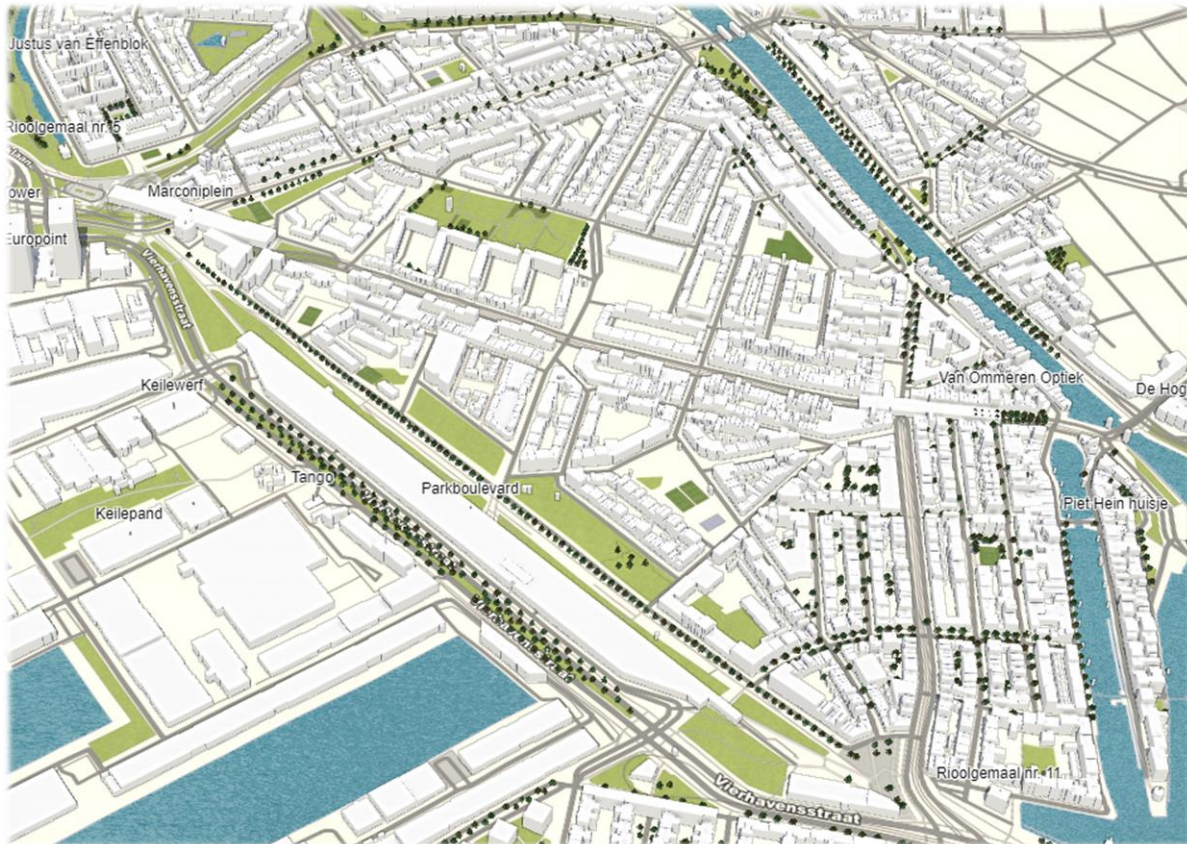


Institutional enablers and barriers towards social resilience: *A case study in Rotterdam Bospolder-Tussendijken*



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Institutional enablers and barriers towards social resilience

Master thesis submitted to Delft University of Technology
in partial fulfilment of the requirements for the degree of

MASTER OF SCIENCE

in **Complex Systems Engineering and Management**

Faculty of Technology, Policy and Management

by

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To be defended in public on July 8th, 2021

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Acknowledgements

The past few years have been a journey of discovery for me. I feel truly blessed for being privileged with the opportunity to pursue a degree as it has enriched my life in various ways. In essence, and as expected, I have been provided with invaluable skills that are to be deployed on my perpetual quest for knowledge. However, I have to say that the peculiar international experiences have mostly shaped me into the person that I am today. The times that I have spent studying in Indonesia, India, Suriname and Portugal have allowed me to firsthand experience different ways to approach life. I am convinced that this wonderful time will serve as a foundation in my personal and professional development.

The master thesis you are about to read is the conclusion of my academic journey. At the time that I am writing this, the world is still struck by a pandemic that fundamentally altered the ways we function as a society. To put it mildly, the past year has been a challenging time for me that included some inevitable frustrating moments and setbacks. Regardless, I have to say that working on my thesis brought me many enjoyable moments as well, as it allowed me to rediscover the area in which I grew up from an academic perspective.

I would also like to take the opportunity to thank the people who contributed to the completion of my thesis. First and foremost, I would like to thank my family, especially my mother and sisters, for giving me the necessary support during the difficult times throughout our lives. Secondly, I want to thank the members of my graduation committee, for the motivational discussions and useful feedback. At the moments when I was stuck for a while and thought too much *'inside the box'*, the tips and adjustments they provided were very enlightening. At last, I want to express my gratitude to the people who contributed to this research by allowing me to interview them.

Executive summary

Society as we know it is changing fast in numerous ways. Contemporary urban planners have to deal with the complex interplay of a variety of spatial, environmental, ecological, cultural and socio-economic challenges. Resilience-thinking has become a global popular perspective for the governance of urban systems in both research and policy and seems to be the new magic word when it comes to how should be dealt with urban challenges. The social resilience of a neighbourhood refers to the collective capacity of residents to react and anticipate disruptive events or changes. Enhancement of this collective capacity requires enabling informal actors such as residents to self-organize and take ownership in the provision of public tasks. In this way, fostering resilience within urban areas emphasizes the interactions that take place between formal and informal actors resulting into collective behavior and actions as a response to internal and external forces of change. However, efforts made by self-organizing residents are not always aligned with the interests of local governments which forms a potential source of conflict. To resolve and prevent such conflicts, experiences with self-organized initiatives can lead to insights into how institutional processes can be organized more flexible and less strict.

This also plays a role in the Resilient Bospolder-Tussendijken 2028 project in the city of Rotterdam. This project has the aim to increase the social resilience of the Bospolder-Tussendijken neighbourhood in Rotterdam. The Veldacademie is a knowledge institution involved with this project and wants to monitor the development of the governance system of BoTu. As such, the current explorative qualitative study is concerned with investigating how the extent to which formal and informal actors are resilient in interaction with one another can be determined. Thereby, the focus was on investigating what institutional challenges formal and informal actors face in their efforts to contribute to a resilient city with the Resilient Bospolder-Tussendijken 2028 programme of the city of Rotterdam as the research context. This program aims to increase the social resilience of the Bospolder-Tussendijken neighbourhood of Rotterdam. The corresponding research question was formulated as follows: **“To what extent are formal and informal actors of BoTu resilient in their interactions with one another, with regard to conflicts that arise from institutional changes, and what lessons can be learned from these interactions?”**

To answer this research question, a literature study was conducted that led to the development of the Institutional Resilience Analysis and Development (IRAD) framework that is suited to evaluate the resilience of the interactions between formal and informal actors. This IRAD framework is a modified version of the Institutional Analysis and Development (IAD) framework from Elinor Ostrom, that has been complemented with elements resulting from the performed literature study. Thereby, several forms of capital that encompass various resources that informal actors can draw upon to act resilient have been identified. These forms of capital are (1) social capital, (2) cultural capital, (3) human capital, (4) natural capital and (5) built capital. Furthermore, several qualities related to the self-organizing capacity of urban governance systems have been identified that can be used to evaluate the actions of formal actors and involve (1) mobilizing capacity, (2) binding capacity, (3) reliability and (4) institutional flexibility. To test and validate the developed IRAD framework, it was then applied to a case study within the research context of the Resilient Bospolder-Tussendijken 2028 program in Rotterdam. Based on an initial desk research, a case study was selected based on the criteria that it concerned a conflict between formal and informal actors that arose from institutional changes. This led to the selection of the sale of the property of an initiative called the “Zelfregiehuis”, in which the Municipality of Rotterdam was in conflict with residents and informal organizations with regard to the management of societal real estate. Desk research and semi-structured interviews with formal and informal actors were used to gather data. The analysis of the data involved coding and organizing the transcripts of the interviews based on the components of the developed IRAD framework.

The application of the IRAD framework to the case study led to multiple insights concerning enablers and barriers for resilient interactions that provide an answer to the main research question. The informal actors of BoTu are represented in the case study by residents and informal organizations. These informal actors are enabled to act resilient due to a large amount of social and cultural capital allowing for the mobilization of people and escalation through media when in conflict with formal actors. Whereas the lack of human capital in the form of knowledge and financial resources have been identified as barriers for resilient actions. Furthermore, various rules in use have been identified as being enablers and barriers for resilient actions. Existing institutional arrangements seem to impede the self-organizing capacity of residents, making the formal actors such as officials from the Municipality of Rotterdam rigid and unresponsive. Although there are also various rules and policies that argue for this self-organizing capacity, these do not seem to be institutionalized well enough for informal actors to appeal to them. Furthermore, the actions of formal actors have been evaluated by using the qualities of the self-organizing capacity of a governance system as criteria. Thereupon, the lack of trust of residents in the Municipality, lack of communication between formal actors and informal actors and a lack of a political base for new insights have been identified as barriers to resilient actions.

The findings of this study suggest that the formal and informal actors of the BoTu community can be considered being as well resilient as non-resilient in interaction with one another. Therefore, various lessons were extracted from the performed analysis. One of them being that expertise and financial resources turned out to be important requirements for the self-organization of initiatives by residents. Furthermore, several rules and the bureaucracy and hierarchy in which decision-making processes are structured within the Municipality of Rotterdam that guide the actions of formal actors, have been identified as core rigidities of formal actors, making them unresponsive to requests from informal actors. New ways of working together must therefore be found, with rules that offer adaptivity within institutional arrangements by adjusting the rules of the game based on new insights in a timely manner. The last lesson is that mutual trust is an important precondition for resilient actions that can be built through improved communication.

Concludingly, it can be stated that application of the IRAD framework has been useful to identify both enablers and barriers for resilient interactions between formal and informal actors. The results from the case study shows that both type of actors work in a future-oriented ways, that are not always compatible with one another. The formal actors still work in traditional ways, with various rules in use that are exercised top-down and have a short-term focus on monetary gains which in turn can be used to support vulnerable residents. On the contrary, informal actors are trying to contribute to the social resilience of the neighbourhood through self-organization and have a long-term focus by providing vulnerable residents with political and financial awareness. The formal and informal actors seem to have the same goal, but a different perspective on how this goal should be achieved.

The IRAD framework can be deployed by the Veldacademie to monitor the governance of BoTu through multiple case studies. Along these lines, it can be used to assess whether the outcomes of the Zelfregiehuis case have indeed led to altered decision-making processes and more resilient interactions between formal and informal actors. Other recommendations for future research concern the assessment of other conflicts between formal and informal actors, or using the IRAD framework with a focus on other types of urban commons, such as energy-related commons.

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“By far the greatest and most admirable form of wisdom is that needed to plan and beautify cities and human communities.” – Socrates

1. Introduction

1.1 Research problem

The world we live in is changing faster than ever before. Cities around the globe are subjected to profound changes such as migration, demographic changes, and social changes due to digitalization (TBM, Afstudeeropdracht). While such changes can hardly be influenced at the local level, being prepared for their repercussions and being able to respond appropriately remains a local responsibility (Wilson, 2012). Over the last couple of decades, resilience-thinking has become a global popular perspective concerning the ability of cities to adjust, reorganize and develop as a response to shocks (Boyd and Folke, 2011). Within urban policy, increasing the resilience of cities emphasizes the need for institutional flexibility and capacity to change due to the unpredictable nature of contemporary societal developments.

From a traditional point of view, the government has been considered the main provider of public value and solutions to societal challenges. Due to decentralization and retrenchment of the government, the creation of public value is no longer the sole responsibility of formal actors represented by public organizations. Contemporary institutional arrangements function on the basis of multi-actor collaborations between formal actors such as local governments and institutions and informal actors such as residents, businesses and knowledge institutions (Van Buuren & Meulenbeld, 2016). At the same time, there is a rapid increase in resident-driven initiatives that are organized by residents themselves, in which civil society organizations are taking a leading role in the provisioning and management of public tasks (Van Buuren, 2018).

In practice, it turns out to be difficult for public organizations to contribute to the self-organizing capacity of residents, which is partly due to substantial role that the government has traditionally played in the provision of public tasks (Taylor, 2007). Due to divergent interests of formal and informal actors and their different approaches to solve societal problems, self-organizing residents often find themselves operating within the so-called “*shadow of hierarchy*” with local governments still being able to control the rules of the game and vital resources (Scharpf, 1994; Taylor, 2007). This creates a tension between local governments' desire and pursuit of resilient cities and their inability to open up the decision-making process, as the capacity for self-organization and ownership are deemed essential for the creation of long-term resilience (Doff, 2019).

As citizen-driven initiatives frequently rely on public funding, it is essential to determine how truly independent they are while being linked to established governmental organizations (Healey, 2014). As such, experiences with self-organized initiatives can provide us lessons concerning institutional processes that can be organized in more flexible and less strict ways (Van Buuren, 2018). A lack of institutional flexibility is a potential source of conflicts between formal and informal actors, with local governments remaining in control over institutional processes.

Provided with this increasingly evolving urban and institutional landscape, the question arises whether the way cities are currently organized and governed is adaptable or resilient enough to move with changes in cities and allows for efficient and legitimate solutions to societal problems (van Buuren & Meulenbeld, 2016). This explorative study is an empirical contribution to the thriving field of the social resilience scholarship by investigating what institutional challenges formal and informal actors face in their efforts to contribute to a resilient city. The research context is the Resilient Bospolder-Tussendijken 2028 program of the city of Rotterdam.

1.2 Research background: Resilient Bospolder-Tussendijken 2028

In 2013, The Rockefeller Foundation initiated the initiative “100 Resilient Cities”, which is now known as the “Global Resilient Cities Network”. The purpose of this network is to assist and guide more cities to better respond to the increasing physical, social and economic challenges of the 21st century by increasing their resilience (“100 Resilient Cities - The Rockefeller Foundation”, 2020). This is defined by the Rockefeller Foundation as *“the capacity of individuals, communities, institutions, businesses and systems within a city to survive, adapt and grow - no matter what kinds of chronic stresses and acute shocks they experience”* (“100 Resilient Cities - The Rockefeller Foundation”, 2020).

As one of the first members of this network, the city of Rotterdam unveiled its very first Resilient strategy in 2016. The aim of the strategy is to make the city more resilient and prepared for challenges of the 21st century such as climate change, digitalization, the new economy, and globalization (Resilient Rotterdam, 2021). Thereby, the main focus for Rotterdam’s resilience are: *“social cohesion and education, the energy transition, cyber use and security, adaptation to climate change, infrastructure and changing governance”* (Resilient Rotterdam, 2021).

This resilience strategy is linked to various initiatives at the neighbourhood level. One of these initiatives is the neighbourhood development program Resilient Bospolder-Tussendijken 2028 (hereinafter referred to as BoTu2028), which has been established in Rotterdam’s neighbourhood *Bospolder-Tussendijken* (hereinafter referred to as BoTu) in 2018. The BoTu2028 program aims to make the neighbourhood *“the first resilient neighbourhood of Rotterdam”* by 2028 and thereby specifically focuses on increasing the social resilience of the informal actors and formal actors, that operate at various governance levels, of the BoTu community (Veldacademie, 2020).

Within the program, the aforementioned definition of resilience as indicated by the Rockefeller Foundation is used as a starting point. The BoTu2029 program specifically focuses on the improvement of the social resilience of human systems, such as individuals, communities and organizations (Veldacademie, 2020). It is assumed that potential sources of social resilience are reflected in the ability of a community to act collectively, which requires a community to be able to collectively mobilize available resources (community capacity) and to develop relations between people and organizations (community agency) (Veldacademie, 2020). Such collective actions are deemed resilient if they are a future-oriented response of a community to major events or changes.

The Veldacademie is a knowledge institution that takes part in the BoTu2028 program. They are responsible for the monitoring of the progress that the program has made since the kick-off in 2019. Once per year, a monitoring report is published by the Veldacademie in which they document how social resilience is developing within BoTu to stimulate a collective learning process in support of the BoTu2028 program (Veldacademie, 2020).

One of the aspects that Veldacademie is particularly interested in and wants to monitor is the development of the governance system of BoTu. The central question hereby is to find out to what extent the government is as responsive as intended by all involved parties. However, they have identified a lack of an existing framework that can be used to monitor such change. At their request, the current study focuses on the development of a framework that can be used to analyse the resilience of multi-level and multi-actor interactions.

1.3 Problem statement and research objective

The above-mentioned developments, depicting an incomplete picture of the self-organizing capacity of informal actor such as residents and subsequent implications for multi-actor urban governance systems, form the basis for this research. Provided with the changing urban context in which formal and informal actors increasingly interact with each other, an important question is how to determine the extent to which formal and informal actors are resilient in their interactions with one other when they are in conflict with one another due to institutional changes.

Consequently, the aim of the current study is to develop a framework that is suitable to analyse the resilience of interactions between formal and informal actors at the neighbourhood level. This framework is then applied to a case study, in which the interactions between the formal and informal actors of BoTu resulting from conflicts have been studied and analysed with the following research objective:

Determine the extent to which formal and informal actors of BoTu are resilient in their interactions with one another with regard to conflicts that arise from institutional changes.

1.4 Main research question

As this research aims to explore to what extent the interactions between formal and informal actors of BoTu are resilient when in conflict with one another, as a response to institutional changes, the main research question has been formulated as follows:

“To what extent are formal and informal actors of BoTu resilient in their interactions with one another, with regard to conflicts that arise from institutional changes, and what lessons can be learned from these interactions?”

1.5 Research approach and sub-questions

To answer the main research question, a qualitative research approach has been adopted, as this allows for the understanding of the empirical reality by taking the context within which phenomena and actors are located into account (Van Thiel, 2014). The first part of this qualitative research consists of a literature study with multiple predefined purposes.

The first part of the literature review has the purpose of defining social resilience and identifying factors that contribute to resilient interactions. The following sub question is formulated for this purpose:

SQ 1: What is social resilience and how can formal and informal actors contribute to it in their interactions with one another?

The second part of the literature study focuses on the identification of a framework that can be used to study the interactions between formal and informal actors from an institutional perspective. The following sub-question has been formulated for this purpose:

SQ 2: Which framework is most suited to be used to analyse the interactions between formal and informal actors from an institutional perspective?

As this study aims to assess the resilience of the interactions between formal and informal actors, the second part of this qualitative research deploys an exploratory case study approach. The framework resulting from the performed literature study is used as a theoretical lens to analyse the interactions that resulted from institutional changes that led to conflicts within BoTu. The resulting findings are then assessed based on the contributing factors that resulted from the first sub question. Thereby, semi-structured interviews with formal and informal actors and desk research have been performed in a triangulating way. For this, the following research question has been formulated:

SQ 3: What interactions take place between the formal and informal actors of BoTu, as a result of conflicts that arise from institutional changes in 2020?

The results from the case study are then used to extract lessons from the outcomes of the institutional analysis on the interactions between the informal and formal actors of BoTu. For this reason, the following research question has been formulated:

SQ4: What lessons can be learned from the application of the framework to the case study, that can contribute to more resilient interactions between formal and informal actors in the future?

1.6 Document structure

In the following chapter the research context will be presented in which the main features of the BoTu neighbourhood and Resilient BoTu 2028 programme will be provided. In the third chapter, a literature study is performed for the development of framework that is suitable to evaluate the actions of informal and formal actors. In the fourth chapter, the research design and methods of data collection and analysis of this study are addressed. In the fifth chapter, the framework is applied to a case study and the results are discussed accordingly. In the sixth chapter, the results of this study are discussed by answering the sub-questions and addressing the limitations of this study. In the seventh and last chapter, the main research question is answered and recommendations for future research are provided.

2. Research context: the neighbourhood Bospolder-Tussendijken and BoTu2028 programme

2.1 The neighbourhood Bospolder-Tussendijken

With over 14.000 residents living on one square kilometer, of which 70 percent has a non-western background, the neighbourhood Bospolder-Tussendijken is characterized by both a high population density and high diversity (Veldacademie, 2020). Reflected by a strong concentration of social problems such as unemployment, high indebtedness and low quality of housing, BoTu is known as one of the poorest neighbourhoods of the Netherlands (Veldacademie, 2020).

At the same time, the neighbourhood is known for its active residents whom are involved in various self-organized initiatives to improve the conditions of the neighbourhood (Veldacademie, 2020). Most of these initiatives depend on subsidies and the administrative processes to be acquired and are often fragmented and compartmentalized (Veldacademie, 2020). Moreover, the interest of the city and the interests of the neighbourhood's residents are not always aligned, as they operate at different scales of the city (Veldacademie, 2020).

These characteristics of the neighbourhood stimulated the Municipality of Rotterdam and local organizations to develop an innovative neighbourhood development programme known as Resilient BoTu2028. Within this programme, BoTu is seen as a testing ground for innovation and improvement (Veldacademie, 2020).

2.2 The BoTu2028 programme

Within the BoTu2028 programme various formal organizations from the public and private domain work together with informal local organizations and residents. As defined within the first Monitor of the Veldacademie (Veldacademie, 2020), actors are considered to be formal actors if they have decision-making power and influence, or are related to the municipality, whereas organizations such as bottom-up initiatives or foundations that are mainly initiated by local residents, are considered to be informal actors (Veldacademie, 2020).

The BoTu2028 programme aims to make BoTu “*the first resilient neighbourhood of Rotterdam*” by 2028 and to increase the Social Index of 94 for Bospolder and 84 for Tussendijken to the city's urban average of 100 in the same period. This Social Index is part of the Neighbourhood Profile (*Wijkprofiel*), which is a monitoring tool that was launched by the Municipality of Rotterdam in 2014. This tool is used to assess neighbourhoods in Rotterdam along the themes of safety, self-reliance, social cohesion, public participation and binding.

Within the BoTu2028 programme, improvements within the themes of the Social Index are considered to only partly contribute to the social resilience of the people that live in the neighbourhood. BoTu is regarded a testing ground for Rotterdam, in which various actors from different domains worked together in different ways. The leading thought behind the approach of BoTu2028 is that social resilience of the residents of BoTu can be improved by addressing social resilience within the three domains of 1) care, youth and education, 2) work, language and debt, and 3) energy, living and outdoor space (Veldacademie, 2020).

The Municipality aims to do so through three interventions across these domains that are led by collaboration between the market, the government and local residents in networks. These interventions are called “*Community Building*”, “*Social Impact by Design*” and the “*Use of resilient professionals*”. The intervention *Community Building* aims to further enhance, connect and mobilize local communities. The leading thought behind the intervention is that active ownership and resident involvement are necessary for sustainable resilience of the neighbourhood (Veldacademie, 2020). The intervention *Social Impact by Design* is concerned with new ways of collaboration between the market, society and public authorities. Hereby individuals, entrepreneurs and market parties are invited to submit plans to increase the resilience of the neighbourhoods to stimulate innovation and to tie private financing to the programme (Veldacademie, 2020). The intervention *Use of resilient professionals* is intended to bridge the existing gap between residents and facilities in BoTu. The leading thought is that this can be achieved through responsive and flexible public authorities and resilient professionals working closely with residents, key figures and informal networks within BoTu (Veldacademie, 2020).

In addition, one of the goals of the programme is to ensure that spatial and social investments are made in tandem so that they can complement one another (Veldacademie, 2020). Because, in addition to being a social challenge, climate adaptation and energy transition is also a major task in BoTu. In this way activities such as making homes more sustainable, tackling outdoor space and the energy transition have the potential to be a powerful tool for community building, education, employment, and poverty alleviation.

2.3 Monitoring of the programme by Veldacademie

The Veldacademie is the knowledge institution that monitors the developments of BoTu by investigating whether and how changes in the neighbourhood contribute to the resilience of the neighbourhood and its residents. The resulting findings are documented in a Monitor that is published yearly and consists of four parts.

The first part concerns the social development of the neighbourhood which is measured with the Index+, that is an extension of the existing Social Index designed by the Municipality of Rotterdam. This extension entails the inclusion of additional indicators, such as the Healthmonitor, due to their significance with regard to the BoTu2028 programme (Veldacademie, 2020). This is the Monitor's quantitative component, and it shows how the neighborhood and its residents are progressing in comparison to other parts of Rotterdam. In the second part an inventory of the social networks of the neighbourhood is made by mapping all initiatives. From there the active networks of the neighbourhood are explored. The third part concerns the combination of private and public budgets. The BoTu2028 programme assumes that a greater social return from an investment can be achieved if private and public budgets are combined. For example, by raising private resources for a public investment. In the last part The Veldacademie documents how the organizational structure and governance of the neighbourhood develop. The central question in this part of the Monitor aims to answer if the government and local institutions are as responsive as intended by the involved collaborating formal and informal actors. This study is a contribution to this last part of this Monitor.

3. Literature study

This study focuses on the extent to which formal and informal actors are resilient in their interaction with one another. Hence, it is necessary to define resilience and find out what aspects contribute to resilient interactions. Therefore, the first part of the literature study defines social resilience and identifies factors that can be taken into consideration to assess the resilience of informal actors. The second part of the literature study focuses on the notion of governance and identifies factors to assess the resilience of formal actors. The third and last part of the literature review focuses on finding a suitable framework that can be used to study interactions between formal and informal actors from an institutional perspective. At the end of the literature study, a framework is provided in which all the findings from the literature are integrated.

3.1 Social resilience

3.1.1 Evolution of resilience-thinking

The concept of resilience is not new. The word's origin stems from the Latin word "*resilio*" which means "*to jump back*". Its first scientific application can be traced back to Material Science and Engineering, within which it concerned the ability of a material "*to store strain energy and deflect elastically under a load without breaking or being deformed*" (Klein et al., 2003). This definition of resilience translates into the ability to bounce back to status quo after being disturbed.

Since then, the concept of resilience has been metaphorically adopted by other scientific fields, such as Psychology (1950's), Human Ecology (1990's) and Social Sciences concerning disaster risk reduction and climate change adaptation (2000's) (Alexander, 2013). As people can think ahead and adapt or transform themselves, the application of resilience within these other fields led to the consideration of the ability to bounce forward to a new stable state (Doff, 2017).

Depending on the discipline, there are different views in the scientific literature about the interpretation of the concept of resilience (Matarrita-Cascante et al., 2017). Both the notion of "social resilience" and the notion of "community resilience" are generally used to indicate the ability of a community to "*cope, adapt or transform as a reaction to a variety of shocks and stressors*" (Davoudi, 2012; Mehmood, 2016). Within the scientific literature a general distinction is made between shocks that are either caused by nature or by human actions.

However, Vale (2014) indicates that shocks caused by nature are also intertwined with social and economic processes and thus are related to societal choices made through political decision-making. In addition, Turner et al. (2003) distinguish between shocks and stressors by suggesting that shocks are more instant (e.g. natural disasters, pandemics and terrorist attacks). In contrast, stressors are defined as slowly increasing pressures (e.g. climatic and demographic change). This variety of interpretations and sources of shocks and stressors within the scientific literature make resilience a multi-dimensional concept that is used across disciplines in a "*fuzzy*" way (Steiner & Markantoni, 2014).

3.1.2 Emergence of social resilience

As the BoTu2028 programme is primarily concerned with the social resilience of the neighbourhood, it is within this sub-field of resilience that this present study is situated. This form of resilience is primarily concerned with the capacity of communities to collectively resolve shocks and stressors caused by social, economic, and political processes (Platss-Fowler & Robinson, 2016). To come up with a position paper for the BoTu2028 programme, Doff (2017) conducted a review of the existing literature on the concepts of social resilience and community resilience.

Within the discussed literature, Doff (2017) identified the related concepts of community capacity and community agency as underlying necessities for resilient collective actions by a community. According to Chaskin (2008), community capacity refers to the resources available to the community and the mechanisms of collective action. Both community resilience and capacity are concerned with the existence of resources. According to Magis (2010), the difference is that resilience takes place in a context of change. So, community capacity is a necessary, but not a sufficient condition for social resilience, as resilience is about action taken and not just to the ability to act.

For such collective action, community agency is also needed which is defined by Matarrita-Cascante et al. (2017) as the capacity (of a community) to develop relationships between people and organizations for the purpose of collective action. Doff (2017) adds to this that the difference with community resilience is that community agency is solely about social resources. As community capacity, community agency can take place in any context, while resilience involves a (future) stressor or disruption that makes it necessary for communities to show resilience (Doff, 2017).

So, community capacity can be seen as potential resilience reflected by the collective capacity of a community to mobilize available resources. Whereas community agency is about the capacity (of a community) to develop relationships between people and organizations to act collectively by transforming potential resilience into action. Together, these concepts contribute to the ability of communities to collectively act in a future-oriented way in response to major events or changes. Therefore, both concepts are considered as underlying necessities for social resilient behavior and actions within the BoTu2028 programme (Veldacademie, 2020).

3.1.3 Importance of availability of resources

Three dimensions of social resilience are mentioned by Keck and Sakdapolrak (2013): (1) coping capacities, which include the capacity to recover from setbacks, (2) adaptive capacities, which include the ability to learn from past experiences and adapt to future challenges, and (3) transformative capacities, which include the ability to engage in decision-making and thus alter institutions. These capacities of a community as a reaction to disturbances depends on the presence of, and access to, resources (Doff, 2017). While such resources are not regarded indicators of resilience (Platts-Fowler & Robinson, 2016), the availability of them is nevertheless expected to contribute to the ability of residents to act resiliently (Magis, 2010). According to Magis (2010), such resources can be found in the natural environment, in the people who reside in the community, in their culture, in their interpersonal relationships, in the community's economy and infrastructure, and in the political processes in which the community participates. Doff (2017) classified these resources into the following forms of capital: social capital, cultural capital, human capital, natural capital and built capital which are further discussed in the sections below and are summarized in Table 1.

The presence of **social capital** within communities is particularly emphasized within social resilience literature. Thereby the focus lies on the relationship between existing connections and networks on the resilient behavior of residents of a community. There are different forms of social capital, being the bonding, bridging and linking social capital (Aldrich, 2012). **Bonding social capital** refers to connections within homogenous networks. These are defined as the relationships a member of community has with likewise people such as family, relatives or kinship (Aldrich, 2012). **Bridging social capital** refers to connections between such homogenous networks (Aldrich, 2012). These are defined as the relationships between members of a community that are not likewise in some demographic sense. **Linking social capital**, also referred to as **political capital**, refers to connections between members of a community and people with power or resources, such as government representatives, nongovernmental organizations or authority figures (Aldrich, 2012). **Political capital** is defined by Magis (2010) as “*the extent to which people and communities have relations with gatekeepers, which are individuals that have access to resources*”.

Furthermore, **Cultural capital** is also identified as a resource that can contribute to community resilience and refers to the extent to which members of community have shared values and identities (Doff, 2017). Moreover, the availability of **human capital** is also deemed important, which is related to the knowledge, skills and income of members of the community. These resources influence how one responds to acute and chronic changes. In their study on community resilience in England, Platts-Fowler & Robinson (2016) found that this human capital was frequently mentioned as one of the primary resources serving collective interests. At last, the spatial environment is mentioned whereby a distinction is made between **natural capital** (e.g. forests, mangroves, dunes and fossil fuels) and **built capital** (e.g. bridges, buildings and dams) (Magis, 2010; Wilson, 2012). In addition, the study conducted by Platts-Fowler and Robinson (2016) also points out the importance of so-called third places, that are informal public spaces where people come together.

Type of capital	Resources
Social capital	Networks, contacts, connections
Cultural capital	Identity, values
Human capital	Income, knowledge, skills
Natural capital	Natural resources
Built capital	Infrastructure, buildings

Table 1. Various forms of capital (adopted from Doff, 2017)

3.2 Adaptive governance and self-organizing capacity

3.2.1 “From government to (network) governance”

Traditionally, governance has been associated with governments exercising power over society, to the degree that it became a synonym for “government” (Kjaer, 2004). Over the last decades, the concept of governance has been applied in many different contexts, with many meanings. The different definitions and understanding often vary depending on perceptions of the role of the state (Kooiman et al., 2008). Within this perspective on governance, governing positions are moved from the central state to other actors (Kooiman et al., 2008). This is perceived in the decentralization of the government, which entails as well vertical decentralization (authority handed down to local governments) as horizontal decentralization (involvement of non-public actors) (Ranis, 2019). This has led to the shift from traditional hierarchical forms of organization to the adoption of network forms, through which new actors have joined the process of governing society. This is also known as network governance, which emphasizes the complex processes taking place in networks of formal and informal actors (Provan and Kenis, 2008).

3.2.2 Adaptive governance

Similar to the notion of resilience, the concept of adaptive governance originates from the Ecological Sciences, in which it is primarily concerned with making ecosystems more resilient through adaptive management practices (Holling, 2001; Folke, 2007). Such adaptive management practices change the task of local institutions from limiting change to organizing and shaping the urban system in such a way that it can cope with, adapt to, and allow for further changes (Folke, 2006; Gunderson and Light 2006). In this way, the approach is considered to enable local governments to deal with the challenge of uncertainty “*by either increasing the resistance to undesirable change or facilitate the ability to transform a system to a more desirable state*” (Adger et al., 2009; Chaffin et al., 2014). The overall goal of adaptive governance is to build system resilience and adaptive capacity by enabling people and communities to live with change and uncertainty, to enable social learning that combines different types of knowledge, to build trust and social capital and to embrace flexible institutions that are designed to be prepared for change that facilitate experimentation, learning and change by creating the opportunity for self-organization (Folke, 2006).

3.2.3 Self-organizing capacity of governance system

The importance of the self-organizing capacity of urban governance systems is also emphasized by Van Buuren & Meulenbeld (2016). In their study on the resilience of the urban governance system of Rotterdam they found that the self-organizing capacity of the governance system of the city is important to bring out necessary changes, to proactively influence the prevention of future crises or limit their consequences. In order to generate resilience, it is important for a government to make use of this self-organizing capacity. However, in practice it turns out to be a burden for the government to make use of this capacity. This is mainly due to the fact that urban governance systems that are well-organized have built up a certain degree of robustness (Van Buuren & Meulenbeld, 2016). While this robustness is a core competence, it is also a core rigidity that can become a competence pitfall according to Van Buuren & Meulenbeld (2016). This is the case for instance, when this robustness impedes the government from being flexible towards self-organizing residents.

To make use of the self-organizing capacity, the government must have the following four qualities (Van Buuren and Meulenbeld, 2016). The government must firstly have mobilizing capacity, which means that initiatives from others are provoked, reinforced and used. For this it is important that the government radiates openness to initiatives and actively invites parties to participate and / or think. Secondly, it is important that the government has binding capacity, which means that the government must be able to connect crucial partners to itself and to each other. Thirdly, it is also important that the government is reliable, so that partners know what to expect and can prepare for this. This concerns reliability in the sense of good governance, legal certainty and continuity. Finally, governments must have institutional flexibility to be able to adapt to requirements set by emerging initiatives by either adjusting procedures and the rules of the game when necessary. An overview of these qualities and their definitions is provided in table 2.

Type of quality of governance system	Definition
Mobilizing capacity	Initiatives are provoked, reinforced and used
Binding capacity	Ability to connect crucial partners to themselves and to each other
Reliability	Partners know what to expect and can prepare for this
Institutional flexibility	Ability to adapt requirements to requirements of emerging initiatives

Table 2. Qualities of a resilient urban governance system (Van Buuren & Meulenbeld (2016))

3.3 An institutional perspective on governance systems

As the interaction between the formal and informal actors of a neighbourhood depend on many formal and informal rules, an institutional perspective can help with the analysis of the various perceptions, interactions and actions of actors. A framework that could help with such an analysis could be the advocacy coalition framework (Sabatier, 1998) or the policy arrangements approach (Arts et al., 2000). However, these theoretical perspectives focus on details of policy, which is not the focus of this study. Rational choice theory (Abell, 2000) could form a basis for the actions and choices of actors, but does not include their interaction to paint an integral picture. As the interaction between the formal and informal actors of a neighbourhood is the focus of this study, the Institutional Analysis and Development (IAD) framework (Ostrom) has been selected because it divides the decision-making process and their exogenous factors into concrete elements providing the support needed to unravel the accompanying rules of the game (Ostrom, 2011).

3.3.1 The IAD framework

The Institutional Analysis and Development (IAD) framework, depicted in Figure 1, has been developed to analyse the influence of the institutional structure on the behavior of different individuals. It is regarded a multitier conceptual map that can be unpacked multiple times (Ostrom, 2005). The framework is intended to “contain the most general set of variables that an institutional analyst may want to use to examine a diversity of institutional settings” (Ostrom, 2011). The framework identifies the elements and general relationships between the parts of an institutional analysis, hence forming a basis for a diagnostic and prescriptive tool for empirical research (Ostrom, 2011).

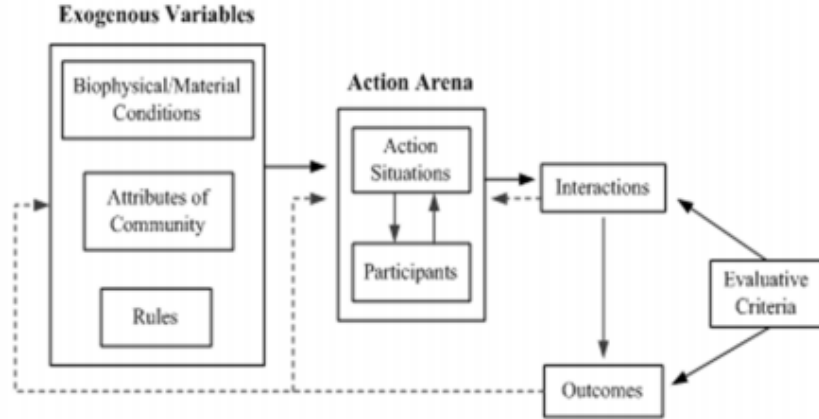


Figure 1. Basic components of the IAD Framework. Source: Ostrom (2005)

According to Ostrom (2011), policy situations can be broken down to a general set of building blocks. At the core of the IAD framework is the action arena, which is the central building block of the framework. This action arena refers to “*the social space where participants with diverse preferences interact, exchange goods and services, solve problems, dominate one another, or fight*” (Ostrom, 2011). Such action arenas are composed of action situations and the actors that participate within them (Ostrom, 2005).

These actions occur at multiple institutional levels of interaction as depicted in figure 2 (Ostrom, 1994; Ostrom, 2019). Rules that regulate how choices on the management commons are made are established at the first institutional level, the operational level. These are the rules that guide participants' day-to-day decisions and behaviors in action situations. Individual activities that directly affect state variables in the world are experienced in a variety of action arenas at the institutional level. At the second institutional level, the collective-choice level, two types of rules are addressed. The first set of rules establishes who is authorized to carry out specific operational-level tasks. The second set of rules outlines who has the authority to change operational-level rules and what procedures must be followed to do so. The constitutional level, the third and final institutional level, specifies who is entitled to amend collective-choice rules and the procedures for doing so. As a result, a framework is established that can aid in the structuring of rules and the actors with the authority to establish them.

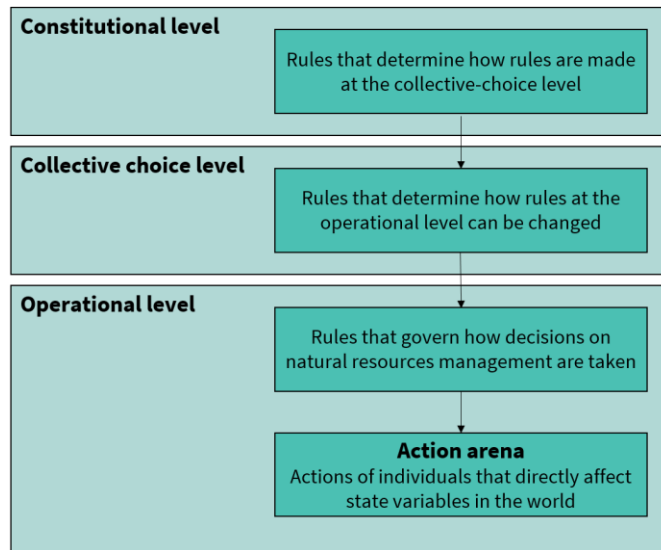


Figure 2 The three levels of analysis in the IAD framework. Adopted from: Ostrom (2019)

The various building blocks of the framework help to ask the right questions for further analysis (McGinnis, 2011). They help to make participants' chosen strategies and decisions explicit based on action situations that lead to certain interactions (Ostrom, 2011). Focusing on particular action situations allows for the simplification of the complexity of a system. This can help with the evaluation of outcomes that result from the interactions between participants within the action situations. The IAD framework can thus help with the systematic evaluation of governance systems, allowing for the identification of underlying sources of success and failure, by identifying a general set of variables and building blocks (McGinnis, 2011).

3.3.2 Exogenous variables

Action arenas are affected by exogenous variables such as biophysical and material conditions, the attributes of a community and the rules-in-use. The relevance of these exogenous variables heavily depends on the chosen action situation. Ostrom (2011) argues that institutional analysts are sometimes not interested in these underlying exogenous variables, and therefore, only focus on the action arena itself. In other cases, the field of research and choice of action situation decides which of the exogenous variables are more interesting. While environmentalists tend to be more interested in the biophysical and material conditions, sociologists focus more on the attributes of a community and political scientists consider the rules-in-use more often (Ostrom, 2011).

Biophysical and material conditions

In the broadest sense, the variable biophysical and material conditions refer to the physical attributes of the world being acted upon or that is being transformed (Ostrom, 2005). The IAD framework was initially developed to study the governance of natural resources (described as common pool resources) without intervention of the State.

Since then, the framework has been refined by Ostrom and colleagues for understanding a variety of institutional settings in which human interactions and outcomes differ (Ostrom, 2005). The initial focus on natural commons was expanded to the analysis of various types of shared resources, which are referred to as “new commons” by Hess (2008). An overview of such new commons is provided in figure 3. Examples of such new commons are knowledge commons, cultural commons, infrastructure commons but also neighbourhood commons such as community gardens, sidewalks and housing. These new kinds of commons focus on “communities working together in self-governing ways to protect resources from enclosure or to build newly open-shared resources” (Hess 2008).

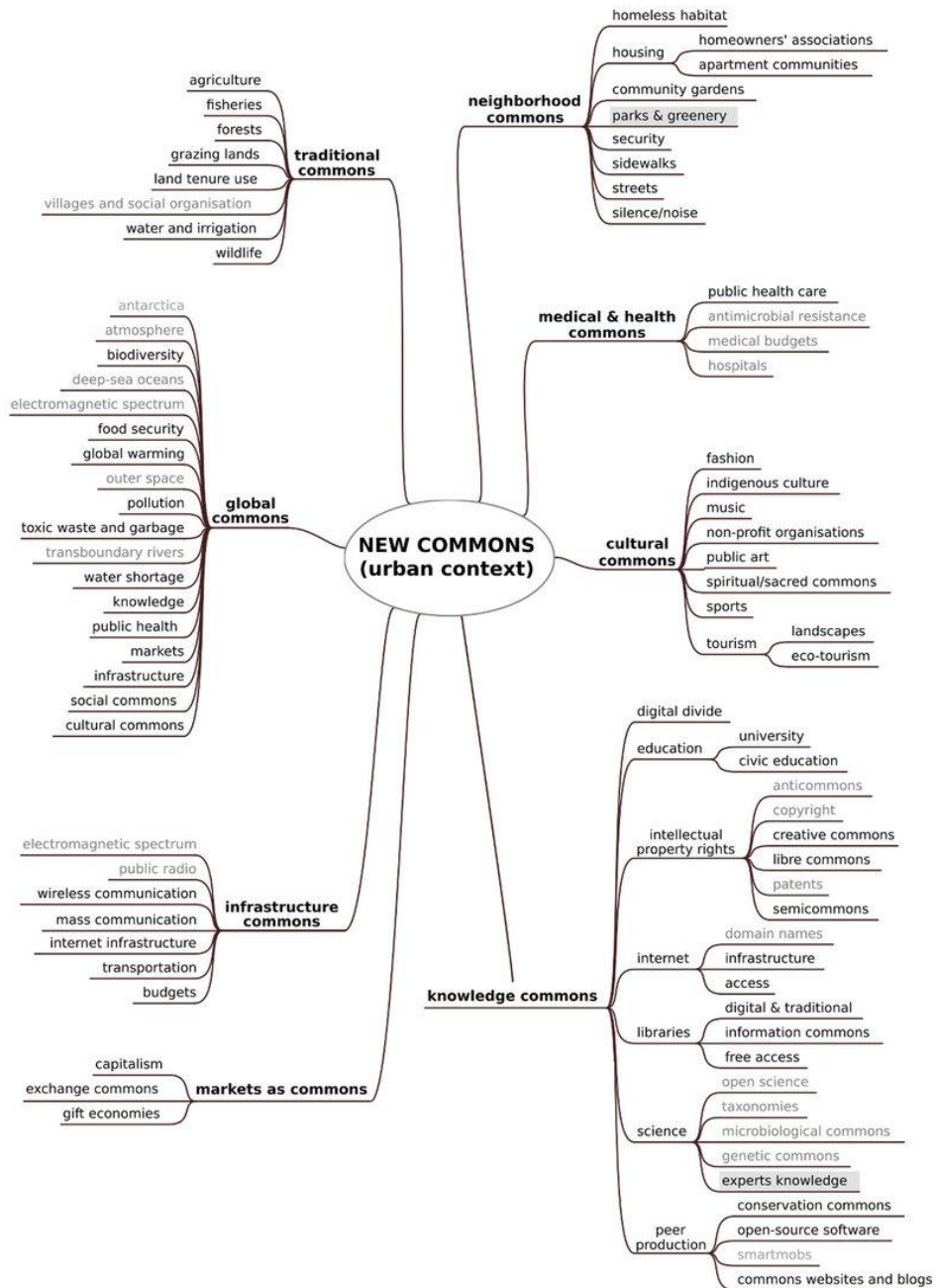


Figure 3. Overview of new commons within the urban context (Hess, 2008)

Attributes of community

As defined by Ostrom (2011), the variable attributes of community can be understood to be the social capital and knowledge of participants, and might include the history of prior interactions and the extent of homogeneity or heterogeneity of participants. The interactions between participants are heavily influenced by these attributes. According to McGinnis (2011), the term is used to include all relevant aspects of the social and cultural context of the action situation. As this study is concerned with social resilience, the ones that are taken into consideration this study are the various forms of capital as identified by Doff (2019) that are shown in table 1.

Rules-in-use

The variable rules-in-use refers to the “*shared understandings among those involved that refer to enforced prescriptions about what actions (or states of the world) are required, prohibited, or permitted*” (Ostrom, 2011). In table 3, an overview of the types of rules influencing action arenas and their definitions are given.

Type of rule	Definition
Boundary rules	Specify which participants enter or leave positions and how they do so
Position rules	Specify a set of positions and how many actors hold each one
Choice rules	Specify which actions are assigned to an actor in a position
Information rules	Specify channels of communication among actors and what information must, may, or must not be shared
Aggregation rules	Specify the level of control that individual participants have
Scope rules	Specify the outcomes that could be affected
Payoff rules	Specify how benefits and costs were to be distributed to actors in positions

Table 3. Types of rules (McGinnis. 2011)

3.3.3 Action situation

Seven clusters of variables can be used to describe action situations: (1) actors, (2) positions, (3) outcomes, (4) action-outcome linkages, (5) the control that actors have, (6) the information that actors have, and (7) the net costs and benefits associated to outcomes (Ostrom, 2005). Each actor is assigned to a particular position of an action situation and is allowed to take certain actions that are based on the amount of information about, control over and net costs and benefits assigned to potential outcomes. These variables are influenced by the aforementioned rules-in-use. In figure 4, an overview of the variables of an action situation and their related rules is illustrated.

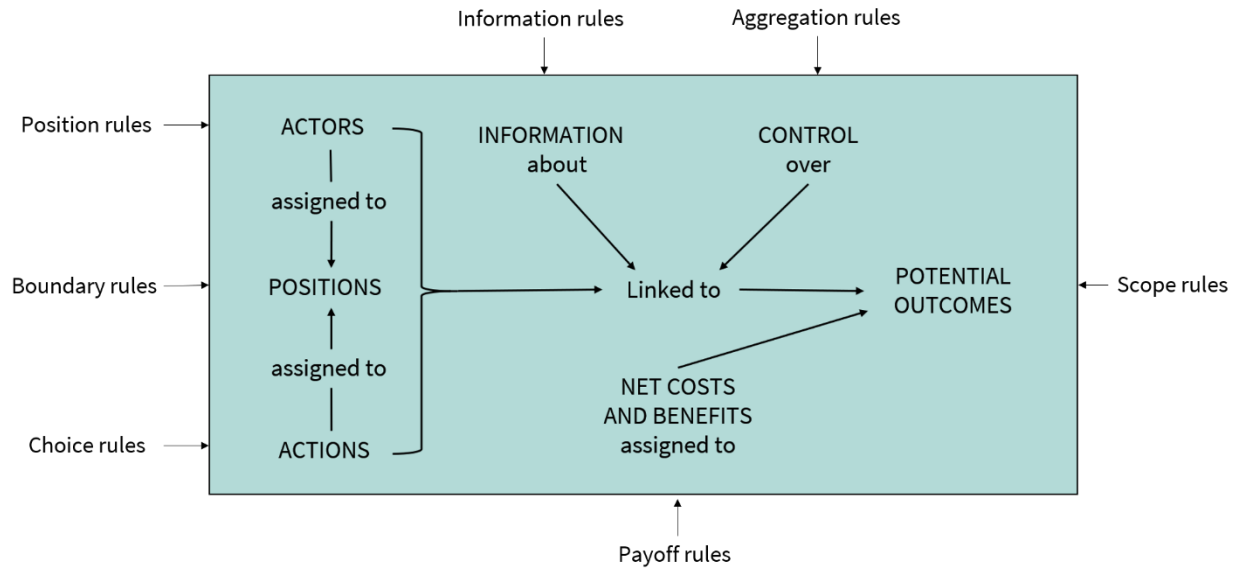


Figure 4. Action situation (adopted from Ostrom (2005))

3.3.4 Evaluative criteria

Interactions and the outcomes distinguished are evaluated by participants based on specific evaluative criteria. Feedback loops between action situations and exogenous variables are, in fact, learning processes related to the effect of outcomes on the inputs of, and processes within an action situation (McGinnis, 2011) such as the effect of a policy change. Ostrom (2011) states that many evaluative criteria can be used and, as this study is concerned with the extent to which formal actors are resilient, the ones that are taken into consideration this study are the four qualities contributing to the self-organizing capacity of urban governance systems as proposed by Van Buuren & Meulenbeld (2016).

3.4 The IRAD framework

On the basis of the literature study presented above this section proposes the Institutional Resilience Analysis and Development framework (hereinafter referred to as IRAD framework), which is a modified version of the IAD framework from Elinor Ostrom. Within this IRAD framework, factors contributing to the resilient interaction of informal and formal actors resulting from the conducted literature review have been incorporated as can be seen in figure 5.

From the reviewed literature, it follows that the presence and access to various forms of capital contributes to the ability of informal actors to act resilient (Magis, 2019; Platss-Fowler & Robinson, 2016; Doff, 2017). Therefore, the various forms of capital, as indicated by Doff (2017), are implemented within the IRAD framework as the attributes of community that are of interest. These are the independent variables that informal actors such as residents and informal organizations use within action situations.

Furthermore, the literature review identified that the capacity to self-organize is an important precondition for social resilience (Doff, 2019; Van Buuren & Meulenbeld, 2016). For this reason, the four qualities contributing to the self-organizing capacity of urban governance systems proposed by Van Buuren & Meulenbeld (2016) have been used as the evaluative criteria concerning the resilience of formal actors. Within the IRAD framework, these are used to evaluate the actions of formal actors in processes that lead to certain outcomes.

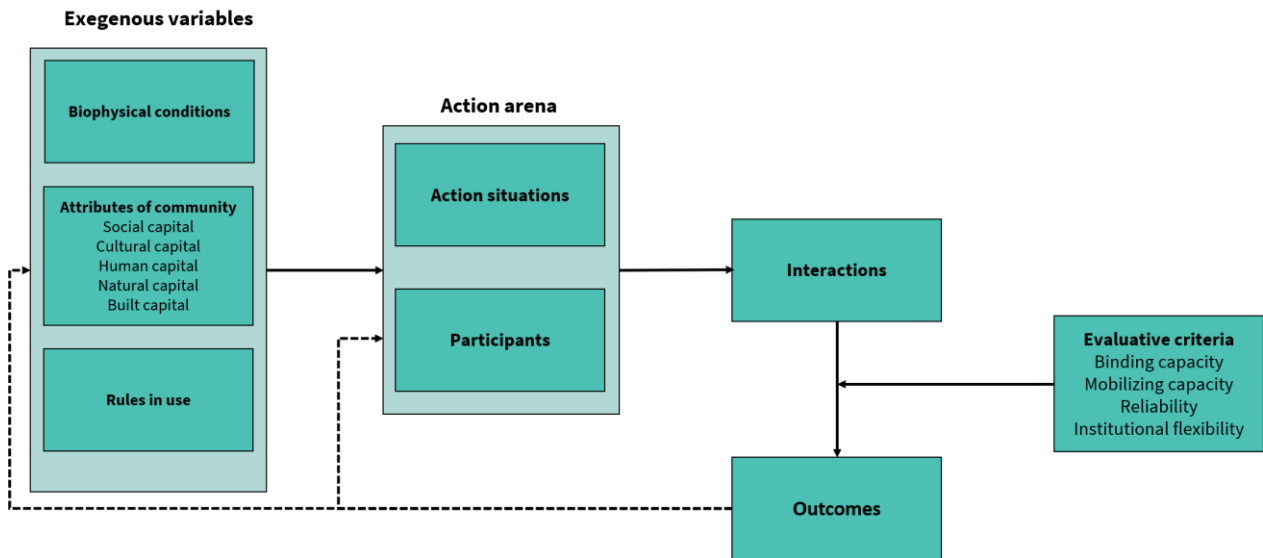


Figure 5. The IRAD framework (Adapted from (Ostrom, 2005))

4. Methodology

In this chapter the chosen research design, selection of the case study and methods of data acquisition will be addressed. Furthermore, the ethical and privacy considerations and data collection and analysis will be motivated.

4.1 Research design and methods

A qualitative exploratory case study design is performed to test and validate the usefulness of the developed IRAD framework with regard to the evaluation of the resilience of interactions between formal and informal actors. More specifically, this study focusses on the interactions resulting from conflicts that arise from institutional changes. A case study is therefore an appropriate research design, as it allows for the illumination of decisions, clarifying why they were taken, implemented and what their results were (Yin, 2009). A limitation of case studies concerns scientific generalization, because cases are unique or because the findings only apply to the examined context providing a high internal validity with no external validity (Van Thiel, 2014). As the IRAD framework is specifically developed with the purpose to use it within the BoTu2028 programme, this limitation is not considered problematic, as it is more about the internal validation of the framework than the external validation. Furthermore, multiple data sources were examined in this study as this allows for the cross-validation of the findings in a triangulating way (Becker et al., 2012). Following this, this study draws on desk research as well as semi-structured interviews with formal and informal actors.

4.1.1 Case study selection

According to Van Thiel (2014), a single case study can be selected to focus on a certain issue because it is an extreme example of the phenomenon of interest. As the research context of this study is BoTu2028 programme, a case study was selected based on an initial desk research with the criteria that the case concerned, (1) an institutional change that affected the community of BoTu, (2) a conflict between formal and informal actors and (3) that took place in the year 2020. This led to the selection of the sale of the property of the self-organized initiative called “Zelfregiehuis”, which is a conflict that arose from institutional changes concerning the management societal real estate (as reported in the media and political arenas).

4.1.2 Desk research

Desk research is a research strategy that involves using existing data that has been created and collected by someone else (Van Thiel, 2014). The research method is in particular considered suitable for research of developments over time or to explore the background or context of a certain research problem in a descriptive way. An advantage of using existing data is the abundance of available information (Van Thiel, 2014). Therefore, the method is suitable for this study as the selected case study is about a conflict between formal and informal actors with multiple decision-making processes at various levels of interaction. Within this study, an initial desk research was performed by the researched to get familiarized with the research context and for the selection of the case study.

However, desk research as a data collection approach also has a number of limitations that need to be addressed. The first disadvantage is that the offered data may not perfectly match the research variables because the data source was not especially produced for the researcher's topic of investigation (Van Thiel, 2014). To address this disadvantage, an effort was made to get data that was as close to the research objectives as possible, and to alter the available data so that it matched the set of research variables. The second disadvantage is that it requires time and effort to collect, organize, and use data (Van Thiel, 2014). This disadvantage was addressed by using a systematic approach provided for by the IRAD framework.

4.1.3 Semi-structured interviews

Semi-structured interviews were used as they allow for the extraction of information from topics that are not well studied or documented (Van Thiel, 2014). Hereby, an interview manual is used as a guideline and includes a list of subjects that the researcher would like to address, as well as a series of questions that the researcher has prepared ahead of time (Van Thiel, 2014). The interview method allowed for probing if this was necessary, if for example something was unclear to the researcher or rules of regulations are mentioned that were unknown to the researcher.

As is the case with desk research, semi-structured interviews also have limitations that need to be addressed accordingly. The first limitation is that semi-structured interviews take a long time, require a lot of effort, and necessitate the use of a skilled interviewer to obtain significant information (Adams, 2015). This limitation was overcome by planning ahead of time, restricting the number and length of interviews, and matching interview questions to only study factors relevant to action situations to aid in the coding phase. The second limitation is that, because interviews are time and labor demanding, a small number of them may not yield highly precise data (Adams, 2015). To address this limitation, data from all the interviews and desk research were used to cross-check the information provided by different participants in a triangulating way.

4.2 Data collection

Within this study, data was first collected through desk research, allowing the researcher to get familiarized with the case. In addition, secondary data from an earlier interview that was conducted by Veldacademie was also acquired and analysed. Thereafter, semi-structured in-depth interviewing method was used to gather primary data from a total of 9 formal and informal actors that participated in the action situations related to the sale of the property of the Zelfregiehuis.

Initially, a total of 3 actors were approached using the network of the Veldacademie, after which snowball sampling techniques were applied which led to the identification of 6 other relevant actors who were then approached for interviews. Semi-structured interviews were conducted with a total of 6 formal actors from various levels and departments of the Municipality of Rotterdam and 4 informal actors who were either directly or indirectly linked to the initiatives Zelfregiehuis. A list of the participants of the interviews is shown in the table below.

Actor type	Participant
Formal	Councilor of the local council
Formal	Municipal official (Cluster Urban development)
Formal	Municipal official (Cluster Services)
Formal	Area manager
Formal	Area networker
Formal	Area networker
Informal	Initiator of the Zelfregiehuis initiative
Informal	Member of the Delfshaven Coöperatie
Informal	Member of the Delfshaven Coöperatie
Informal	Chairman involved with the BoTu2028 programme

Table 4. List of participants of study

Due to the measures against the spread of COVID-19, a health check was conducted in advance for the one interview that was held in person. The other 8 interviews were conducted by telephone or video-call. The interviews ranged in duration from 30 to 60 minutes. Prior to the interviews, the interview guide and consent form were shared with the participants and completed (Appendix A, Appendix B). The interviews started with a short description of the research followed by questions covering the variables derived from the action situation of the IAD framework (figure 4): starting with general questions about the role and position of the participant, which were followed up by questions about the case aimed at identifying what happened, what actions were taken, which resources were available, what information was available and the amount of influence that actors had concerning decision-making processes within the case. The last part of the interview addressed reflection on the outcomes of the case and lessons that could be learned from it and any other remarks that participants could add (Appendix A). The interviews were then recorded and transcribed. At last, the transcripts of the interviews were shared with the interviewees for validation and consent.

4.3 Coding of interview data

As mentioned before, the developed IRAD framework was used as the main guideline for analysis, therefore the variables from the framework formed the categories for codes. The analysis of the data was carried out with Atlas.TI, a qualitative software application that aids in data organization, sorting, and analysis. The analysis procedure began with a detailed reading of all the interview transcripts. The interview data was then coded by means of relevant, most used and similar terms. Action situations were identified by coding the most important events that were mentioned as tipping points by the participants (Appendix C). The participants were identified by coding every sentence that mentioned actors. The researcher then proceeded with focusing on the identification of exogenous variables that influenced action situations, such as biophysical conditions, the attributes of the community (forms of capital) and rules-in-use that influenced the case. Furthermore, the actions of formal actors in decision-making processes that led to certain outcomes were labeled based on the evaluative criteria of the IRAD framework. At last, various enablers and barriers for resilient actions were identified within the codes that were already found. Altogether, these processes led to the final coding schemes (Appendix C) and application of the IRAD framework that can be found in figure 6.

4.4 Ethical and privacy considerations

The Human Research Ethics Committee of the Technology, Policy and Management Faculty of the Delft University of Technology approved the ethical considerations of the data collection process of this research. The practical considerations included informing interviewees on the topic of the research, asking interviewees to fill in a consent form before recording, protection of privacy by anonymously addressing the informants throughout the thesis.

5. Results

In section 3.4, the IRAD framework is presented to evaluate policy situations based on attributes of the community and evaluative criteria relevant to social resilience. In figure 6, the framework is applied to the case study. Hereby, the analysis of the data resulting from the conducted interviews is organized into the framework to paint an integral picture of the conflict around the sale of the property in which the initiative Zelfregiehuis resided.

The Zelfregiehuis is a case in point of an initiative that is self-organized by residents with the purpose of being a meeting place for residents that are trying to get a better grip on their lives. Through the organization of activities such as gardening and knitting, residents get to know each other and are able to share their experiences with one another. In this way, the initiative allows (vulnerable) residents to develop their social network, political awareness as well as economic independence. Therefore, it is regarded an important social hub in the center of BoTu and asset within the BoTu2028 programme.

Due to institutional changes implemented by the Municipality of Rotterdam, the property of the Zelfregiehuis was sold by the real estate department of the Municipality, which led to a conflict situation between formal and informal actors. The IRAD framework has been deployed to identify involved participants, analyse relevant action situations, and evaluate the presence or lack of relevant exogenous variables and evaluative criteria as is shown in figure 6. In the following sections, these elements are discussed in more depth.

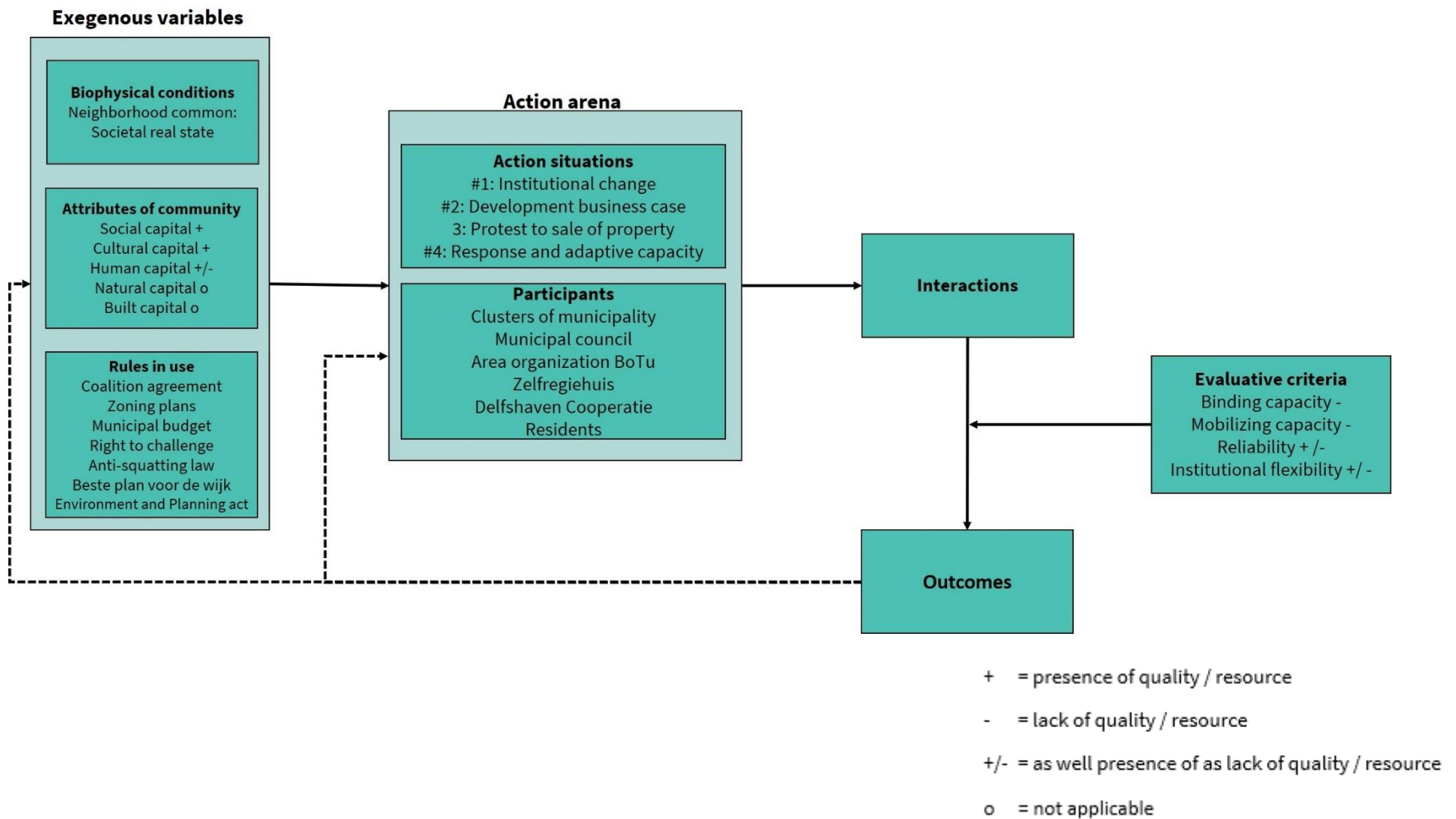


Figure 6. The IRAD framework applied to the case study: sale of the property of Zelfregiehuis.

5.1 Participants

The formal and informal actors operating at different institutional levels can be organized according to the constitutional level, collective choice level and operational level of the IAD framework. The involved actors are mapped on these three levels in figure 7. The local council, Mayor of Rotterdam and Board of Alderman are at the highest level, where guidelines are defined that determine how rules at the collective choice level should be made that are stated in the coalition agreement. At the collective-choice level, the various clusters of the Municipality then use these guidelines to structure their decision-making processes and municipal budget, that determine the means and goals for the next 4 years. The clusters Social development, Urban development and Services were involved with the Zelfregiehuis case. The cluster Social development is concerned with social causes such as the wellbeing of the Residents of Rotterdam and is therefore highly involved with the BoTu2028 programme. The cluster Urban development is concerned with economic causes and the development of an attractive city to live in. The cluster Services is the so-called area organization that is concerned with the public task of providing services to residents and companies within Rotterdam. Thereby, local issues and questions are tackled in an integral manner, whereby the cluster needs to collaborate with all the other municipal clusters. The self-organized initiative and the resident cooperation Delfshaven Coöperatie and residents are at the operational level. At all of these levels there are various rules and regulations that are further explained in in section 5.3.3.



Figure 7. Overview of actors at various levels of interaction.

5.2 Critical action situations

A total of four critical action situations have been identified within the case. The first critical action situation is the decision of the Municipality to sell societal real estate, with the property in which the initiative Zelfregiehuis resided ending up on a sales list. The second critical action situation is the development of a business case by the initiative Zelfregiehuis that resided in a property owned by the Municipality, to ensure a permanent stay within the building. The third critical action situation is the strike that the initiative owners of the Zelfregiehuis organized in collaboration with partners and residents, due to the fact that the building was put for sale on a real estate platform. The fourth and last critical action situation is the response of the formal municipal actors to the strike. This led to institutional changes concerning the management of societal real estate. These identified action situations will now be discussed further in the following sections.

5.2.1 Action situation #1: Institutional changes concerning societal real estate

The Municipality of Rotterdam is in the possession of real estate. The real estate portfolio of the municipality of Rotterdam consists of societal facilities (the core portfolio) and a commercial portfolio (the non-core portfolio) (Gemeente Rotterdam, 2021). The social portfolio (also known as societal real estate) comprises all real estate the municipality uses to achieve the social policy objectives. In 2018, it was decided within the Municipality that the real estate which does not belong to the core portfolio would be sold to compensate for budget deficits. In the meanwhile, the Municipality allowed local initiatives to rent some of the properties that were to be sold on a temporary basis. It was stated in the coalition agreement of 2018 that a close eye would be kept on the social value and quality of those properties. *“We will continue the accelerated run-down of the municipal real estate portfolio. We keep a close eye on social value and quality.”* – (Coalition agreement, 2018)

5.2.2 Action situation #2: Development of business case to preserve initiative

In 2016, the property of the Zelfregiehuis was rented by the initiators on temporary conditions, which is also known as “antikraak” (anti-squat). Therefore, they have far fewer rights than regular tenants, due to the legal construction under which the housing agreement is entered into. As compensation for the short notice period (usually 14 days), the housing allowance that the squat guards have to pay is much lower than the rental price for the building would be in the marketplace. To change this and ensure a permanent way in which the Zelfregiehuis could stay in the property, the founders had been trying to develop a feasible business case since 2016. In collaboration with the resident organization Delfshaven Coöperatie, a business case was developed which included housing of vulnerable residents of the neighbourhood. In the end, the business case was not deemed sufficient and the initiators of the Zelfregiehuis stated that they needed more time. *“The people who argued for the cause of the Zelfregiehuis, who mainly reason like yes if we had been given the time, then we could have developed that business case better, reasoning from the city, that business case was just much too weak, so if you know-how, yes, at that time it was still limited, because I also know that when the alderman came, I was not there myself, during that conversation, that there was not really a very concrete case yet.”* – Municipal area manager

5.2.3 Action situation #3: Protest of informal actors against decision to sell

Halfway 2020, the Real Estate Department of the Municipality of Rotterdam put the property of the “Zelfregiehuis” up for sale. This was done without informing the stakeholders of the building, such as the current tenants and involved organizations. This was perceived as a shock for the involved parties, as the building and the initiative are seen as important assets of the neighbourhood. Therefore, the decision was taken to protest against the decision to express their dissatisfaction with the fact that part of the Municipality of Rotterdam initially helped them developing the initiative another part of the Municipality now chose to break down that accumulated value. Together with involved residents and politicians, they organized a strike, in which they made clear that they do not want the building to be sold due to its societal value. *“You ask us to think along about the neighbourhood and at the same time you say no, but you can no longer have a say about this, we are going to say this, so you will even actively demolish the value that we build up the moment you and I think that's the one thing that was most offensive, so one side of the Municipality is building something up and the other is breaking it down.”* - Member of Delfshaven Coöperatie

5.2.4 Action situation #4: Response and adaptive capacity of formal actors

The direct consequence of the strike was the involvement of political parties that tried to influence the decision-making processes, which led to a personal visit from the Municipal Executive, to the Zelfregiehuis. During his visit, the parties involved with the development of the business case presented their plans, which weren't deemed sufficient by the Municipal Executive. It was decided that the sale of the property would continue, under the condition that the societal value would be kept. But societal value is a rather vague condition, which eventually led to the sale of the property to an investor that will transform the property into a dental practice, which also brings some kind of societal value into the neighbourhood according to the municipality. Furthermore, the case led to the allocation of an alternative property for the Zelfregiehuis initiative and the reconsideration of properties that were placed on the sales list. This led to the removal of 30 other properties. Also, a new team *“societal real estate”* was established within the Societal Development cluster of the municipality with the purpose of an improved management of societal real estate. Furthermore, an area planner was introduced within the BoTu neighbourhood with the purpose of connecting initiatives with available properties. Moreover, decision-making processes regarding the sale of societal real estate were changed and require consultation of the area organization.

5.3 Exogenous variables influencing the action situations

5.3.1 Biophysical conditions

As stated before, the variable biophysical and material conditions refer to the physical attributes of the type of good that is subjected to research. In the case of the property of the self-organized initiative Zelfregiehuis, this is societal real estate that is owned and managed by the real estate department of the cluster Urban development of the municipality of Rotterdam. For the informal actors involved, the property is seen as an important asset being a form of built capital of the neighbourhood. There is a lack of places for initiatives due to the scarcity of real estate and a high demand for cheap workspaces within the city of Rotterdam. These conditions fuel the development in the city that societal real estate is being sold, whereby grassroot initiatives lose out due to their lack of financial means: *“Because we no longer have any places left for social initiatives that are uh not yet able to pay commercial rents.”* - Member of Delfshaven Coöperatie

At the same time the Municipal cluster Social development is involved with the BoTu2028 programme. Within the BoTu2028 programme the property in which the Zelfregiehuis resided is regarded an important asset of the neighbourhood, due to its strategic central location within the neighbourhood. *“Because we strongly believed that the building has a very strategic location for the neighbourhood. That club was important, but also that place actually, it is... in relation to the park and in the middle of the neighbourhood.”* – Municipal area manager

For the initiators and involved residents, the initiative is seen as an **important place** within the neighbourhood where vulnerable residents are able to empower each other by sharing their experiences: *“Yes, in a neighbourhood such as BoTu, there are also a lot of experience experts in all kinds of areas. Who can share their experience and thus help each other in such a way. And that you don't always need a professional if you have something. And that you can also find care in each other and give to each other. So, you actually support each other and therefore yourself.”* – Initiator of Zelfregiehuis initiative

Even while such real estate is in possession of the municipality, it is purchased with public funds and involved residents state that the decision to sell it can be seen as the **privatization of a neighbourhood common**. *“And actually, the privatization of common good, so we have that community center and you can also say that for buildings of a housing corporation, which were actually purchased with public money, is essentially from all of us and is privatized in this way.”* – Member of Delfshaven Coöperatie

5.3.2 Attributes of community

In the following sections, the relevant attributes of the community are presented, that are based on the various types of capital (see table 1) that are included in the IRAD framework. Hereby, the importance of various resources with regard to the self-organizing capacity and resilient actions are mentioned.

Social capital

Social capital concerns the access to resources that are hidden in existing networks. The case pointed out the presence of several forms of resources within the social networks of the informal actors of BoTu. **Bonding social capital** refers to the connections within homogenous networks (Aldrich, 2012) and is reflected in the relationship between the initiators of the Zelfregiehuis and residents that make use of the initiative. The development of this network of informal actors is seen as an asset that contributed to the development of business cases and resistance against the sale of the property: *“That is really special, that is really a quality and we notice that we have noticed that a group of residents who have been working together for a while has really built up that power”* – Member of Delfshaven Coöperatie

Bridging social capital refers to the connections between such informal networks (Aldrich, 2012). This form of social capital is reflected by the fact that a member of Delfshaven Coöperatie approached other initiatives that experienced similar issues concerning societal real estate. *“and at the same time, we also found the broader problems surrounding the sale of social real estate in the city... all supporters of this, people who also encountered that, ranging from artist tours to general practitioners to other neighbourhood initiatives, so that's a widely shared feeling ...”* – Member of Delfshaven Coöperatie

Linking social capital or **political capital** refers to connections between members of a community and people with power or resources, such as government representatives, non-governmental organizations or authority figures (Aldrich, 2012). This form of social capital is perceived within the rich social network of the Delfshaven Coöperatie initiative. *“Ehm, I think there were very short lines with politics, so that, there was a well, you write social network here and that was actually that they actually had a very rich network”* – Municipal area networker

Access to this social network enabled **approaching the local council of the Municipality of Rotterdam** that led to the utilization of policy instruments. Thereby, formal actors were held accountable for the decision-making processes that led to the sale of the property. *“We have really used all our council instruments, to problematize it very much at first.”* – Member of local council

In addition, the presence of contacts with the media also enabled the informal actors to bring attention to the issue by **escalating through social media and the mobilization of people**. *“So, at one point our escalation possibilities were limited and then we thought yes, then we should escalate through the media, through mobilizing people, otherwise it just won't happen.”* – Member of Delfshaven Coöperatie

Human capital

Human capital refers to the knowledge, skills and income of members of the community (Doff, 2017). The case pointed out as well the presence as **lack of human capital** among the informal actors of BoTu. The **knowledge of how to develop a feasible business** case was not sufficient enough to preserve the Zelfregiehuis initiative: *“Yes, ehm I think that ehm yes, know-how partly, because I know in the whole assessment of that case when the alderman came to the neighbourhood, then they found the business case, it was still quite weak.”* – Municipal area networker

The development of such a business case is very complex and **requires a form of expertise** that cannot be expected from informal actors: *“That they do, and that is also logical, if you are involved in the neighbourhood, you do not always have to understand real estate and business cases, let alone that you can do something with them yourself, so that makes sense. not bad at all. Only yes, that does mean that you have to deal with those kinds of developments, and that makes it very complex for the residents.”* – Municipal official (Cluster Services)

Nevertheless, the presence of human capital was perceived during the protest. In particular, one of the members of the Delfshaven Coöperatie was able to contribute with his **knowledge about political processes and design skills**. *“it's the fun he has in it, the knowledge he has, the fact that he can photoshop really easily so he can do something like that, you know so he's got those design skills and he's got those political skills and the ability to make it like a game so he knows how that political reality how that backroom process how that works. And that uh that he uses that for the benefit of the self-directed house yes that is really just as a present that is real”* – Member of Delfshaven Coöperatie

In terms of financial capital, the case indicates that the informal parties lack financial resources and it is hard for them to **access funding**. This is also due to their social orientation. *“Because they are not for nothing, er, socially oriented, and are also quite often voluntary and such things. They are not capable enough to get funding to buy something like that. That building does cost money.”* – Municipal official (Cluster Urban Development)

An official from the municipal real estate department pointed out that even while many people stressed that the place is important for the neighbourhood, none of them are willing to contribute financially: *“Only no one has for that, everyone says very loudly, it is important and it is important and this is an important and good initiative and etcetera, but only nobody wants to pull their wallet for that”* – Municipal official (Cluster Urban Development)

Cultural capital

The cultural capital of the informal actors can be considered high, which is reflected by **statements about the unanimity** between the informal actors. *“Yes, everyone of course, the district from different capacities, it was very nice to see that the district was united, you can also sometimes have a group of people who are calling out, then you actually say we are speaking here on behalf of the whole community. neighbourhood and then it turns out that they don't speak from all over the neighbourhood”*- Chairman BoTu2028 programme

Active residents also mentioned that **shared values** among informal actors contributed to the protest, *“And that goes very smoothly, we actually all have our own way of doing things and at the same time there is a shared value in standing up for the perspective of how we as neighbourhood residents view situations. We don't want to be semi-professionals, we just want the value of how you live and do things in the neighbourhood as a resident, we want to see that value represented at different tables. Yes, and we all bring that core. ”* – Member of Delfshaven Coöperatie

5.3.3 Rules in use

In the following sections, the relevant rules in use are presented, that are based on typology of rules as suggested by McGinnis (2011) (see table 3) that influence action situations. For this, the rules that affected the above-mentioned action situations are classified and explained. The following rules in use that influenced the action situations were identified within the case.

Coalition-agreement

The **coalition agreement** can be seen as the aggregation rule that gives the real estate department of the Municipality of Rotterdam control within the action arena by providing them with the legal right to sell the property within which the Zelfregiehuis resided, as the property was part of the non-core portfolio of real estate that is in possession of the Municipality. The municipality promised to retain the social value of such properties, but due to a **lack of a proper definition of social value**, the building is eventually sold to an investor that will turn the property into a dental practice. *“But yes, I do have to say that, formally speaking, and also how we have written it down in the **coalition agreement**, I think it has now made the most of it. We have said that that social value, that selling while retaining social value, should actually be fleshed out much more, because now it is, if so, so little concrete framework, that it will never, you know, you can always ignore it...”* – Member of local council

Zoning plans

Zoning plans can be seen as the scope rule that specifies which outcomes are allowed within the action arena. Due to the fact that the first business case that was developed incorporated the housing of vulnerable residents, it was rejected by the municipality of Rotterdam as this is a commercial activity. The real estate department from the municipality of Rotterdam stated that this would lead to increase of the value of the property. Therefore, the plan was rejected, as the municipality could earn

much more money if they sold the property under the condition that it could be used for housing. *“Then suddenly it came on sale at the highest price, under not very clear conditions, without communication as well, and so then it also went a bit in a pressure cooker, so on the one hand we quickly switched and worked out the plan further and then adjusted it. because the **zoning plan** also changed ... yes ehmm ... then we eventually turned it into a kind of self-directed health house, found a developer with whom we could make an offer then ...”* – Member of Delfshaven Coöperatie

To give the initiators of the Zelfregiehuis a better chance, the Real Estate Department of the Municipality of Rotterdam chose to sell the property based on its current destination, the social destination. This led to the outcome of the property being sold to an investor that is going to change the property into a dental practice. According to the real estate department of the municipality of Rotterdam, this also brings societal value within the neighbourhood. *“Because if you look at what comes in now, it is a health center or dental practice. Is also very desirable in that neighbourhood, I think that in that neighbourhood many more people benefit from it than such a Zelfregiehuis.”* – Municipal official (Cluster Urban Development)

Municipal budget

The **municipal budget** can be regarded a choice rule that specifies which actions are assigned to the officials from the real estate department from the Municipality of Rotterdam. It is their task to make the municipal budget correct and for that they need to generate money. *“Yes, but that money is necessary in the end, to make a municipal budget like that correct, it has to come out somewhere and we are within the municipality only a few buttons that you can turn to make money, that is with the sale of land, the sale of real estate and taxes, and more buttons you do not have to turn.”* – Municipal official (Cluster Urban Development)

The generated money can then be used for social investments: *“The more money is available for, for people who need welfare and things like that... the money we earn is not that it goes into our own pocket, it basically goes to the general coffers of the Municipality Rotterdam, to make other social investments possible.”* – Municipal official (Cluster Urban Development)

Right to challenge

Within the city of Rotterdam, the **Right to Challenge** stands possibility that a group of (organized) residents can take over tasks from municipalities if they think it can be done differently, better, smarter and / or cheaper. Therefore, it can be seen as an aggregation and boundary rule, through which informal actors can acquire control to organize public tasks themselves. However, it is stated by the initiators of the Zelfregiehuis that in reality, the right to challenge does not get you far. As is the case with the development of properties, knowledge is an important aspect, which informal actors do not always possess. *“You know you can have a” Right to Challenge “, but that won't get you very far either. And yes, it is just very tough material and you have to be a specialist in that”*- Initiator of Zelfregiehuis Initiative

Best plan for the neighbourhood

The **“Beste plan voor de wijk”**, which translates into best plan for the neighbourhood, is a policy document that can be seen as a payoff rule that says something about how benefits and costs are supposed to be distributed among formal and informal actors. With "Best plan for the neighbourhood"

not only the financial return counts, but also the social return. In practice, it remains a challenge how to define and value social returns. *“Well, the policy actually does include the possibility to deviate ...”* *“Beste plan for the wijk” I think they called it, in a policy document ...*” – Municipal area networker

Environment and Planning Act

While the **Environment and Planning Act** is not a rule in use that affected the current action situations, it has been mentioned multiple times, as its date for the entry into force is scheduled for 2022. It can be regarded a scope rule that defines the outcomes that could be affected, as the government seeks to integrate and simplify the laws for spatial initiatives under the Environment and Planning Act (**Omgevingswet**). The goal is to make it easy for people to start initiatives. *“in principle it is precisely the difference with the environmental law is that a lot, three laws are lumped together and residents should have more say in how decisions are made and procedures”* – Member of Delfshaven Coöperatie

5.4 Evaluative criteria

In the following sections, the interactions between formal and informal actors are evaluated, based on the evaluative criteria of the IRAD framework. These are qualities that Van Buuren & Meulenbeld (2016) (see table 2) propose to be contributing to the self-organizing capacity of the urban governance system.

Mobilizing capacity

The **mobilizing capacity of the governance system is low**, as there is a lack of proper communication between the formal actors that operate at the neighbourhood level (Cluster Services) and the city level (Cluster Urban development). *“The generic lesson is that communication with that area organization needs to be improved, that was the generic lesson. And that sales list is part of that. So, it’s about communication.”* - Municipal official (Cluster Urban Development)

The case also identified a **lack of proper communication channels** between formal and informal actors. The initiators of the Zelfregiehuis claim to have contacted the municipal Cluster Urban development several times, without a response: *“so I think we had already requested a meeting with urban development six months in advance with various account holders, also wrote letters with the director of urban development, had no response, wrote another letter, again no response...”* – Member of Delfshaven Coöperatie

At the same time, the real estate department of the Cluster Urban development claims to never have been contacted by the initiative since they entered the property in 2016. *“Because then I’ll come all the way back, we then have our e-mails, but we have never had contact with that Zelfregiehuis since 2016, while we are responsible for selling real estate.”* - Municipal official (Cluster Urban Development)

Binding capacity

The binding capacity of the governance system is also low. An official from the municipal Cluster Services suggested that this binding capacity can be improved by **connecting initiatives with experts** that are willing to help. *“Structure the social involvement of experts residents in Rotterdam, by which I mean that in Rotterdam we have a lot of people who work at accountancy firms, consultancy firms, urban planners or financially savvy. And who are involved in their neighbourhood. Try to make a network there, of those that you know that can make a business case.”* - Municipal official (Cluster Services)

Reliability

In terms of reliability, the case points out that the **trust of the residents in the municipality is low**. This is perceived in the fact that statements were made concerning the loss of trust in politics due to top-down decision-making processes that do not take the residents' interests into consideration. *"Yes, that is because people lose confidence in ehh, in politics. So, directed by an alderman, a certain decision is taken that goes against the interests of residents in the neighbourhood, yes then, and if that happens more often, ehm then people drop out at some point. That's it ..."* - Member of Delfshaven Coöperatie

According to active residents this results into a loss of trust into political system and the **need for rebuilding trust** by the Municipality of Rotterdam. *"Yes, trust in the government must be rebuild. And I really like it, and I try to explain that to the people, you can work with separate effective interventions, you also need new interventions that have not yet been developed, you should also be allowed to do that, there must be you can experiment with."* - Chairman BoTu2028 programme

On the contrary, the Municipality seems to **value being reliable to market parties**. The moment that the property was put up for sale on the real estate platform Funda, was considered irreversible by the real estate department of the Municipality, as they did not want market parties perceive them as being unreliable. *"Then you have other buyers who say:" yes hello, you suddenly take it off the sale, what are you doing? "So that also has a kind of, yes predictability of the government, a negative effect on it"* - Member of local council

Institutional flexibility

In terms of institutional flexibility of the governance system, the case points out that it is low. The Municipality of Rotterdam seems to be organized very hierarchically with predefined decision-making processes that are steered in a top-down manner. *"The political administrative model of Rotterdam is still very much based on the hierarchy of what is it from yes Thorbecke, the 1850, strongly hierarchical, the alderman determines, top-down, the civil service implements."* - Member of Delfshaven Coöperatie

The moment the building was put on the real estate platform is seen **as a turning point**, from which could not be returned anymore: *"The moment it is on sale, if all market parties are interested and things like that, you really cannot go back. Then you also come to the principles of reliable government and such things. Yes, you know at some point, we said, if it is with us and it has been since 2016, there is actually no going back."* - Municipal official (Cluster Services)

Furthermore, another finding that concerns the institutional flexibility is the mentioning of a **lack of a political base** for new insights was mentioned. *"Only the social component, that component of new insights, that you suddenly have something in your hands that is worthwhile for the neighbourhood. That this is not included in that process. And that in the end that sales process led to the sale of the property to a dentist, who creates his facility around it, which is also good for the neighbourhood, right? From a social point of view..."* - Municipal official (Cluster Services)

5.5 Institutional enablers and barriers

Several institutional enablers and barriers for resilient interactions have been derived from the performed institutional analysis. These are discussed in the following sections.

Enablers

The presence of various forms of capital can be seen as resources available within the **networks of informal actors** such as residents that are involved with the Zelfregiehuis initiative. These resources have been used by the informal actors for the preservation of something that they value. The results from the institutional analysis point out that the **presence of unity, shared values and contact with politicians and the media**, and **knowledge about political processes** allowed for the mobilization of support base for the retention of the property of the Zelfregiehuis. This allowed the informal actors to **escalate through social media** and **use policy instruments**, enabling them to bring attention to the conflict within the local council.

Barriers

Some results of the institutional analysis can also be seen as barriers to resilient interactions. With regard to the existing rules and policies, it can be argued that the presence of various rules in use that are ought to empower the self-organizing capacity of informal actors was not helpful. Examples of these rules in use are the **“Right to Challenge”** and the policy document **“Beste plan voor de wijk”**. A possible explanation for the fact that these rules were not helpful could be that the **lack of knowledge and expertise** and **available money** and **access to funding** formed a barrier to the successful exploitation of these rules. This is illustrated by the fact that the residents did not know how to properly develop a business case that meets the requirements set up by related laws and regulations and did not have access to parties that were willing to invest in the business case that they developed. In addition, various rules in use of the local government can be seen as institutional barriers for the self-organizing capacity of the informal actors. The **coalition agreement, zoning plans** and the **municipal budget** that are embedded into the traditional (top-down) decision-making processes can be seen as **institutional barriers** to the self-organization of the initiative. The **coalition agreement** gave the officials of the municipality the authority to sell the property of the Zelfregiehuis, under the vague condition that the societal value would be retained. The **zoning plans** were not in line with this condition and were changed to a social destination during the sale process of the property. This can be seen as a source of confusion with the self-organizing residents having to readjust their business case at the last moment due to a lack of awareness of the exact requirements of the business case. Another barrier to resilient actions is perceived in the **lack of communication between formal and informal actors**. The formal actors of the real estate department of the Municipality stated that they were not contacted by the Zelfregiehuis initiative before the protests, while the informal actors of the Zelfregiehuis initiators claimed that they tried to reach out to the municipality multiple times. Moreover, there was also a **lack of communication between departments of the municipality**. The area organization involved with the BoTu neighbourhood was not consulted before the property of the Zelfregiehuis was put for sale. This is also related to the last identified barrier, which is the **lack of trust** resulting from the lack of stakeholder consultation and decisions made against the interest of residents. The last barrier is the **lack of a political base for new insights**, which is related to the fact that decisions concerning the sale of societal real estate are not reassessed throughout time.

6. Discussion

As the aim of this study was to develop a framework that is suited to analyse interactions between formal and informal actors. In order to validate the framework, it was then applied to a case study involving the sale of the property of the Zelfregiehuis in the neighbourhood Bospolder-Tussendijken of Rotterdam. Therefore, the next sections will provide answers to the sub-questions and relates them to the findings from the literature study.

6.1 Answers to sub-questions

SQ 1: What is social resilience and how can formal and informal actors contribute to it in their interactions with one another?

As defined within the BoTu 2028 programme, the notion of social resilience encompasses the ability of a community to mobilize available resources and develop relations between people and organizations (Veldacademie, 2020). Together, they contribute to the ability of a community to act in a future-oriented way. By means of a literature study, several resources have been identified that can enable informal actors such as residents to act resilient. These are (1) social capital, (2) cultural capital, (3) human capital, (4) natural capital and (5) built capital (Doff, 2017). Within the conducted case study, all of these forms of capital, with the exception of natural capital, turned out to be relevant for resilient actions by informal actors. Social, cultural and human capital allowed for the mobilization of people that led to escalation through media and the use of political instruments. These can be regarded resilient actions due to the underlying intention to preserve an initiative that the residents care about in a future-oriented way. A lack of human capital in the form of knowledge and financial resources has been identified as a barrier for resilient actions. Taking this into account, the findings of this study are in line with the previous study of Magis (2010), that the availability of resources indeed do contribute to the ability of residents to act resiliently.

As for the formal actors such as officials from the Municipality of Rotterdam, several qualities have been identified that enable resilient interactions. These are related to the self-organizing capacity of urban governance systems and involve (1) mobilizing capacity, (2) binding capacity, (3) reliability and (4) institutional flexibility (Van Buuren & Meulenbeld, 2016). The findings of the case study point out a low self-organizing capacity of the formal actors such as municipal officials involved in BoTu. This is reflected in a lack of communication, trust and flexibility between formal and informal actors which can be seen as one of the sources of the conflict between the formal and informal actors of BoTu. These findings coincide with the idea of Van Buuren & Meulenbeld (2016) that the self-organizing capacity of the urban governance system is important to proactively influence the prevention of future crises or limit their consequences.

SQ 2: Which framework is most suited to be used to analyse the interactions between formal and informal actors from an institutional perspective?

The performed literature study led to the identification of the IAD framework as a framework that is suited to assess the resilience of interactions between formal and informal actors. The framework was deemed suitable due to its institutional perspective, as this research focused on the assessment of interactions that resulted from conflicts due to institutional changes. The IAD framework was modified by including the identified resources and qualities that can enable formal and informal actors to act resilient, which led to the development of the IRAD framework. The application of the IRAD framework has been useful for the decomposition of a conflict that arising from institutional changes, by pointing out relevant variables to take into consideration for the dissection of action situations of the case study. It helped with the construction of an interview guide and subsequent gathering, analysis, organization and representation of data.

SQ 3: What interactions take place between the formal and informal actors of BoTu, as a result of conflicts that arise from institutional changes in 2020?

The IRAD framework was applied to the sale of the property of the initiative Zelfregiehuis, which was concerned resolving a conflict between formal and informal actors with regard to the management of societal real estate. Due to the fact that the Zelfregiehuis initiative is considered an important asset of the neighbourhood, the sale of the property of the Zelfregiehuis by the municipal real estate department can be seen as an institutional change that can be considered as a shock for the informal actors of BoTu. However, based on the distinction made by Turner (2003), the sale of the property can also be seen as a response to a stressor, defined as a slowly increasing pressure, as similar issues were mentioned in relation to the management of societal real estate.

The resulting conflict between formal and informal actors ties in well with the previous study from Doff (2019), in which she argues that local governments' desire and pursuit of resilient communities and their inability to open up the decision-making process creates tension. Furthermore, the residents of BoTu indeed seem to be operating within the shadow of hierarchy (Scharpf, 1994; Taylor, 2007). This is reflected in the protest organized by the local residents in which they expressed their dissatisfaction with their influence on the current decision-making processes. The residents were particularly dissatisfied with the fact that the Municipality of Rotterdam explicitly states within the BoTu2028 programme that it wants to be more flexible and involve stakeholders more, which is not in coherence with the actions of municipal actors who are in control.

In response to the protest, the initiators of the Zelfregiehuis were given with a second chance to present the developed business case by the Alderman responsible for the sale of the property. In addition, a new location was allocated to the initiative and 30 other properties were removed from the sales list. Although this response from the Municipality of Rotterdam gives the impression of the adaptive capacity of the governance system, they can also be considered as concessions made as a result of the conflict. From this point of view, the Municipality of Rotterdam seems to be rather responsive to conflicts rather than to requests from self-organizing residents.

Nevertheless, the conflict also has led to more profound adjustments of rules in use and decision-making processes such as mandatory stakeholder consultation and better alignment of decisions with regard to societal real estate through the creation of a new team and area planner that will monitor the interactions between the formal and informal actors of the BoTu community. These outcomes can be seen as the presence of the dimensions of adaptive and transformative capacities within the BoTu community, which are defined by Keck and Sakdapolrak (2013) as the ability to learn from past experiences and adapt to future challenges and the ability to engage in decision-making and thus alter institutions. For these reasons, the urban governance system of Rotterdam can be considered somewhat adaptive as they are in line with what Adger et al. (2009) describe as the facilitating the ability “to transform a system to a more desirable state”, which in this case is an improved communication between formal and informal actors.

SQ 4: What lessons can be learned from the application of the framework to the case study, that can contribute to more resilient interactions between formal and informal actors in the future?

The application of the framework to the case study provides us with several lessons. The first lesson is that human capital in the form of knowledge and financial resources are particularly important for the self-organizing capacity of informal actors. The lack of these resources has been identified as an obstacle to the self-organization of the Zelfregiehuis initiative. This is in line with what was found in the previous study conducted by Platss-Fowler & Robinson (2016), within which they argue that human capital is one of the primary resources serving the collective interest. The second lesson is that existing institutional arrangements can be seen as core rigidities of local governments. This is also in line with the finding of the previous study conducted by Van Buuren & Meulenbeld (2016), that well-organized urban governance systems have built up a certain degree of robustness that can also be seen as a core rigidity. Within the performed case study, this robustness indeed ensured the municipal cluster Urban development to be unresponsive to initial requests from the self-organizing residents. The third lesson is that while there are rules and policies that foster this adaptivity and are supposed to empower self-organizing informal actors, such as the “*Right to Challenge*” and “*Beste plan voor de wijk*”, the findings of this study suggest that these are not institutionalized well enough for informal actors to rely on. It is therefore important for the development of the self-organizing capacity and resilience of neighbourhoods that new ways of working together have to be found, with more flexible rules that make existing institutional arrangements more adaptive by adjusting them based on new insights in a timely manner. The final lesson is that trust appears to be an important precondition for acting resilient. The lack of trust of residents in the Municipality of Rotterdam is due to the fact that they are not informed about and included in decision-making processes that affect them. This makes it important that trust is rebuild through improved communication.

6.2 Limitations of study

This study also had some limitations that should be addressed accordingly. One limitation is that the fact that the number of formal actors from the Urban development and Social development clusters of the Municipality that wanted to participate in this study is low. An explanation for this could be that the case that was selected for this research is sensitive in nature. As it was not possible to conduct an interview with a municipal official from the Social Development cluster, that is more involved in the BoTu2028 programme, there was no primary data on these significant formal actors' perceptions on the events within the case study. Another limitation of this study involves the lack of generalizability of the results of this study, due to the fact that the findings result from one case study. An attempt was made to overcome this limitation by adopting a systematic approach for the gathering and analysis of the data using the developed IRAD framework as a guideline. A limitation of this study was also found within the limited time available to study the case, which is an ongoing process where the management of societal real estate remains on the political agenda of Rotterdam. Further developments and outcomes of political processes therefore remain unknown for this study.

7. Conclusion

In this chapter the outcomes of this study and their scientific and societal relevance will be discussed. The main research question will be answered followed up by discussing the academic and societal relevance of the outcomes of the study. Recommendations for future research are made at the end of the chapter.

At the end of the chapter recommendations for future research will be provided.

7.1 Answer to main research question

In this section, the main research question will be answered, which is formulated as follows:

“To what extent are formal and informal actors of BoTu resilient in their interactions with one another, with regard to conflicts that arose from institutional changes, and what lessons can be learned from these interactions?”

The outcomes of the application of the IRAD framework to the case study show that the formal and informal actors of a neighbourhood may have different ways of working in future-oriented ways that are not always compatible with one another. The formal actors, represented by municipal officials within the case study, still operate in a hierarchical way, with various rules in use that are exercised top-down and have a short-term focus on monetary gains which in turn can be used to support vulnerable residents. On the contrary, informal actors, that are represented by residents within this study, try to contribute to the resilience of the neighbourhood through self-organization and have a long-term focus by making vulnerable residents with politically and financially aware. The formal and informal actors seem to have the same goal, but a different perspective on how to achieve this goal.

The informal actors of BoTu can be considered resilient in their interactions with formal actors for several reasons. Access to resources in their social networks enabled residents of BoTu to develop a business case, stage a protest, escalate through media and notify the local council about their concerns. All of these actions can be considered resilient actions aimed at preserving the self-organized Zelfregiehuis initiative. On the other hand, the lack of knowledge of rules and regulations and financial resources available to informal actors have been identified as barriers for resilient actions.

On the contrary, the findings of this study identified some profound barriers to resilient actions by formal actors. One of them being the lack of communication between clusters of the Municipality and between formal actors of the departments of the municipality and informal actors of the neighbourhood. Another barrier is the bureaucracy of decision-making processes of the Municipality of Rotterdam. Yet, the formal actors of BoTu can also be considered somewhat resilient in their response to the conflict. The case led to a more inclusive decision-making process concerning the management of societal real estate and an improved information exchange with the area organization of BoTu. Thereby, a new team and area planner were introduced fostering inclusivity within municipal decision-making processes to prevent future conflicts. In conclusion, it can be stated that the findings of this study suggest that the formal and informal actors of the BoTu community can be considered both resilient as non-resilient when interacting with each other.

Therefore, there are some remarks that can be made to improve the resilience of their interactions with one another in the form of lessons. One of them being that knowledge and financial resources are of high importance for the self-organizing capacity of informal actors. In addition, the case points out that various rules in use and a lack of institutional flexibility impede formal and informal actors from acting resiliently. For this reason, new ways of working together have to be found with rules that enable adaptiveness within institutional arrangements by adjusting rules based on new insights. Finally, trust and communication have been identified as important facilitators for acting resiliently.

7.2 Link to COSEM programme and academic relevance of study

The complexity of the urban system is found within its various interacting elements and continuous change, which only can be explained by taking multiple levels and interactions into account. Complex Systems Engineering and Management graduate students are expected to be able to design interventions within such complex systems from a socio-technical point of view. The design of such interventions requires a multidisciplinary approach that takes social, economic and institutional perspectives into consideration. The study fits into the COSEM curriculum, as these perspectives have all been taken into account in the development and application of the IRAD framework.

The academic relevance of this study lies in the adoption of institutional perspective within the thriving field of social resilience. The IAD framework was originally developed for the analysis of governance systems involving natural resources such as forests, fish, grasslands, and irrigation systems. The IRAD framework is a modified version of the IAD framework, which has been modified based on relevant variables from the literature on social resilience and resilient governance systems. The novelty of this study is found within the application of the framework to determine the resilience of the interactions between formal and informal actors at the neighbourhood level.

7.3 Societal relevance of study

The analysis of the urban governance system of Rotterdam provided insights into the meaning of rules and regulations and resources available to residents with regard to resilient actions. In addition, the management of urban real estate has a high societal relevance in Rotterdam. The findings of this study resulting from the application of the IRAD framework can help formal and informal actors to reflect on their roles and responsibilities with regard to the management of societal real estate. In doing so, identified enablers and barriers and lessons can inform governmental bodies how resources available to formal actors and existing institutional arrangements are related to the development of the social resilience of neighbourhoods.

For instance, the insights resulting from this study can be taken on board by policy makers for the Environment and Planning Act, which aims to integrate and simplify laws for informal actors who want to self-organize the provision of public tasks. In this way, policy makers can adapt their strategies to facilitate the self-organizing capacity of the city and the social resilience of neighbourhoods. Based on the finding that the current governance system lacks a political base for new insights, local and regional governments can more often consult stakeholders to become more adaptive and responsive to the needs of the residents that live in the areas that for which they are responsible.

7.4 Reflection on IRAD framework and recommendations for future research

The IAD framework was modified with the purpose of the identification, and subsequent representation, of relevant exogenous variables and evaluative criteria. This led to the development of the IRAD framework, which has proven to be useful for collecting and organizing the qualitative data generated through the performed desk research and semi-structured interviews. It is therefore deemed a suitable framework that can be deployed by the Veldacademie for future research into how the governance of the BoTu neighborhood is changing. However, it remains a challenge to fully grasp the complexity of urban policy situations and the application of the framework requires choices to be made. Examples of such choices are the selection of the most critical action situations and the sorting of exogenous variables as particular forms of capital.

For future research, the Veldacademie can use the IRAD framework to assess whether the changed institutional processes, such as the introduction of an area planner and a new team within the municipality, are indeed mentioned as conditions that facilitate the self-organizing capacity of residents in future cases. Moreover, the framework can also be applied to study and analyse future conflicts or the management of other urban commons. Thereby, the IRAD framework can assist with the decomposition of the institutional environment and understanding of interactions between formal and informal actors. In this way the relationship between various forms of resources available to informal actors and capacities of formal actors can be explored. If necessary, the attributes of the community and evaluative criteria can be adjusted based on their applicability on the case that is studied. Such analysis can provide insights that can then be used in a similar way to identify enablers and barriers to improve decision-making processes.

Another interesting application of the framework is related to the energy transition, which is also one of the tasks the BoTu2028 programme is involved in. Hereby, the management of energy-related commons such as electricity and gas can be studied in a prescriptive way to speculate on how various exogenous variables will influence future action situations and provide insights into requirements for resilient interactions in terms of resources and rules and regulations. For example, if the self-organizing capacity of the urban governance system might not be relevant in such cases, other evaluative criteria can be taken into consideration for the analysis of such a case study.

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Appendices

Appendix A: Interview guide

Introductie

Mijn naam is Nitin Biharie en ik ben een Complex System Engineering and Management master student aan de TU Delft. Voor mijn master thesis doe ik momenteel een onderzoek naar het bestuur van de wijk Bospolder-Tussendijken in Rotterdam.

Ik richt mijn onderzoek op de adaptiviteit van de governance in deze wijk en dat doe ik in opdracht van de Veldacademie. Dit onderzoeksbureau monitort en evalueert het programma Veerkrachtig BoTu 2028. Het doel van de monitor is om ontwikkelingen rondom veerkracht in de wijk te volgen om hiervan als wijk en stad te leren. Door interviews te houden met betrokken partijen wil ik in kaart brengen hoe het bestuurlijk speelveld van de wijk er op dit moment uitziet. Aan de hand hiervan kan ik dan een systematische evaluatiemethodiek ontwerpen, die bij verschillende crises gebruikt kan worden ter versterking van het lerend vermogen van de wijk en stad.

Zoals beschreven staat in de toestemmingsverklaring, zal dit interview gebruikt worden voor academische doeleinden en voor de monitor van de Veldacademie en zal de informatie die hieruit voortkomt strikt vertrouwelijk behandeld worden. Ik zal het interview opnemen en de transcript ervan met u delen voor toestemming. Heeft u hier of over de toestemmingsverklaring nog vragen? Als dit helemaal akkoord is voor u, kunnen we beginnen met het interview.

Naam van de interviewer(s) en onderwijsinstelling	
Wie wordt er geïnterviewd en wat is haar of zijn rol binnen het initiatief?	
Wat zijn de contactgegevens van de geïnterviewde? <small>Voor eventuele vervolgvragen.</small>	
Wat is de locatie van het interview?	
Wat is de datum en het tijdstip van het interview?	

Introductievragen

Ik zou het interview graag willen beginnen met wat vragen over uw betrokkenheid bij de wijk Bospolder-Tussendijken.

Positie: Aan de hand van een positie kan een actor bepaalde acties ondernemen. Ik zou u graag een aantal vragen willen stellen over de positie van uw organisatie.

1. Vanuit welke organisatie bent u betrokken bij BoTu?
2. Wat doet het initiatief/organisatie?
3. Wat is uw rol binnen de organisatie?
 - a. Hoeveel jaar bent u daar al werkzaam?
 - b. Wat zijn uw hoofdtaken?

Ik zou nu graag wat dieper willen ingaan op de verkoop van het pand van het Zelfregiehuis.

Acties en invloed: Ook is het mogelijk voor een actor om acties van andere actoren te beïnvloeden. Daar gaan de volgende vragen over.

4. Zou u mij chronologisch kunnen vertellen wat er is gebeurd?
 - a. Wat was de aanleiding?
 - b. Welke acties zijn er ondernomen?
5. Welke andere actoren (partijen/individuen) waren er betrokken?
 - a. Wat was de aanleiding voor hun betrokkenheid? Welke rol hadden zij?
 - b. Wat waren beschikbare middelen? (doorvragen: sociaal netwerk, fysieke plek, know-how, expertise, financiën, tijd)
6. Heeft u het gevoel dat u beslissingen heeft kunnen beïnvloeden?
 - a. Waarom wel/ niet? Hoe komt dat denkt u?

Informatie: Ook heeft niet elke actor toegang tot dezelfde informatie over acties binnen de casus, daar gaan de volgende vragen over.

7. Hoe bent u geïnformeerd over de beslissingen die gemaakt zijn?
 - a. Wat zijn belangrijke beslissingen/kantelpunten geweest in het proces?
 - b. Door wie zijn deze beslissingen gemaakt?

Mogelijkheden en uitkomsten: De beschikbaarheid van informatie en mate van invloed leiden tot bepaalde uitkomsten die u als actor kan beoordelen. Daar gaan de volgende vragen over.

8. Wat vindt u van de positie die uw organisatie heeft gehad tijdens de casus X?
9. Hoe zou u de uitkomsten van die beslissingen beoordelen?
 - a. Heeft de gebeurtenis een positieve of een negatieve uitkomst op de langere termijn?

Concluderende vragen

10. Welke lessen kunnen er volgens u uit de uitkomsten van de casus getrokken worden voor toekomstige situaties?
11. Hebt u suggesties voor mij om dit onderzoek te helpen in termen van (snowball):
 - a. Andere personen of betrokken partijen waarmee ik ook een interview kan doen?
 - b. Informatie (documenten, rapporten, artikelen)?

Conclusie

Dit waren alle vragen die ik voorbereid heb voor het interview.

Is er nog iets wat u zou willen toevoegen dat ik zou moeten weten?

Is het goed als ik u weer contacteer indien ik meer vragen heb tijdens het verwerken van de data?

Is het goed als ik een afgeronde versie van het evaluatieraamwerk met u deel voor feedback?

Heeft u nog vragen voor mij?

Heel erg bedankt voor uw tijd en informatie.

Appendix B: Consent form

Consent Form (toestemmingsverklaring) voor interviews BoTu2028

Vink de juiste vakjes aan

Ja Nee

Deelname aan het onderzoek

Ik verklaar op een voor mij duidelijke wijze te zijn ingelicht over de aarde, methode, doel en belasting van het onderzoek. Dit onderzoek is goedgekeurd door de ethische commissie van de TU Delft en voldoet aan de AVG. De verzamelde data wordt alleen anoniem en vertrouwelijk verwerkt en uitsluitend voor wetenschappelijke doeleinden gebruikt (b.v. publicaties of presentaties). Mijn vragen zijn naar tevredenheid beantwoord.

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment zonder opgave van redenen mijn deelname aan dit onderzoek te beëindigen.

Ik begrijp dat deelname aan dit onderzoek bestaat uit een interview waarbij audio-opnames worden gemaakt. De opnames worden uitgetypt voor analyse.

Gebruik van verzamelde data

Ik begrijp dat de verzamelde data (met uitzondering van mijn persoonlijke gegevens) gebruikt worden voor wetenschappelijke analyse en publicaties in wetenschappelijke artikelen en presentaties. Tevens kan de data gebruikt worden in niet-wetenschappelijke presentaties en rapporten.

Ik begrijp dat persoonlijke informatie zoals mijn telefoonnummer of e-mailadres niet gedeeld wordt buiten het onderzoeksteam.

Ik geef toestemming dat quotes van mij worden gebruikt in publicaties.

Toekomstig gebruik van de data door anderen

Ik geef toestemming dat de transcripten van de audio opnames gearchiveerd worden in de TU Delft data repository zodat deze voor toekomstig onderzoek en kennisuitwisseling gebruikt kunnen worden.

Handtekeningen

Naam van de deelnemer

Handtekening

Datum

Ik heb de informatie van dit toestemmingsformulier voorgelezen aan de deelnemer. Ik heb de deelnemer zo goed mogelijk voorgelicht en zorg gedragen dat de deelnemer begrijpt waarvoor hij/zij vrijwillig toestemming geeft.

Nitin Biharie

Naam onderzoeker

Handtekening

Datum

Contact informatie voor meer informatie:

Nitin Biharie

n.s.biharie@student.tudelft.nl

Appendix C: Final coding schemes

Final coding scheme exogenous variables and evaluative criteria

Category	Subcategory	Code	Quote
Biophysical conditions	Relevance of societal real estate	demand for cheap workspaces	<i>"So there are needs for cheap workspaces and in recent years anti-squat has met that need. And such an anti-squat manager then receives an assignment from the municipality and they earn a little bit of money by having rent paid, but those are very low rents for the spaces and yes that is a nice revenue model."</i> – Member of Delfshaven Coöperatie
		lack of places for initiatives	<i>"Because we no longer have any places left for social initiatives that are uh not yet able to pay commercial rents."</i> - Member of Delfshaven Coöperatie
		Value of societal real estate	<i>"I think we are all more aware of the importance of affordable space for public facilities. So that that's extremely important for a city, I think that's very much on top of mind."</i> – Member of local council
	scarcity of real estate		<i>"and I think that's the most important thing about okay we have, there is a scarcity in social real estate, make conscious choices and do that in good consultation with the various policy departments and residents and parties involved, so that cooperation and the somewhat more reserved sales strategy."</i> – Municipal area networker
		shortage of housing	<i>"And there is a great need for living spaces, there are simply too few homes"</i> – Member of Delfshaven Coöperatie
	Characteristics	origin zelfregiehuis	<i>Yes... and then we thought yes in a neighbourhood such as BoTu, there are also many experts by experience in all kinds of areas. Who can share their experience and can therefore help each other in such a way. And that you don't always need a professional if you have something. And that you can also find care in each other and give to each other.</i> – Initiator of Zelfregiehuis initiative
		privatization of neighbourhood common	<i>And actually also the privatization of common good, so we have that community center and you can also say that for housing corporation properties, which are actually purchased with public money, is essentially all of us and is privatized in this way.</i> – Member of Delfshaven Coöperatie
Attributes of community	Social capital	development of power	<i>"that is really special, that is really a quality and we notice that we are quite aware that a group of residents who have been working together for a while has really built up that power"</i> - Member of Delfshaven Coöperatie
	Political capital	access to political leaders	<i>"Ehm, I think there were very short lines with politics, so that, there was a well, you write social network here and that was actually that she actually had a very rich network (...) but also where a lot political leaders are"</i> – Municipal area manager
		contact with local council	<i>"When that was no longer possible due to corona, I started feeding D66 and GroenLinks boys, this is what is going on, this doesn't work"</i> – Member of Delfshaven Coöperatie
		contact with media	<i>"Well, the availability of the contacts with the media certainly helped, um"</i> – Municipal area manager
		escalation through media	<i>"So at a certain point our escalation possibilities were limited and then we thought yes then we should escalate through the media, through mobilizing people, because otherwise it just won't arrive."</i> – Member of Delfshaven Coöperatie

		contacting area commission	<i>"So I've spoken to the area committee two or three times."</i> – Member of Delfshaven Coöperatie
		experience with politics	<i>"four years of experience in the area committee and the political awareness and his fun in that game that he shared with us has been so instructive"</i> – Delfshaven Coöperatie
		importance of political capital	<i>"but also other people who are involved with BoTu, who also have political ties with other parties, so I think political influence has been a very important means"</i> – Municipal area manager
		usage of political instruments	<i>"Then we have 'current affairs', which are political council instruments so to speak, which we can use, ehm ehm, so then we request a debate"</i> – Member of local council
	Human capital	knowledge of informal actor	<i>"it's the fun he has in it, the knowledge he has, the fact that he can photoshop really easily so he can do something like that, you know so he's got those design skills and he's got those political skills and the ability to make it like a game so he knows how that political reality how that backroom process how that works. And that uh that he uses that for the benefit of the self-directed house yes that is really just as a present"</i> – Member of Delfshaven Coöperatie
		lack of knowledge	<i>"Yes, ehm I think that ehm yes, share know-how, because I know in that whole assessment of that case when the alderman came to the district, then the business case was found, it was still quite weak. yes that is national and that is also a very important source of knowledge for us."</i> – Municipal area manager
		LSA source of knowledge	<i>"yes that is national and that is also a very important source of knowledge for us."</i> – Member of Delfshaven Coöperatie
		qualities of informal actors	<i>"And then we all have our character and temperament and uh professional knowledge that we take with us, but in that we can take everything from each other only in our own way. So when I do things it's different than when (?) does things. We bring in different qualities, but the motivation is the same."</i> – Member of Delfshaven Coöperatie
	Cultural capital	shared values	<i>"And that goes very smoothly, we actually all have our own way of doing things and at the same time there is a shared value in standing up for the perspective of how we as residents view situations. And we don't, we don't want to, we don't want to be semi-professionals, we just want the value of how you live and do things in the neighbourhood as a resident, we want to see that value represented at different tables. Yes, and we all bring that core with us."</i> – Member of Delfshaven Coöperatie
		unanimity of residents	<i>"Yes, everyone of course, the neighbourhood from different capacities, it was very nice to see that the neighbourhood was united, you can also sometimes have a group shouting, then you actually say we speak here on behalf of the entire neighbourhood And then it turns out that they don't speak from the whole neighbourhood"</i> - Chairman BoTu2028 programme
	Financial capital	hard to get funding	<i>"Because it is not for nothing that they are, ehh, socially oriented, and are also quite often voluntary and such things. They are not capable enough to get funding to buy something like that. That property costs money."</i> – Municipal official (Cluster Urban Development)

		lack of willingness to invest	<i>"Only nobody has that for that, everyone says very loudly, it is important and it is important and this is an important and good initiative and etcetera etcetera, but nobody wants to pull their wallet for that." - Municipal official (Cluster Urban Development)</i>
Rules-in-use	Policy	Right to challenge	<i>"you know you can have a "Right to Challenge" but that won't get you very far either. And yes it is just very tough matter and you have to be a specialist in that" – Initiator Zelfregiehuis initiative</i>
		beste plan voor de wijk	<i>"Well, the policy actually does include the possibility to deviate ..."Beste plan for the wijk" I think they called it, in a policy document ..." – Municipal area networker</i>
		change of zoning plan	<i>"Because at a certain moment, we could say that there was a discussion going on, at a certain moment we had said okay, we sell it on the basis of its function, the social destination, so that the Zelfregiehuis has a chance." - Municipal official (Cluster Urban Development)</i>
		coalition agreement	<i>"No, we also said in our coalition agreement that we are going to sell that social real estate. So the college also had a title to do it. I will also be honest about that, yes we have agreed that, so that also means that our room to move is not really large. But what we have said, while retaining social value. Yes and that is of course so vague that we yes, a dentist is of course also social value, you know." – Member of local council</i>
		conditions of sale building	<i>"Then it suddenly went on sale at the highest price, under not very clear conditions, without communication too, and so then it went a bit in a pressure cooker, so on the one hand we switched quickly and worked out the plan further and then adjusted it. because the zoning plan also changed ... yes ehmm ... then we eventually turned it into a kind of self-management health house, found a developer with whom we could make an offer then ... Only the bid was against the highest bidder, so in the end has a dentist purchased the property" – Member of Delfshaven Coöperatie</i>
		municipal budget	<i>"Yes that nuance, it is often forgotten and it is only said yes you only look at the money, you the most money, yes but that money is needed in the end, so to speak, to make such a municipal budget right, it has to be somewhere come out and we are only a few buttons within the municipality that you can turn to make money, that is with the sale of land, the sale of real estate and taxes, and you have no more buttons to turn." - Municipal official (Cluster Urban Development)</i>
		initial mixed zoning plan	<i>"yes and when it went on sale the destination was mixed, which makes housing possible, which also once again attracts a certain type of project developers." – Member of Delfshaven Coöperatie</i>
	Law	anti-squat	<i>"So yes, we were in anti-squat, so we had no further rights at all or we could not claim the property either, because we were actually leavers." – Initiator of Zelfregiehuis initiative</i>
		environment and planning act	<i>"there are still a number of people who are active in environmental law contexts. They have now dived into it, as someone has said I'm going to check the procedure anyway because I'm not entirely clear how the procedure went and whether the municipality has followed the correct procedure, so that is, he is now doing a first exploration. If it bites into it, it could well generate a whole new process." – Member of Delfshaven Coöperatie</i>
Evaluative criteria	Mobilizing capacity	lack of reaction	<i>"so I think we had already requested a meeting with urban development six months in advance with various account holders, also wrote letters with the director of urban development, had no response, wrote another letter, again no response..." – Member of Delfshaven Coöperatie</i>

		lack of stakeholder consultation	<i>"yes and how were you informed, yes not we are not informed about it."</i> – Municipal area manager
	Binding capacity	combining expertise, funding and initiatives	<i>"the third is, and it is natural that you make those networks known and make them available to the official organisations, to the residents' organisations, to social organisations, dude this is what we, what is there in rotterdam huh, so those three puzzle pieces of expertise , investment power, you have to communicate this with each other and also make it clear and connect it to each other, making it available to the city."</i> - Municipal official (Cluster Services)
		Connection of experts with initiatives	<i>"Structure the social involvement of experts residents in rotterdam, and by that I mean that we have a lot of people in rotterdam who work at accountancy firms, are consultancy firms, urban planners or financially educated. And who are involved in their neighbourhood. Try to create a network in that, which you know that those people can make a business case. And who, on a voluntary basis, make their knowledge and skills and editorial power available to the initiative."</i> - Municipal official (Cluster Services)
		Creation of network for funding	<i>"Also create a network of all kinds of social funds that support such initiatives based on their objective. There are funds that want to make a contribution in all kinds of circumstances, and that also want to participate in this at a risky level with investments and the like. So network that too. So parties who can finance the sale or purchase of such a property."</i> - Municipal official (Cluster Services)
	Reliability	loss of trust in politics	<i>"So that's because people lose faith in ehh, in politics. So if, so to speak, driven by an alderman, a certain decision is taken that goes against the interests of residents in the neighbourhood, yes, and if that happens more often, um, then people will give up at some point. That's how it is..."</i> – Member of Delfshaven Coöperatie
		need for rebuilding trust	<i>"Yes, trust in government needs to be restored. And I really like it, and I try to explain that to people, you can work with separate effective interventions, you also need new interventions that have not yet been developed, you should also be allowed to do that, there has to be you can experiment with."</i> - Chairman BoTu2028 programme
		Reliability towards market parties	<i>"Then you have other buyers who then say: "yes hello, you suddenly take it off the sale, what are you doing?" So that also has a kind of, yes predictability from the government, a negative effect on"</i> – Member of local council
	Institutional flexibility	Hierarchy of governance system of Rotterdam	<i>"the political administrative model of Rotterdam is still very much based on the hierarchy of what is it from yes Thorbecke, the 1850, strongly hierarchical, the alderman determines, top-down, the civil service implements."</i> – Member of Delfshaven Coöperatie
		inability to stop sale process	<i>"apparently the decision had already been made and it was already on sale and then the process has already started and then you can no longer avoid it... It is then almost impossible to press the pause button there"</i> – Municipal area networker
		participatory budgeting	<i>"and I think what you should go for is a government in outline, in which the larger developments and challenges that come to the city, that you give them a good place, so allocation of budget. Like the principle of subsidiarity, the decisions ehh, as low as possible in the district. So with which you offer space, to enable the neighbourhood level, participation, democracy, participatory budgeting. So just a neighbourhood budget, because with it you can give substance to the local color, to the democratic ambition of people, the ambition of people to be able to do something for their</i>

			<i>environment and not just say, um, what does it take three-quarters of a year until a budget treatment has to end? having to wait.</i> " – Member of Delfshaven Coöperatie
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Final coding scheme events

Year	Event	Code
2016	Entry of Zelfregiehuis into building	<i>"In 2016, when the Zelfregiehuis came in on the basis of anti-squatting, it was already indicated. It is temporary and at some point it will be sold."</i> - Municipal official (Cluster Urban Development)
2018-2020	Development of business case	<i>"Yes ehh we did the project itself with the self-directed house, delfshaven cooperative, and care-free state west, ehmmm the parties that supported us in this were the stimulation fund, the royal heath society and arcadis ehmm with as readers / viewers the housing cooperative havensteder ehhh the district official of the municipality of rotterdam but also, for example, a developer such as ERA contour"</i> - Member of Delfshaven Coöperatie
May 2020	Building put on Funda	<i>"Yes, ultimately not, um, no look, honestly, the moment it was put on funda, it was actually irreversible, because at that moment you actually made all your conditions and your sales process public and public."</i> – Municipal area manager
June 2020	Organization of protest	<i>"You know so that has been a very positive experience, like oh but we do have political influence and we can do something from the neighbourhood and we can do that in our way. You know here a protest breakfast with everyone standing with a parasol with texts on it and films of painting the parasols it was completely our own way of taking action. And it had an effect, you know, we generated attention. Well, you know that we succeeded, that has been so instructive."</i> - Member of Delfshaven Coöperatie
June 2020	Political debate	<i>"But we supported that, Groenlinks, PVDA, actually everyone on the left-hand side, let's just say... Supported that debate request, I think that was also a collaboration with (?) ."</i> – Member of local council
July 2020	Visit of councilor	<i>"No Sven de Langen has visited here and I, Robbert, Lennie, Gerrit from a project developer we want to work with, uh Tonny and Wilma, we were there from the neighbourhood and Sven was there with two officials, Sven de Langen. And we did that here and then he went to Jong Delfshaven to talk to uh Marleen, Bilal and Andre Hammink."</i> - Member of Delfshaven Coöperatie
July 2020	Decision of councilor to continue sale	<i>"because I know that in the whole assessment of that case when the alderman came to the district, then the business case was found, it was still quite weak."</i> - Area manager

Final coding scheme action situations

Category	Code	Quote
Net costs and benefits	broad definition of societal value	<i>"We have said, that social value, that selling while retaining social value, that should actually be given much more flesh, because now it is, so yes, so little concrete framework, that it never, you know, you can always get around it."</i> – Member of local council
	different perspective between scales	<i>"the people who have argued for the case of the Zelfregiehuis, who mainly reason like yes if we had been given time, then we could have developed that business case better, reasoning from the city, that business case was simply too weak, so if you have it about know-how yes, at that time it was still limited, because I also know that when the alderman came, I was not there myself, at that meeting, that there was not really a very concrete case yet."</i> – Municipal area networker
	different perspectives within municipality	<i>"Yes, you can clearly see here that municipal leg 1 wants something different than municipal leg 2. So the fact that they did not know that about each other was of course very significant in this and that also did not want to think along"</i> – Chairman BoTu2028 programma
	financial gains indirect source of societal value	<i>"Well, and that is often forgotten, I want to make that point, because they always say: Yes, you only look at the money in real estate and when selling. Only (...) the more money we generate from the sale of real estate, the easier we can convert schools, the easier we can invest in theaters, the easier we say, or the more money is available for, for people who need welfare and such things... the money we earn is not that it goes into our own pockets, in principle it goes to the general treasury of the Municipality of Rotterdam, to make other social investments possible."</i> - Municipal official (Cluster Urban Development)
	focus on monetary gains	<i>"there was a very good assignment formulation based on the idea that money had to be made."</i> – Member of Delfshaven Coöperatie
	future orientation of informal actors	<i>"delfshaven cooperative, when it hadn't worked through politics, to say well then we're going to get back into a positive mindset, start working together to find a new place for this group... and do things differently in the future with social real estate, so they have very clearly been able to turn a button for themselves not to get sour, but to continue in the collaboration ... erm, which will yield a lot in the longer term I hope"</i> – Municipal area networker
	municipal decision-making processes	<i>"a kind of decision tree is it natural, is it social real estate? No. Is there a subsidy line with the policy department? No Yes. Does the policy department want to keep it? No. Core portfolio, see it as strategic? No. Well then it has to be sold, so let's say there are already a number of decision points in it and at a certain point you know we are, sell (...) we are the last in the link, so if those with us in the basket falls. The moment it is for sale, if all market parties are interested and things like that, you can't really go back. Then you also come up with principles of reliable government and things like that."</i> - Municipal official (Cluster Urban Development)

	short term focus municipality	<i>“the Municipality of Rotterdam is very good at pilots and experiments. My experience with pilots and experiments is that after a year and a half you conclude that it works, great, and that nothing is done with it afterwards” – Member of Delfshaven Coöperatie</i>
	societal value of dental practice	<i>“Only if you ask that from my perspective, is it really, um, is the neighbourhood going to deteriorate now that we've sold it? Because if you look at what's coming in now, it's a health center or dental practice. Is also very desirable in that district, I think that in that district many more people would benefit from it than such a Zelfregiehuis.” - Municipal official (Cluster Urban Development)</i>
Control over	department real estate executive	<i>“but that there are actually that very dutifully followed the assignment they received from their alderman and from the policy and the city council, namely the sale of properties” – Municipal area networker</i>
	need for pressure	<i>“We are not the only ones and with political parties, you know many things are important to them, but as long as we as residents do not constantly put pressure on it, they make their own choices in how they deal with it. So now we have to come up with a system that will keep the pressure off.” – Member of Delfshaven Coöperatie</i>
	authority of bench of Alderman and Mayor	<i>“But this is a competence of the college, so we as a council, we can do that, that is not our competence, let's just say that. The sale of real estate is not our competence.” – Member of local council</i>
	execution of decisions	<i>“real estate then a very important decision moment, I don't know whether they took it very consciously, or whether they did it "business as usual", and that there was hardly a decision prior to that.” – Municipal area networker</i>
Information about	lack of information sharing towards initiative	<i>“Yes, we really asked for so long what is the WOZ value, well then we didn't get anything at all, we were not told that. All those other people who just knew that. So we had to bet on that.” – Initiator of Zelfregiehuis</i>
	misinformation amount properties to be sold	<i>“Because there were stories that we were going to put 3000 objects for sale, that was never the story. Because we have approximately 3000 objects in the total portfolio, what we are going to sell there were only 600, so to speak. So a lot of Indian stories went around and that made the session very difficult.” - Municipal official (Cluster Urban Development)</i>

Final coding scheme actors

Category	Subcategory	Code	Quote
City level	Administrative (formal)	Mayor of Rotterdam	"real estate is an executive organization and they do what the mayor and alderman has instructed them to do. And it was decided in the city council that an x number of properties would be sold, then, and that is the assignment real estate has. just carry out her assignments." – Member of Delfshaven Coöperatie
		Alderman for Construction, housing and energy transition in the built environment	"but somewhere at the beginning I had an ehm, when it was announced I already had a consultation with both aldermen, so Kurvers, who is about the real estate department " – Municipal area manager
		Alderman Economy, neighbourhoods and small towns	" and Kathmann, who is about the neighbourhoods department , the consultation was about something different, but we did raise the issue of real estate" – Municipal area manager
		Gemeenteraad	"And it was decided in the city council that an x number of properties would be sold, then, and that order has real estate. So real estate just carries out its orders. and real estate is not obliged to consult with us, it has to not to ask the area organization from goh we are going to put this property up for sale, does that still have value for the neighbourhood, are there still things we should think about? do you have any substantive input? no, they are not instructed to do that at all, their assignment is to sell the property, period" – Member of Delfshaven Coöperatie
	Officials (formal)	Cluster Maatschappelijke ontwikkeling	"It's just that the discussions remain difficult, because whatever I just said, they have no resources. And if they find something important, the one who should make the resources available, the cluster is MO . And they can make different decisions." – Municipal official (Cluster Urban Development)
		Cluster Stadsontwikkeling	"In the case of the municipality of Rotterdam, for example, all municipal real estate is managed by the real estate department. And say where the (...) indicates that it no longer needs real estate, it is then disposed of. And there you see that there is a field of tension arises between the different clusters, so ehhh social development and urban development, situations arise where it is indicated what we do, we have no subsidy relationship there or we cannot make resources available for that." – Municipal official (Cluster Urban Development)
		Cluster Dienstverlening	"Services, the Services cluster, the Services cluster is the so-called area organization that , with neighbourhood management, neighbourhood

			<i>networkers, tackles questions and issues in the neighbourhood in an integrated manner. And integrally means that they work together with all municipal clusters, i.e. city management, social development, urban development and those kinds of parties are in principle involved." - Municipal official (Cluster Services)</i>
	Political (formal)	D66 Rotterdam	<i>"Well, the D66 Rotterdam fraction is therefore a member of the municipal council and the task of a municipal councilor is to put representatives of the people on the agenda, i.e. to collect signals from society and thereby put that political, political, administrative table on the political-administrative table to do something with it. So that is the people's representative task, we have a framework task, so then, we determine the budget, we determine the policy plans, so that's what we do." - Member of local council</i>
		Groenlinks Rotterdam	<i>"So, uh, and I spend a lot of time with a number of parties, including Groenlinks when it comes to the sale of social real estate. That we think that all kinds of initiatives there should have more opportunity to be able to make an offer. let's say, we were working on that. It all goes quite quickly. The sale of social real estate, we think that should actually be done with more policy or more feeling for the city." - Member of local council</i>
Area level	Residents (informal)	Bewoners	<i>"Well, uh, actions from the residents to keep the building for the directorate, so that means very concretely that you try to do business in that way and that you really, as residents, also control the board, and the press, and the neighbourhood. approached to yes, it can't be that such a great initiative can't go on now and that we have to get out etcetera." - Municipal official (Cluster Services)</i>
	Partners (informal)	Zelfregiehuis	<i>"And that Zelfregie actually came there, we were sort of puzzling with it, and then that Zelfregie came in and since then it was called Zelfregiehuis where you work on economic empowerment because we take on all kinds of assignments and people then make money with it. can earn and that is all by yourself what you are allowed to earn on top of your benefit." - Initiator Zelfregiehuis initiative</i>
		Delfshaven Coöperatie	<i>"Delfshaven Cooperative is a neighbourhood cooperative, ehh ehmm, consisting of a residents' board, a number of partners, ehm, who also invest in the district investment fund, with which we as residents can also invest in local initiatives, social entrepreneurship, where the aim is long-term value development of the neighbourhood, both of the</i>

			<i>neighbourhood and its residents, so we do that in all kinds of ways, but I think in particular by supporting local initiatives, bringing them into contact with each other, redirecting money flows, ehh, and also to work on community building. ”- Member of Delfshaven Coöperatie</i>
	Administrative (formal)	Gebiedscommissie Delfshaven	<i>“Yes, that's what we did before that, also spoken to the area committee, but then the area committee is only advisory, so that, um, actually that whole advice from the area committee, that has gone nowhere.”- Initiator of Zelfregiehuis Initiative</i>
	Officials (formal)	Gebiedsorganisatie	<i>“Since the neighbourhoods in Rotterdam are quite different, they have chosen to have a neighbourhood manager and one or two networkers in each neighbourhood and what we do is actually a very small organization, but it tries to translate the Coolsingel policy to what is relevant for that neighbourhood and vice versa, so also things that play in the neighbourhood, and that try to get on the tables of the advisers, policy and politics. also to see if it can be followed.”- Municipal area manager</i>

