of the program team. They temporized access to the program, because they first attempted to establish a stable and supported programmatic approach in relation to the national departments. In Round 2 this resulted in a multilevel program team together with regional governments. In the coevolutionary phenomenon of reciprocal disciplining, it was described how regional representatives operated in a boundary spanning role.

With the decision-making deadline coming closer, more conservative patterns were observed in project management in Round 3. The same applies to the relation between program management and the strategic network. As argued before, the Department of Transport's line management used program management as an internal coordination mechanism for implementing their projects. This means program management had to focus on its home organization objectives, while operating as linking pin in a multilevel and interdepartmental setting.

Also the Ministry of Finance showed rather conservative behavior towards deciding on integrated metropolitan development. This almost led to returning to business as usual, in which all relevant governments would have to negotiate about the decision-making on a single project. Program management of AMR responded in an adaptive way to these conservative dynamics by creating a dual structure, consisting of a core team and a program team. In the core team they gathered the Departments of Finance, Spatial Planning, Transport and the regional representative of the Amsterdam region at the table. Simultaneously, the broader program team continued with all participants to generate broad support.

As in the Policy with Citizens case, new external dynamics showed while the program developed. This posed an additional challenge for program management's connective capacity. New reports, political discussions and a new cabinet resulted in renewed boundary considerations in the strategic network. This meant a shift from the regional wings towards the Randstad as a whole metropolitan region. Program management of AMR evolved into a new programmatic approach at Randstad level, because of the effectively realized collaboration between relevant departments and regional governments. Parallel to this, it was also a political decision to appoint the Minister of Transport as program minister of Randstad Urgent.

7.6.4 Lessons learned about self-organization

Distinguishing conservative from dissipative patterns of self-organization provided relevant insights into program management's connective capacities in the studied governance processes. This is also emphasized by Boons et al. in reflection to Chapter 5 of this thesis:

"In the case of the metropolitan area, there are many manifestations of dissipative self-organization, especially in terms of program management and alliances. Program management is the attempt to increase the synchronicity in terms of the content among a variety of projects. It gives self-organizing governments the ability to combine their self-interest manifested in projects with some kind of joint interest developed in program

ambitions and aims. It appears to be a promising way to synchronize interests and even to develop joint interests.” (Boons et al., 2009:237)

From the above we can derive that program management has to be aware of conservative and dissipative patterns of self-organization, both in relation to projects and its strategic network. Project management often sees initiatives by program management or interdependencies with other projects as disturbances in relation to their iron triangle. The programmatic objectives are stretching the boundaries as set by project management. This makes it logical that dissipative processes of sharing knowledge and experiences in relation to the program objectives are not spontaneously organized by project managers themselves. The opportunity to initiate new projects also opened possibilities for joint action, especially as a program team member coincidentally came to manage the project. Program management had the opportunity to walk along with the major projects, which enabled them to learn from these projects during their development. For example, about the conservative patterns in the line organization in relation to the programmatic objectives and the limitations of project management to take care of monitoring results and continuous effects. The relation between projects and the program Policy with Citizens is characterized by a rather open project selection. In this relation, program management first perceived itself as missionary of citizen participation and later tried to operate more as a catalyst.

Compared to the case of Policy with Citizens, the static project selection in Amsterdam Metropolitan Region is one of the remarkable differences. Each has its own background and context in which this process of project selection is rooted. The static project selection in AMR can be considered as a conservative pattern which appeared rather functional during the governance process. By this static project selection, program management temporarily reduced a part of the complexity by ignoring relevant interdependencies and the process of reciprocal disciplining between relevant governments. This created more time and freedom for program management to consider project objectives and complex interdependencies between these selected projects.

Bounded conservative patterns can thus facilitate dissipative patterns within sub-processes. One of the challenges to make sense of this static selection, is to align this with both projects and the strategic network. Reciprocal disciplining can help to reinforce this behavior among different actors. Furthermore, it is important to be aware of the temporarily reduced complexity within the boundaries of the selection and to not forget to make sense of the interdependencies beyond this static selection for a later moment.

One of the other effects that have been observed in the relation between projects and program management of AMR is that self-referential behavior by one actor can reinforce self-referential behavior by other actors in the governance process. In processes of joint actions, it seems rather logical that if one of the participants opts out by focusing on its own objectives, this will result in cascading effects of others opting out. This is also what happened in the attempt of synchronized decision-making, in which the focus of program management on a specific project and the role of the Department of Finance resulted in a cascade of conservative responses to hold on to traditional approaches of decision-making.

Considering the relation between program management and the strategic network, we already mentioned the relevance of reciprocal disciplining and the role of the strategic network in the cascade of conservative responses. For the relation between the program and the strategic network we provided in Section 7.6.3 an overview of conservative behavior in relation to programmatic objectives of Policy with Citizens. As argued in Chapter 2, program management became aware that bureaucratic change processes are also about complex governance networks. They have to deal with a diversity of interdependent actors within their own organization. Connecting with these different actors within the organization, e.g. via discussing perceptions on the programmatic objectives, is relevant for gaining support and for creating opportunities for sustainable impact within this network.

In both cases we have seen the emergence of new dissipative structures beyond the boundaries of the initial network in this governance process. Namely, in the Center for Public Participation in the case of PwC and Randstad Urgent in the case of AMR. This appeared a challenging development for the adaptivity of program management. In each case dissipative patterns can be observed between the programs and other initiatives in the emerging network. Besides the self-referential and adaptive behavior of program management and other actors in these processes, we cannot ignore the role of the political system in public management. In both cases we have seen that political decisions, based on their own logics, can result in new boundary definitions of structures in these governance processes. Program management appears to be mainly about managing interdependencies between other actions systems.

Another lesson we can derive from both the relations with project management and the strategic network, is that program management is continuously searching for its identity in between these relations. Program management of AMR considered it an advantage that other actors in the process of the program perceived it as an individual entity: *"It provides you a title to interfere with regional projects or other departments,*

since you are not directly representing the line organization of the ministry” (Interview with Program Manager).

Creating its own identity appeared especially important in the initial stage of the programs, since program management had to position itself in running governance processes. An important instrument that program management used in both cases to settle their proposed role in governance processes was establishing a document with a story about the program, presenting its ‘raison d’être’. Other examples included the training and guidebook for citizen participation in PwC and the development of an integrated vision at program level in AMR. Not all these activities themselves were considered very successful, but carrying them out helped program management to build an identity. Delivering products and services at program level also made their role in the governance process visible.

Based on the introduction of self-organization as a concept in Chapter 1, this search for identity is referred to as conservative self-organization. Action systems often strive for autonomous space and for maintaining, defending or enlarging that space. A feeling of controlling the action systems’ activity is a powerful driving force for people in these processes. This type of behavior has been acknowledged before in literature about specific management types. The concept ‘program rationale’ has been applied to discuss the commitment to a program as action system (Mandell, 1994; see Chapter 3).

Overspecialization and self-referential behavior at project level are referred to as ‘projects as islands’, ‘myopic visioning’ or the ‘iron cage of project management’. In Chapter 1 we argued that this latter type of overspecialization contains the risk of becoming a collection of loosely linked projects without a clear narrative about the program’s own activities. There was not always a clear view on the program and its objectives according to the perceptions of other actors in the governance processes, such as middle management in relation to Policy with Citizens. To be able to connect and to make sense of collective action, the program needs to have an identity of its own to connect with. This can include a story of the program history and objectives, and a program manager and team who act as representatives of the program (and not of their home department or a major project in the program).

With these lessons learned about self-organization in the dynamics of connective capacities of program management, we finish this encounter of both case studies in this chapter. Above we have answered the three subquestions of this thesis. In Chapter 8 we will bring together the lessons learned about coping with complexity via connective capacities program management.

REFERENCES

- Boons, F., Buuren, M., Gerrits, L., & Teisman, G. (2009). Towards an Approach of Evolutionary Public Management. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems* (pp. 231-249). New York: Routledge.
- Brunetto, Y., & Farr-Wharton, R. (2003). The impact of government practice on the ability of project managers to manage. *International Journal of Project Management*, 21(2), 125-133.
- Busscher, T. (2014). *Towards a programme-oriented planning approach: Linking strategies and projects for adaptive infrastructure planning*. Groningen: University of Groningen.
- Cilliers, P. (1998). *Complexity and postmodernism. understanding complex systems*. London: Routledge.
- Cooper, R., Edgett, S., & Kleinschmidt, E. (1997). Portfolio management in new product development: Lessons from the leaders - I. *Research Technology Management*, 40(5), 16-28.
- Crawford, L., Costello, K., Pollack, J., & Bentley, L. (2003). Managing soft change projects in the public sector. *International Journal of Project Management*, 21(6), 443-448.
- Fayol, H. (1963). *General and industrial management*. (C. Storrs, Trans.) London: Sir Isaac Pitman and Sons.
- Gerrits, L. (2012). *Punching Clouds, An introduction to the complexity of public decision-making*. Litchfield Park: Emergent Publications.
- Gulick, L., & Urwick, L. (1937). *Papers on the science of administration*. New York: Institute of Public Administration.
- Hall, T., & O'Toole Jr, L. (2000). Structures for policy implementation: An analysis of national legislation. *Administration & Society*, 31(6), 667-686.
- Kallis, G., Kiparsky, M., & Norgaard, R. (2009). Collaborative governance and adaptive management. *Environmental Science & Policy*, 631-643.
- Mandell, M. (1994). Managing interdependencies through program structures: A revised paradigm. *The American Review of Public Administration*, 24(1), 99-121.
- Martinsuo, M., & Lehtonen, P. (2007). Role of single-project management in achieving portfolio management efficiency. *International Journal of Project Management*, 25, 56-65.
- Mintzberg, H. (1994). *The rise and fall of strategic planning*. Beverly Hills: Sage.
- Nalebuff, B., & Brandenburger, A. (1996). *Co-opetition*. New York: Double Day.
- Nooteboom, S. (2006). *Adaptive Networks; the governance for sustainable development*. Delft: Eburon.
- O'Toole Jr., L., Hanf, K., & Hupe, P. (1997). Managing implementation processes in networks. In W. Kickert, E.-H. Klijn, & J. Koppenjan, *Managing Complex Networks: Strategies for* (pp. 137-151). London: Sage.

- Platje, A., Seidel, H., & Wadman, S. (1994). Project and portfolio planning cycle. *International Journal of Project Management*, 12, 100-106.
- Pressman, J., & Wildavsky, A. (1973). *Implementation*. Berkeley: University of California Press.
- Rijke, J., Herk, v. S., Zevenbergen, C., Ashley, R., Hertogh, M., & Heuvelhof, E. t. (2014). Adaptive programme management through a balanced performance/strategy oriented focus. *International Journal of Project Management*, 32(7), 1197-1209.
- Taylor, F. (1947). *Scientific management*. New York: Harper & Row.
- Teisman, G. (2001). *Ruimte mobiliseren voor coöpetief besturen: over management in Netwerksamenlevingen (Inaugurele rede, Erasmus Universiteit Rotterdam*. Rotterdam: Erasmus Universiteit Rotterdam.
- Teisman, G. R. (2005). *Publiek management op de grens van chaos en orde: Over leidinggeven en organiseren in complexiteit*. Den Haag: Sdu Uitgevers bv.
- Teisman, G. R. (2008). Complexity and management of improvement programmes: an evolutionary approach. *Public Management Review*, 341-359.
- Teisman, G., Van Buuren, M., & Gerrits, L. (2009). *Managing Complex Governance Systems: Dynamics, Self-Organization and Coevolution in Public Investments*. New York: Routledge.
- Teisman, G., & Edelenbos, J. (2011). Towards a perspective of system synchronization in water governance: A synthesis of empirical lessons and complexity theories. *International Review of Administrative Sciences: an international journal of comparative public administration*, 77(1), 101-118.
- Turner, J., & Müller, R. (2003). On the nature of the project as a temporary organization. *International Journal of Project Management*, 21, 1-7.

CHAPTER 8

CONCLUSION AND DISCUSSION

8.1 INTRODUCING THE CONCLUSIONS

This thesis aims to enhance the understanding of connective capacities of program management in complex governance processes. The emergence of programmatic approaches in these processes makes it important to gain insight into the role of program management (Boons et al., 2009; Rijke, et al., 2014). We have applied the concept of connective capacity to interpret the role of program management in relation to fragmentation and integration in complex governance processes. A longitudinal approach has been used to consider how these connective capacities of program management evolve in complex governance processes.

This concluding chapter has three aims:

1. Answer the main research question (addressed in Section 8.2).
2. Discuss the limitations of this thesis (addressed in Section 8.3)
3. Provide recommendations based on conducted study (addressed in Section 8.3)

The subsections of 8.3 bring the limitations and recommendations together for respectively theory (8.3.1), methodology (8.3.2) and practice (8.3.3).

8.2 ANSWERING THE MAIN QUESTION

We started this thesis with the rise of programmatic approaches in public management and just ended our answer to subquestion III with identity searching behavior of program management in complex governance processes. It is now time to bring together what we have learned in between, by answering the main question of this study:

What are the connective capacities of program management to deal with complexity in adaptive governance processes regarding the physical environment?

This concluding chapter brings together the main results of two cases of program management. Both cases are examples of adaptive governance processes regarding the physical environment in the Netherlands. Although the context of these two cases is rather different, in each case program management is faced with a challenge of connective capacity.

8.2.1 Management of interdependencies

As we have concluded in Section 7.2, program management emerged in each case in response to fragmentation and a desire for integration. Fragmentation in these

governance processes is the result of how we have organized these processes with highly specialized projects. The desire for integration is derived from perceived interdependencies between projects and from fragmentation in strategic networks. We desire integration in these governance processes, but we are not willing to give up specialization either. Program management must deal with both and is confronted with the challenge to connect these conflicting objectives within governance processes.

This brings us to the first conclusion:

Program management is about the management of interdependencies

In Chapter 1 it was already brought forward that all discussed programmatic approaches have at least one issue in common. In these times of programmification, they are all about dealing with interdependencies between policy domains, projects, plans and initiatives. Programmatic approaches emerge in complex governance processes in response to the negative effects of fragmentation between specialized projects, but also because of overarching aims and a desire for integrated development. Program management's focus on interconnectedness and coherence differentiates from e.g. portfolio management. Program management appears as the result of preceding interactions and future expectations. In these interactions, process management can have an important role, e.g. in building alliances in Amsterdam Metropolitan Region. Program management differs from process management by its emphasis on the interdependencies between projects.

In program management we can distinguish different types in dealing with interdependencies:

- Light coordination mechanism for multiple projects
- Shared service center for projects
- Integrated development strategy

In program management as a light coordination mechanism, connections are rather loose, with the most possibilities for specialization of each action system. Program management as a shared service center can require high specialization of the programmatic action system on specific services and can differentiate in the level of integration. In the third type, connections are rather dense and program management emphasizes the integration of specific elements. This typology helps to recognize programs in practice, but we have to be aware that in reality we have to deal with hybrid sorts. Moreover, since programmatic approaches evolve, these types can also change during programmatic development.

We have seen that program management evolves depending on its connections. We have highlighted its connections with projects and with its strategic network. As argued in Chapter 1 fragmentation and a desire for integration in these complex governance processes give rise to a need for connective capacity of action systems operating in these processes. As we have discussed in Chapter 1, the idea that effective steering in governance processes comes from joint action is not only an important driver for program management as a new attempt in practice of public management. The idea is also an important driver in the field of public administration to apply complexity concepts and theories (see also Chapter 1; Teisman & Gerrits, 2014). Complexity theories analyze interactions in governance processes in terms of interdependencies between systems, subsystems and processes, including how these evolve over time. Complexity comes down to that the real world consists of multiple elements, of different types that are related, but sometimes loosely, and whose mutual relationships are changeable over time (see also Chapter 1; Gerrits, 2012: 16).

In Chapter 7 we have applied the complexity concepts of coevolution and self-organization to evolving connective capacities of program management. Both the concept of coevolution and the distinguished patterns of self-organization provide relevant insight into the management of interdependencies. Where coevolution emphasizes the reciprocal character in the relations between action systems, the concept of self-organization helps us to understand the boundary issues of each action system and how program management can deal with this to facilitate a combination of interests and joint action. Moreover, the concept of self-organization contributes to understanding the emergence and evolving of adaptive structures. Since it acknowledges hierarchy, it can also be applied to deal with interdependencies at a more abstract level. In terms of this research, program management shifts the debate about the interdependencies between projects to a more abstract level. Self-organization from a complexity point of view addresses both stable and dynamic patterns, whereas in network theory it has mainly been applied to stable patterns (see Chapter 1).

In Chapter 5 we have discussed several approaches of dealing with complexity in complex governance other than program management, such as organizational restructuring, building alliances and powerful project leadership. What makes program management unique in dealing with interdependencies is the way it operates between levels of scale. Programs not only take horizontal interdependencies between projects or interdepartmental organizations into account, but also vertical interdependencies between projects, program and strategic networks. Via aligning and making sense of these activities, program management attempts to contribute to adapting systems and processes in governing the physical environment.

We have analyzed the connective capacities of program management in two cases, which provide several lessons learned about dealing with complexity.

Interdependencies between projects

Interdependencies between projects are a breeding ground for program management. Fragmentation between projects or the desire for more joint action between several projects, are important drivers for the emergence of a programmatic approach. These programmatic objectives are stretching the individual boundaries of projects. As we have seen in the case of Policy with Citizens, it is logical that dissipative processes of sharing knowledge and experiences in relation to the program's objectives are not spontaneously organized by project managers themselves.

Another strategy to deal with interdependencies is to develop an integrated vision about the interdependencies between projects. An example of this was applied by program management in Amsterdam Metropolitan Region at the request of several stakeholders in the governance process. This resulted in a comprehensive study of interdependencies between projects. Such studies of course help to understand these interdependencies but are also a snap-shot at a specific moment in time and contain the risk that interdependencies are only acknowledged on paper.

The conclusions of Chapter 3 addressed another approach based on knowledge management in complex project environments (see Bresnen et al., 2003; Engwall, 2003; Huang & Newell, 2003; Sydow et al., 2004; Newell et al., 2008). Knowledge management in complex project environments requires constructing social patterns by joint efforts to share experiences, meaning and understanding (Bresnen et al. 2003: 129). Thus, to bring such social patterns about, program managers should deliberately stimulate and organize meetings among project managers.

For a lively program with an emergent character, it is important that program managers put incentives for project managers in the program's framework. Consequently, project managers will see it as their task and responsibility to interconnect their project with other projects. They must perceive this meeting with other project managers as a rich environment in which they can obtain information and knowledge and exchange experiences with each other. We believe that this insight about learning in a project environment, supported by literature, provides added value on how program management can create synergy between diverse projects.

Interdependencies between projects and program

A core issue in the connective capacity of program management is its selection of projects and related boundary issues. In the studied cases we have seen three specific situations:

- Rather open and dynamic project selection in which as many as possible relevant projects were stimulated to participate in the programmatic action system (PwC);
- Program management had the opportunity to initiate new major projects (PwC);
- Static and closed project selection in which actors agreed to focus on the interdependencies between a fixed set of projects (AMR).

These three project selections represent different approaches of connective capacity and dealing with complexity. For the open and dynamic project selection, it can be said that this embraces complexity. However, what we noticed in practice is that the projects were supported by program management, but there was no reciprocal connectivity between both action systems. In this case program management was not aware of the boundary management by project management.

In the situation of the static and closed project selection, more attention was given to the boundary management of selected projects. Some interdependencies with projects that would be too dominant or risky were ignored and these remained organized via parallel trajectories. This approach is a way to temporarily reduce complexity, but also created the opportunity to focus on the interdependencies between the projects within the selection.

The opportunity to initiate projects originating from the program instead of dealing with already running projects, resulted in PwC in new dynamics for the connective capacity of program management. Partially due to the coincidental role of a program team member as project manager, program management was able to walk along with these major projects and learned about the limitations of project management in adaptive governance processes.

In AMR, we also observed a situation in which program management focused on one of the major projects in the project selection. This resulted in rather opposite effects. Program management shifted interdependencies to the background in favor of a highly important project for their line organization. This resulted in other projects becoming more self-referential to their individual objectives. This emphasizes the relevance of context in the management of interdependencies between projects and program.

Interdependencies with the strategic network

Program management depends highly on its strategic network, and in particular its home line organization with which there is often also a hierarchic relationship. On the other hand, the studied programmatic approaches are also important to realize strategic objectives of line management beyond single project results. In both cases, program management operates in a demanding environment which requires strategic networks to adapt. We observed a need for more joint action, respectively regarding

citizen orientation in PwC and integrated metropolitan development in Amsterdam Metropolitan Region.

One of the lessons program management learned in PwC is to connect not only to the organization's higher management, but also to middle management since their support is needed to realize program objectives.

In AMR, we have seen the relevance of reciprocal disciplining between regional and national government regarding issues like project selection. When new actors joined the program, who were opposed to the multilevel character of program management, program management was able to adapt. In AMR they created a dual structure, to deal separately with core issues for decision-making and interdependencies which had a lower priority.

In each case it appeared relevant for program management to look beyond its home line organization and take interdependencies in the strategic network into account, both in a multi-actor and multilevel setting. These interdependencies have impact on how program management evolves. Program management continuously needs to consider to what extent they need connect with these other initiatives or if they should focus on their original objectives. This is an important factor in how programmatic approaches evolve as adaptive structures.

Sense-making through different levels of scale

Actors like project management, line management and program management, operate at different levels of scale, with other levels of projection and abstraction. They have different frames of the adaptive processes they operate in and diverse perceptions about e.g. the role of program management in these processes. From the above we can derive that besides the management of interdependencies at different levels of scale, program management also needs to make sense between different levels of scale. Program management appeared the most effective in organizing joint action when they were able to understand the perceptions of all relevant actors on the programmatic objectives. In AMR this could for example be observed in the process of reciprocal disciplining with regional governments. Reciprocal disciplining was applied to the project selection and distinguishing the program team and the core team. In the Policy with Citizens case, a successful sense-making process through different levels of scale was realized in relation to the major projects. This did not only provide insight into project management's role and boundary management, but also resulted in a dialogue with both higher and middle management about their perceptions of the program.

8.2.2 Connective capacity as a balancing act

In this thesis we have discussed the conflicting tension between the desire for joint action and need for specialization, resulting in integration. For the connective capacities

of program management, this tension results in limitations. This brings us to the second conclusion:

Connective capacities of program management are a balancing act

Connective capacity has been defined in Chapter 1 as the capabilities of program management (institutional, approach and actor) to counter fragmentation and create synergy. In the light of adapting complex governance processes in the physical environment, this includes the management of interdependencies between relevant projects, engage line management, link with relevant stakeholders, make sense of its own role and the relevant systems, and balance in the intensity of the above relations. After the case studies in Chapters 2-5 we have elaborated on this balancing act. Program management's desire for integrated development lead to the assumption that it makes sense to strive for as much connectivity as possible (see also Lehtonen & Martinsuo, 2008). It is acknowledged that with a surplus of connections, program management's energy becomes dispersed over many relations and will not become meaningful for its own practice (see also Richardson, 2007). This is in line with our conclusions about program management 's continuous search for identity.

In this concluding chapter, we have also argued that program management has a coopetitive relation with both project management and its strategic network. Each of these actors has its own specialization and objective in governance processes, but they need to establish joint action to integrate and synchronize governance of complex systems. As for we instance explained for project management and program management in Chapter 4: the two are complementary in their strengths and the delicate balance between programmatic integration and powerful projects provides the necessary ingredients for successful regional development. The project approach is helpful in conducting decisive action on well-defined single-value issues, while the program approach is necessary to realize synergy and coherence between projects.

As concluded in Section 7.5, we have to be aware of the identified coevolutionary phenomena in balancing between cooperation and competition. They help us to understand the (reciprocal) impact of evolving relations between action systems in complex governance processes.

In addition to these phenomena, the concept of self-organization has been applied to the connective capacities of program management. In both the relation with projects and its strategic network, we observed that program management alternates between conservative and dissipative patterns. Conservative patterns emphasize the need for

consolidation as addressed in Chapter 2. In these governance processes, change seems to be a constant in the dynamics.

The schematic overviews of evolving connective capacities show that, in each round, changes take place at several levels (project, program, strategic network). Conservative behavior by actors can sometimes hinder joint action, for instance championing one project can result in losing connectivity with other projects. Conservative patterns can also be valuable in consolidating the effects of innovative projects, like the awareness for continued effects by program management in Policy with Citizens when working with major projects. Considering that changes taking places at different levels of scale, there is also a continuous need to connect with a variety of stakeholders. Dissipative patterns show the urge for development and adaptation. However, as argued in Chapter 1 and 6, it is impossible for program management to connect with all relevant stakeholders at the same time. We have seen that it can be rather difficult to connect with a multitude of projects.

In practice, we see that program management in its balancing act does not choose between its connection with projects and its connection with its strategic network. In a coepetitive play with these actors, they try to maintain both relations in evolving governance processes. Within each of these relations, they balance between conservative and dissipative patterns. For example, new dissipative relations with respect to the strategic network are needed to consolidate effects of innovative projects, after these projects. Whereas in other situations, it is necessary to make a static selection and invest in the interdependencies within this selection to realize integrated development via joint action.

8.2.3 Temporality is permanent

Time plays an important role in the balancing act and in dealing with interdependencies. Considering that connective capacities evolve over time because of continuous changes in programmatic strategies, organizational logics and their interactions, we arrive at our third conclusion.

In the connective capacities of program management temporality is permanent

Above we concluded that balancing between conservative and dissipative patterns is a core characteristic of connective capacities of program management. Temporality is a specific way of weighing interdependencies. In itself, program management is a temporary arrangement in complex governance processes, just like project management. Project management is on the one hand a solution to solve a unique issue.

On the other hand, the specific focus of projects and their temporary organization as a demarcated unit contribute to fragmentation in governance processes.

Project management and program management do have a different time scale. Program management also has a temporary character, but generally has a longer time horizon than projects. As appeared in the PwC case, program management has an important role in integrating and monitoring project results within the involved line organizations. As we have seen in this study, program management as a temporary organization has a sell-by-date. Program management adapts itself in relation to evolving governance processes, but at a certain moment these programs merge into new structures or they disappear.

One of the strategies program management applied to generate integrated action was working with a joint deadline of synchronized decision-making in Amsterdam Metropolitan Area. This strategy contributed to joint action in this governance process of metropolitan development. It helped projects to stay on track and to take the interdependencies with other projects into account in their decision-making. However, at the same time program management was also used as an internal coordination mechanism by its home department for some of the projects in this synchronized decision-making. This jeopardized program management's position as an independent binding actor in the governance process. One of the projects temporarily disconnected from the program and returned to its own sector oriented decision-making procedure. Later on, this project returned to the programmatic action system and became included in synchronized decision-making. Sometimes it can be necessary for program management to temporarily let projects go and to reconnect with them at a later moment. The same applies to the static project selection which has already been discussed above. These boundary demarcations are also temporary and require monitoring of parallel trajectories.

Synchronization is also applied in relation to the sense-making processes discussed in Section 8.2.1. To make its balancing act meaningful, program management should regularly synchronize developments between the various levels of scale involved.

Besides synchronization, program management has applied temporizing in balancing connective capacities. Especially program management in Amsterdam Metropolitan Region could apply this as a strategy. Despite the pressure by regional governments, they temporized access of these governments to the program since they focused first on establishing a stable and supported programmatic approach for the national departments. Later, when the program became confronted with new interdependencies

and potential conflicts, program management decided to split into a broad program team and a core team. Each of these teams had its own frequency of meetings and tempo. With the core team consisting of the key stakeholders, the program was able to accelerate.

From the above we can conclude that synchronization and temporizing are two main strategies program management can apply to deal with complexity via its connective capacities.

8.3 DISCUSSION AND RECOMMENDATIONS

In this thesis we have conducted an in-depth analysis of two case studies. This focus helped us to unravel the connective capacity of program management in complex governance processes. The combination of two in-depth studies provided synergetic value for this thesis. As we have seen in this concluding chapter, the combination of both studies enriched our understanding of the connective capacity of program management. However, as argued in Buijs et al. (2009), modesty is one of the basic guidelines in complexity research. In this section we will discuss the added value and limitations of this thesis regarding theory (Section 8.3.1), methodology (Section 8.3.2), and practical considerations (Section 8.3.3). For each of these sections we provide recommendations.

8.3.1 Theoretical considerations and recommendations

The theoretical added value of this thesis can be considered threefold. We have aimed to contribute to the theoretic developments about program management (Section 8.3.1.1), to deepen our understanding of the evolution of connective capacity and to enhance the application of complex systems theory to governance processes. We have combined the latter two in Section 8.3.1.2.

8.3.1.1 Program management in governance processes

We have concluded in Section 7.2.1 that the trend of programmification has also arrived in public management, which resulted in program management as a new kid on the block of public management approaches in complex governance processes. This aligns with Korsten, De Jong and Breed (2010) and Busscher (2014:239). As argued in this thesis, program management is added to the list of project management, process management and line management.

Program management as new kid on the block

This thesis described how program management emerged as a management approach in complex governance processes in the Dutch physical environment. In these processes fragmentation between projects is a major issue. It appeared that a lot of projects are initiated and managed by a specific sector, within a broad range of relevant sectors in the physical environment. Project management demarcates the problem-solution space for these challenges within an 'iron triangle', meaning a defined unique task, with limited scope, time span and clear budget lines. All these projects have to be realized in the same implementation space. This need for mutual adjustment between projects is one of the reasons that the trend of projectification is followed by a move towards programmification. This means that programs are being created to ensure that individual projects are properly attuned, connected, integrated and coordinated.

Other sources (Koteen, 1997; Crawford et al., 2003) argue that program management stems from its historical conception in the strategic planning processes by line management. In this point of view, Crawford et al. (2003) position the development of program management in public management also in light of New Public Management reforms. In line with new business management models, program management can be seen as a development towards more lean and decentralized structures. NPM resulted in a shift of responsibilities from line management towards both project and program management (Koteen, 1997; Crawford et al., 2003; Van der Walle, Sterck, Van Dooren, & Bouckaert, 2004).

According to this thesis, the modern application of program management has emerged from both of the above lines of reasoning. A twofold relation with project management and strategic planning emphasizes the process of program management's vertical integration in governance processes.

However, this is just the tip of the iceberg in the history of program management becoming a profession. In past decades, program management has become a profession with a high diversity of applications. For those interested in a more historical background of program management as a concept, we would like to refer to Milosevic, Martinelli and Waddell (2007) who trace the first applications of program management back to the aerospace and defense industry.

Given its origin, program management can potentially contribute to linking diverse management approaches. On the contrary, we have also learned that project managers can perceive program management as superfluous, as an extra layer, or busybody, which interferes in their iron triangle. We have also seen that line managers can make program management redundant by defining it as a success. For them the programmatic objectives are sometimes an obligation, rather than a target they would like to meet. One of program management's main challenges is to make sense of their

program in relation to projects, line organizations and other actors in their strategic network. As a new kid on the block, program management needs to develop an identity and story of its own action system, as we concluded in Section 7.6.4. As cited in Chapter 6, program managers and team members manage boundaries by shaping demarcations, representing the program, creating legitimacy, exploring and processing information, enhancing continuity, and protecting the program from external disturbances (Lehtonen & Martinsuo, 2008). This means it also has to make sense of its environment. In the literature about sense-making three streams of research are acknowledged (Maitlis & Christianson, 2014: 85):

1. Enactment during crises and unexpected events.
2. Temporary organizations.
3. Actions generated beyond the organizational boundary (macro level studies).

This thesis contributes in particular to the second and third streams of research.

In both cases, program management is considered as a temporary organization.

As pointed out by Maitlis and Christianson (2014), temporary organizations are formed on an ad hoc basis and bring together individuals with specialized skills to address a complex challenge or task.

We have seen that the PwC program evolved beyond the boundaries of its home organization. The actions generated by program management in AMR were from the start focused on crossing organizational boundaries (see Chapter 5). Program management contributes to realizing multilevel governance in metropolitan development, in which temporization appeared to be key to enhance connectivity. Continuing activities, like regional conferences, also contributed to a more shared understanding of the interdependencies between all kinds of developments in the region. It is important to develop a common view through a process of mutual sense-making of the program in relation to different views and positions in the governance process.

A relevant next step would be more in-depth research into this sense-making of program management in complex governance processes. An important pitfall for program management would be to become too much of a designer of an integrated vision, without connecting with relevant stakeholders in this process. Considering this discussion and the cases we have studied, sense-making for program management needs to address both the perspective of temporary organization and the effects beyond the organizational boundaries.

Program management as adaptive governance arrangement

In the governance processes we studied, horizontal integration belongs to the core task by program management. This has in particular been addressed in the multilevel and

multi-actor setting of the case Amsterdam Metropolitan Region, but also applies to Policy with Citizens. Program management aimed for citizens to participate in policy-making processes but were alone in this within the organization. Moreover, the program was highly dependent upon the (voluntary) collaboration of other ministerial agencies (Chapter 2). One of the proceeds of Chapter 2 was that PwC is rather about program management in a complex governance network, than about a bureaucratic change process. In this way, this thesis aligns with network studies on programmatic approaches in complex governance processes. Network studies stress the evolving relation between relatively autonomous program structures and hierarchical line organizations (O'Toole Jr. et al., 1997; Hall & O'Toole Jr., 2000). The management of programs primarily focuses on integrating diverse goals from involved actors in collective processes. Having compared different management approaches, this definition shows a strong resemblance with process management.

In both case studies we have observed vertical and horizontal integration processes. Program management combines vertical integration in strategic planning processes and horizontal integration as applied by process management. As argued in Chapter 1 and 3, program management as a governance arrangement for vertical and horizontal integration, can be seen as part of a so-called Whole-of-Government or Joined-up-Government approach (Pollitt 2003; 6, 2004; Christensen & Laegreid, 2006, 2007; Klievink & Janssen, 2009).

The programmatic approach based on the National Spatial Strategy can be considered as such a more holistic coordination strategy. In Chapter 5 we discussed two of these programmatic approaches: the Rotterdam – The Hague Metropolitan Area (South-wing of the Randstad) and Amsterdam Metropolitan Area (North-Wing of the Randstad). In this chapter we observe the different pathways along which these programs evolved. In the South wing of the Randstad, the program was more of a platform where municipalities and provinces could negotiate with the national governmental departments about projects. Whereas in AMR (the North wing), involved actors engaged in a process of reciprocal disciplining to stick to static project selection.

A similarity in both cases is organizations' tendency to focus mainly on their own projects, which results in diversifying substantive issues and sector procedures between programmatic approaches. This creates a need for a more contextual and dynamic view on the evolution of programmatic approaches as coordination mechanisms. As argued by Boons et al. (2009: 232, see also Chapter 1): *“coordination is not a designed and stable mechanism but much more of an evolving process because of the dynamic interactions between self-organizing participants in governance processes, management interventions and unmanageable internal and external dynamics”*. This thesis has contributed to understanding program management as an adaptive

arrangement evolving through dynamics of vertical and horizontal integration and fragmentation in complex governance processes.

For future research we recommend to deepen the twofold coevolutionary pattern in the interaction of program management with project management and strategic networks (including line management and process management approaches). Previous studies in public administration have analyzed coevolutionary patterns between e.g. project and process management (Edelenbos, Klijn & Kort, 2009). It would also be relevant to study how program management operates in relation to tensions like trust and control in processes of collective action. This thesis for example observed that program management was introduced in governance processes of metropolitan development after a process management approach had increased trust between actors. In both Amsterdam Metropolitan Region and The Hague-Rotterdam Region, process management delivered an integrated approach to deal with infrastructure challenges. Respectively 'Integral Development between Delft & Schiedam' (IODS) for the A4 Midden Delfland (South wing) and The Way Out for the A6-A9 corridor (North wing), resulted in growing trust among the diverse stakeholders (see Section 5.2.2).

8.3.1.2 Capacity for complexity

The complexity point of view of this thesis builds on the work conducted for the 'blue book' *Managing Complex Governance Systems* (Teisman et al., 2009), which was a joint effort by the GOCS research group and several partners. Important assumptions, like the definition of coordination by Boons et al. (2009), originate from this book. An important point of departure is that change can be seen as the only constant in governance processes. The relevance to apply a complexity approach to the dynamics of program management is also argued by Castelnovo and Sorrentino (2017). According to them, public programs are in a state of constant flux as a result of their inherent complexity. Considering that program adaptation significantly contributes to program management's performance, program success depends on the ability to cope with contextual changes (Rijke et al., 2014). Rigid theories are not suitable to capture these dynamics in relation to program management (Castelnovo & Sorrentino, 2017) and there is a need to study how program management acknowledges complexity (Rijke et al., 2014; Castelnovo & Sorrentino, 2017). As concluded in this thesis, a complexity theory perspective embraces the dynamical and evolutionary character of program management (see also Teisman, 2008; Boons et al., 2009; Castelnovo & Sorrentino, 2017). This thesis used two main concepts of complexity theory, coevolution and self-

organization, and applied these to evolving connective capacities of program management.

Symbiotic and interferential coevolution between project, program and line management

By applying a coevolutionary perspective, we have gained more understanding of the interactions between projects, program and strategic networks. From this study, it can be derived that these management approaches highly affect each other in their development. The patterns of interferential and symbiotic coevolution are valuable to interpret the dynamics in these processes. In this thesis we have observed appearances of the two types of coevolution in both tracks, between projects – program and program – strategic network.

Complexity theory brings a dynamic and evolutionary dimension to studying networks in public administration (Teisman et al., 2009; Morçöl & Wachhaus, 2009; Gerrits, 2012; Morçöl, 2012). As argued regarding network studies in Chapter 1, stability over time is a major characteristic of a network and relations are described in static terms (Morçöl & Wachhaus, 2009; Morçöl, 2012). The focus on interdependencies between projects in relation to the program level can also be considered as added value to the network perspective (see Chapter 6). Network studies about programmatic approaches emphasize the relation program – strategic network. This has contributed to relevant knowledge about programs as network organizations, i.e. socially constructed constellations of several interdependent actors which aim to fine-tune diverse goals in collective processes.

The diversity in appearances of interferential and symbiotic coevolution in the two tracks of program management's connective capacity also highlights an important limitation of applying coevolution to these dynamics. Because of the in-depth focus on the interaction patterns, we have observed various appearances of coevolution within the entwined tangles of interactions. This makes it difficult to derive pure patterns of coevolution. If this would be the objective of future research, two recommendations can be made. One approach could be to focus on broader demarcation of systems and longer time scales like the study by Gerrits (2008) about decision-making on estuaries. This enables to consider both selection patterns and how the consequences of selection and action evolve over a period of time. Another approach could be to conduct a survey study with a statistical valid number of project managers, program managers and line managers to ask about more generic patterns of interaction, selection and effects between these management approaches.

Since connective capacity is a core theme in this thesis, we have focused on the selection pattern of boundary judgements and not specifically on diversity of

information. Gerrits (2008:54) indicates ‘connections with actors’ and ‘including certain actors’ as selection mechanisms in the selection pattern of boundary judgements. In applying interactions between socially constructed systems in this thesis, it is relevant to add demarcations and ignorance of interactions to the selection mechanism of boundary judgements. The importance of demarcations in the selection pattern of boundary judgements is also acknowledged by Gerrits (2008). Considering that actions systems are social constructions, this means they are also aware of their environment and reflexive by nature (Gerrits, 2012). This aligns with our conclusion that ignoring interdependencies or broken connections can affect coevolutionary patterns.

Conservative and dissipative patterns to enhance our understanding of connective capacity

As argued in Chapter 1, with the complexity perspective in this thesis we aimed to enhance understanding of how the connective capacity and adaptive character of programs as action system evolve in complex governance processes. As argued above, we have applied a coevolutionary perspective to better appreciate how different management approaches impact each other in complex governance processes. The applied self-organization perspective has provided in-depth insight into patterns behind realized connectivity and boundary judgements in program management’s connective capacity. Applying self-organization as a concept to governance processes is not new. As already addressed in Chapter 1, self-organizing networks are a recurrent theme in literature (e.g. Rhodes, 1997; Koppenjan & Klijn, 2004; Agranoff, 2007; Morçöl & Wachhaus, 2009). The concept of self-organization has been applied to many processes of network driven, decentralized and flexible organizational arrangements (Stacey, 1995, 2003; Volberda, 1998; Bootsma & Lechner, 2002; Smith & Graetz, 2006), strategic alliances between different organizations (Koza & Lewin, 1999; Pyka & Windrum, 2003), or initiatives that originate in civil society from autonomous community-based networks of citizens (Boonstra & Boelens, 2011; Nederhand et al., 2016). This has increased our understanding of dissipative patterns of self-organization.

To clarify this thesis’ point of view on self-organization, we will make a brief comparison with the study by Nederhand, Bekkers and Voorberg (2016) about self-organization and the role of government.

As pointed out by Nederhand et al. (2016) empirical understanding of self-organization in the public sector is scarce, especially regarding the role of government. Self-organization is often used to legitimize a retreat by government (Nederhand et al.,

2016). One reason is that the absence of governmental control is seen as an inherent characteristic of self-organization. For defining self-organization and its application, we argue that the objective of the study by Nederhand et al. (2016) is highly important. We consider their point of view as logical for their study about the retreat of government and upcoming community organizations. In this thesis, we focused on the self-organizing character of governance processes and the conservative and dissipative behavior of actors within these processes. This means we include government in our view on self-organizing and autopoietic processes (see also Kickert, 1993; Kiel, 1994; Goldstein, 1999; Morçöl, 2012). To return to the study by Nederhand et al., we agree that to understand self-organization processes in the public sector, we have to address the way in which governments continue to influence these processes. The argument made by Nederhand et al. that the emerging self-organization by community organizations is guided by the shadow of hierarchy (fear-based or benevolent), could in our point of view also be considered as an interplay between dissipative self-organization by communities and conservative self-organization by (hierarchical) government. Below we provide more background to the relation between self-organization and hierarchy.

In reflecting on Elinor Ostrom's (1990) well-known study about self-organization, Morçöl (2014) points out one of complexity theorists' most significant contributions to our understanding of self-organization. They demonstrated that self-organization is the norm in nature, not an exception (Kauffman, 1993, 1995; Nicolis & Prigogine, 1989; Prigogine, 1996; Prigogine & Stengers, 1984; Strogatz, 2003). Ostrom's major contribution (2005) is identifying the misconception that self-organization is necessarily an egalitarian process (Morçöl, 2014). She points out that many studies demonstrated that local self-organization may be dominated by local elites (Ostrom, 2005:220). This aligns with the point of departure that all structures of order and organization in complex open systems are the result of shaping boundaries by self-referential actors and of their internal diversity (Heylighen, 1989; Cilliers, 2001). This means all complex systems can have a certain degree of hierarchy. Self-organizing systems are, essentially, open systems that interact with their environment, although they also show the ability to create boundaries and a conservative capacity to consolidate structures (Heylighen, 1989; Cilliers, 2001). In complex social systems it is argued that hierarchical structures are natural phenomena and not a legacy of management theories of the previous century (Bootsma & Lechner, 2002). This seems to be regularly ignored, especially in studies on network structures that stress the dissipative character of self-organization (Van Olffen & Romme, 1995; Romme, 1996; Cilliers, 1998). Van Olffen and Romme (1995) consider conservative self-organization as a main characteristic of hierarchical organizations. They go on to argue that conservative self-organization focuses on exploiting existing information and

replicating existing practices. These characteristics fit well into bureaucratic structures. Complex systems consist of both conservative hierarchical structures with multilevel aspects and dissipative self-organizing emerging networks (Heylighen, 1989; Van Olffen & Romme, 1995). Considering this, we do agree with Goldstein (1999) that government is just one of many actors in a self-organizing network and argue that a framework based on conservative and dissipative patterns is relevant to consider interaction patterns in complex governance processes (Chapter 5, 6; Morçöl, 2012: 2014).

By positioning program management between collaborative governance networks and hierarchies in governance processes, this thesis corresponds with several other studies about managing or developing programs (Teisman, 2008; Kallis et al., 2009; Rijke et al, 2014; Castelnovo & Sorrentino, 2017).

Kallis et al. 2009 show that in collaborative governance networks about programs, effective collaboration requires relying on self-organization rather than on an externally imposed structure (Innes & Booher, 1999; Bryson, Crosby, & Middleton Stone, 2006). Kallis et al. (2009) acknowledge that self-organization can result in closed doors, with the risk of estranging outsiders and possible new partners. Kallis et al. refer to this as the 'dark side of collaborative governance processes'. In this thesis, we consider these types of processes as conservative self-organization without giving it a negative connotation. This type of behavior by actors in governance processes may not always be desired by the other actors, as they search for a coherence and integration. However, the same goes for dissipative behavior. Not all actors in governance processes are continuously searching for more connectivity and for including objectives of other actors.

In this study we have applied conservative and dissipative patterns of self-organization to analyze the connective capacity of program management in complex governance processes. This distinction between conservative and dissipative self-organization has been acknowledged by different complexity theorist and other scholars, whose perspective we have applied to a self-organization perspective (Jantsch 1980, 1981; Probst, 1987; Heylighen, 1989; Van Olffen & Romme, 1995; Grothe, 1997; Wible, 2000; Fuchs, 2002; Farazmand, 2003; Mitleton-Kelly, 2003).

This twofold pattern of self-organization has helped to gain insight in the emergence, maintenance, development and termination of programmatic action systems as adaptive structures. Via diverse rounds, program management evolved into different types of program management, from light coordination mechanism to developing an integrated vision; with new structures, like core teams or broadened program teams; and new, changed or broken connections with projects and the strategic network. Applying a dynamic perspective of self-organization delivered

relevant knowledge about how connective capacities of program management evolve in complex governance processes. It has become clear that program management operates within various projects, in which boundary judgements about selecting these projects and managing projects' interdependencies are highly important. As argued in Chapter 1, with these boundary judgments, program management can define its problem-and-solution space, but this is also a joint effort. Other actors (project management, line management and other stakeholders) have their own perception of the programmatic action system and their actions and boundary judgements affect the connective capacity of program management. We can identify patterns of dissipative self-organization in program management's connective capacity by integrating the diverse goals of involved actors into collective processes, connecting with new actors or broadening the action system's boundaries. Conservative patterns emphasize self-referential behavior to the actions system's own objectives and apply strict boundary management with the intention to maintain stable within the dynamics of the governance process.

This aligns with the conclusion drawn about program management's continuous search for identity. As an adaptive governance arrangement, program management is constantly in a state of becoming. Previously Rijke et al. (2014) argued that establishing a stable program management approach is among the most challenging aspects of program management. With this thesis' dynamic self-organization perspective we distance ourselves from this notion. Stability refers to a state of being, while we argue that programs are constantly in a state of becoming, not being.

Time: Synchronization and adaptive planning

Time is another aspect this thesis' conclusions addressed. This aligns with the character of program management and project management as temporary organizations. In general, it can be said that temporary organizations are an important coping mechanism to deal with complexity, since it offers flexibility in dealing with new problems or challenges. Temporary arrangements, like projects and programs, provide the opportunity to bring specialists together around the issue at stake. However, this gives also rise to other challenges in relation to time. In our conclusions, we have already addressed the challenge of synchronizing various levels of scale of governance processes. Decisions are made that have mutual effects in each level of scale, and simultaneously, for other actors within the network.

Synchronization is an important concept to consider multiple decision-making (Poperinge-Verkerk, 2017). Moreover, the concept of system synchronization can contribute to dealing with specialization and integration and it proves to be a valuable concept for cases about program management (Teisman & Edelenbos, 2011).

Core concepts in system synchronization are accepting and selecting variation, self-organizing capacity, linking multilevel governance processes and boundary management (Teisman & Edelenbos, 2011). We recommend to carefully consider the relevance of time and synchronization to enhance the understanding of complexity and program management in governance processes. The role and perception of time differs between projects, programs and strategic networks. Projects are phase-oriented and generally have a clear deadline. Strategic networks focus on long term visioning, with line management as structuring mechanism to set the pace of budgeting, planning and accounting. In this thesis we have seen that program management is in a continuous state of becoming, showing adaptive behavior in relation to new situations and challenges. Considering the issue of time, program management operates between project management's more short-term perspective and the more long-term orientation of strategic networks. This makes synchronization a highly relevant concept for the connective capacity of program management. The concept of synchronization enhances our knowledge of simultaneous processes.

Another important aspect for program management is to consider a desired future state. As the concept of programming was once an important element in strategic planning processes (see Chapter 3 and 6), the concept of program management can be seen as an important element in adaptive planning processes (Busscher, 2014). This also matches with complexity theory. Based on self-organization theory, planning for the future should deal with uncertainties and be an ongoing and adaptive process (Morçöl, 2012:112). Adaptive planning processes like Dynamic Adaptation Policy Pathways (Haasnoot et al., 2013; Bloemen et al., 2017) deal with uncertainties, influence the development of programs and raise challenges for program managements' connective capacity. Adaptive planning techniques can be applied to discuss future uncertainties with other stakeholders. Local information needs to be included in these discussions (Bloemen et al., 2017).

8.3.2 Methodological considerations and recommendations

In Chapter 1 we have indicated this thesis' purpose to contribute to methodologies for studying evolving interactions and interdependencies in multilayered governance processes. We described and analyzed connective capacities of program management in two case studies. We described the methodology applied in this thesis in Chapter (see Section 1.5).

The longitudinal focus of both case studies was a necessary condition to study the evolving character of the connective capacity of program management. Gerrits

(2012:174) points out longitudinal analysis is required to explain how a complex system comes about and evolves over time. Combining two in-depth case studies to unravel complexity also has important limitations. We recommend future Ph.D. students who consider such case studies to build in enough time for an iterative process of observation, writing and reflection. Taking cases' historical analysis into account is one possible strategy to apply an evolutionary perspective without continuous observation. This can be done by assessing previous rounds together with key stakeholders in the process, or to reflect with stakeholders during and after periods of in-depth research. In this way, in-depth action research studies can be combined with an evolutionary perspective. One main advantage of an action research approach is that it enables to reflect both on developing knowledge and the empirical situation (Byrne, 1998; Buijs et al., 2009).

The combined model of the rounds and tracks model proved to be very valuable to apply an evolutionary perspective in this thesis' analysis. The emphasis on several rounds gave us the opportunity to analyze the dynamics of connective capacities of program management. These rounds were based on actual developments in the cases and not on an a priori defined life cycle of program management. Because of its network orientation, the applied rounds model could 1) take new and leaving actors into account, 2) focus on the development of substantive processes and 3) did not have a beforehand defined starting and end point. This distances it from more rational models which focus on a hierarchic structure, planned development and a stable composition of actors (De Bruijn, Ten Heuvelhof, & In 't Veld, 2002; Teisman & Van Buuren, 2012).

The focus on several tracks helped us to highlight nested developments in these multilayered governance processes. Of course, we do have to keep in mind that each model simplifies reality and is limited in getting grip on the complexity of real life cases. We applied the model and the longitudinal approach to contribute to theory development and empirical observations about program management and complexity in public administration. Longitudinal research provides not only the opportunity to observe change and development, but also for repeated observations. In the different rounds this thesis focused on the changing dynamics and identification of relevant phenomena and patterns based on complexity theory. In future longitudinal research we recommend to also consider repetition of these phenomena in several rounds and construction of patterns in the tracks. It is important to note here, that by paying more attention to repetition and patterns, researchers need to bear in mind the adaptive character of program management's connective capacities.

As argued above, besides a longitudinal focus, it is also important to take synchronization into account to study the connective capacity of program management

and other complex governance processes dealing with simultaneous developments in multiple action systems (Teisman & Edelenbos, 2011; Poperinge-Verkerk, 2017). The approach applied by Poperinge-Verkerk (2017), that defined an extreme case with parent cases and underlying cases, is also highly relevant in studying the connective capacity of program management. As argued by Gerrits (2012), complexity in governance processes cannot be understood by analyzing individual elements. This thesis applied a more open approach compared with e.g. Poperinge-Verkerk (2017) by describing and analyzing the interactions between program management, project management and strategic network. Studying these interlevel dynamics provided us frames to understand connective capacities in complex governance processes (Coghlan, 2002; see Chapter 1). To consider the concept of synchronization in nested action systems, we recommend to not only carefully select the central case, but also the parent cases and underlying cases.

Having analyzed only two cases we have to be modest in making generalizations (Buijs et al., 2009). We have used these cases for an in-depth study of the phenomenon of evolving connective capacities of program management. By applying a twofold case study, we have demonstrated the transferability of the management of interdependencies, connective capacity as a balancing act and the complexity of temporality. The limitations of transferability at the level of connective capacity is best shown by the difference we highlighted regarding the impact of major projects on the governance process.

In this thesis we have applied the concepts of co-evolution and self-organization to better understand complex governance processes. Implications and limitations of these concepts themselves are discussed above. We agree with Castelnovo and Sorrentino (2017) that this offers no direct guidance on how programs can be implemented, nor does it provide evidence of their effectiveness. With these case studies we aim to contribute to expanding our knowledge of complexity in governance processes.

Without forgetting the importance of context, more empirical cases are needed for generalizability of complexity (Morcöl, 2012). Applying a methodology that enables comparing rich case studies is relevant not to lose sight of details which may be pertinent for boundaries and connections that occur. Qualitative comparative analysis provides promising results for this type of analysis (Verweij & Gerrits, 2013; Verweij 2015). Applying this type of analysis to a set of programs in a comparable context could also be relevant to concentrate on how the connective capacity of program management evolves.

8.3.3 Practical considerations and recommendations

Above we have already addressed several implications of the conceptualization of program management in practice as an adaptive governance arrangement. We concluded that program management is about managing interdependencies, its connective capacity is a balancing act and temporality in complex governance processes is permanent. In this thesis, we have discussed several empirical insights in program management and related activities in the professional practice of (public) management. In this section we will discuss the relevance of this research for professionals in program management and for coping with complexity in governance processes.

First, we would like to repeat the limitation we addressed in discussing the methodology. We have to be modest in generalizations. This thesis is not meant as a guidebook for program management or as a recipe for successful programs. We have described and analyzed two cases to contribute to developing theories about program management and complexity in public administration. Based on the interaction with program management in an action research setting, we received feedback that reflecting on the connective capacities of program management was valuable for public management within the context of these cases. Besides the two cases, different cases have been studied in the literature about programmatic approaches, program management and the role of programs in (complex) governance processes.

Simultaneously with researching for this thesis, we have observed program management becoming a profession. To finish this thesis, we would like to reflect on the competences of program management professionals and discuss this thesis' added value for practice.

An important driver for this rise of programmatic approaches was the introduction of the Managing Successful Programmes (MSP) approach by the UK Office of Government Commerce. This approach is designed in addition to the project management approach Prince2. MSP emphasizes a blue print design, top down approach and business orientation in implementing programs (Van der Tak & Wijnen, 2006). This type of professionalization of program management in terms of public administration aligns with New Public management Reforms (see Section 8.3.1.1). In the Netherlands, a development of program management can also be observed in a governance paradigm. Relevant guide books in The Netherlands focus for example on managing coherence (Programma-management: sturen op samenhang, Van der Tak & Wijnen, 2006) and coordinating without power (Programma management: regievoering zonder macht, Licht, 2005). What these guide books have in common is their background in project management competences. This also goes for many other

guide books, training programs, certifications and professional organizations for program managers.

For example, in the Gower Handbook of Program Management, reclaiming the Zuiderzee is considered as a failed program, because the result did not match with the original objective (Reis & Anthony, 2006: 189-192). Adaptivity is considered as a failure in this perspective. Wijnen and Van der Tak (2006: 24) interpret the Dutch Delta Works as a project approach because of their one-sided result: a flood-proof Netherlands. They argue that a programmatic approach would have delivered multiple relatively autonomous objectives.

The tendency to compare with, and continue, a project-based approach can also be observed in certifying program management competences. Internationally, especially PMI and IPMA are well known certificates for both types of management. The first standardization of program management competences started in 2004 with PMI (Ross & Shaltry, 2006). In Europe, IPMA is particularly popular for project and program management (Van der Tak, 2010). These program management standards were first certified in the Netherlands in 2010 and are internationally recognized since 2015. In formulating these standards, program management is approached as a complex form of project management. Complexity in terms of standardizing competences is defined as the experience as manager (in years), number of people (in)directly managed, number of hours and number of stakeholders. In our view, these are all relevant aspects which contribute to complexity. Although, for the complex governance processes we studied, these aspects are only the tip of the iceberg of the complexity program management must deal with.

In applying the complexity perspective in this thesis, we have selected program management as a focal point in complex governance processes. This thesis' application of complexity is rather different than when complexity is applied to differentiate between project management and program management standards. Below we recapitulate our understanding of complexity as described in Chapter 1.

The complexity point of view as applied in this thesis considers complex governance processes in a flux, in which continuous changes take place. This implies program management is an instrument of adaptive governance. Complex governance processes contain diverse elements of structures, content and processes. The high degree of interrelatedness between these elements makes it difficult to create an image about these systems and their boundaries (Flood, 1999: 72). Complexity theories analyze interactions in these processes in terms of interdependencies between systems, subsystems and processes, including how these evolve over time. Complexity comes down to that the real world consists of multiple elements, of different types that are related, but sometimes loosely, and whose mutual relationships are changeable over

time (Gerrits, 2012: 16). Evolution of programs in these processes depends on how the different (fragmented) elements interact. Fragmentation and a desire for integration in these complex governance processes give rise to a need for connective capacity of action systems operating in these processes. Or, as argued by Teisman and Gerrits (2014), to be able to come to effective steering in complex governance processes there is a need for joint action - whether in competition, cooperation of both – rather than one single organization that is presumably in charge (Teisman & Gerrits, 2014).

Based on the different applications of program management as complex project management and program management in complex governance processes, we would like to respond to the call by Miterev et al. (2016) for a more nuanced discussion on the functions and nature of program management. They argue we need to position program management beyond so called one-size-fits-all approaches, based on project management competence literature. There is a need for a contingency approach of program management competences (Artto, Martinsuo, Gemünden, & Murtoaro, 2009; Miterev et al., 2016). Artto et al. (2009) have argued that program managers vary leadership styles due to different situations in the life cycle of programs. Although this thesis's cases have shown us that program life cycles can be rather capricious, we have also observed program management operating as different types in different situations. The study by Miterev et al. (2016) concluded that program management is also affected by the type of program to be managed. They point out that program management studies need to give more attention to endogenous factors, like the substantive tasks, resources and management approaches for program success. By applying patterns of conservative and dissipative self-organization in this thesis, we have provided a relevant framework to enhance the understanding of complexity in the management of programs in governance processes.

Based on their study of 10 programs, Miterev et al. (2016) composed distinct competence profiles for program types. They applied the program types as defined by Pellegrinelli (1997) which we have also used in defining the three program types in Chapter 4. These archetypes strongly resemble the three program types we applied in this thesis. The portfolio type of Pellegrinelli matches mostly with the light coordination mechanism (type 1) as applied in this thesis. The heartbeat program can be compared with program management as an integrated development strategy (type 3). The shared-service center (type 2) can be positioned between the portfolio and goal-oriented type. In the overview as presented by Miterev et al (2016) we have added this Shared Service Center and framed the overall competence profile of this type as 'Supporter'. In Table 8.1 we have added an indication of relevant competences for the Supporter profile.

Table 8.1 Distinct competence profiles for program types (based on Miterev et al., 2016)

| Program type | Light coordination mechanism / portfolio | Shared Service Center | Goal-oriented | Integrated development strategy |
|---------------------------|---|---|--|--|
| Competence area | Informal influencing Distilling key information Structuring information flow Flexibility | Monitoring Distilling key information Structuring information flow Financial/juridical/administrative expertise Flexibility | Directing Decision-making Planning and control Technical expertise Team building | Contextual awareness Scenario Planning Political skills Courage Networking |
| Competence profile | Coordinator | Supporter | Commander | Convincer |

This overview helps to gain insight into the variety of relevant competences for program management and the diversity of program types. We apply these typologies here to reflect on the cases of this thesis and the added value of these competence profiles for program management. Based on the observed typologies (Section 7.2.2) and the interactions between program management and other actors (Section 7.3), this thesis identifies following competence profiles.

In Round 1 of Policy with Citizens, program management operated rather typically as a Coordinator. Program management focused on stimulating a multitude of citizen orientation projects, in which they became confronted with organizational barriers. Miterev et al. emphasize for this profile the relevance of creating visibility and effective communication with strategic line management. This thesis also recognizes this in the recommendation of sense-making for program management. For the case of Policy with Citizens it became clear they also needed to engage middle management in developing the programmatic objectives.

Miterev et al. (2016) determine that there can be a continuum of intermediate states between categories. In Section 7.2.2 we concluded that, in practice, program management often operates as a hybrid type of categories. We observed this is for example in the case Amsterdam Metropolitan Region. This program's management functioned also as a program director for one of the projects. For this project, program management had the relevant technical expertise about infrastructure planning.

Simultaneously, program management developed a different relation with the program's other projects. For most projects, program management was rather a Supporter. They focused on monitoring and fine-tuning projects' progress and supported them with the relevant know-how for coherent decision-making. As principal of the specific project, program management was more of a Commander with a strong goal orientation.

The focus on the decision-making competence in this profile, as explained by Miterev et al, can be observed in Amsterdam Metropolitan Region. There program management split into a core team and a program team to maintain focus on decision-making at program level. We have seen that this hybrid competence profile also affects the connective capacity of program management, since other projects responded by distancing from the program.

In the Policy with Citizens case, this context was highly different. Here, program management became involved in the project management of major projects as well. In relation to two major projects they had also a role as Commander. For this program, their different role provided insight into the organizational barriers and how to overcome these in relation to other projects. One of their solutions was to become more of a shared service center with program management in the role of Supporter. They did this for example by designing a training for project managers in citizen orientation. In Round 4, when other programs evolved into a national shared service center, Policy with Citizens' program management missed the opportunity to integrate their approach into a national shared service center for citizen participation.

The heartbeat typology is relevant for both programs in this thesis. In Policy with Citizens, program management had a strong internal drive to operate as a Convincer. Program management itself continuously emphasized the need for organizational change regarding their objective to make policy more citizen oriented. Certainly, in the program's first rounds they missed the contextual awareness since both strategic management and project managers did not recognize this objective. In the context of metropolitan development in the administrative crowdedness of Amsterdam Metropolitan Region and the Randstad region, program management had to deal with other stakeholders' expectations of the program. With the introduction of a programmatic approach in the fragmented processes of metropolitan development, new hope arrived that this new governance arrangement would be decisive in the area's integrated development. However, program management appeared to have limited added value in development of an integrated vision. Despite the existing hybridity and diverging expectations, program management was able to create bounded and temporal connectivity around a selection of multi-sectoral projects via a process of reciprocal disciplining between involved stakeholders.

Miterev et al. (2016) concluded that programs might evolve from one type to another. According to Miterev et al., this is due to both the differences in various life-cycle phases of programs and unexpected external events. This thesis has confirmed program management's evolving character for both cases of program management in complex governance processes. Moreover, in these processes program management is in a constant flux, because of the continuous dynamics between projects, programs and strategic networks. This means program management in complex governance processes needs to be able to switch between, and adjust, competence profiles. This makes it even more relevant to consider program management as a distinct approach in managing complex governance processes. With fundamental changes ahead in managing the physical environment, like the new Dutch Environment and Planning Act (see also Chapter 1), we recommend to professionalize a programmatic approach as instrument for adaptive governance. As concluded in this thesis, a program management approach can support public managers in complex governance processes to cope with interdependencies, in balancing between preserving and innovation, and short-term and long-term considerations of temporality.

As we have seen in this thesis' two cases, programs are in a continue state of becoming. To successfully evolve as an adaptive and meaningful action system in governance processes, program managers need to regularly reflect and reconsider the functioning of relations between projects, programs and strategic networks. The context of complex governance processes, as studied in the cases of Policy with Citizens and Amsterdam Metropolitan Area, also emphasize the importance of taking different perceptions about a program into account. Reflexivity about the process, connective capacity and the role of program management itself needs to be integrated in the competences of program managers and other (public) managers facing comparable complexities.

REFERENCES

- 6, P. (2004). Joined-up government in the western world in comparative perspective: a preliminary literature review and exploratio. *Journal of public administration research and theory*, 14(1), 103-138.
- Agranoff, R. (2007). *Managing within Networks; Adding Value to Public Organizations*. Washington DC: Georgetown University Press.
- Artto, K., Martinsuo, M., Gemünden, H., & Murtoaro, J. (2009). Foundations of program management: A bibliometric view. *International Journal of Project Management*, 27(1), 1-18.
- Bloemen, P., Reeder, T., Zevenbergen, C., Rijke, J., & Kingsborough, A. (2017). Lessons learned from applying adaptation pathways in flood risk management and challenges for the further development of this approach. *Mitigation and Adaptation Strategies for Global Change*, 1-26.
- Boons, F., Buuren, M., Gerrits, L., & Teisman, G. (2009). Towards an Approach of Evolutionary Public Management. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Systems* (pp. 231-249). New York: Routledge.
- Boonstra, B., & Boelens, L. (2011). Self-organization in urban development: towards a new perspective on spatial planning. *Urban Research & Practice*, 4(2), 99-122.
- Bootsma, P., & Lechner, J. (2002). Complexiteit: Werkwijzen bij organisatieverandering. In F. Van Eijnatten, M. Kuijs, & J. Haffmans, *Verdieping van chaosdenken in theorie en praktijk* (pp. 58-77). Assen : Van Gorcum.
- Bresnen, M., Edelman, L., Newell, S, Scarbrough, H, & Swan, J. (2003). Social practices and the management of knowledge in project environments. *International Journal of Project Management*, 21(3), 157-166.
- Bryson, J., Crosby, B., & Middleton Stone, M. (2006). The design and implementation of cross-sector collaboration: Propositions from the literature. *Public Administration Review*, 66, 44-55.
- Buijs, M., & Teisman, G. (2006). Vervoer als vraagstuk van coproductie in de Noordvleugel: Een complexiteitstheoretisch perspectief op ontwikkeling van een mobiliteitsstelsel. *Samenwerken is topsport*. Rotterdam: Colloquium Vervoersplanologisch Speurwerk.
- Buijs, M., Eshuis, J., & Byrne, D. (2009). Approaches to Researching Complexity in Public Management. In G. Teisman, M. Buuren, & L. Gerrits, *Managing Complex Governance Processes* (pp. 37-55). New York: Routledge.
- Busscher, T. (2014). *Towards a programme-oriented planning approach: Linking strategies and projects for adaptive infrastructure planning*. Groningen: University of Groningen.
- Byrne, D. (1998). *Complexity theory and the social sciences: an introduction*. London: Routledge.

- Castelnuovo, W., & Sorrentino, M. (2017 (forthcoming)). Engaging with complexity in a public programme implementation. *Public Administration Review*, 1-19.
- Christensen, T., & Lægreid, P. (2006). Rebalancing the State: Reregulation and the Reassertion of the Centre. In T. Christensen, & P. Lægreid, *Autonomy and Regulation: Coping with Agencies in the Modern State* (pp. 359-380). Cheltenham, UK: Edward Elgar.
- Christensen, T., & Lægreid, P. (2007). *Transcending New Public Management: The Transformation of Public Sector Reforms*. Aldershot, UK: Ashgate.
- Cilliers, P. (1998). *Complexity and postmodernism. understanding complex systems*. London: Routledge.
- Cilliers, P. (2001). Boundaries, hierarchies and networks in complex. *International Journal of Innovation Management*, 5, 135-148.
- Coghlan, D. (2002). Interlevel dynamics in systemic action research. *Systemic Practice and Action Research*, 15(4), 273-283.
- Crawford, L., Costello, K., Pollack, J., & Bentley, L. (2003). Managing soft change projects in the public sector. *International Journal of Project Management*, 21(6), 443-448.
- De Bruijn, H., Ten Heuvelhof, E., & In't Veld, R. (2002). *Procesmanagement, over procesontwerp en besluitvorming*. Schoonhoven: Academic Service.
- De Rynck, F. (1994). *Streekontwikkeling in Vlaanderen Bestuurskundig bekeken: bestuursverhoudingen en beleidsnetwerken in*. Leuven: Katholieke Universiteit Leuven.
- Edelenbos, J., Klijn, E.-H., & Kort, M. (2009). Managing complex process systems: surviving at the edge of chaos in. In G. Teisman, M. Buuren, & L. Gerrits, *Managing complex governance systems* (pp. 231-249). New York: Routledge.
- Engwall, M. (2003). No project is an island: Linking projects to history and context. *Research Policy*, 32(5), 789-808.
- Farazmand, A. (2003). Chaos and transformation theories: A theoretical analysis with implications for organization theory and public management. *Public Organization Review*, 3(4), 339-372.
- Flood, R. (1999). *Rethinking the fifth discipline: Learning within the unknowable*. London: Routledge.
- Fuchs, C. (2002). *Concepts of social self-organisation: NTAS Project "Human Strategies in Complexity" Research Paper No. 4*.
- Gerrits, L. (2008). *The Gentle Art of Coevolution*. Rotterdam: Erasmus University Rotterdam.
- Gerrits, L. (2012). *Punching Clouds, An introduction to the complexity of public decision-making*. Litchfield Park: Emergent Publications.
- Goldstein, J. (1999). Emergence as a Construct: History and Issues. *Emergence*, 1(1), 49-72.

- Grothe, M. (1997). Complexity and self-organization in socio-economic systems. In F. Schweitzer, *Self-organization of Complex Structures: from Individual to Collective Dynamics* (pp. 427-438). Amsterdam: OPA.
- Haasnoot, M., Kwakkel, J., Walker, W., & ter Maat, J. (2013). Dynamic adaptive policy pathways: a method for crafting robust decisions for a deeply uncertain world. *Glob Environ Chang*, 23(2), 485-498.
- Hall, T., & O'Toole Jr, L. (2000). Structures for policy implementation: An analysis of national legislation. *Administration & Society*, 31(6), 667-686.
- Heylighen, F. (1989). Self-organization, emergence and the architecture of complexity. *1st European Conference on System Science*, (pp. 23-32). Paris.
- Huang, J., & Newell, S. (2003). Knowledge integration 10 processes and dynamics within the context of cross-functional projects. *International Journal of Project Management*, 21, 167-176.
- Innes, J., & Booher, D. (1999). Consensus building and complex adaptive systems. A framework for evaluating collaborative planning. *Journal of the American Planning Association*, 65(4), 412-423.
- Jantsch, E. (1980). *The Self-organizing Universe: Scientific and Human Implications of the Emerging Paradigm of Evolution*. Oxford: Pergamon Press.
- Jantsch, E. (1981). Autopoiesis: A central aspect of dissipative self-organization. In M. Zeleny, *Autopoiesis: A Theory of Living Organization* (pp. 65-88). New York: Elsevier North Holland Inc.
- Kallis, G., Kiparsky, M., & Norgaard, R. (2009). Collaborative governance and adaptive management. *Environmental Science & Policy*, 631-643.
- Kauffman, S. (1993). *The origins of order: Self-organization and selection in evolution*. New York: Oxford University Press.
- Kauffman, S. (1995). *At home in the universe: The search for laws of self-organization and complexity*. New York: Oxford University Press.
- Kickert, W. (1993). Autopoiesis and the science of (public) administration. *Organization Studies*, 14(2), 261-278.
- Kiel, L. (1994). *Managing chaos and complexity in government. A new paradigm for managing change, innovation, and organizational renewal*. London: Sage.
- Klievink, A., & Janssen, M. (2009). Realizing joined-up government - Dynamic capabilities and stage models for transformation. *Government Information Quarterly: an international journal of information technology management, policies, and practices*, 26, 275-284.
- Koppenjan, J., & Klijn, E.-H. (2004). *Managing uncertainties in networks: a network approach to problem solving and decision making*. London: Routledge.

- Korsten, A., de Jong, P., & Breed, K. (2010). *Regeren met programma's. Een onderzoek naar voortgang van kabinetsprogramma's en interdepartementale samenwerking onder het kabinet-Balkenende IV*. Den Haag: Boom Lemna.
- Koza, M., & Lewin, A. (1999). The coevolution of network alliances: A longitudinal analysis of an international professional service network. *Organization Science*, 10(5), 638-653.
- Lehtonen, P., & Martinsuo, M. (2008). Change program initiation: Defining and managing the program-organization boundary. *International Journal of Project Management*, 26(1), 21-29.
- Licht, H. (2005). *Programma management: regievoering zonder macht*. Assen: Koninklijke Van Gorcum.
- Maitlis, S., & Christianson, M. (2014). Sensemaking in Organizations: Taking Stock and Moving Forward. *Academy of Management Annals*, 8(1), 57-125.
- Milosevic, D., Martinelli, R., & Wadell, J. (2007). *Program Management for Improved Business Results*. Hoboken, NJ: John Wiley & Sons.
- Miterev, M., Engwall, M., & Jerbrant, A. (2016). Exploring program management competences for various program types. *International Journal of Project Management*, 34(3), 545-557.
- Morçöl, G. (2012). *A complexity theory for public policy*. London: Routledge.
- Morçöl, G. (2014). Self-Organization in Collective Action:.. *Complexity, Governance & Networks*, 1(2), 9-22.
- Morçöl, G., & Wachhaus, A. (2009). Network and Complexity Theories: A Comparison and Prospects for a Synthesis. *Administrative Theory & Praxis*, 31(1), 44-58.
- Nederhand, J., Bekkers, V., & Voorberg, W. (2016). Self-organization and the role of government: how and why does self-organization evolve in the shadow of hierarchy? *Public Management Review*, 18(7), 1063-1084.
- Newell, S., Goussevskaia, A., Swan, J., Bresnen, M., & Obembe, A. (2008). Interdependencies in Complex Project Ecologies. *Long Range Planning*, 33-54.
- Nicolis, G., & Prigogine, I. (1989). *Exploring complexity: An introduction*. New York: W.H. Freeman.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge, UK: Cambridge University Press.
- Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press.
- O'Toole Jr., L., Hanf, K., & Hupe, P. (1997). Managing implementation processes in networks. In W. Kickert, E.-H. Klijn, & J. Koppenjan, *Managing Complex Networks: Strategies for* (pp. 137-151). London: Sage.
- Pellegrinelli, S. (1997). Programme management: organising project-based change. *International Journal of Project Management*, 15(3), 141-149.

- Pollitt, C. (2003). *The essential public manager*. Maidenhead: Open University Press.
- Poperinge-Verkerk, J. (2017). *Synchrone Besluitvorming. Over versterkend handelen van tussenpersonen in meervoudige besluitvorming*. Rotterdam: Erasmus Universiteit Rotterdam.
- Prigogine, I. (1996). *The end of certainty: Time, chaos, and the new laws of nature*. New York: The Free Press.
- Prigogine, I., & Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature*. New York: Bantam Books.
- Probst, G. (1987). *Selbst-organisation: ordnungsprozesse in sozialen systeme aus ganzheitlicher sicht*. Berlin: Paul Parey Verlag.
- Pyka, A., & Windrum, P. (2003). The self-organisation of strategic alliances. *Economics of novation and New Technology*, 12(3), 245-268.
- Reis, G., & Anthony, M. (2006). *Gower Handbook of Programme Management*. Hampshire: Gower Publishing.
- Rhodes, R. (1997). *Understanding Government*. Buckingham: Open University Press.
- Richardson, K. (2007). From complicated to complex: On the relationship between connectivity and. *Emergence: Complexity and Organization*, 9(1-2), 194-206.
- Rijke, J., Herk, v. S., Zevenbergen, C., Ashley, R., Hertogh, M., & Heuvelhof, E. t. (2014). Adaptive programme management through a balanced performance/strategy oriented focus. *International Journal of Project Management*, 32(7), 1197-1209.
- Romme, A. (1996). Research notes and communications: A note on the hierarchy-team debate. *Strategic Management Journal*, 17(5), 411-417.
- Ross, D., & Shaltry, P. (2006). The new PMI standard for program management. *PMI® Global Congress 2006*. Seattle, WA: Project Management Institute.
- Smith, A., & Graetz, F. (2006). Complexity theory and organizing form dualities. *Management Decision*, 851-870.
- Stacey, R. (1995). The science of complexity: An alternative perspective for strategic change processes. *Strategic Management Journal*, 16, 477-495.
- Stacey, R. (2003). *Strategic management and organisational*. London: Prentice Hall.
- Strogatz, S. (2003). *Synch: The emerging science of spontaneous order*. New York: Hyperion.
- Sydow, J., Lindkvist, L., & DeFillippi, R. (2004). Project-Based Organizations, Embeddedness and 24 Repositories of Knowledge: Editorial. *Organization Studies*, 1475-1489.
- Teisman, G. R. (2008). Complexity and management of improvement programmes: an evolutionary approach. *Public Management Review*, 341-359.
- Teisman, G., Van Buuren, M., & Gerrits, L. (2009). *Managing Complex Governance Systems: Dynamics, Self-Organization and Coevolution in Public Investments*. New York: Routledge.

- Teisman, G., & Edelenbos, J. (2011). Towards a perspective of system synchronization in water governance: A synthesis of empirical lessons and complexity theories. *International Review of Administrative Sciences: an international journal of comparative public administration*, 77(1), 101-118.
- Teisman, G., & Van Buuren, M. (2012). Models for research into decision-making processes: On phases, streams, rounds and tracks of decision-making. In E. Araral, A. Fritzen, M. Howlett, M. Ramesh, & X. Wu, *Routledge Handbook of Public Policy*. Routledge Handbooks Online.
- Teisman, G., & Gerrits, L. (2014). The Emergence of Complexity in the Art and Science of Governance. *Complexity, Governance & Networks*, 1(1), 17-28.
- Van der Tak, T. (2010). *Blog Programmamanagement*. Retrieved from <http://www.twynstraguddeblog.nl/theovandertak/2010/12/set-competenties-programmamanager.html>
- Van der Tak, T., & Wijnen, G. (2006). *Programma-management: Sturen op Samenhang (2nd ed)*. Deventer: Vakmedianet.
- Van der Walle, S., Sterck, M., Van Dooren, W., & Bouckaert, G. (2004). *What you see is not necessarily what you get*. Leuven: Instituut voor de Overheid.
- Van Olffen, W., & Romme, A. (1995). The role of hierarchy in self-organizing systems. *Human Systems Management*, 14(3), 199-206.
- Verweij, S. (2015). *Once the shovel hits the ground: Evaluating the management of complex implementation processes of public-private partnership infrastructure projects with qualitative comparative analysis*. Rotterdam: Erasmus University Rotterdam.
- Verweij, S., & Gerrits, L. (2013). Understanding and researching complexity with qualitative comparative analysis: Evaluating transportation infrastructure projects. *Evaluation*, 19(1), 40-55.
- Volberda, H. (1998). *Building the Flexible Firm: How to Remain Competitive*. New York: Oxford University Press.
- Wible, J. (2000). What is complexity? In D. Colander, *Complexity and the History of Economic Thought: Perspectives on the History of Economic Thought* (pp. 15-30). London: Routledge.

SUMMARY

CAPACITY FOR COMPLEXITY: EVOLVING CONNECTIVE CAPACITIES OF PROGRAM MANAGEMENT IN COMPLEX GOVERNANCE PROCESSES

PROGRAM MANAGEMENT IN COMPLEX GOVERNANCE PROCESSES OF THE PHYSICAL ENVIRONMENT

A need for connective capacity to cope with complexity

In the past decades a new type of programmatic approach has emerged in governance processes of the physical environment. Processes of policy-making, decision-making and implementation in the physical environment have become complex because of a high diversity of actors, fragmentation between interrelated policy domains and uncertainty about future developments. This thesis addresses the fragmentation and increasing complexity of these governance processes partly to the way they are organized, namely as projects in a projectified public management (Chapter 3). After a trend of projectification in complex governance processes, a need for mutual adjustment between fragmenting projects gave rise towards programmification, meaning a shift in approach from central decision-making and project accomplishment to management of programs. This resulted in a challenge of vertical integration for program management, namely to connect diverse project activities with strategic processes about a desired future state of systems and processes. In governance processes, program management also must deal with horizontal integration, by considering the interests and needs of different actors in related governance processes.

As a new type of programmatic approach in governance processes in the physical environment, program management has to deal with both horizontal and vertical integration in a fragmented landscape. (see Chapter 1 and Chapter 3). This requires program management to have connective capacities.

Fragmentation – integration debate in public administration

The challenge of connective capacities of program management is typical for the fragmentation – integration debate in public administration. Today, governors and public managers define the fragmentation they face as problematic and address a need for vertical and/or horizontal integration. They ask for joint action, e.g. in metropolitan development or interactive policy processes (as discussed in this thesis), but this can also be observed in the Delta Program and the new Dutch Environment and Planning Act, as a central counter for all environmental issues. In this study fragmentation is not only perceived as a problem, but also as an important effect of specialization in governance processes. As discussed in Chapter 3, different management types provide a different response to fragmentation in governance processes. In this thesis the following types are discussed: functional line management, project management, process management and program management. Table 1.1 in Chapter 1 provides a brief

overview of the four management approaches in relation to fragmentation-integration in governance processes.

Program management can be seen as a new attempt to create joint action in complex governance processes. Within the context of programmatic approaches in complex governance processes, this thesis studies joint action via the concept connective capacity.

Program management's connective capacity in complex governance processes

Program management operates typically between projects and strategic networks. In this thesis it is assumed that program managers act in a complex environment with mutual interdependencies and a diversity of perceptions (see also Chapter 6). Connective capacities are considered as the capacity to deal with the complexity of fragmentation and integration by program management.

Connective capacity counters fragmentation by crossing boundaries and by establishing linkages. This thesis deals with connective capacities related to linking boundaries at different system levels in complex adaptive governance processes. Program management operates between the projection of concrete activities by project management and the more strategic considerations by line management. Program management faces the challenges of dealing with the boundaries of projects and strategic networks, while demarcating its own boundaries and ambitions in complex adaptive processes.

Research questions

This study aims to answer the following main question, which has been divided in three subquestions.

What are the connective capacities of program management to deal with complexity in adaptive governance processes regarding the physical environment?

SQ1: How does program management emerge in complex governance processes and what types of program management can be distinguished in complex governance processes?

SQ2: How do the connective capacities of program management evolve in complex governance processes and which strategies and logics influence this evolution?

SQ3: How can the evolution of the connective capacities of program management be understood from a complexity point of view?

AN ERA OF COMPLEXITY

In this thesis connective capacities of program management are considered from a complexity point of view. Before we describe the research approach, we explain the theoretical background of complexity as applied in this thesis.

Complexity

Complexity theories analyze interactions in terms of interdependencies between systems, subsystems and processes, including how these evolve over time. Complexity comes down to that the real world consists of multiple elements, of different types, that are related, though sometimes loosely and its mutual relationships are changeable over time.

Dealing with complexity is rather new to research about program management, although this is more often applied in governance research and organization studies. A lot is still unknown and to be learned about program management from a complexity perspective. This thesis contributes to this knowledge gap.

Project-based management approaches often ignore complexities. It seems that chance and coincidence play an important role when projects fail. Another explanation is that failure results from disregarded interdependencies in project demarcations, based on the desire to be in control. This approach of dealing with complexities may lead to further complications. Program management aims for both vertical and horizontal integration in governance processes. In a complexity perspective, integration is seen as an evolving process. This makes it relevant to analyze how connective capacities of program management evolve over time in governance processes. Programs in complex governance processes are considered to be in a state of constant flux, driven by feasibility and the actions and interactions of all actors and stakeholders involved. Recent studies have pointed out that public managers in these processes need to engage with complexity instead of trying to reduce it.

Programmatic Action Systems

In this thesis, programs are considered as action systems in governance processes. The idea behind action systems as a concept is that individuals and teams are more than compliant components of an organization since they produce social processes and norms by themselves. In the new type of programmatic approaches, program management is considered as key actor in guiding programmatic action system in governance processes. In a complexity perspective, action systems consist of multiple actors and can grow and shrink, merge and subdivide over time.

A dynamic self-organization perspective

In complex governance processes, not one single organization is presumed to be in charge, and there is a need for joint action to come to effective management. Since no one is in charge, we apply a self-organization perspective to connective capacities of program management in complex governance processes. Self-organization is considered as a dynamic and adaptive process where systems change and maintain structures themselves, without external control. In this thesis the dynamic character of self-organization is elaborated via conservative and dissipative self-organization patterns.

Conservative self-organization can be recognized by self-referential behavior related to systems boundaries, focused on maintaining organization (structure, processes and content) of an action system. When interacting with other action systems, this results in behavior to confirm identity, autonomy and interests. This type of behavior fosters fragmentation in complex governance processes.

Dissipative self-organization enables spontaneous change and adaptive behavior of action systems in interaction with their environment. Action systems can adapt to demands or changing circumstances, resulting in the emergence of new structures enforced by local interactions, without the imposition of any external or internal actors. Dissipative self-organization drives action systems to come about, develop and change. Dissipative processes evolve from events, actions and interactions and contribute to creating new (temporary) organization (structure, processes and content) of action systems. This self-organization pattern is crucial for integration in complex governance processes.

Coevolution between management approaches

Coevolution enables analyzing the reciprocal relationships between systems. In this thesis we apply coevolution to gain insight into mutual adaptations between action systems in complex governance processes. These action systems are all forms of (temporal) organizations: project management, program management and strategic networks. We distinguish two types of coevolutionary processes: symbiotic and inferential coevolution. Symbiotic coevolution indicates a mutually reinforcing relationship between action systems; inferential coevolution implies a mutually weakening relationship between action systems. In Chapter 7 we consider appearances of both coevolutionary processes in the connections and demarcations between applied management approaches. By combining self-organization and coevolution, we aim to

provide a comprehensive analysis of complexity in the evolving connective capacities of program management.

RESEARCH APPROACH

To answer the research questions, we studied programmatic approaches and their connective capacities in two cases: Policy with Citizens and Amsterdam Metropolitan Region. These cases are presented in Table 1.5. To enhance knowledge of program management and connective capacity as phenomena, this thesis analyses each case separately within their context. The results from both cases are brought together in Chapter 7, followed by conclusions and discussion in Chapter 8.

Table 1.5 Overview of the cases PwC and AMR

| <i>Case</i> | Policy with Citizens (PwC) | Amsterdam Metropolitan Region (AMR) |
|--|--|--|
| <i>Goal of the program</i> | Enhancing citizen orientation in the policy processes of VROM | Enhancing metropolitan development of AMR via integrated decision-making |
| <i>Home organization</i> | Ministry of Housing, Spatial Planning and the Environment (VROM) | Ministry of Transport, Public Works and Water Management |
| <i>Stakeholders in strategic network</i> | Internal departments within VROM, parallel trajectories in other national departments, consultancy organizations with expertise about citizen orientation, NGOs in relation to the policy issues | Ministry of VROM; Ministry of Economic Affairs, Ministry of Agriculture, Nature and Food Quality; Ministry of Finance; Provinces of North Holland, Utrecht, Municipalities of Amsterdam, Utrecht, Almere and several other municipalities; Schiphol Airport, NGOs and business representatives |
| <i>Projects</i> | Diverse range of citizen orientation projects (see case analysis) | Static selection of 8 projects |
| <i>Duration</i> | 2003-2010 | 2003-2008 |

Case studies are useful for complexity research because they provide the opportunity to research an entire social system and all its elements as a coherent whole. Since context is important in complexity studies, it is essential to study cases in their natural setting. The case's boundaries are adjusted when new actors or events become relevant

during the research. This means that system boundaries in the cases are considered as dynamic and temporary.

The interactions in both cases are analyzed within several rounds to develop knowledge about program management's connective capacities (see Section 7.3). To gain insight into how connective capacities evolve, these are analyzed within the following tracks by applying a complexity point of view:

- Relation between program and its strategic network;
- Relation between program and projects;
- Development of program management itself.

ANALYSIS: ANSWERING THE SUBQUESTIONS

SQ1: How does program management emerge in complex governance processes and what types of program management can be distinguished in complex governance processes?

Emergence of program management

The emergence of program management in governance processes in the Dutch physical environment is driven by fragmented projects and a desire for joint action. Program management is considered as a next step to create joint action in complex governance processes by connecting strategic networks with actual projects. In literature about temporary organizations, this shift from a projectified environment towards a program-oriented environment is called a trend 'from projectification towards programmification'. The cases we have studied, align with this literature.

Types of program management

In Chapter 4 we distinguish three program management types:

- Type 1 Program management as a light coordination mechanism for multiple projects;
- Type 2 Program management as a shared service center for projects;
- Type 3 Program management as an integrated development strategy.

These archetypes emphasize specific program management characteristics. In practice, we observed that program management operated as a hybrid sort of above types.

SQ2: How do the connective capacities of program management evolve in complex governance processes and which strategies and logics influence this evolution?

Evolving connective capacities

From the analysis of both cases in several rounds, we derived that the way program management's connective capacities evolve depends on:

- Strategies by program management;
- Organizational logics of actors involved in the governance process;
- The interaction between both.

By analyzing connective capacities during several rounds (see Section 7.3), we found that program management's connective capacities in both cases evolved via a dynamic pattern. Situations are rare where there is a strong connectivity of program management with both projects and the strategic network. This means program management continuously needs to adapt its strategies and consider its attention to each of these partnerships. Within each of these relations, the variety between projects and strategic actors is also highly relevant. Analyzing program management's connective capacities over time helps to understand how program management evolves as an adaptive structure in managing interdependencies in complex governance processes.

SQ3: How can the evolution of the connective capacities of program management be understood from a complexity point of view?

Appearances of Co-evolution

In the complexity point of view, we have applied the concepts coevolution and self-organization. Supported by the observed coevolutionary phenomena, we can underpin the conclusion of Chapter 3 that program management's connective capacities can be considered as a twofold coevolutionary process. We found several reciprocal developments between both projects - programs and between programs - strategic networks.

The cases demonstrate that these management strategies operate in relation to each other and that each strategy could add value in the studied governance process. They complement each other because they differ in objectives and approach. There are also similarities between the diverse approaches resulting in competition, as we have e.g. seen in attempts by program management to champion projects.

The concept coevolution provides a relevant perspective to analyze the reciprocal effects in the continuous interplay between project management, program management and strategic management.

Patterns of self-organization

In the analysis of program management's connective capacities several conservative and dissipative patterns have been observed in the relations with strategic networks, projects and the development of program management itself.

In the case Policy with Citizens it became clear that merely stimulating projects via funding does not result in dissipative processes beyond project boundaries. Interdependencies were neglected and not managed in this process. The static project selection in Amsterdam Metropolitan Region is a conservative pattern of project selection, which appeared rather functional. This was the result of a reciprocal disciplining process between relevant governments. This created opportunities for both program management and project management to consider interdependencies between selected projects. This resulted in general in more coherence among projects and in the vertical integration of project management activities into programmatic development. By emphasizing major projects in Policy with Citizens, project management and program could connect their aims. An important factor in this process was the boundary spanning role of a program team member, who was also project manager of the Citizen Platform project.

Another effect that we observed in program management's connective capacity is that self-referential behavior by one actor can reinforce self-referential behavior by other actors in the governance process. Opting out by one of the participants because of self-referential behavior, resulted in cascading effects of others opting out. This is what happened in the synchronized decision-making attempt in Amsterdam Metropolitan Region. Here, program management's focus on a specific project and the role of the Department of Finance resulted in a cascade of conservative responses to hold on to traditional decision-making approaches.

The emergence of a programmatic approach in complex governance processes itself can be considered as a dissipative process, as argued in Chapter 5 for the case Amsterdam Metropolitan Region. After setting up program management, it became clear program management was continuously searching for its identity in relation to strategic networks, projects and its environment. This search for identity is referred to as conservative self-organization. Action systems often strive for an autonomous space and for maintaining, defending or enlarging that space. A feeling of controlling the action systems' activity is a powerful driving force for people in these processes. We discovered that other actors in the governance processes, such as middle management, lacked a clear view on the program Policy with Citizen and its objectives. It appears a relevant capacity of program management to have an own identity in complex governance processes. However, without losing flexibility towards the dynamics in strategic networks and at project level.

CONCLUSIONS

The analysis of the two cases studies has led to several conclusions.

Program management is about the management of interdependencies

A desire for integration is derived from perceived interdependencies between projects and from fragmentation in strategic networks, but actors are not willing to give up specialization either. Program management must deal with both and is confronted with the challenge to connect these conflicting objectives within governance processes. This brings us to the first conclusion: *Program management is about the management of interdependencies.*

In a complexity perspective both coevolution and self-organization provide relevant insight into management of interdependencies. Where coevolution emphasizes the reciprocal character in the relations between action systems, the concept self-organization helps us to understand the boundary issues to facilitate joint action in governance processes. Program management shifts the debate about the interdependencies between projects to a more strategic level. Program management is unique in dealing with interdependencies between levels of scale. Program management not only takes horizontal interdependencies with other actors, like interdepartmental networks, into account, but also vertical interdependencies between projects, program and strategic networks as levels of scale.

Connective capacity as a balancing act

For program management's connective capacities, the tension between joint action and the need for specialization results in limitations. This brings us to the second conclusion: *Connective capacities of program management are a balancing act.*

Program management has a coepetitive relation with both project management and its strategic network. Each of these actors has its own specialization and objective in governance processes, but they need to establish joint action to integrate and synchronize governance processes in complex systems.

In practice, we see that program management - in its balancing act - does not choose between its connection to projects and to strategic networks. In a coepetitive approach, program managers try to maintain both relations in evolving governance processes. Within each relation, they balance between conservative and dissipative patterns. For example, new dissipative relations with respect to the strategic network are needed to consolidate the effects of innovative projects. Whereas in other situations, it is necessary to make a static selection and invest in the interdependencies within this selection to realize integrated development via joint action.

Temporality is permanent

Time plays an important role in the balancing act described above and in dealing with interdependencies. Considering that connective capacities evolve over time because of continuous changes in programmatic strategies, organizational logics and their interactions, we arrive at our third conclusion: *In the connective capacities of program management temporality is permanent.*

It is concluded that synchronizing and temporizing are two main strategies program management can apply to deal with complexity via its connective capacities. Sometimes it can be necessary for program management to temporarily let projects go and to reconnect with them at a later moment. The same applies to a static project selection. These boundary demarcations are also temporary and require monitoring of parallel trajectories. To make its balancing act meaningful, program management should also regularly synchronize developments between the various levels of scale involved.

As we have seen in this study, program management as a temporary organization also has a flexible sell-by-date. Program management adapts itself in relation to evolving governance processes, but at a certain moment programs evolve into new structures or disappear.

DISCUSSION AND RECOMMENDATIONS

To finish this thesis, we reflect on its added value considering theory, methodology, and practice. This thesis has confirmed program management's evolving character for both cases of program management in complex governance processes. In these processes program management is in a constant flux, because of the continuous dynamics between projects, programs and strategic networks. This means program management in complex governance processes needs to be able to switch between, and adjust, competence profiles. This makes it even more relevant to consider program management as a distinct approach in managing complex governance processes. With fundamental changes ahead in managing the physical environment, like the new Dutch Environment and Planning Act, we recommend professionalizing the programmatic approach as an instrument for adaptive governance. As concluded in this thesis, a program management approach can support public managers in complex governance processes to cope with interdependencies, in balancing between preserving and innovating, and in linking short-term and long-term considerations.

SAMENVATTING

**CAPACITEIT VOOR COMPLEXITEIT
EVOLUERENDE VERBINDENDE VERMOGENS
VAN PROGRAMMAMANAGEMENT
IN COMPLEXE GOVERNANCE PROCESSEN**

PROGRAMMAMANAGEMENT IN COMPLEXE GOVERNANCE PROCESSEN VAN DE FYSIEKE LEEFOMGEVING

Een behoefte aan verbindend vermogen voor het omgaan met complexiteit

In afgelopen decennia is er een nieuwe type programmatische benaderingen ontstaan in governance processen van de fysieke leefomgeving. Processen van beleidsvorming, besluitvorming en implementatie in de fysieke leefomgeving zijn complex geworden als gevolg van een hoge diversiteit aan actoren, fragmentatie tussen intergerelateerde beleidsdomeinen en onzekerheid over toekomstige ontwikkelingen. Dit proefschrift wijst de fragmentatie en toegenomen complexiteit van deze governance processen deels toe aan de wijze waarop deze zijn georganiseerd, namelijk als projecten in een geprojectificeerd publiek management (Hoofdstuk 3). Na een trend van projectificatie in complexe governance processen, gaf een behoefte aan wederzijdse afstemming tussen fragmenterende projecten aanleiding tot programmificatie. Dit komt neer op een verschuiving in benadering van centrale besluitvorming en projectrealisatie naar een management van programma's. Dit resulteert in een uitdaging van verticale integratie voor programmamanagement, namelijk door het verbinden van diverse projectactiviteiten met strategische processen over een gewenste toekomstige staat van systemen en processen. In governance processen dient programmamanagement ook te handelen op gebied van horizontale integratie, door het in ogenschouw nemen van de belangen en behoeften van verschillende actoren in gerelateerde governance processen.

Als een nieuw type van programmatische benaderingen in governance processen in de fysieke leefomgeving, dient programmamanagement antwoord te bieden aan horizontale en verticale integratie in een gefragmenteerd landschap (zie Hoofdstuk 1 en Hoofdstuk 3). Dit vraagt verbindende vermogens van programmamanagement.

Fragmentatie - integratie debat in de bestuurskunde

De uitdaging van verbindend vermogen van programmamanagement is typisch voor het fragmentatie - integratie debat in de bestuurskunde. Tegenwoordig bestempelen bestuurders en publieke managers de fragmentatie waarmee zij geconfronteerd worden als problematisch en doen een beroep op een behoefte aan verticale en/of horizontale integratie. Zij vragen om gezamenlijk handelen, bijvoorbeeld in metropolitane ontwikkeling of interactieve beleidsprocessen (zoals besproken in dit proefschrift), maar zoals ook is te observeren in het Delta Programma en de nieuwe Nederlandse Omgevingswet, als een centraal loket voor alle omgevingszaken. In deze

studie wordt fragmentatie niet alleen gezien als een probleem, maar ook als een belangrijk effect van specialisatie in governance processen. Zoals besproken in Hoofdstuk 3, bieden verschillende managementtypen een verschillend antwoord op fragmentatie in governance processen. In dit proefschrift zijn volgende typen besproken: functioneel lijnmanagement, project management, proces management en programmamanagement. Tabel 1.1 in Hoofdstuk 1 geeft een overzicht van deze vier managementtypen in relatie tot fragmentatie-integratie in governance processen.

Programmamanagement is te zien als een nieuwe poging tot het creëren van gezamenlijk handelen in complexe governance processen. Binnen de context van programmatische benaderingen in complexe governance processen, onderzoekt dit proefschrift gezamenlijk handelen via het concept verbindend vermogen.

Verbindend vermogen van programmamanagement in complexe governance processen

Programmamanagement opereert typisch gezien tussen projecten en strategische netwerken. In dit proefschrift is het verondersteld dat programmamanagers handelen in een complex omgeving met wederzijdse interdependenties en een diversiteit aan percepties (zie ook Hoofdstuk 6). Verbindende vermogens worden beschouwd als het vermogen voor het omgaan met de complexiteit van fragmentatie en integratie door programmamanagement.

Verbindend vermogen pareert fragmentatie door het overschrijden van begrenzingsen en het bewerkstelligen van verbindingen. In dit proefschrift hebben verbindende vermogens betrekking op het verbinden van verschillende systeemniveaus in complex adaptieve governance processen. Programmamanagement handelt tussen de projectie van concrete activiteiten door project management en de meer strategische afwegingen door lijnmanagement. Programmamanagement staat voor de uitdaging van het omgaan met afbakeningen van projecten en strategische netwerken, en ondertussen haar eigen begrenzingsen en ambities zien af te bakenen in complex adaptieve processen.

Onderzoeksvragen

Dit onderzoek heeft tot doel onderstaande hoofdvraag te beantwoorden, die onderverdeeld is in drie deelvragen.

Wat zijn de verbindende vermogens van programmamanagement voor het omgaan met complexiteit in adaptieve governance processen met betrekking tot de fysieke leefomgeving?

DV1: Hoe ontstaat programmamanagement in complexe governance processen en welke typen van programmamanagement kunnen onderscheiden worden in complexe governance processen?

DV2: Hoe evolueren de verbindende vermogens van programmamanagement in complexe governance processen en welke strategieën en logica's beïnvloeden deze evolutie?

DV3: Hoe kan de evolutie van de verbindende vermogens van programmamanagement begrepen worden vanuit het gezichtspunt van complexiteit?

EEN TIJDPERK VAN COMPLEXITEIT

In dit proefschrift worden verbindende vermogens van programmamanagement beschouwd vanuit een complexiteitsperspectief. Voor we de onderzoeksbenadering beschrijven, leggen we de theoretische achtergrond van complexiteit uit, zoals toegepast in dit proefschrift.

Complexiteit

Complexiteitstheorieën analyseren interacties in termen van interdependenties tussen systemen, subsystemen en processen, inclusief hoe deze evolueren gedurende verloop van tijd. Complexiteit komt neer op dat de echte wereld bestaat uit een veelvoud aan elementen, van verschillende types, die gerelateerd zijn, hoewel soms losjes en waarin wederzijdse relaties veranderlijk zijn gedurende verloop van tijd.

Het omgaan met complexiteit is tamelijk nieuw voor het onderzoek over programmamanagement, hoewel dit vaker is toegepast in governance onderzoek en organisatiewetenschappen. Veel is echter nog onbekend en te leren met betrekking tot programmamanagement vanuit een complexiteitsperspectief. Dit proefschrift draagt bij aan deze kennislacune.

Project-gebaseerde management benaderingen negeren vaak complexe kwesties. Het lijkt er op dat kans en toeval een belangrijke rol spelen op het moment dat projecten falen. Een andere uitleg is dat falen voortkomt vanuit het buiten beschouwing laten van interdependenties in project afbakeningen, gebaseerd op een wens om in controle te zijn. Deze benadering van omgaan met complexiteit kan tot verdere complicaties leiden. Programmamanagement streeft naar zowel verticale als horizontale integratie in governance processen. In een complexiteitsperspectief, wordt integratie gezien als een evoluerend proces. Dit maakt het relevant om de verbindende vermogens van programmamanagement in governance processen te analyseren

gedurende verloop van tijd. Programma's in complexe governance processen worden beschouwd als in een staat van constante flux, gedreven door haalbaarheid en handelingen, en interacties van alle betrokken actoren en stakeholders. Recente studies wijzen uit dat publieke managers in deze processen complexiteit zouden moeten omarmen in plaats van het te reduceren.

Programmatische Actiesystemen

In dit proefschrift worden programma's beschouwd als actiesystemen in governance processen. Het idee achter actiesystemen als concept is dat individuen en teams meer zijn dan meegaande componenten van een organisatie, aangezien zij zelf sociale processen en normen ontwikkelen. In het nieuwe type van programmatische benaderingen, wordt programmamanagement beschouwd als sleutelactor in het begeleiden van programmatische actiesysteem in governance processen. In een complexiteitsperspectief bestaan actiesystemen uit een veelvoud van actoren en kunnen groeien en krimpen, samensmelten en zich weer verdelen gedurende verloop van tijd.

Een dynamisch zelforganisatieperspectief

In complexe governance processen wordt niet één enkele organisatie verondersteld de leiding te hebben en is er een behoefte aan gezamenlijk handelen om tot effectief management te komen. Aangezien niemand de leiding heeft, passen wij een zelforganisatie perspectief toe op verbindende vermogens van programmamanagement in complexe governance processen. Zelforganisatie wordt beschouwd als een dynamisch en adaptief proces waar systemen zelf structuur veranderen en behouden zonder externe controle. In dit proefschrift is het dynamisch karakter van zelforganisatie uitgewerkt via conservatieve en dissipatieve patronen van zelforganisatie.

Conservatieve zelforganisatie is te herkennen aan zelf-referentieel gedrag, gerelateerd aan systeembegrenzingsen, gericht op het behouden van organisatie (structuur, processen en inhoud) van actiesystemen. In interactie met andere actiesystemen, leidt dit tot gedrag voor het bevestigen van identiteit, autonomie en belangen. Dit type van gedrag bevordert fragmentatie in complexe governance processen.

Dissipatieve zelforganisatie maakt spontane verandering en adaptief gedrag van actiesystemen mogelijk in interactie met de omgeving. Actiesystemen kunnen zich aanpassen aan vragen of veranderende omstandigheden, resulterend in het ontstaan van nieuwe structuren, afgedwongen door lokale interacties, zonder oplegging door

enige externe of interne actor. Dissipatieve zelforganisatie drijft de totstandkoming, ontwikkeling en verandering van actiesystemen. Dissipatieve processen ontwikkelen zich vanuit gebeurtenissen, handelingen en interacties, en dragen bij aan het creëren van nieuwe (tijdelijke) organisaties (structuur, processen en inhoud) van actiesystemen. Dit zelforganisatie patroon is cruciaal voor integratie in complexe governance processen.

Co-evolutie tussen management benaderingen

Co-evolutie maakt het mogelijk de wederzijdse relaties tussen systemen te analyseren. In dit proefschrift passen we co-evolutie toe om inzicht te krijgen in de wederzijdse adaptaties tussen actiesystemen in complexe governance processen. Deze actiesystemen betreffen alle vormen van (tijdelijke) organisaties: project management, programmamanagement en strategische netwerken. We onderscheiden twee typen co-evoluerende processen: symbiotische en inferentiële co-evolutie. Symbiotische co-evolutie wijst op een wederzijds versterkende relatie tussen actiesystemen; inferentiële co-evolutie veronderstelt een wederzijds verzwakkende relatie tussen actiesystemen. In Hoofdstuk 7 beschouwen we verschijningsvormen van beide co-evoluerende processen in de verbindingen en afbakeningen tussen de toegepaste managementbenaderingen. Door het combineren van zelforganisatie en co-evolutie, streven we naar een veelomvattende analyse van complexiteit in de evoluerende verbindende vermogens van programmamanagement.

ONDERZOEKSBENADERING

Voor het beantwoorden van de onderzoeksvragen, hebben we programmatische benaderingen en hun verbindende vermogens in twee cases onderzocht: Beleid met Burgers en Amsterdam Metropoolregio. De cases zijn gepresenteerd in Tabel 1.5. Voor het versterken van de kennis over programmamanagement en verbindend vermogen als fenomenen, analyseert dit proefschrift iedere casus afzonderlijk binnen de eigen context. De resultaten van beide cases zijn samengebracht in Hoofdstuk 7, gevolgd door de conclusies en discussie in Hoofdstuk 8.

Case studies zijn geschikt voor complexiteitsonderzoek aangezien zij voorzien in de mogelijkheid om een geheel sociaal systeem en alle elementen als een samenhangend geheel te bestuderen. Aangezien context van belang is in complexiteitsstudies, is het essentieel om cases in hun natuurlijke setting te bestuderen. De begrenzings van een casus worden aangepast wanneer nieuwe actoren of gebeurtenissen relevant worden tijdens het onderzoek. Dit betekent dat systeembegrenzings in de cases als dynamisch en tijdelijk zijn beschouwd.

Tabel 1.5 Overzicht van de cases

| Casus | Beleid met Burgers (PwC) | Amsterdam Metropoolregio (AMR) |
|---|--|---|
| Doel van het programma | Versterken van burgeroriëntatie in de beleidsprocessen van het Ministerie van VROM | Versterken van metropolitane ontwikkeling van AMR via geïntegreerde besluitvorming |
| Thuis-organisatie | Ministerie van Volkshuisvesting, Ruimtelijke Ordening & Milieu (VROM) | Ministerie van Verkeer en Waterstaat (V&W) |
| Stakeholders in strategische netwerk | Interne departementen binnen VROM, parallelle trajecten in andere nationale departementen, consultancy organisaties met expertise over burgeroriëntatie, NGOs in relatie tot de beleidsonderwerpen | Ministerie van VROM; Ministerie van Economische Zaken, Ministerie van Landbouw, Natuur en Voedselkwaliteit; Ministerie van Financiën; Provincies Noord Holland, Utrecht, Gemeenten Amsterdam, Utrecht en Almere en andere gemeentes binnen het gebied, Schiphol Airport, NGOs en vertegenwoordigers van het bedrijfsleven in het gebied |
| Projecten | Divers scala aan burgeroriëntatie projecten (zie casus analyse) | Statische selectie van 8 projecten |
| Tijdsduur | 2003-2010 | 2003-2008 |

De interacties in beide cases zijn geanalyseerd aan de hand van meerdere rondes om kennis te ontwikkelen over de verbindende vermogens van programmamanagement (zie Paragraaf 7.3). Om meer inzicht te krijgen in hoe verbindende vermogens evolueren, zijn deze geanalyseerd in de volgende sporen aan de hand van een complexiteitsperspectief.

- Relatie tussen programma en haar strategische netwerk;
- Relatie tussen programma en projecten;
- Ontwikkeling van programmamanagement zelf.

ANALYSE: BEANTWOORDING VAN DE DEELVRAGEN

DV1: Hoe ontstaat programmamanagement in complexe governance processen en welke typen van programmamanagement kunnen onderscheiden worden in complexe governance processen?

Emergentie van programmamanagement

De emergentie ofwel het ontstaan van programmamanagement in governance processen in de Nederlandse fysieke leefomgeving wordt gedreven door gefragmenteerde projecten en een wens tot gezamenlijk handelen. Programmamanagement is te zien als een volgende stap in het creëren van gezamenlijk handelen in complexe governance processen door het verbinden van strategische netwerken met actuele projecten. In literatuur over tijdelijke organisaties, wordt deze verschuiving van een geprojectificeerde omgeving naar een programma georiënteerde omgeving een trend 'van projectificatie naar programmificatie' genoemd. De cases die we hebben onderzocht komen overeen met deze literatuur.

Typen van programmamanagement

In Hoofdstuk 4 onderscheiden we drie programmamanagement typen:

- Type 1 Programmamanagement als licht coördinatiemechanisme van een veelvoud aan projecten;
- Type 2 Programmamanagement als een shared service center voor projecten;
- Type 3 Programmamanagement als een geïntegreerde ontwikkelstrategie.

Deze archetypen benadrukken specifieke programmamanagement kenmerken. In de praktijk hebben we geobserveerd dat programmamanagement opereert als een hybride soort van bovenstaande typen.

DV2: Hoe evolueren de verbindende vermogens van programmamanagement in complexe governance processen en welke strategieën en logica's beïnvloeden deze evolutie?

Evoluerende verbindende vermogens

Vanuit de analyse van beide cases in verscheidene ronden, leiden we af dat de wijze waarop de verbindende vermogens van programmamanagement evolueren afhangt van:

- Strategieën van programmamanagement;
- Organisationele logica's van betrokken actoren in het governance proces;
- De interactie tussen beide.

Door het analyseren van verbindende vermogens gedurende verscheidene ronden (zie Paragraaf 7.3), hebben we gevonden dat verbindende vermogens van

programmamanagement in beide cases evolueren via een dynamisch patroon. Situaties waarin er een sterke verbondenheid was vanuit programmamanagement met zowel projecten als het strategische netwerk waren zeldzaam. Dit betekent dat programmamanagement haar strategieën continu dient aan te passen en haar aandacht zien te verdelen over beide partnerschappen. Binnen ieder van deze relaties is de variëteit tussen projecten en strategische actoren ook hoogst relevant. Het analyseren van de verbindende vermogens van programmamanagement gedurende verloop van tijd helpt ook om te begrijpen hoe programmamanagement zich evolueert als een adaptieve structuur in het managen van interdependenties in complexe governance processen.

DV3: Hoe kan de evolutie van de verbindende vermogens van programmamanagement begrepen worden vanuit het gezichtspunt van complexiteit?

Verschijningsvormen van co-evolutie

In het complexiteitsperspectief hebben we de concepten co-evolutie en zelforganisatie toegepast. Ondersteund door de geobserveerde co-evoluerende fenomenen, kunnen we de conclusie uit Hoofdstuk 3 onderbouwen dat de verbindende vermogens van programmamanagement zijn te beschouwen als een tweevoudig co-evoluerend proces. We hebben verscheidene wederzijdse ontwikkelingen gevonden tussen zowel projecten - programma's en tussen programma's - strategische netwerken.

De cases demonstreren dat deze managementstrategieën handelen in relatie tot elkaar en dat iedere strategie waarde toe zou kunnen voegen aan het governance proces. Zij vullen elkaar aan, omdat zij verschillen in doelstellingen en werkwijzen. Er zijn ook overeenkomsten tussen de diverse benaderingen, waardoor zij leiden tot competitie, zoals we bijvoorbeeld gezien hebben in pogingen door programmamanagement om zich op te werpen voor het slagen van specifieke projecten.

Het concept co-evolutie voorziet in een relevant perspectief voor het analyseren van wederzijdse effecten in het continue samenspel tussen project management, programmamanagement en strategisch management.

Patronen van zelforganisatie

In de analyse van verbindende vermogens van programmamanagement zijn verscheidene conservatieve en dissipatieve patronen geobserveerd in relatie tot strategische netwerken, projecten en de ontwikkeling van programmamanagement zelf.

In de casus *Beleid met Burgers* is het duidelijk geworden dat het louter stimuleren van projecten via financiering niet resulteert in dissipatieve processen voorbij de project begrenzingen. Interdependenties werden veronachtzaamd en niet gemanaged in dit proces. De statische projectselectie in Amsterdam Metropoolregio is een conservatief patroon van projectselectie die tamelijk functioneel bleek. Dit was het resultaat van een wederzijds disciplineringsproces tussen relevante overheden. Dit schepte mogelijkheden voor programmamanagement en project management om onderlinge afhankelijkheden tussen geselecteerde projecten te beschouwen. Dit leidde over het algemeen tot meer samenhang tussen projecten en verticale integratie van project management activiteiten in programmatische ontwikkeling. Door het benadrukken van majeure projecten in *Beleid met Burgers*, konden project management en programmamanagement hun doelen verbinden. Een belangrijke factor in dit proces was de verbindende (*boundary spanning*) rol van een programmateamlid, die eveneens project manager was van het *Burgerplatform* project.

Een ander effect dat we observeerden in verbindende vermogens van programmamanagement is dat zelf-referentieel gedrag door de ene actor zelf-referentieel gedrag bij andere actoren in het governance proces kan versterken. Het terugtrekken door één van de deelnemers als gevolg van zelf-referentieel gedrag, resulteerde in cascade effecten van andere participanten die zich terugtrekken. Dit is wat er gebeurde in de poging tot gesynchroniseerde besluitvorming in Amsterdam Metropoolregio. Hier resulteerde de focus van programmamanagement op een specifiek project en de rol van het Departement van Financiën, in een cascade van conservatieve reacties om vast te houden aan traditionele besluitvormingsbenaderingen.

De emergentie van een programmatische benadering in complexe governance processen op zichzelf is te beschouwen als een dissipatief proces, zoals beargumenteerd in Hoofdstuk 5 voor de casus Amsterdam Metropoolregio. Na het opzetten van programmamanagement, werd het duidelijk dat programmamanagement continu op zoek was naar haar eigen identiteit in relatie tot strategische netwerken, projecten en haar omgeving. Deze zoektocht naar identiteit is geduid als conservatieve zelforganisatie. Actiesystemen streven vaak naar autonome ruimte en voor het behouden, verdedigen of vergroten van deze ruimte. Een gevoel van het beheersen van de activiteiten van actiesystemen is een sterke drijfveer voor mensen in deze processen. We hebben ontdekt dat andere actoren in de governance processen, zoals middenmanagement, het ontbrak aan een helder beeld van het programma *Beleid met Burgers* en haar doelstellingen. Het blijkt een relevante capaciteit van programmamanagement om een eigen identiteit te hebben in complexe governance processen. Echter, zonder flexibiliteit te verliezen ten aanzien van de dynamiek in strategische netwerken en op project niveau.

CONCLUSIES

De analyse van de twee casus studies heeft geleid tot verscheidene conclusies.

Programmamanagement gaat over het management van interdependenties

Een behoefte voor integratie is afgeleid van de waargenomen interdependenties tussen projecten en fragmentatie in strategische netwerken. Actoren zijn echter ook niet bereid om specialisatie op te geven. Programmamanagement heeft te kampen met beide en wordt geconfronteerd met de uitdaging om deze conflicterende doelstellingen te verbinden binnen governance processen. Dit leidt ons tot de eerste conclusie: *Programmamanagement gaat over het management van interdependenties.*

In een complexiteitsperspectief bieden zowel co-evolutie als zelforganisatie relevante inzichten in management van interdependenties. Waar co-evolutie het wederzijdse karakter in de relaties tussen actiesystemen benadrukt, helpt het concept zelforganisatie om afbakeningskwesties te begrijpen om gezamenlijk handelen in governance processen te faciliteren. Programmamanagement verplaatst het debat over interdependenties tussen projecten naar een meer strategisch niveau. Programmamanagement is uniek in het omgaan met interdependenties tussen schaalniveaus. Programmamanagement neemt niet alleen horizontale interdependenties met andere actoren in ogenschouw, zoals interdepartementale netwerken, maar ook verticale interdependenties tussen projecten, programma's en strategische netwerken als schaalniveaus.

Verbindend vermogen als een balanceerkunst

Voor verbindende vermogens van programmamanagement leidt de spanning tussen gezamenlijk handelen en de behoefte aan specialisatie tot beperkingen. Dit leidt ons naar de tweede conclusie: *Verbindende vermogens van programmamanagement zijn een balanceerkunst.*

Programmamanagement heeft een coöpetitieve relatie met zowel project management als strategische netwerken. Ieder van deze actoren heeft zijn eigen specialisatie en doel in governance processen, maar zij hebben totstandkoming van gezamenlijk handelen nodig voor integratie en synchronisatie van governance processen in complexe systemen.

In de praktijk zien we dat programmamanagement - in het uitoefenen van haar balanceerkunst - niet kan kiezen tussen haar verbinding met projecten en met strategische netwerken. In een coöpetitieve relatie, proberen programmamanagers beide relaties te onderhouden in evoluerende governance processen. Binnen iedere

relatie, balanceren zij tussen conservatieve en dissipatieve patronen. Bijvoorbeeld, nieuwe dissipatieve relaties ten opzichte van strategische netwerken zijn nodig om de effecten van innovatieve projecten te consolideren. Terwijl in andere situaties, het noodzakelijk is om een statische projectselectie te creëren en te investeren in de interdependenties binnen deze selectie om geïntegreerde ontwikkeling via gezamenlijk handelen te realiseren.

Tijdelijkheid is permanent

Tijd speelt een belangrijke rol in zowel bovenstaande balanceerkunst als het omgaan met interdependenties. Aangezien dat verbindende vermogens evolueren gedurende verloop van tijd, als gevolg van continue veranderingen in programmatische strategieën, organisationele logica's en hun onderlinge interactie, komen we aan bij onze derde conclusie: *In de verbindende vermogens van programmamanagement is tijdelijkheid permanent.*

Het is vastgesteld dat synchronisatie en temporiseren twee belangrijke strategieën zijn die programmamanagement kan toepassen voor het omgaan met complexiteit via haar verbindende vermogens. Soms kan het noodzakelijk zijn voor programmamanagement om tijdelijk projecten te laten gaan en op een later moment opnieuw te verbinden. Hetzelfde is van toepassing op een statische projectselectie. Deze grensafbakening is ook tijdelijk en vereisen monitoring van parallele trajecten. Om haar balanceerkunst betekenis te geven, zou programmamanagement ook regelmatig ontwikkelingen moeten synchroniseren tussen de verschillende betrokken schaalniveaus. Zoals we hebben gezien in deze studie heeft programmamanagement als een tijdelijke organisatie ook een flexibele houdbaarheidsdatum. Programmamanagement past zichzelf aan in relatie tot evoluerende governance processen, maar op een zeker moment evolueren programma's in nieuwe structuren, of verdwijnen.

DISCUSSIE EN AANBEVELINGEN

Ter beëindiging van dit proefschrift, reflecteren we op de toegevoegde waarde met betrekking tot theorie, methodologie en de praktijk. Dit proefschrift heeft het evoluerende karakter van programmamanagement bevestigd voor beide cases van programmamanagement in complexe governance processen. In deze processen is programmamanagement in een constante flux, gezien de continue dynamiek tussen projecten, programma's en strategische netwerken. Dit betekent dat programmamanagement in complexe governance processen in staat moet zijn om te schakelen tussen en aanpassen van competentieprofielen. Dit maakt het zelf nog relevanter om programmamanagement als een onderscheidende benadering te zien in

het management van complexe governance processen. Met fundamentele veranderingen op komst in het management van de fysieke leefomgeving, zoals de nieuwe Nederlandse Omgevingswet, bevelen we het professionaliseren van een programmatische benadering aan als een instrument voor adaptief governance. Zoals geconcludeerd in dit proefschrift, kan een programmamanagementbenadering publieke managers ondersteunen in het omgaan met interdependenties in complexe governance processen, balancerend tussen behoud en innovatie, en het verbinden van korte en lange termijn afwegingen.

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PORTFOLIO PHD

Courses

| | |
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| Language course English speaking, OECR | 2005 |
| Academic writing in English, OECR | 2005 |
| NIG Research Skills (Problem Formulating, Operationalization, Case study, Gaming and Simulation) | 2005 |
| NIG Classics in Public Administration | 2004 |
| Course General Didactics, OECR | 2004 |

Education

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| Supervision and assessment of master thesis projects | 2006-2011 |
| Assessment of bachelor thesis project | 2007 |
| Tutorial Public Administration | 2005-2007 |

Research projects

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| Amsterdam Metropolitan Area (Ministry of Infrastructure & Water) | 2006-2008 |
| Policy with Citizens (Ministry of Housing, Spatial Planning and the Environment) | 2004-2007 |
| Learning for Governance of Sustainable Rural Development (Province Noord-Brabant) | 2005-2007 |
| Education par Action, learning process WaterInnovatiebron (Rijkswaterstaat) | 2004-2005 |
| Learning process transition portfolio TNO | 2004 |

Presentations Academic Conferences

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| American Society for Public Administration (ASPA); Miami. Session: Applying Tools of Complexity Theory to Understanding Metropolitan Governance | 2009 |
| European Academy of Management (EURAM); Ljubljana, Track 'Projects and Programmes: Diversity of Management, Diversity of Aims and Interests' | 2008 |
| European Academy of Management (EURAM); Paris, Track: 'Projects and Programmes: Strategies for Creating Value in the Face of Uncertainty' | 2007 |

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| Organisational Learning, Knowledge and Capabilities (OLKC); Warwick Track: Learning and knowledge transfer in public services | 2006 |
| Netherlands Institute of Government (NIG); Amsterdam Session Public management in a joined-up world | 2006 |
| Complexity, Science & Society Conference; Liverpool Stream: Learning, Organizing and Complexity | 2005 |
| Werkcongres Lof der Verwarring, Rotterdam, | 2005 |
| European Regional Science Association (ERSA); Amsterdam Session on Co production in Spatial Area Development | 2005 |
| Professional presentations, meetings and workshops | |
| Dialogue about Programmatic approaches with VROM-Assessment Agency; Rotterdam | 2007 |
| Transumo workshop about Sustainable mobility in Randstad Urgent; Almere | 2007 |
| Transumo Meetings Amsterdam Metropolitan Area; The Hague | 2006-2007 |
| Transumo Presentation project meeting; Utrecht | 2006 |
| Colloquium Vervoersplanologisch Speurwerk (CVS); Amsterdam Session Transition at Program level | 2006 |
| Habiforum Presentation network meeting; Amsterdam | 2006 |
| TRAIL Congress and Knowledge Market, Organization of tutorial with Prof. dr. L. Bertolini and Prof. dr. H. Geerlings, Delft | 2006 |
| Several presentations at TNO (co-host of PhD research) | 2004-2008 |
| Other | |
| Reviews for a.o. Int. Journal of Project Management, Public Management Review | 2009-present |
| Secretary research group Centre for Public Management / Governance and Networks | 2005-2006 |
| PhD and Postdoc column magazine of Faculty of Social Sciences | 2005-2006 |
| Member of the PhD platform Public Administration | 2004-2012 |

ABOUT THE AUTHOR

Jean-Marie Buijs (1980) is a researcher and lecturer dedicated to complex governance processes of the physical environment and their meaning to society.

He holds a Master's of Science in Policy and Organization Studies (2004) from Tilburg University, where his graduation thesis focused on applying action research in complex policy processes.

He then conducted his PhD research in Public Administration at Erasmus University Rotterdam and TNO Built Environment and Geosciences. In his PhD research, Jean-Marie studied how program management copes with complexity in governance processes of the physical environment. In these governance processes program management's connective capacities evolve in relation to projects and strategic networks. Program management continuously searches for a temporal equilibrium in managing interdependencies.

Alongside his PhD research, Jean-Marie has worked as a researcher and advisor in several projects for TNO Built Environment and Geosciences, specializing in learning trajectories in transition processes. He also contributed to knowledge programs about transitions towards sustainable mobility and innovative land use.

In 2013, Jean-Marie joined HZ University of Applied Sciences as a senior researcher and lecturer. He teaches on governance, flood risk management and resilience as part of the Delta Academy. He co-leads the research group Resilient Deltas. This applied research program focuses on climate adaptation and flood risk management. They conduct this research in collaboration with professionals, students and other knowledge institutes. Jean-Marie specializes in developing applied knowledge about interdisciplinary governance processes, adaptive planning and coping with complexity to enhance the resilience of deltas.

In his personal life, Jean-Marie is an active member of the community board in his hometown. In this role he enjoys supporting grass roots initiatives.

