# Exploring the road to smart governance

*A multiple case study of institutional change within Dutch smart governance projects*

*September 23, 2016*

Master thesis
Innovation Sciences
Utrecht University – Faculty of Geosciences

*Author*
Fleur Malschaert
Student number: 3693813
Email: f.o.malschaert@students.uu.nl

*Supervisor:*
Dr. Peter Pelzer – Utrecht University

*Second Assessor:*
Prof. dr. ir. Rob Raven – Utrecht University

Universiteit Utrecht

## Abstract

One of the core characteristics of the smart city discourse is smart governance, which allows for increased citizen participation by the use of ICTs. Smart governance is expected to cope with the increased complexities and challenges of today's cities, however little scientific research focused on how to implement smart governance in the existing governance structures. The aim of this research is to understand the processes of institutional change of smart governance. A multiple case study was executed to explore how existing institutions allow for different types of smart governance and what agency in the form of institutional work is executed to institutionalize smart governance in these existing institutions. The three cases studies each aspired a different form of citizen participation facilitated by ICTs. The findings of the research contribute to a better understanding of how Dutch governance structures allow for smart governance and aim to understand strategies to implement smart governance. The findings indicate that the incongruence of existing institutions with smart governance differs among smart governance types and this difference with existing institutions influences the types and forms of institutional work. For smart governance types that aspire more decisive power for citizens, the institutional work requires more disruptive institutional work.

Table of contents

# Contents

## Table of figures and tables

## 1. Introduction

The growing demographic, economic, social, and environmental importance of cities creates urban challenges related to for instance sustainability, regional competitiveness, safety, health and traffic issues. The smart city discourse is seen by many researchers and city municipalities as an opportunity to solve these urban challenges (Caragliu et al., 2009). The discourse is gaining importance in both research as well as in policy agendas and an increasing amount of smart city projects is implemented in various cities around the world (Camarinha-Matos and Afsarmanesh, 2014). At the same time the smart city is not well-defined, it is associated with different interpretations, ideas, visions, projects and experiments (Hollands, 2008; Vanolo,2013). The discourse of smart cities implies ambiguities and is used in a lot of ways and has a wide variety of definitions (Meijer and Bolívar, 2015), but central to the smart city discourse is the use of information and communication technologies (ICT) to improve society and increasing the quality of the city life.

Many of the challenges of smart cities exceed the capacities, capabilities, and reaches of the traditional way of governing, other forms of governance are required to cope with these challenges (Bolívar, 2015). The literature on smart cities poses a new form of governing the smart city which is called smart governance. Smart governance forms one of the core characteristics of a smart city (Giffinger et al., 2007). As within the literature on smart cities, research on smart governance is rich but fragmented and the concept is not used consistently within literature (Meijer and Bolívar, 2015). In general, smart governance is about the "*crafting of new forms of human collaboration through the use of information and communication technologies (ICT) to obtain better outcomes and more open governance processes"* (Meijer and Bolívar, 2015, p. 1). Within the smart governance discourse, the increased possibilities of ICTs for connectivity and information provision (Tijl, 2014; Komninos et al., 2011) are used to increase citizen participation (Berntzen and Johannessen, 2016; Falco, 2016; Bolívar, 2015; Coe et al., 2001). This more active role of citizens in governance is expected to lead to more accepted outcomes of political procedures, better understandings of problems in neighborhoods and the building of a wider consensus (Irvin and Stansbury, 2004).

However, the implementation of smart governance has many challenges (Pardo and Nam, 2016; Gil-Garcia et al., 2014). Existing governance structures often appear less efficient for smart governance (Nam and Pardo, 2011). Existing governance structures need to be changed in order to enable the embedding of smart governance in existing governance structures (Bolívar, 2015). Meijer and Bolívar (2015) emphasize the need to analyze the transition towards smart governance from a more socio-technical view to better understand the interactions between social/governmental structures and new technologies. Questions exist concerning how existing procedures allow for smart governance, what challenges implementing smart governance will face, what strategies achieve smart governance are successful and (Gil-Garcia et al., 2014). Expected is that required change will depend on how smart governance is conceptualized and the context in which it is implemented (Meijer and Bolívar, 2015; Meijer 2016; Bolívar, 2015). However, issues on how smart governance align with existing governance structures and how to achieve implementation in these structures remain unexplored (Gil-Garcia et al., 2014).

An approach that helps to understand socio-technical transitions as smart governance is institutional theory. Institutional theory explains the behavior of actors and the emergence and diffusion of practices by emphasizing the relevance of higher order principles like rules, norms, taken-for-granted assumptions or cultural belief systems (DiMaggio and Powell, 1983; Meyer and Rowan, 1977; Powell and DiMaggio, 1991; Scott, 1995). Institutions can be defined as the ensemble of norms, rules and practices which structure action in social contexts (Giddens, 1984; Powell & Dimaggio, 1991). Changing governance requires adaptation or transformation of the institutions which constitute existing governance structures. A theoretical concept that shows how processes of (de-) institutionalization occur, is institutional work. Institutional work refers to the actions of individuals and organizations aimed at creating, maintaining and disrupting institutions is referred to as institutional work (Lawrence and Suddaby, 2006).

This research uses institutional theory in order to better understand how existing institutions allow for smart governance and how institutional work is used to change institutions with regard to smart governance projects. This is reflected in the following research question:

*How can institutional change with regard to smart governance be understood in Dutch smart governance projects?*

In order to answer the main research question, the following sub-questions are addressed:

- *Sub-question 1:* How do existing institutions allow for Dutch smart governance projects?
- *Sub-question 2:* What institutional work is executed in order to institutionalize the implementation of smart governance?
- *Sub-question 3:* How can the occurrence of varying types of institutional work be explained?

The research questions are explored through a multiple case study of three Dutch smart governance initiatives. The findings of the research contribute to a better understanding of how Dutch governance structures allow for smart governance and aim to understand strategies to implement smart governance. By exploring both the existing institutions as well as the agency aimed implementing smart governance, the results provide a start in understanding the institutionalization of smart governance initiatives.

This research first gives an overview of the theoretical approaches and concepts used. Next the methodology is clarified. The following chapters (chapter 4,5 and 6) provide the results for the cases individually. Chapter 7 presents the findings of analyzing the similarities and differences between the three cases. Subsequently, conclusions are drawn from this analysis, providing an answer to the research question in chapter 8. Finally, chapter 9 discusses the theoretical implications, limitations, policy implications.

## 2. Theoretical review

This chapter discusses the theoretical concepts used to guide this research. Section 2.1 conceptualizes smart governance as governance where ICTs are used to facilitate increased citizen participation and discusses three types of smart governance based on the distinction by Berntzen and Johannessen (2016). Section 2.2 discusses institutional theory and the concepts of institutions and institutional work and institutionalization, and how these concepts can be used to understand institutional change with regard to smart governance transitions. The chapter ends with an overview of how the discussed theoretical insights contribute to answering the research question.

### 2.1 Smart governance

Despite the fragmentation within literature on smart governance, researchers coincide on the importance of smart governance for smart cities (Meijer and Bolívar, 2015). The model of Giffinger et al. (2007) for assessing European mid-sized smart cities views smart governance even as a core characteristic of smart cities. In general, the main aspects of smart governance concern the use of ICTs for increased transparency and new collaborations, facilitated by ICTs. As described in the introduction, this research focuses on smart governance as the use of ICT for citizen participation in governance (Nam and Pardo, 2011). According to Coe et al. (2001) the citizen participation aspect of smart governance is essential for the smart city development and Kogan and Lee (2014) even view the inclusion of citizens in the governance as a main factor of successful smart cities as the features of a smart city should coincide with the way its citizens want to live their lives. Bishop and Davis (2002) describe citizen participation as "the expectation that citizens have a voice in policy choices". In general, citizens are expected to help governments in implementing better plans, services and processes (Berntzen & Johannessen, 2016). However, the degree and form this citizen participation can vary in to what degree citizens have the power to influence the outcome of political processes (Berntzen and Johannessen, 2016; Arnstein, 1969).

Based on a literature review combined with empirical research Berntzen and Johannessen (2016) distinguish between three typologies of smart governance where citizens fulfill different roles, enabled by ICT. In the first category, citizens are seen as democratic participants and are allowed to give their opinion on political subjects, especially on the local level (Berntzen and Johannessen, 2016). Here, participation is about taking part in decision-making processes and building sustainable local communities where citizens care for each other.

In the second category, the competences and experience that citizens possess are used in smart governance. Citizens' competences and experience can aid development of better plans, solutions and services (Berntzen and Johannessen, 2016). By listening to the citizens, potential problems can be addressed early and thereby the risk of failure can be reduced (Berntzen and Johannessen, 2016).

In the third category, citizens are used as information channels as they can help collecting environmental and other data by using various sorts of technologies. Citizens can collect important data and local knowledge that are not possessed by governing actors and can be scarcely provided by other sources (Georgiadou et al. 2011).

Different technologies are available to facilitate these types of citizen participation, each with its own advantages and disadvantages. Proprietary platforms can be used to host voting systems where citizens can vote and discuss the information provided (Salazar et al., 2008). Social media can collect an extensive base of information as the threshold to participate is low and the contact is often more informal and accessible for the wide public (Berntzen and Johannessen, 2016). ICTs can utilize crowdsourcing and co-creation through collaborative systems. Also, apps operate as technical devices to detect, store and retrieve information and the combination of geo-ICT and web 2.0 services has enabled a massive increase in the collaborative production and publication of spatial information (Kurniawan and De Vries, 2015)

The literature on smart governance has mainly focused on the definition of smart governance, there is less knowledge on the implementation of smart governance. The study of Bolívar and Meijer (2015) makes a first exploration of the process of the smart governance transition by identifying four implementation strategies for realizing smart governance; integral vision, legislation, policies and organizational transformation. However, these implementation strategies as proposed by Bolívar and Meijer (2015) do not elaborate on the specific interactions and processes needed to enable the institutional change towards smart governance. A scientific field within transition studies that elaborates on the actions that enable or constrain transition processes more elaborately is institutional theory.

## 2.2 Institutional theory

Institutional theory explains the behavior of actors and the emergence and diffusion of practices by emphasizing the relevance of higher order principles like rules, norms, taken-for-granted assumptions or cultural belief systems (DiMaggio and Powell, 1983; Meyer and Rowan, 1977; Powell and DiMaggio, 1991; Scott, 1995). These higher order principles are called institutions and can be defined as the ensemble of norms, rules and practices which structure action in social contexts (Giddens, 1984; Powell & Dimaggio, 1991). Institutions can be taken for granted, supported by the general public or by laws and regulations (Klein Woolthuis et al., 2013; Dimaggio and Powell, 1983). This research distinguishes between three dimensions of institutions based on the distinction of Scott (2008); regulative, normative and cognitive rules. According to Scott (2008) these cognitive, normative and regulative institutions provide stability and meaning to social life. The *regulative dimension* refers to the explicit, formal rules, which constrain behavior and regulate interactions. Examples of regulative institutions are formal rules, laws, sanctions, incentive structures, reward and cost structures, governance systems, power systems, protocols, standards and procedures. The *normative institutions* are about the values, norms, role expectations, duties, codes of conduct and authority systems. These rules are established through social formation. *Cognitive institutions* concern the nature of reality and the frames through which meaning or sense is made. Symbols (words, concepts, myths, signs, gestures) influence meanings attributed to objects and activities. Other cognitive institutions are priorities, beliefs, models of reality, classifications and bodies of knowledge. By use of this typology, this research tries to make a first step in mapping the existing institutions of governance structures.

Apart from behavior being influenced by institutions, institutional theory argues that actors are able to critically reflect on taken-for-granted institutions and purposefully deviate from them (Dimaggio, 1988; Giddens, 1984). Actors have the ability to shape, change or maintain their institutional context (Lawrence and Suddaby, 2006; Dimaggio, 1988; Eisenstadt, 1964) even though these institutions influence actor's thoughts and actions (Greenwood and Suddaby, 2006). This tension between the notion of actors as strategic actors and the powerful influence of institutional forces on human agency is called the paradox of embedded agency (Battilana et al., 2009). This interaction between agency and structure is seen as a central mechanism for socio-technical transitions (Fuenfschilling, 2014) and has led to increased research on the different activities aimed at the changing, conserving or creating of institutions (Binz et al., 2016; Fuenfschilling and Truffer, 2016; Jolly et al., 2016; Fuenfschilling, 2014).

The role of actors in these actions is described by the concept of institutional entrepreneurship, where actors act as entrepreneurs that mobilize resources to alter or create institutional structures (DiMaggio, 1988). Institutional entrepreneurs can initiate, and actively participate in the implementation of changes that diverge from existing institutions or in the maintenance of existing institutions, whether or not they initially intended to change their institutional environment (Battilana et al., 2009). These activities where actors persuade others in their context of the merits of the change or maintenance of the institutional structure leads to the concept of institutional work (Lawrence and Suddaby, 2006).

## 2.3 Institutional work

The concept of institutional work offers a framework that elaborates on the agency related to the institutionalization of new socio-technical structures. Institutional work refers to the purposive actions of institutional entrepreneurs that create, maintain and disrupt institutions (Lawrence and Suddaby, 2006). Lawrence et al. (2011) add that institutional work is about the *"efforts of individuals and collective actors to cope with, keep up with, shore up, tear down, tinker with, transform, or create anew the institutional structures within which they live, work, and play, and which give them their roles, relationships, resources, and routines"* (Lawrence et al, 2011, p. 53). Institutional work focuses on actor's actions as the center of the institutional dynamics and it strives to capture structure, agency and their interrelations (Battilana et al., 2009). Some of these actions are highly visible, but much of it is *"nearly invisible and often mundane, as in the day-to-day adjustments, adaptations, and compromises of actors attempting to maintain institutional arrangements"* (Lawrence et al., 2009, p. 1). Furthermore, the results of these actions do not necessarily coincide with their intentions (Fuenfschilling and Truffer, 2016).

The concept of institutional work is suitable for the analysis of agency in transition processes because it conceptualizes agency in interrelation with its context (Fuenfschilling and Truffer, 2016). By including both structure, agency and their interrelations the approach of institutional work takes into account the paradox of embedded agency as it both focuses on how agency is shaped by the institutional environment, but also addresses processes of change and maintenance of institutional environment (Fuenfschilling and Truffer, 2016). The approach shows how actors interact with their institutional context and how they cope with the variety of institutions within socio-technical structures. Actors engage with institutions in their day-to-day activities and both engage in institutional work as well as being subjected to institutional work (Lawrence et al., 2013; Empson et al., 2013).

Lawrence and Suddaby (2006) integrated insights from multiple empirical studies and identified different forms of institutional work within the three broad categories of creating, maintaining and disrupting institutional work. The different types and forms of institutional work are described in the following sections.

### *2.2.1 Creating institutions*

The creation of new institutions requires institutional work on the part of a wide range of actors, both actors with sufficient resources and skills as well as other, more supporting actors (Lawrence and Suddaby, 2006; Leblebici et al., 1991). New institutions arise when organized actors with sufficient resources see in new institutions an opportunity to realize interests that they value highly (DiMaggio, 1988). Based on review of empirical studies on institutional change, Lawrence and Suddaby (2006) identified seven forms of institutional work that actors can apply in order to create new institutions, these practices are defined in Table 1, adapted from Lawrence and Suddaby (2006).

*Table 1: Creating institutional work (Lawrence and Suddaby, 2006)*

| Creating institutional work | Definition |
|---|---|
| **Advocacy** | The mobilization of political and regulatory support through direct and deliberate techniques of social persuasion |
| **Defining** | The construction of rule systems that confer status or identity, define boundaries of membership or create status hierarchies within a field |
| **Changing normative associations** | Re-making the connections between sets of practices and the moral and cultural foundations for those practices |
| **Constructing normative networks** | Constructing of interorganizational connections through which practices become normatively sanctioned and which form the relevant peer group with respect to compliance, monito ring and evaluation |
| **Mimicry** | Associating new practices with existing sets of taken-for-granted practices, technologies and rules in order to ease adoption |
| **Theorizing** | The development and specification of abstract categories and the elaboration of chains of cause and effect |
| **Educating** | The educating of actors in skills and knowledge necessary to support the new institution |

### *2.2.2 Maintaining institutions*

Although institutions seem self-reinforcing due to social control, in most of the cases maintaining institutional work is necessary in order for the institutions to keep existing (Lawrence and Suddaby, 2006). Actors tend to continuously perpetuate institutions in their daily actions, sometimes as a way of routine and rather unconsciously, but often to specifically counteract ongoing change or destabilization (Fuenfschilling and Truffer, 2016). Maintaining institutional work involves supporting, repairing, and recreating social mechanisms that ensure compliance with institutional norms (Empson et al., 2013). Table 2describes the six forms of maintaining institutional work (Lawrence and Suddaby, 2006).

*Table 2: Maintaining institutional work (Lawrence and Suddaby, 2006)*

| Maintaining institutional work | Definition |
|---|---|
| **Policing** | Ensuring compliance through enforcement, auditing and monitoring |
| **Enabling work** | The creation of rules that facilitate, supplement and support institutions, such as the creation of authorizing agents or diverting resources |
| **Valorizing and demonizing** | Providing for public consumption positive and negative examples that illustrates the normative foundations of an institution |

| | |
|---|---|
| **Mythologizing** | Preserving the normative underpinnings of an institution by creating and sustaining myths regarding its history |
| **Embedding and routinizing** | Actively infusing the normative foundations of an institution into the participants' day to day routines and organizational practices |
| **Deterring** | Establishing coercive barriers to institutional change |

### *2.2.3 Disrupting institutions*

Institutional work aimed at disrupting institutions involves attacking or undermining the mechanisms that cause actors to align with existing institutions (Lawrence and Suddaby, 2006). In general, actors try to disrupt institutions by "*redefining, re-categorizing, reconfiguring, abstracting, problematizing and, generally, manipulating the social and symbolic boundaries that constitute institutions*" (Lawrence and Suddaby, 2006, p. 238). Table 3 represents the three forms of disrupting institutions.

*Table 3: Disrupting institutional work (Lawrence and Suddaby, 2006)*

| Disruptive institutional work | Definition |
|---|---|
| **Disassociating moral foundations** | Disassociating the practice, rule or technology from its moral foundation as appropriate within a specific cultural context |
| **Undermining assumptions and beliefs** | Decreasing the perceived risks of innovation and differentiation by undermining core assumptions and beliefs |
| **Disconnecting sanctions and rewards** | Working through state apparatus to disconnect rewards and sanctions from some set of practices, technologies or rules |

In order to answer the third research question, now possible explanatory aspects for the institutional work will be discussed. According to Fuenfschilling and Truffer (2016) the institutional work required for the socio-technical transitions depends on how the innovation is aligned with the existing institutions as innovations incorporate and materialize institutions. According to Fuenfschilling and Truffer (2016) innovations that show more incongruence with existing institutions, require more institutional work to achieve adoption. This research aims to find out whether there are differences in institutional work strategy among the smart governance types.

Another possible explanatory aspect for institutional work is the institutionalization stage. As described before, the concept of institutional work elaborates on the agency related to the institutionalization of new socio-technical structures. Binz et al. (2016) identified specific types of institutional work are characteristic for specific stages of maturation and legitimation of innovations in their field. According to Tolbert and Zucker (1999) the process of institutionalization contains three main stages: habitualization, objectification and sedimentation (Tolbert and Zucker, 1999). In the first stage, an innovation is created by a small number of actors in response to an experienced problem and is developed to a habitualized form. The institutional structures in this stage are still very unstable and impermanent. The second stage, objectification involves the development of initial social consensus on the value of a structure, and the increased adoption by actors because of this consensus. The last stage of institutionalization is the sedimentation stage where the new institution is embedded and stabilized. Progressions in institutionalization cause dynamics between smart governance and existing institutions exist. According to Binz et al. (2016) this subsequently influences the occurrence of new forms of institutional work. By use of these institutionalization stages this research tries to elaborate

on institutional work types that are characteristic for specific phases of institutionalization of smart governance.

Figure 1 presents an overview of how the discussed theoretical concepts are used to answer the sub questions and research question**Error! Reference source not found.**.

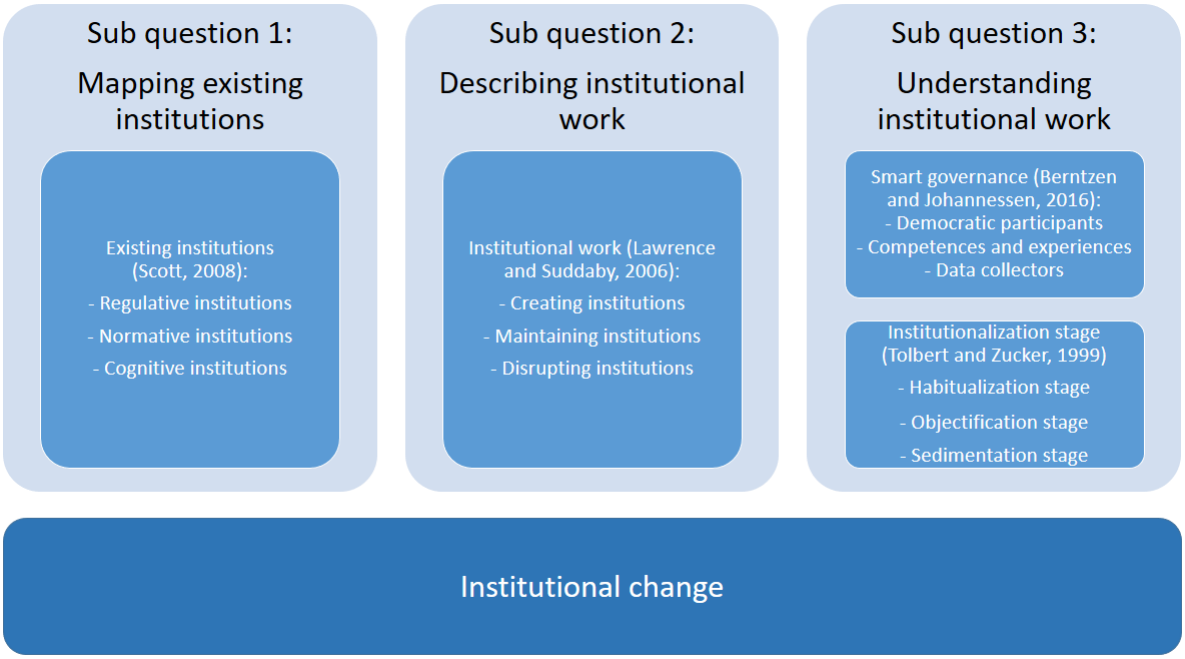


*Figure 1: Overview theoretical concepts*

# 3. Methodology

## 3.1 Research Design

In order to explore institutional change with regard to smart governance, a qualitative research was executed with an explorative functionality. This research design was expected to be most appropriate, as this approach leads to a deeper understanding of the concepts and enables the exploration of relations between these concepts (Bryman, 2008).
In order to answer the research questions, first the compliance of smart governance types with the existing institutions is elaborated, containing an overview of how existing institutions enable and constrain the institutionalization of different types of smart governance. After this, the institutional work aiming to change or maintain the existing institutions is described, and compared for the different smart governance instruments. Units of analysis are institutions and institutional work for the first and second part respectively. A multiple-case study was executed, allowing the in-depth examination of institutional work for different smart governance types. The studying of multiple cases allows for the comparing of the institutional work for the three different smart governance types and enables the forming of expectations on why certain types of institutional work are being executed.

## 3.2 Case selection

A total of three smart governance instruments is selected based on five criteria. In this research, smart governance is considered as enabling citizen participation by the use of ICTS. Based on this the first criterion is the use of ICT to enable citizen participation. Second, to obtain a broader understanding of heterogeneity in projects of smart governance and whether this influences the institutional work, the three cases each have a different smart governance type. The third criterion concerns the time lapse of the smart governance instrument. The smart governance instruments need to be active in order for the interviewees to be able to share a more updated and holistic experience of institutional work during the institutionalization of the instrument. Furthermore, some degree of institutionalization needs to be achieved in order to enable research on institutional change. The last criterion implies the smart city projects to be in The Netherlands, in accordance with the scope of the research and to prevent national differences to influence analysis of existing institutions.

In order to select cases that fulfil the selection criteria, conversations with persons experienced in the field of smart cities and smart governance were conducted combined with a preliminary research of secondary literature. These persons included three employees of different Dutch municipalities, an employee of Amsterdam Smart City and multiple members of knowledge institutes. These conversations took place in person as well as by email. The preliminary research of secondary literature included a review of the websites of municipalities, organizations that are widely involved in smart city projects (including Waag Society and Amsterdam Smart City) and research via search engines including different combinations of the following keywords: “citizen initiative”, “apps”, “smart city projects”, “smart governance” “citizen participation”, “ICT projects”, “pilot projects” and “active citizens”. The varying keywords allow the screening for ICT related citizen projects that are initially not labeled smart, but still satisfy the selection criteria. Both the English as well as Dutch translation of these keywords were used as Dutch projects are searched for, but webpages on smart city projects can be in English as well.

Table 4 shows an overview of the selected cases and the smart governance implied, based on the preliminary research. During the research period, these cases were still active.

*Table 4: Smart governance typologies for cases selected*

| | **Budgetmonitoring** | **BUURbook** | **Verbeterdebuurt** |
|---|---|---|---|
| **Citizen participation** | Citizens as democratic participants | Citizens as source of competence and experience | Citizens as data collectors |
| **Technology** | Platform that presents municipal budgets on neighborhood level | Platform that allows citizens to share their views on developments in neighborhood | Platform that collects reports on public space and makes the processing of these reports transparent |

## 3.3 Data collection

The data is collected by means of in-depth interviews and the analysis of secondary data. This combination of different data types is used to cross-validate the findings, which increased the Internal/external validity of the method. The occurring of types and forms of institutional work is explored through semi-structured interviews with actors of the smart governance initiatives. These stakeholders included knowledge institutes, municipalities and citizens.

### *3.3.1 Interviews*

For this research a total of 20 interviews were conducted, involving 21 interviewees. Appendix A presents the interviewees for each case. The interviewees were determined by means of a combination of purposive sampling and snowball sampling. With purposive sampling, participants are selected in a strategic way, to ensure that the interviewees are relevant to the research question (Bryman, 2008). Based on data that is publicly available, the first interviewees were selected, these interviewees were involved in the setup or development of the project. The interviewees are chosen in a way that they are closely involved in the case projects and decisions on the case projects. Furthermore, the interviewees are based on their contact with other involved persons inside and outside their organization to ensure their knowledge on institutional processes within the project. In the case of citizens, the citizens that are closely involved in the organization of the projects are selected.

The interviews are semi-structured to provide a guideline and to address all aspects of the theoretical framework, while still leaving room to depart from the questions. Furthermore, semi-structured nature of the interview offers the opportunity for the interviewee to introduce other topics related to the research question. On average, the interviews took approximately 45 minutes.

*Interview scheme*

Appendix A contains the interview scheme, which was used as a guideline for the interviews. The actual questions based on this scheme can differ slightly among interviewees, depending on the background of the interview respondent. Before the start of the interviews, the background of the study and the concept of institutional work was elaborated on, to ensure interviewees shared their actions. This background was explained the same for each interviewee to remain consistency in the interpretation of the concepts among different interviewees.

The first part starts off with generic questions related to project characteristics concerning the aim, start, progress of the project and participation role of the interviewee. This to gain a thorough understanding of the background of the case and the role of the interviewee in the development of the project. The second part explores the governance characteristics of the project, related to the questions who governs, how to govern and what to govern with increased focus on the role and power

of citizens in decision making. Also, the role and power of citizens in the decision making processes as well as an evaluation of this are examined, to get first insights of the interviewee's views on citizen participation. The interviewee's experience with institutional work is elaborated in the third part. First, there is room for the interviewee to come up with forms of institutional work towards citizen participation as experienced in the smart city project, both by the interviewee as well as by others. Then, the motives and aims of the institutional work are examined, to gain a more elaborate view of the process of institutional work.

### *3.3.2 Secondary data*

The interviews are complemented by the analysis of secondary data on the specific smart city projects and their governance. These secondary data include stakeholders' websites, policy documents of municipalities, (city) newspapers and are collected in order to triangulate the interview data and to increase the internal validity. The use of secondary data is expected to deepen the understanding of developments around implementing the smart city project and governance characteristics, and provide extra background knowledge on the cases.

## 3.4 Coding and data analysis

The first step of the data analysis is the preparation of the interview data. The recorded interviews were transcribed shortly after each interview to enable the in-depth analysis of the data. The second step concerns the coding of each transcription.

*Coding*

The software program Nvivo is used to assign codes to the transcribed interviews. Coding refers to "the operations by which data are broken down, conceptualized and put back together in new ways" (Flick, 2009, p.296). For the process of coding, some procedures were adopted from grounded theory. Relevant quotes related to the theoretical concepts of the previous section are marked and assigned codes according their content (Bryman, 2008). The division in regulative, normative and cognitive institutions of Scott (2008) and institutional work types of Lawrence and Suddaby (2006) were used as sensitizing concepts, while leaving room for open coding to provide context to the data and prevent the missing of results that are not implicit in the theoretical concepts. After this, the categories and emerged patterns are compared among cases. Potential differences and similarities are searched for as well as an explanation for these differences and similarities. The process of constant comparison helped to achieve greater precision and consistency (Corbin and Strauss, 1990).

# 4. Results for Budgetmonitoring

## 4.1 Case description and background

Budgetmonitoring is an instrument that provides citizen with access to financial information, let citizens control the spending of municipal budgets and allows citizens to co-decide the budget distribution for their own neighborhood (CBB and INESC, 2012; BM#1). The instrument emerged out of two distinct initiatives.

In the first stream citizens aim for more insight and influence in the budget distribution of their neighborhood (Mehlkopf, 2016). By examining whether the budget distribution suits the priorities within the neighborhood, citizens draft a budget proposition for the municipality.

The neighborhood budget instrument forms the second stream and aims to make the budget distribution more transparent, accessible and area specific for both the public as well as the municipal organization. The neighborhood budget instrument will allow citizens and other organizations to gain more comprehensible insights in the budgetary processes and allocation of resources within a neighborhood. This is an important precondition for Budgetmonitoring as without open financial data, citizens cannot negotiate on the budgets (BM#2). Whereas for the first stream citizens and community members are the driving force, the neighborhood budget instrument is initiated by the district Amsterdam East (Wittmayer and Rach, 2016).

Table 5 provides an overview of the role of citizens and technology for this instrument.

*Table 5: Smart governance description Budgetmonitoring*

| | |
|---|---|
| **Citizen participation** | The instrument of Budgetmonitoring aims to increase the active participation in political decision by enabling citizens to collaboratively control budgets and propose a new budget distribution based on the views on priorities in the neighborhood. Furthermore, it provides the formation of connections and dialogues between citizens and local authorities (Gündüz and Delzenne, 2013). |
| **Technology** | The neighborhood budget instrument forms a website which provides an overview of all budget streams in the neighborhood in a transparent and understandable way for the public. |

In practice, Budgetmonitoring refers to the community-initiated stream of the instrument, whereas the municipality-initiated stream is called the neighborhood budget instrument, however in this research Budgetmonitoring refers to the combination of the two streams, as after initiation the two streams became intertwined. The initiative started in the Indische Buurt which is a neighborhood in Amsterdam East. The actors involved in the development and execution of Budgetmonitoring are:

- INESC: At the start of Budgetmonitoring in the Indische Buurt, the Brazilian institute INESC had a crucial role in converting the Brazilian instrument to The Netherlands. Oxfam-Novib made this exchange possible through their E-Motive program. However further in the institutionalization of the instrument, their role was limited.
- CBB: At the end of 2011, the Centre for Budgetmonitoring and Citizen Participation was founded by two social entrepreneurs with the aim of applying Budgetmonitoring in the Indische Buurt (CBB and INESC, 2012). The CBB executes the contact with INESC and organizes the activities and trainings related to the community-led stream of Budgetmonitoring.
- City district of Amsterdam East: The city of Amsterdam is divided into city districts which are administrative city government units operating at the level of the city district. The city districts each have their own District Council and Executive Board, next to the Central City Council and Board. At the beginning of the initiative, the city districts of Amsterdam were semi-autonomous units with policy making and budget authority for matters like housing, maintenance of public space, local welfare, sport, education, arts and culture. These districts

in turn are divided into neighborhoods: Amsterdam East is divided into 19 neighborhoods, one of which is the Indische Buurt.
- Citizens and communities

## 4.2 Existing institutions

This section presents the main findings on existing regulative, normative and cognitive institutions that influence the institutionalization of Budgetmonitoring.

### *4.2.1 Regulative institutions*

The main regulative institution that constrains the institutionalization of Budgetmonitoring relates to the scarce role of citizens in the existing procedures in which municipal budgets are distributed in Amsterdam. The Netherlands is a representative democracy where citizens have some possibilities to consult in the budget distribution, political decisions by introducing a citizen initiative to the municipal council, speaking at a municipal council meeting, participating in advisory boards to the council, becoming a member of a political party, and via informal ways like approaching the media or starting a societal initiative (Kennisland, 2015). However, there is no institution that allows the structural collective inclusion of neighborhoods in the distribution of budgets. The distribution of budgets takes place at the municipal council, where citizens do not have decisive power (BM#4) and potential changes in budgets always need approval of the Municipal Council (Wittmayer and Rach, 2016; BM#4). This institution constrains the execution of Budgetmonitoring as for Budgetmonitoring the municipality needs to provide the political space and responsibility for citizens to make decisions on their own (Engbersen et al., 2010). In order to institutionalize Budgetmonitoring citizens need the possibility to participate in the budget distribution. Without any decisive power, Budgetmonitoring can only have a limited effect.

Apart from the distribution of decisive power, there are procedural characteristics that constrain the institutionalization of Budgetmonitoring. To be able to act as democratic participants on the budget distribution in the neighborhood, Budgetmonitoring requires transparency of budget flows on the scale of the neighborhood (Mehlkopf, 2016). However, the budgets of both the central municipal organization as well as the district are organized by themes (safety, healthcare etc.) resulting in a lack of knowledge on what budgets are available for individual neighborhoods and streets (BM#2, BM#3, BM#4, BM#5, BM#6).
As interviewees argue: “Municipalities can provide financial data, however it is ordered in a way that you cannot use it.” (BM#5) and “You can only understand the financial flow up to a certain level. For example: You can see the post for socio-cultural money, but you cannot find out what is included in the post, it is not area-oriented.” (BM#2). However, area specific budgets are difficult to achieve, as acquiring knowledge on the budget distributions in neighborhoods appears to be a tough challenge (Mehlkopf, 2016). BM#3 explains: “A lot of budgets are not for one specific place, but for entire city district or even the entire municipality. Possibly these budgets can be determined afterwards, but beforehand it is perhaps not possible, it is definitely hard to do that” (BM#3). It requires time and investments to adjust these budgetary procedures.

Also part of these budgets are fixed posts or are subject to existing contractual arrangements between municipal actors and executive actors which cannot be simply terminated. This complicates the allocation of budgets according to citizen budgets (Engbersen et al., 2010). According to BM#3: “It is not possible to change budgets just like that, there are laws and regulations for this. This decelerates the changing, but it does make sense. If we have enduring contractual arrangements with actors, you cannot suddenly terminate these contracts. This must take a reasonable period.” (BM#3). This institution constrains the execution of Budgetmonitoring as the instrument implies the changing of budgets, however “in general everyone agrees with this, [..] when you change something, you need to give people a reasonable term to adapt their own culture” (BM#3).

Table 6 gives an overview of the identified regulative institutions.

*Table 6: Regulative institutions Budgetmonitoring*

| Regulative institutions | Source |
|---|---|
| **Decisive power in budget distribution lies at public authorities** | BM#3; BM#4; Wittmayer and Rach (2016) |
| **Municipal budgets are not area specific** | BM#2; BM#3; BM#4; BM#5; BM#6; Mehlkopf (2016) |
| **Budgets involve fixed costs and existing contracts** | BM#3; Engbersen et al., (2010) |

### *4.2.2 Normative institutions*

The normative institutions that were identified concern the transparency of financial data, the representativeness in citizen participation, dependence on political support and uniformity of procedures. With the role of citizens as democratic participants, citizens require insights in municipal data. In the case of Budgetmonitoring, financial data on the neighborhood needs to become publicly available. However, the financial department of the Municipality of Amsterdam and the city district of Amsterdam East are cautious with sharing the required financial data publicly (BM#5). There exists the norm that financial data should be complete and exact before releasing to the public: “They argue they can only publish data when they know for sure it is right, that it is complete and totally true” (BM#3). This poses a restriction as transparency of data is a precondition for Budgetmonitoring (Gündüz and Delzenne, 2013; Mehlkopf, 2016) as it is hard to find out the budget distribution on neighborhood level and provide a complete and exact budget overview. As BM#3 explains “we will never get that far, so it [Budgetmonitoring] will never happen from that point of view” (BM#3). BM#6 mentions this barrier as well and adds his concerns on the feasibility of an exact budget overview: “Guaranties are impossible, so you cannot publish anything” (BM#6).

Another institution that constrains the use of Budgetmonitoring is the requirement of representativeness in initiatives for citizen participation (BM#3). If citizens are to act as democratic participants in the budget distribution, the input needs to be representative for the population that the budgets are meant for. However, this is hard, as BM#7 mentions: “With local initiatives it is not always clear whether the merit is general enough to consider the initiative as relevant” (BM#7). This quest of representativeness often forms a reason to turn down local initiatives like Budgetmonitoring (BM#7; Engbersen et al., 2010).

Furthermore, the views on including citizens in political decisions is influenced by the political motives. This can both positively as well as negatively influence the institutionalization. At the start of Budgetmonitoring the political board had a supportive attitude towards citizen participation (BM#3; BM#6). Both at the city district as the central municipality the political board encouraged citizen participation (BM#2; BM#3). This stimulates the development of Budgetmonitoring as it leads to “more political willingness with the political boards to provide some space for Budgetmonitoring” (BM#2). However, this institution this institution is subject to regular changes due to changes in the political board.

Table 7 presents an overview of the normative institutions identified for Budgetmonitoring.

*Table 7: Normative institutions Budgetmonitoring*

| Normative institutions | Sources |
|---|---|
| **Financial data requires should be complete and exact before publicly released** | BM#3; BM#5; BM#6 |
| **Citizen participation requires equal representativeness** | BM#3; BM#7; Engbersen et al., (2010) |
| **Possibilities citizen participation dependent on political views** | BM#2; BM#3 |

### *4.2.3 Cognitive institutions*

A constraining cognitive institution is that the majority of the interviewees experience resistance for change of civil servants whereas the commitment of civil servants is required to enable the neighborhood budget instrument and allowance of citizens in political procedures on budget distribution (BM#6). According to BM#5, civil servants prefer to remain their jobs and routines the same. BM#5 argues "Most of the time it is more comfortable to do the same as you did yesterday. [..] Many people enjoy to keep doing the same thing" (BM#5). BM#3 adds: "sometimes it is the fear for the unknown, fear for the future" (BM#4).
Another aspect is that some civil servants of the municipality do not wish the increased decisive power for citizens because of a fear for losing control (BM#2; BM#3). BM#7 confirms this by saying: "Both political actors as well as civil servants there exist the feeling that things will become messy if we need to process input of society" (BM#7).

Furthermore, the development of Budgetmonitoring has a low priority in both the city district as well as the central municipality. No formal laws exist that oblige the democratic involvement. According to (BM#5) they all have a different reason why they do not collaborate, some of them are: "why should I participate, if I am working well? It is too much work, we are working already like that, it is going fine now" (BM#5).
A reason for this low priority is the belief it takes high effort to include citizens (BM#2; BM#3). Budgetmonitoring requires investments to publish a budget distribution on neighborhood level and the results are uncertain. As BM#3 explains: "Budgetmonitoring is quite difficult and some really think: ''where do we start with?" (BM#3). BM#5 confirms this belief within the financial district: where the required investments in budgetary procedures and time needed to adjust budgetary procedures expected to be constraining (BM#5).

Another constraining institutions is the inconsistency in the believe in whether citizens have valuable knowledge**.** To act as democratic participants, citizens require enough knowledge to contribute to the budget distributions. Whereas some interviewed citizens and civil servants believe the knowledge of citizens will contribute to the budget distribution (BM#3; BM#4; BM#8), others argue some civil servants doubt the knowledge of citizens. BM#4 argues: "They do not believe citizens have the understanding, and argue to leave this job to the professionals" (BM#4). Where citizens acknowledge that the understanding of budgetary documents requires some help as the available budgetary documents often contain excessive information involving jargon and abbreviations (Mehlkopf, 2016), they share the view of having valuable knowledge (BM#8).

Table 8 presents the cognitive institutions as identified for Budgetmonitoring.

*Table 8: Cognitive institutions Budgetmonitoring*

| Cognitive institutions | Sources |
|---|---|
| **Resisting change** | BM#5; BM#3; BM#4; BM#7; BM#2 |
| **Low priority** | BM#5 |
| **Believe high effort to include citizens** | BM#2; BM#3; BM#5 |
| **Believe in value citizen's knowledge is inconsistent** | BM#3; BM#4; BM#8 |

## 4.3 Institutional work

This section focuses on the various forms of institutional work that were aimed at institutional change and maintenance for the institutionalization of Budgetmonitoring.

### *4.3.1 Habitualization stage*

In 2010 the instrument of Budgetmonitoring was introduced by the Brazilian Institute of Socioeconomic Studies (INESC) in the Indische Buurt in Amsterdam via E-Motive, a development program of Oxfam Novib (Wittmayer and Rach, 2016). In November 2011, a group of active citizens visited Brazil to participate in an educational program on citizen participation at INESC and decided to mobilize citizens of the Indische Buurt to transfer Budgetmonitoring to the Dutch context (CBB and INESC, 2012).

In the first stage, the initiating group started to build a network to collaboratively develop ideas on the instrument. In order gain enough knowledge to transfer the instrument to the Indische Buurt, the initiating group started to collaborate with INESC. The close collaboration with INESC played a crucial role for the development of Budgetmonitoring in the Indische Buurt and for translating the initiative to the Dutch context (Gündüz and Delzenne 2013). INESC provided information to establish the instrument in the Indische Buurt and could show other actors from their experience in Brazil that Budgetmonitoring has a strong impact on the allocation of budgets based on their experiences in Brazil (Gündüz and Delzenne, 2013). This implies the institutional work of **constructing of normative networks**. Apart from INESC, connections with other research institutes were involved to form a network of professionals supporting the development of the instrument, these included the E-Motive, University of Applied Science Amsterdam, and knowledge institute Movisie (CBB and INESC, 2012).

Apart from research institutes, the initiating group aimed to involve the city district of Amsterdam East in developing and implementing the instrument as the commitment of civil servants forms a precondition for Budgetmonitoring (Engbersen et al., 2010; Mehlkopf, 2016). Municipalities need to allow for changing institutions and change the way budgets are distributed (Mehlkopf, 2016). Furthermore, support of the city district could facilitate the obtaining of required financial data. Initially, the city district restrained from cooperation and co-organizing (BM#1, Gündüz and Delzenne 2013, Wittmayer and Rach, 2016), as Budgetmonitoring was incongruent with the existing budgetary processes (BM#1). However, the city district was prepared to answer questions of the initiators on budget system and provide financial data required for Budgetmonitoring, and designated an employee to accompany the meetings of Budgetmonitoring (BM#1; BM#3; BM#4; Gündüz and Delzenne, 2013).

Together with the research institutes, the initiating group started to **theorize** the motives for Budgetmonitoring in the Indische Buurt, the working and the effects Budgetmonitoring causes (CBB and INESC, 2012; BM#1). Another form of institutional work that was identified during this stage was the **changing of normative associations**. At this stage the main motive for Budgetmonitoring was related to the normative view that citizens have the right to monitor and influence the budgets that are spend within their neighborhood (BM#1; BM#2). There was a prevalent opinion that citizens should

have a role in the distribution of budgets and could help in exploring whether the budget distribution could be improved (Mehlkopf, 2016). As BM#1 mentions: “there should become a kind of mentality which views Budgetmonitoring as the good way”. The ability to monitor and democratically influence the budget distribution is seen as a right that citizens have (CBB and INESC, 2012; BM#1; BM#2).

At the end of 2011, the group of active citizens and social workers formed the Centre for Budget Monitoring and Citizen Participation (CBB) and in collaboration with INESC, E-Motive, University of Applied Science Amsterdam and knowledge institute Movisie, the CBB developed a roadmap on how to execute Budgetmonitoring in the Indische Buurt (Figure 1).


*Figure 1: Roadmap of Budgetmonitoring, published in CBB and INESC (2012)*

This roadmap guided the first pilot project for Budgetmonitoring that started in 2012, realized by CBB in collaboration with E-motive, University of Applied Science Amsterdam, Movisie and members of local communities in the neighborhood. The CBB prepared the first two steps by collecting and analyzing municipal budgets, after which the CBB with support of the city district organized series of trainings for step 3. The aim of these trainings were the **educating** of citizens and civil servants on the budget procedures within the municipality as well as the working of budget monitoring. To enable Budgetmonitoring, citizens need to have enough knowledge on budget processes in order to participate in the budget distribution (CBB and INESC, 2012; BM#6), “you really need to know how the budgetary processes and financial system works to be able to use it” (BM#3). According to CBB and INESC (2012), the trainings gave more confidence to participating citizens in being able to influence budgets.

During the same period as the start of Budgetmonitoring civil servants in the city district formed ideas to develop the neighborhood budget instrument. An alderman responsible for the policy areas of Finance and Participation started to promote ideas on transparency of the municipal budgets and two civil servants researched the possibility to make budgets transparent and organize the municipal budget to the neighborhood level. The intention was not to replace the theme oriented budget distribution but to complement it as the neighborhood oriented budget distribution can offer additional information on the policy areas in the neighborhood (Stadsdeel, 2012). A collaboration between civil servants of finance department and of neighborhood management department started to focus on issues of open data and transparency. During the first pilot of the community-initiated stream of Budgetmonitoring, these civil servants started to collaborate and shared their findings.

### *4.3.2 Objectification stage (Part I)*

After the development of a first habitualized form of Budgetmonitoring where citizens were able to monitor and control budgets, the initiating group kept engaging in institutional work in order to persuade the city district to co-create the instrument as well as attracting more citizens to participate. In order to draw attention for Budgetmonitoring and mobilize and convince the various actors in the Indische Buurt, the members of the CBB were active in **advocacy** by continuously promoting the working and advantages of Budgetmonitoring via social media, articles in professional journals and dialogues (BM#2). Various leaflets and blogs were published (e.g. CBB and INESC, 2012; Gündüz and Delzenne, 2013) and YouTube videos were shared.

An important form of institutional work during this stage is mimicry, which was executed to ease acceptance for Budgetmonitoring for both the city district as well as citizens. According to BM#2, the civil servants recoil after arguments that indicate that citizens have the right to participate in the distribution of budgets. This resulted in **mimicry** by less focusing on human rights, but instead associating Budgetmonitoring with participative democracy and citizen participation (Cadat, 2014; CBB and INESC, 2012) which seems to fit the Dutch context better (Gündüz and Delzenne, 2013). This stimulated the willingness of the city district to discuss the possibilities of Budgetmonitoring for the Indische Buurt. BM#2 argues that "leaving the frame of human rights, gives more space to start dialogues with a city council that does not necessarily wants to act from a human rights perspective" (BM#2).

As part of step 5 of the roadmap, the initiating group and participating citizens aimed to share their ideas with the city district and influence the budget distribution. At the end of the first pilot the CBB and active citizens shared their findings during the meeting of the council committee of the district Amsterdam East. During this meeting, the Budgetmonitoring group engaged in the **undermining of core assumptions and believes**. Based on the results of their budget analysis for the neighborhood, the group showed faults in the budget distribution. They argued that there was a deficit in the budget they had found based on their analyzing of the budgets. During this meeting they also argued that local authorities should not solely decide as they cannot solve the city's problems on their own, everyone is needed (BM#1). This meeting resulted in a "most significant change" (BM#2). After this meeting the city district showed believe and willingness for collaboration with citizens in Budgetmonitoring. The city district provided the possibilities for citizens to share their views on the budget distribution and the citizens' budget became part of the city budget 2014 (Wittmayer and Rach, 2016).

In the second iteration of Budgetmonitoring was a coproduction between the CBB, citizens and the district of Amsterdam East (Wittmayer and Rach, 2016). During the second iteration the participants a new proposal for a citizens' budget. An alternative budget was drawn up aiming for redistribution of 25% of the district budget for the social domain. However, during this period the centralization of Amsterdam took place (BM#2; Wittmayer and Rach, 2016).

### *4.3.3 Centralization of municipality Amsterdam*

Early 2014, a reorganization of the municipality Amsterdam took place. This reorganization meant that the districts lost most of their budgeting responsibilities to the central municipality, the neighborhood budget instrument became part of the central municipality's activities (Wittmayer and Rach, 2016). The budgets of all city districts needed to be configured to a single budgetary system, this posed new questions for the budgetary system as "they found out that the seven systems of the city district are incompatible. They are figuring this out now by developing a new system to align the financial data. It is chaotic." (BM#2). In the meantime, the website was put offline (Wittmayer and Rach, 2016).

The new city council contained members of other political streams which only allow citizen participation through the existing channels (BM#2). Even though the city council of the city district kept supporting Budgetmonitoring, the centralization has had large consequences for the ability for institutional embedding Budgetmonitoring. As BM#2 declared: "with the new board of the central municipality, Budgetmonitoring is blocked. We cannot continue with the open data visualization

because the central municipality does not want to, there is no money available, everything is blocked" (BM#2).

### *4.3.4 Objectification stage (II)*

In the third iteration the focus changed from analyzing budgets towards the setting of priorities for the neighborhood due to the lack of access to financial data (Gündüz and Delzenne 2013). However, during the iteration institutional work was executed to gain support of the central municipality in enabling Budgetmonitoring. Support of the central municipal organization was required as the city district was no longer able to facilitate Budgetmonitoring. Further **advocacy** to persuade the central municipality to participate, by continuous promotion and encouraging the use of the instrument. "We try to inform and give insights on what we are doing here in the Indische Buurt, and tempt the central municipality to give us the space to execute Budgetmonitoring. We do this by showing movies of the activities and inviting them for our meetings" (BM#4). BM#3 confirms this by "keep announcing and discussing the developments, show good examples from within the neighborhood to show it is possible to do the budget distribution differently, try to convince people of the central municipality to come to the Indische Buurt to show the initiative and to let them experience it" (BM#3). Similar to the contact with the city district the civil servants of the central municipality, were informally approached: "I invite them informally to visit the neighborhood" (BM#7). Furthermore, part of the strategy is the creation of a co-creative climate in order to increase the attractiveness of supporting the implementation of the instrument. As BM#1 argues: "We try to create a climate where it becomes attractive to support us. That it is fun to join [..] If there is a climate where you can join, talk and invite others unprejudiced, without being in conflict and with focus on learning, that works better." (BM#1). Despite the presence of some civil servants in the meetings on Budgetmonitoring, these forms of Budgetmonitoring did not result in support of the central municipality.

**Changing of normative associations** was executed by creating an intrinsic motivation: "People need to feel committed by themselves. It is a kind of intrinsic motivation that people need to have before you can introduce them to a bit chaotic reality full of initiatives. [..] You need to create a personal necessity, incentive or perspective and show the added value for strategical input. Then they could become more involved" (BM#7). According to BM#7 this is especially important as: "There are few political or formal lines on how to treat these initiatives and the deeper civil servants are in the central municipality, the more formal they tend to become" (BM#7).
Furthermore, the **disassociating moral believes** was executed by emphasizing that budgets should be transparent. BM#3 mentions she uses this argument to persuade colleagues to dive into budgetary streams: "I emphasize that we barely know ourselves what budgets exist, for what they are used, and where they come from, and that is useful to know for our job" (BM#3) and "then I say for example: it is ridiculous that we are spending money to a targeted group, while this group is not part of the priorities" (BM#3). According to BM#3 this way of persuading works. Apart from this, BM#3 engaged in the questioning validity of priorities: "the next step is to find out whether the budgets are rightly distributed according to the priorities of what the neighborhood deems important. If this is a match this is good, if not, we should put effort in making it a match" (BM#3).

However, the centralization let to the majority of the interviewees arguing that Budgetmonitoring in its original form is not possible in the current institutional field. The group of civil servants, CBB and citizens which worked for enabling Budgetmonitoring, now had to institutionalize Budgetmonitoring in the central municipal organization. The **undermining of assumptions and believes** fulfills a main role in this, by both eliminating negative believes on Budgetmonitoring as well as criticizing existing assumptions on the existing institutional arrangements. BM#3 of the city district emphasizes the need for deactivating existing concerns on possible risks of Budgetmonitoring at the central municipality: "You need to eliminate fear a bit, people are really afraid to lose control and that citizens will do what they want [...] but there is always the city council who has the final decision". Furthermore, the criticizing of existing budget distribution was expressed, both directly at the central municipal

organization as well as publicly on social media and via leaflets and books, with the "hope to provoke reactions" (BM#6). In addition, the civil servant, transferred from financial department of the city district towards financial department of the central municipal organization argued the lacks within the current dialogues among the central municipality and the Budgetmonitoring group. He emphasizes that first the assignments, efforts and activities need to be declared before being able to start the dialogue with the central municipality (BM#5).
At the moment of this research a larger focus on content and priorities exists and starting from here, the Budgetmonitoring group aims to expand to the acquiring of financial data. Table 9 presents an overview of the institutional work executed in the case of Budgetmonitoring as described in this chapter.

*Table 9: Institutional work Budgetmonitoring*

| Institutional work | | Source |
|---|---|---|
| ***Habitualization stage*** | | |
| **Theorizing** | Explain expected increased citizen participation | BM#1; CBB and INESC, 2012 |
| **Constructing normative networks** | Invite professionals for help | BM#1, BM#2 |
| **Changing normative associations** | Citizens should be able to monitor<br>Citizens should be able to influence | BM#2<br>BM#1 |
| **Educating** | Organize trainings on instrument | BM#3; BM#6; CBB and INESC (2012) |
| ***Objectification stage*** | | |
| **Mimicry** | Associate instrument with the participative democracy<br>Associate instrument with citizen participation<br>Continuously adapting instrument to ease adoption | BM#3<br>BM#2; Gündüz and Delzenne (2013)<br>BM#3 |
| **Changing normative associations** | Creating instrinsical motivation | BM#7 |
| **Constructing normative networks** | Organize co-creation with municipality to ease adoption<br>Organize co-creation with city district to ease adoption | BM#3, BM#4, BM#6<br>BM#6, BM#3<br>BM#1 |
| **Advocacy** | Continuous promotion<br>Encouraging use of instrument<br>Informal approach<br>Create attractive climate | BM#2; BM#4; CBB and INESC (2012)<br>BM#3; BM#7<br>BM#7<br>BM#1 |
| **Undermining core assumptions and believes** | Showing faults in the municipal procedures<br>Local authorities should not solely decide<br>Eliminating negative believes<br>Deactivating existing concerns<br>Criticizing existing budget distribution | BM#1; BM#2; Gündüz and Delzenne (2013)<br>BM#1; BM#2<br>BM#3<br>BM#3<br>BM#5; BM#6 |
| **Disassociating moral believes** | Budgets should be transparent<br>Questioning validity of priorities | BM#3<br>BM#3 |

# 5. Results for BUURbook

## 5.1 Case description and background

BUURbook is an independent platform that connects citizens, municipalities, entrepreneurs and organizations that are involved in the well-being of the neighborhood and provides a place where these actors can meet, exchange information, organize themselves and learn from each other (Van der Velde et al., 2013). This varies from promoting leisure activities, exchanging products to decisions on urban projects. The founders argue that "inhabitants and professionals within neighborhoods are still under-represented and unorganized, while they possess the majority of the knowledge of the region and which are practically the consumers of their living environment" (Van der Velde et al., 2013).
Table 10 provides an overview of the role of citizens and technology for this instrument.

*Table 10: Smart governance description BUURbook*

| | |
|---|---|
| **Citizen participation** | The platform allows citizens, local authorities and other organizations in neighborhoods to update each other, exchange ideas, create a support base in order to organize themselves easier. This is expected to result in more influence on their living environment and to enhance the understanding and willingness to collaborate between inhabitants and professionals. |
| **Technology** | Users can choose to register. After registration for a BUURbook account, the platform allows users to follow subjects on updates, respond on questions and messages from co-users, see neighbor-users, post a message idea or event, ask questions, mail co-users, rate various aspects of the neighborhood and be updated on developments in the neighborhood. Without registration users can only view the messages and updates on BUURbook. |

## 5.2 Existing institutions

This section presents the main findings on existing regulative, normative and cognitive institutions that enable or constrain smart governance in the form of BUURbook.

### *5.2.1 Regulative institutions*

For the case of BUURbook the main regulative institution influencing the institutionalization is the limited role of citizens in decisions on public space developments. According to the municipality act that captures the tasks and duties of municipalities in The Netherlands, the highest body in municipalities is the city council, led by the mayor (Gemeentewet, 2016). The composition of the city council is determined every four years by citizens at the municipal elections. The city council appoints and monitors the executive board, which includes the mayor and aldermen. Apart from this right to vote, the municipality act only discusses citizen participation through stating that the mayor is obliged to supervise the quality of citizen participation procedures, indicating that the municipalities have control on the amount and form of citizen participation included in political decisions (Gemeentewet, 2016).

There are often predetermined participation and communication channels to allow citizens to comment on political decisions in their neighborhood. The instruments range from citizen panels, informative meetings, referendum, digital surveys, discussions on the website, papers and Facebook channels (BB#2, BB#4). As BB#2 argues: "Each time we need to consider whether we have the space and time to have participation with citizens and what the most suitable instrument is to execute this citizen participation for a specific subject, as these decisive processes are genuinely very fast [..] We do not have fixed standards, but it is the way we work when we need to advise" (BB#2).

However, these instruments are controlled and managed by the municipal organs themselves and citizens have no influence on the subjects and form of their input. It is possible that for situations where citizens would like to exert influence, no participation possibility is provided by the municipality, leaving substantial knowledge and experiences of citizens unused. This complicates the possibilities for citizens to influence political decisions on public space in their environment. So where the existing institutions allow for some forms of citizen participation, the subjects, forms and processing of citizen participation are subject to conditions set by the municipal authorities. This institution constrains BUURbook as this platform aims to provide an interactive platform where both citizen and municipalities can discuss and exchange knowledge on subjects of interest.

Another institution that constrains the interactive exchange of knowledge and experience involves the restrictions posed for public communication between citizens and municipal actors. In many municipalities the communication of civil servants towards citizens passes a communication department to ensure communicating as a unified organization (BB#1; BB#3). Civil servants are not allowed to officially and publicly communicate in name of the municipality with citizens: "everything that is communicated needs to go via the communication department" (BB#1). BB#6 argues: "I do not think they are allowed to respond in discussions, because then it would be the responses of individual civil servants and I think there are quite strict protocols on the public speaking in name of the municipality" (BB#6). BB#3 adds: "For years, the larger organizations like municipalities think that when something is shared with the public, it should pass the communication department. [..] Organizations want to have control on what exactly is shared with the public" (BB#3). According to BB#1, this is one of the reasons civil servants in practice barely participate in public discussions: "the fear to make mistakes, because it needs to pass the communication department [..] it is really very risky" (BB#1). According to BB#1, the founder of BUURbook, this led that municipalities do not often participate in discussions on the platform: "Individual civil servants do barely take part in discussions or share information form their individual account [..] The one time a project leader of the municipality posted a message, [he/she] used the logo of the Municipality of Rotterdam to share information with citizens, instead of posting in name of him/her as a person" (BB#1). The degree this institution influences the implementation of BUURbook differs among municipalities and municipal organs. In the city of Dordrecht, civil servants do individually post messages on BUURbook, in this city BUURbook is backed by the executive board and its use led by a communication advisor at the Municipality of Dordrecht.

Table 11 gives an overview of the identified regulative institutions.

*Table 11: Regulative institutions BUURbook*

| **Regulative institutions** | |
|---|---|
| **Decisive power for public space development lies at public authorities** | BB#1; BB#5; BB#7; Gemeentewet (2016) |
| **Public communication of municipality via communication department** | BB#1; BB#3; BB#6 |
| **Citizen input is regulated via existing municipal instruments** | BB#1; BB#2; BB#4 |

### *5.2.2 Normative institutions*

Apart from the regulative institutions, there are various normative institutions which enable and/or constrain smart governance instrument of BUURbook. A normative institution which influences the participation of actors on the platform is the cautiousness with public statements. To be able to use the competence and experience of citizens on the platform, communication between municipal actors and citizens is required. However, among both the citizens and municipal actors, persons are cautious with posting messages on the platform. BB#6 expects that for the municipality this cautiousness has

to do with the creation of expectations: “Every statement of a civil servant, creates expectations towards the neighborhood. So they [civil servants] strain form statements” (BB#6). BB#3 adds that some civil servants are unsure whether they are even allowed to do statements: “Saying on BUURbook things on the policy you are working with, is that allowed? They prefer to play safe and take no risk, this influences their use of the platform” (BB#3). And: “What if I say something I am not allowed to say, let’s act safely” (BB#3 on others). Others are insecure on the content they need to write on platforms, BB#3 hears from others: “I do follow the messages, but I never post something myself because I do not really know what to post” (BB#3). This forms a problem as both the municipality’s as well as citizens’ participation is required to make BUURbook a participative platform. BB#6: “If the municipality is going to participate BUURbook could increase citizen participation. But currently, the conversations mainly contain the collaborate cursing on the municipality because the municipality is not participating. If the municipality would participate it could lead to discussions with the municipality” (BB#6).
Also on the part of citizens, users of BUURbook are cautious with statements on the web. Furthermore, some citizens are suspicious of what will happen with their personal information (BB#1, BB#6). As users need to subscribe to post messages, there is no anonymity in sharing experiences and views, this forms a threshold for participating (BB#6; BB#7).

Another normative institution that constrains the institutionalization is the requirement of equal representativeness. For the quality of citizen participation, it is of importance that the input is a reflection of the population. This constrains the institutionalization of BUURbook as only a limited group uses BUURbook. According to BB#4: “Not everyone is on BUURbook, the group is quite small. So I think you do not really get a valid view on what happens in the neighborhood” and indicates that this decreases its value as a participation instrument. BB#5 recognizes this problem as well, and because of this, BB#5 argues that “BUURbook is not a participation instrument which can be used solely, but should be used next to other participation instruments” (BB#5). Table 12 gives an overview of the identified normative institutions.

*Table 12: Normative institutions BUURbook*

| **Normative institutions** | |
|---|---|
| **Cautious with statements on the web** | BB#2; BB#3; BB#6, BB#7 |
| **Citizen participation requires equal representativeness** | BB#4; BB#5 |

### *5.2.3 Cognitive institutions*

Apart from institutionalization within the regulative and normative institutions, smart governance requires congruence with the cognitive institutions existing in the institutional field. According to BB#3, civil servant at Municipality of Dordrecht, there are many civil servants that resist change. According to BB#3 the main reason for this is avoiding risks. These civil servants focus on the potential trouble that citizen participation could inhibit. He mentions the argument of: “why should we make something possible if it can potentially hinder us?” (BB#3). According to him “this view could block all developments, because then all new things could potentially cause trouble instead of a potential to exchange knowledge” (BB#3). BB#1 adds that some civil servants are afraid to make mistakes and because of that restrain from participating in BUURbook discussions.

Another aspect is the low priority attached to citizen participation (BB#3, BB#5). This is for both for citizens as well as civil servants. According to BB#5, member of resident organization, “there are groups of citizens which do not feel connected with the society [..] There needs to be a motivation to participate, that is a precondition of BUURbook” (BB#5). BB#4, civil servant of municipality Rotterdam emphasizes the diversity in priority: “Some neighborhoods have different priorities than citizen participation and have different forms of willing to participate or even prefer to not participate. It

varies enormously" (BB#4). BB#3 mentions that some civil servants tend to underestimate the importance of urban characteristics to citizens, resulting in a differing priority for including citizen views. Furthermore, there exists the belief that it takes a high effort to include citizens. According to BB#3 some civil servants mention that "it is difficult and it takes a long time to involve citizens" (BB#3). However, according to BB#3 it is easy to involve citizens in decision making as long as you start on time and be clear in information and communication services, implying a belief low effort to include citizens.

In order to implement smart governance where citizen's knowledge and experience is used, this knowledge and experience need to be of value for the subject of matter. Among the interviewees there is the belief that citizens have valuable knowledge to improve the development of the neighborhoods. According to BB#1: "By bringing the citizens and professionals together, citizens' knowledge on the neighborhood can be combined with the professional knowledge of the professionals. I really belief that you need knowledge of both parties in order to make a good plan for the neighborhood" (BB#1). Civil servant BB#3 agrees on this valuable knowledge of citizens: "Citizens who live in the neighborhood have accessible knowledge on what happens on the square, how the traffic runs and which persons are hanging around at night. They know all the details and know the history. That is for the person who will form designs of course invaluable to receive that knowledge. And the other way around, for the inhabitants that give input it is valuable to notice that the designer includes this input in the design" (BB#3) and "You need to try to collaboratively determine the direction of developments, also together with citizens, because citizens possess knowledge on the neighborhood. Whether it is about small aspects or larger developments in the neighborhood, I am convinced that it is a good thing to collaborate" (BB#3).
However, despite acknowledging that citizens have valuable knowledge, other interviewees indicated that citizen participation often involves mainly negative comments. BB#7 explains that in general complaining citizens participate on the platform: "the sourpusses join and not the cheering persons" (BB#7). BB#6 shares this opinion and adds: "sometimes it is just vulgar shouting at each other" (BB#6). For some users this is a reason to stop using or restrain from using the platform. This forms a problem as it decreases the representativeness of the users for the neighborhood which further constrains the institutionalization. According to BB#7 this eventually could lead to less willingness of the municipality to involve in citizen participation: "I do not know if they [municipality] really want the citizen participation, as they definitely will receive citizens' blunt opinions and I am not sure whether they need that" (BB#7).

According to the majority of the interviewees, the technology itself does not pose a problem for most of the population in the implementation of BUURbook. BB#3 mentions: "Almost everyone has a computer [..] and is able to use it" (BB#3). A citizen using BUURbook, adds that: "For me it [BUURbook] is not complex. For most of the people it is not complex" (BB#6). Furthermore, BB#3 adds: "the basic competences to work with BUURbook are present, it is not that hard, you only need general digital competences." (BB#3).

However, some people are unaccustomed with technology**.** According to BB#6: "Optimally, BUURbook would be a collective platform, where everyone can contribute. But not everyone can easily access BUURbook, there are some people, mainly the elderly who would be better reached by mail or leaflets instead of internet, you will not reach those people with BUURbook" (BB#6). BB#5 adds that "Some citizens do not even have a computer" (BB#5). BB#2 mentions that "there are people within the district advisory committee which are barely active on the internet" (BB#2).

However, BB#1, BB#3 and BB#5 emphasize their belief in digitalization trend, which results in an increased use of digital means in political decision making. As BB#3, working at Municipality Dordrecht argues "The attitude towards web-tools is starting to change and you can slowly see an increase in its use. It is inevitable [..] If you do not connect with it on time, then at a certain point you do not understand anymore what is happening around you" and "It is more common for everyone now"

(BB#3). Also BB#5, member of residents' organization expects that "you cannot avoid it, I think it is getting more and more important" (BB#5). BB#1 argues that this belief in digitalization trend has stimulated the development of BUURbook by increasing the motivation for people to participate: "Because of the internet everyone can find each other more easily and organize themselves. It is logically that people want to have a say now" (BB#1). Table 13 gives an overview of the identified cognitive institutions for BUURbook.

*Table 13: Cognitive institutions BUURbook*

| **Cognitive institutions** | |
|---|---|
| **Resisting change** | BB#3; BB#1 |
| **Low priority for change** | BB#3; BB#4; BB#5 |
| **Belief high effort to include citizens** | BB#3 |
| **Belief citizens have valuable knowledge** | BB#1; BB#3 |
| **Belief participation involves mainly negative opinions of citizens** | BB#6; BB#7 |
| **Not accustomed with technology** | BB#2; BB#5; BB#6 |
| **Accustomed with technology** | BB#3; BB#5; BB#6 |
| **Belief in digitalization trend** | BB#1; BB#3; BB#5 |

## 5.3 Institutional work

This section elaborates on the institutional work and institutional change for the institutionalization of BUURbook.

### *5.3.1 Habitualization stage*

The development of BUURbook started in 2007 after an idea of an urban development engineer. The urban development engineer (BB#1) recognized the need to include the opinions and experience of citizens in the process of planning areas in an interactive way, both in his profession as urban development manager as well as in the personal experience of urban developments in his own neighborhood (BB#1). Together with a co-founder and technical employee the development of BUURbook eventually started in 2011. For the platform to work BUURbook requires the participation of both the professionals and inhabitants. In order to reach a first habitualized form of the platform, the initiators executed the institutional work of **constructing normative networks** and **theorizing**. The aim of this institutional work was the building of an initial community of users (BB#1). Theorizing was used to present the aims and expected effects of BUURbook on the plaltform (BB#1). This led to the start of building BUURbook for the first neighborhoods, including the neighborhood of Hillegersberg-Schiebroek.

### *5.3.2 Objectification stage*

The second stage aims to develop some degree of social consensus developed on the value of the instrument resulting in increasing adoption. After the building of the first platforms, the further increase of adoption by users is required to let the platform function according to its aims. This requires both the further collection of citizen's competence and experience as well as organizations that could use and include this knowledge in improving the neighborhood. The initiators engaged in **advocacy** by the continuous promotion and encouraging the use of the platform to attract users. As BB#1 mentions: "the platform is not going to be traced automatically, maybe partly, but that is too little in order grow quickly [..] You really need to work to get it going, this takes quite some effort, it does not happen automatically" (BB#1). This continuous promotion was done through the promotion of BUURbook at events (e.g. resident days, municipal events, co-creation events) and social media, including YouTube

videos[1], Instagram, Twitter, Facebook and LinkedIn (BB#1, BB#2, BB#5). But also the platform itself is used to communicate and promote to possible users (e.g. BUURbook, 2014b; BUURbook, 2014d). BB#1 emphasizes that "you need to put effort in community building, you need to connect as much people as possible and form a critical mass to make the platform work" (BB#1). Further **advocacy** was used to persuade potential users to start using the platform build for their neighborhood. The initiators again used their accounts on social media, were present at neighborhood meetings, wrote blogs on the platform and spread leaflets in the specific neighborhoods to promote and encourage the use of the platform (BUURbook, 2014a; BUURbook, 2014d). BB#1 mentions: "By doing this, I try to get a foothold, for all kinds of actors: citizens, entrepreneurs, municipalities, wherever they are interested I am going to talk about the platform" (BB#1). These leaflets include the **theorizing** on added value for citizens, a citation from the leaflet:
*"With BUURbook citizens have a digital municipal guide which allows citizens to easily collaborate, organize, ask questions and help each other. This leads gradually to more citizen initiatives, self-organization, social cohesion, neighborhood economics and indirectly to increased safety and a reduced demand for care. BUURbook strengthens the neighborhood. It gives citizens more influence on their lives and living environment"* (BUURbook, 2014a).
Part of the advocacy was executed via *informal approach* through face to face conversations. According to BB#1 "The personal approach is crucial. Someone from your neighborhood asking you to join a neighborhood platform differs from an unknown company asking for your email address and age." (BB#1) and "flyers help in promotion, but the personal approach works better, that is more genuine, more familiar, someone of your own neighborhood stimulates the promotion" (BB#1). Furthermore, **mimicry** is used by comparing the platform with a digital version of the more generally known town square, with the aim to stimulate the participation (BUURbook, 2014a; BUURbook 2014f).

Apart from citizens and associations, the involvement of the local authorities is important in order for the platform to function as a platform where citizens' competences and experiences are used by municipalities (BB#1). It differs among neighborhoods whether municipalities are prepared to join the platform from the beginning. Where some municipalities are eager to use the platform as participation instrument (BB#3), other municipalities refer to the existing channels of citizen input within their municipalities. In order overcome the latter, **theorizing** was used to emphasize the added value of the platform. BB#1 aimed to transmit the advantages of the platform by approaching municipalities directly and giving presentations on the advantages of BUURbook (BB#1): "Via presentations I show them [municipalities] the advantages. These advantages are the increase in social cohesion, easier communication with citizen which saves money, shape participation, increase the care for citizens. These are all arguments which are interesting for municipalities" (BB#1). This theorizing of added value is also found in the promotional material, for example: "Share your plans on BUURbook and receive citizens' feedback directly. This will bring together the area knowledge of citizens and the professional knowledge of professionals. This will lead to better plans, increased feedback and participation, an increased support and increased trust between organizations and citizens, they will feel more heard and taken seriously" (BUURbook, 2014a).
This theorizing is combined with the **changing of normative associations** to emphasize the need for collaboration by indicating that in order to effectively improve the neighborhoods, you need all actors, including citizens (BB#1). This line of thought is also indicated by blogs on the platform and in leaflets (BUURbook, 2014a; BUURbook, 2014b; BUURbook, 2015): "As a civil servant, you want to know what citizens want and you want them to join the planning process in an early stage. That makes sense and is good" (BUURbook, 2015).

[1] http://www.z11org.nl/klein-binnen-groot; https://www.youtube.com/watch?v=jjScvN3uRNU; https://www.youtube.com/watch?v=HiAWyveYUhI; https://www.youtube.com/watch?v=4R52y57G7N4; https://www.youtube.com/watch?v=U-eonIutD-c

Apart from advocacy and theorizing, the institutional work of **educating** is used by the initiators to expand the user base. Another form of institutional work, used to embed BUURbook institutionally is the **educating** of actors on both the working of the platform as well as expanding the platform. For possible users, BB#1 prepares presentations on the *working of the platform* for municipalities, citizens and other organizations (BB#5, BB#1). Apart from a presentation, adopters of the platform receive a *training* on the use of BUURbook to make sure the adopters are able to use the platform correctly (BB#3). Furthermore, when a neighborhood has shown the wish for BUURbook, the initial participants receive advise and the means on how to expand the platform and reach a critical mass (BB#1). Also the platform is used to distribute lessons on sharing initiatives and collaboration on BUURbook (BUURbook, 2014c; BUURbook 2014e).

Apart from the initiators, municipal actors engaged as well in institutional work of **advocacy** after they have started to use the platform. BB#3 of the Municipality of Dordrecht explained he encourages the use of BUURbook among his colleagues and others, he for example: "made the agreement that everyone will share their activities on BUURbook" (BB#3). BB#2 mentioned a similar idea: "let's show to people on BUURbook what we are doing as committee members" (BB#2). Also citizen BB#6 mentions he sometimes encourages the use of BUURbook to other citizens: "If I met people which had an opinion on the subject, I directly referred them to post that opinion on BUURbook. You can tell me the opinion, but then it is limited to a single person." (BB#6).

Within the Municipality of Dordrecht, BB#3 performed **mimicry** combined with **undermining assumptions and believes** in order to overcome the risk-averse behavior existing at some employees in the organization by explaining BUURbook suits the existing developments of the municipality and eliminating believes of risk respectively: "I started to explain that BUURbook is an independent platform, it does not cause problems, it is nothing illegal, nothing illegitimate, but in contrast, it suits well with the developments and atmosphere of involving people with local developments as existing in the municipality" (BB#3). Another form of **undermining assumptions and believes** is the eliminating of negative believes on privacy matters and spam. According to BB#1, this is done though: "reassuring, we have transparent privacy conditions, we are connected with the Dutch Data Protection Authority, furthermore you can monitor BUURbook without logging in" (BB#1).
The institutional work of **disassociating moral foundations** has been executed by emphasizing that giving citizens the ability to comment on the development process is part of the job. For both colleagues in the municipality as well as partner organizations BB#3 encourages people to use BUURbook by saying: "Just share what your job implies and what you do, you will see people are interested in that. In fact, just use it, otherwise I think you are not doing your job properly, because no one has the possibility to comment on all the things you are going and that should not be possible" (BB#3). Table 14 presents an overview of the institutional work executed in the case of BUURbook as described in this chapter.

*Table 14: Institutional work BUURbook*

| Institutional work | Type | |
|---|---|---|
| ***Habitualization stage*** | | |
| **Advocacy** | Mobilize resources | BB#1 |
| **Theorizing** | Emphasize added value | BB#1; BUURbook (2014b); BUURbook (2014d) |
| **Constructing normative networks** | Build a community of users | BB#1 |
| ***Objectification stage*** | | |
| **Advocacy** | Continuous promotion<br>Encourage the use of BB<br>Informal approach | BB#1; BB#2; BB#3; BB#5<br>BB#1; BB#2; BB#3; BB#6<br>BB#1 |

| | | |
|---|---|---|
| **Changing of normative associations** | Emphasize the need for collaboration | BB#1; BB#3 |
| **Theorizing** | Emphasize added value<br>Emphasizing the advantages of direct contact | BB#1; BUURbook (2014a)<br>BB#1 |
| **Constructing normative networks** | Build community of users | BB#1 |
| **Educating** | Educating in working platform<br>Educating in expanding platform<br>Organize trainings | BB#1; BB#3; BB#5<br>BB#1<br>BB#3 |
| **Mimicry** | Emphasize suit with municipal developments | BB#3 |
| **Disassociating moral foundations** | Part of job | BB#3 |
| **Undermining assumptions and beliefs** | *Eliminating fears of risk*<br>*Eliminate negative believes on privacy matters and spam* | BB#3<br>BB#1 |

# 6. Results for Verbeterdebuurt

## 6.1 Case description and background

Verbeterdebuurt allows citizens to report problems, complaints and ideas on a platform which is visible for everyone and which data others can use. The instrument is based on the English FixMyStreet, a platform that enables the digital collection of reports on public space. Civil servants can respond on the complaints and ideas and give an indication of how the report will be processed. If the problem or idea is addressed or solved, the reporting citizen receives a notification. When the reporting citizens agrees that the problem or idea is solved or addressed, the platform indicates this by showing a green flag. If the problem or idea remains unaddressed the municipality automatically receives a reminding email until the problem or idea is addressed. The municipality can also add their own information on the map once a reported is lodged. An idea is responded to only if it gets at least ten votes from other citizens (Kurniawan and De Vries, 2015).

Verbeterdebuurt is initiated by three co-founders via their company CreativeCrowds in 2009 (VB#1), but continued as a separate company. Apart from CreativeCrowds (later Verbeterdebuurt) other actors involved in this case are municipalities, utilities and individual users. Table 15: Smart governance description VerbeterdebuurtTable 15 elaborates on the smart governance characteristics of Verbeterdebuurt.

*Table 15: Smart governance description Verbeterdebuurt*

| | |
|---|---|
| **Citizen participation** | Citizens collect data on the public space and communicate this with the municipality by posting a complaint or idea. Where citizens could already do these reports on public spaces via reporting systems based on e-mail or telephone, this instrument eases the procedures for citizens to report, enables the continuous public tracking of the report and eases the communication. The initiative increases the transparency and provides opportunities for starting dialogues between citizens and municipalities. |
| **Technology** | The platform is accessible via desktops or via an app for smartphones. For each complaint or idea on the map, the responsible municipality receives an email showing detailed information on the report, location and status. |

## 6.2 Existing institutions

This section presents the main findings on existing regulative, normative and cognitive institutions that enable or constrain smart governance in the form of Verbeterdebuurt.

### *6.2.1 Regulative institutions*

The regulative institution that is most relevant for institutional change towards this instrument is the obligation of municipalities to treat reports on public space. According to VB#2: “This regulation helps us as it obliges municipalities to treat reports adequately, all municipalities have the same responsibility to treat the reports [..] If the municipality ignores reports, the municipality is legally liable.” (VB#2). This means that municipalities are obliged to process the data that Verbeterdebuurt gathers. However, municipalities can choose the reporting channels themselves, and hence, choose whether they want to make stimulate the reporting by citizens or pose restrictions (Kurniawan and De Vries, 2015). So, even though municipalities are obliged to process reports, this does not mean instruments like Verbeterdebuurt are welcomed. One of the reasons that influence municipalities’ choice for certain reporting procedures is the cost structure of collecting and processing reports. As the instrument eases the making of reports, municipalities that use the instrument experience an increase in the amount of reports they are ought to process, involving higher costs. VB#4, working at

a municipality that adopted Verbeterdebuurt, emphasized this negative association with the increase in reports: “The advantage is that citizens can report easier, the disadvantage is the increase in reports of 20% in one year, that is quite a lot” (VB#4).
As it is expensive to treat reports some municipalities are cautious with easing the mechanisms for making reports by adopting Verbeterdebuurt, indicating a hindering institution. VB#1 experienced that this can be a reason to restrain from the instrument: “One municipality argued: By law we are obliged to treat reports, but we will not stimulate and enable it too much, because then we will receive too many reports, which costs us too much money” (VB#1). However, apart from the increased costs for processing more reports, the cost structure also has a stimulating effect for adopting Verbeterdebuurt as the instrument brings cost advantages for processing the reports (Kurniawan and De Vries, 2015; VB#2; VB#3). These cost advantages are the result of the avoidance of duplicate reports, the saving of time in finding the location, and procedural costs (Kurniawan and De Vries, ,2015; VB#2; VB#3). As VB#3 explains: “Telephone reports are costly to process. Digital reports are much cheaper than the telephone reports” (VB#3).

Another regulative aspect that influences the institutionalization is that the reporting systems are often embedded in existing procedures, which can be hard to change. Municipalities often use various communication channels for receiving reports on the public area, these vary from website forms, emails, phone calls, personal visits and social media (VB#4). These channels already exist for a long time (VB#1) and cannot be changed suddenly. “Making reports on public space is not a new phenomenon, both the reports and the reporting channels exist already for a long time. [..] Verbeterdebuurt pushes these channels away. This process takes effort” (VB#1). Furthermore, the procedures can imply contracts with employees or third parties: “Sometimes, municipalities have an existing system, including a contract with a supplier. If they are tied to contracts, they are not prepared or not able to terminate the contract” (VB#2). These existing contracted procedures form a hindering institution as the instrument needs to find a way to work with or terminate these contracts before it is possible to be implemented.

Other regulative institutions that are experienced by the interviewees are the strict rules around possessing personal information. Since 2001 the law of Personal Information Protection has been established, this law regulates what local authorities and other organizations are and are not allowed to do with personal data (Rijksoverheid, 2016). According to this law personal data may only be collected for specified, explicitly described and legitimate purposes and can only be processed for purposes that are compatible with these purposes (Autoriteit Persoonsgegevens, 2016a). This law obligates organizations to ensure suiting technical and organizational measures to prevent the data leaking of personal data. Furthermore, since January 2016, organizations are obliged to report data leaks to the Authority of Personal information (Autoriteit Persoonsgegevens, 2016b). According to VB#3, for many municipalities the ICT procedures are stricter nowadays, since a research found out that municipal websites of most of the Dutch municipalities had poor security systems: “Everything around ICT has become much stricter since, with good reason.” (VB#3). VB#1 confirms this stricter attitude towards ICT procedures: “Nowadays, for actors that work for municipalities and have personal data at their disposal, the requirements are stricter. Municipalities are paying stricter attention to ensure these actors to have a data processing agreement, in order for them [municipalities] to guarantee that the personal data remains secret and will not be used for advertising purposes.” (VB#1). According to VB#3: “this results in more extensive and longer security measures and often expertise within the ICT department misses. This slows down the process.” (VB#3).

Table 16 gives an overview of the identified regulative institutions.

*Table 16: Regulative institutions Verbeterdebuurt*

| Regulative institutions Verbeterdebuurt | Sources |
|---|---|
| **Obligation of municipalities to treat and collect reports on public space** | VB#1; VB#2; Kurniawan and De Vries (2015) |
| **Treating reports is regulated in existing municipal procedures** | VB#1; VB#2; VB#4; VB#6 |
| **Expensive to treat reports** | VB#1; VB#2; VB#3; VB#6 |
| **Requirement of data processing agreement for possession of personal information** | VB#1; VB#3; Rijksoverheid (2016) |

### *6.2.2 Normative institutions*

Related to the regulative institution that obliges municipalities to collect and process reports, municipalities have varying views to what degree the treatment of reports is seen as part of their job. Some municipalities attach more value to the service for citizens as others, VB#3 poses the attitude that some municipalities have: "we are the municipality, citizens should be happy we are doing this [treating reports], and if they want something, then can wait a bit more if necessary" (VB#3). According to VB#3 it requires a lot of work to change this mindset, which is not always achieved. Other municipalities view their role in processing reports as more extensive, VB#4 emphasizes: "It is your job to help citizens, this is part of your activities" (VB#4). The more municipalities see their reporting duty as part of their job, the more open they will be towards embracing new ways of collecting citizen's data (VB#1).

Another normative institution is the cautiousness towards ICT projects as experienced by some municipalities. ICT projects often imply high investments and according to VB#2 many municipalities have bad experiences with use of ICT within the organization. Because of this: "ICT initiatives are always viewed with some suspicion" (VB#2). According to VB#3: "they first want to see before they believe, as many companies promise things which they cannot realize" (VB#3).

Table 17 gives an overview of the identified normative institutions for Verbeterdebuurt.

*Table 17: Normative institutions Verbeterdebuurt*

| Normative institutions Verbeterdebuurt | |
|---|---|
| **Report service part of job** | VB#3; VB#4 |
| **Cautious with implementing ICT in municipality** | VB#2; VB#3 |

### *6.2.3 Cognitive institutions*

A cognitive institution that stimulates the adoption of Verbeterdebuurt is that in general municipalities are custom with treating reports due to their obligation to treat reports as discussed in section 6.2.1. Because the processing of reports exists already for a long time, municipalities know what to do with the reports collected by Verbeterdebuurt. VB#4 explains "The treatment of reports has not changed. A complaint remains a complaint, a report is a repot, that counts for both Verbeterdebuurt as well as our previous system" (VB#4). VB#6 of Municipality of Amsterdam confirms this and adds: "Whether a report is done by phone or digitally the processing of reports does not change, only the process of registration changes, how you receive reports (VB#6).

However, this institution does not imply that municipalities feel the urge to actually change the reporting systems. According to VB#3, many councilors within the municipality respond positively to the instrument, but attach a low priority to changing the reporting systems: "They are interested to

have such an app: yes, 80% of the reports should be digitally processed, and yes, citizens should be content on the service. But the realization stays behind" (VB#3). According to him, the mindset of "we should realize this" is not enough, you need a mindset focused on "we are going to actually do this" (VB#3). According to VB#3 a reason for this low priority is that some municipalities are not interested in improving their service towards citizens. When there is low priority to realize the required changes for Verbeterdebuurt: "the project drags on and fails, wasting investments" (VB#3).
Another aspect that causes this low priority is the low incentive for municipalities to innovate. VB#1 explains: "There is little bonus for innovation. A municipality is mainly judged for what is done wrong, you barely hear news on municipalities doing very well, this forms a negative incentive. [..] If municipalities are doing well, they will get at the top of their lists, but nobody gets a bonus, a 'well done' maybe, but that is it. It is hard to compare this with the business environment where people know they will earn the benefits of innovating." (VB#1). VB#1 adds: "Municipalities compete very marginally on their services. I have never heard of someone saying to move to another municipality because of their services." (VB#1). Furthermore, often civil servants have bad experiences with innovation in their organization, VB#3 explains: "A lot of civil servants think prefer the old system, and argue it never works out when they innovate." (VB#3). This is problematic, as the municipalities have to innovate in order to make Verbeterdebuurt work.

According to VB#1, VB#3 and VB#4 the implementation of Verbeterdebuurt often leads to resisting change. According to VB#1 "there are people who are widely attached to existing channels, they developed it or have worked with it for 15 years. It hurts if you need to let that go, that is a threshold for municipalities" (VB#1). VB#3 adds: "they often think, what is that, Verbeterdebuurt, and why would we use it, I do not want something new". According to VB#4 of Municipality Beverwijk, this resistance has nothing to do with the system of Verbeterdebuurt, but with the process of changing in general: "Changes go fast and sometimes you do not want to change, so you give resistance" (VB#4).

Another institution that is experienced by the interviewees is the belief in digitalization trend. VB#3, VB#4 and VB#5 view an increase in the use of digital technologies among citizens and municipalities and expect that this will further increase in the future. According to VB#3, this stimulates the opportunities for the implementation of Verbeterdebuurt as more and more municipalities aim for digitalization: "there are municipalities that aim to digitalize a certain percentage of their reports, and that suits Verbeterdebuurt perfectly" (VB#3).

gives an overview of the identified cognitive institutions for Verbeterdebuurt.

Table 18 gives an overview of the identified cognitive institutions for Verbeterdebuurt.

*Table 18: Cognitive institutions Verbeterdebuurt*

| Cognitive institutions Verbeterdebuurt | |
|---|---|
| **Belief in digitalization trend** | VB#3; VB#4; VB#5 |
| **Low priority for changing reporting service** | VB#1; VB#3; VB#4 |
| **Resisting change** | VB#1; VB#3; VB#4 |
| **Custom with treating reports** | VB#2; VB#4; VB#6 |

### 6.3 Institutional work

Where the previous section presented the main institutions that influence the institutionalization of Verbeterdebuurt. This section poses the institutional work executed with the aim of institutionalization of the instrument.

### *6.4.1 Habitualization stage*

Initially the initiators engaged in the institutional work of **theorizing** by exploring research on why people report, who reports and how Verbeterdebuurt could influence this. Based on existing research it appeared that despite the findings that main majority of citizens would like to contribute to their neighborhood by posting ideas and reports, only a small part actually takes action (VB#1). Furthermore, they showed that the persons that take action often contain a certain group of citizens, which voice is heard more often in comparison with the voice of others (VB#1). According to VB#1, Verbeterdebuurt aims to respond to this by simplifying the reporting process and making it more attractive and enjoyable (VB#1). After the launch of the platform, the first municipalities showed their interest in the instrument in 2010 and wanted to adopt the platform (VB#1). This was stimulated by a program of the Ministry of the Interior and Kingdom Relations that aimed to support promising initiatives (VB#1). Via the program the cities of The Hague and Enschede were approached to start using Verbeterdebuurt. For Enschede, this led initially to a successful implementation of Verbeterdebuurt. This successful implementation was important as it showed the feasibility of the platform to other municipalities (VB#1). This connection with the Ministry implied the **constructing of normative networks**.

Apart from these first municipalities, the platform gradually started to attract citizens. According to VB#1, the first using citizens started to use the platform shortly after the launch. This **constructing this normative network** of citizens could be used to show municipalities the working and acceptance of Verbeterdebuurt by citizens. As VB#1 explains: “it is very important to find the reporting citizens as that is the reason of our existence [..] It is important to connect with the citizens, because that is part of our marketing towards municipalities” (VB#1). The reports of these users were send by Verbeterdebuurt to the specific municipality. Despite not having adopted the platform of Verbeterdebuurt in their procedures yet, municipalities were obliged to process these reports. This helped in the acquiring of brand awareness of the platform among municipalities (VB#1) and together with the theorizing and first adopting municipalities, this gave the platform its first habitualized form.

### *6.4.2 Objectification stage*

After the achievement of some habitualized form, the initiators aimed to get consensus on the value of the platform and increase adoption in the objectification stage. During this stage the initiators mainly engaged in the persuading of municipalities and citizens to start using the platform via the institutional work of **advocacy**. As both citizens and municipalities were acquainted with using reporting channels other than Verbeterdebuurt to do reports on public space, institutional work was required to create institutions that support the use of the platform by municipalities and citizens. Part of the strategy to convince municipalities and citizens to start using Verbeterdebuurt was the performance continuous promotion of the platform. The use of Verbeterdebuurt was promoted via articles in professional magazines, presentations on events, writing blogs on the platform, social media, product launches, and visiting conferences (VB#1; VB#2). This further increased the brand awareness of Verbeterdebuurt and resulted in an increased user base, of both municipalities and citizens (VB#1).

This advocacy was combined with **theorizing** the added value of the instrument in order to clarify the positive effects Verbeterdebuurt causes compared to existing reporting channels. This theorizing was especially aimed to convince municipalities to adopt the instrument as municipalities need to have a certain need or stimulus towards the platform in order to be interested (VB#2). This added value implies increased efficiency because of the cheaper processing of reports and the preventing of duplicate reports, increased possibilities for citizens to report and indirect increased quality of the municipality (VB#1, VB#2, VB#3). The added values of the platform were shared via the promotional channels (VB#1; Verbeterdebuurt, n.d.), but also used in presentations for municipalities (VB#2). This form of institutional work played an important role in emphasizing a stimulus for municipalities to change their institutions. For example, VB#6 explains that one of the reasons for the Municipality of

Amsterdam to adopt Verbeterdebuurt was to bring down the number of phone calls and prevent duplicate reports.
Furthermore, the initiators engaged in the maintaining institutional work of **policing** by actively referring to the municipal obligation to process reports and that this service is part of their job (VB#2). According to Verbeterdebuurt, the duty of municipalities to process reports is increasingly fulfilled by using Verbeterdebuurt. As VB#2 explains: "The main argument we use is that citizens should be involved in improving the public space and municipalities have the duty to provide their citizens with good services." (VB#2).
Which arguments are used in the persuasion varies for municipalities. According to VB#2: "The tricky part is that you first need to sense and watch how the reporting system works at the municipality and what approach suits best. Will we focus on the practical advantages or focus more on their feeling, that they need to do their job right by involving citizens more. This approach is very different per municipality." (VB#2). This indicates the institutional work of **mimicry**. Furthermore, the **undermining of assumptions and beliefs** is executed to deinstitutionalize the institution of cautious for ICT by dissolving the suspicion towards ICT by letting municipalities test the instrument: "we show a demo and how a report works, we form a testing environment to show there is no need for suspicion" (VB#2).

Once a municipality has shown interest in Verbeterdebuurt, more institutional work is required as the platform needs to be institutionalized in the organization. Even though all municipalities are accustomed with treating reports, using Verbeterdebuurt requires changes in the way these reports are collected as well as the sending of updates on the processing to the reporter. The main institutional work used to create institutions that support these requirements contains educating.

**Educating** institutional work is executed by explaining the working of Verbeterdebuurt: "You really need to involve everyone and explain the system, let them play with it, then they become enthusiastic" (VB#3). VB#3 emphasized the importance of both the network and the educational aspect with an example on a municipality that failed to implement Verbeterdebuurt: "We were not involved enough with the internal organization to be able to share our expertise, even though we suggested it many times" (VB#3). This educating continues through the entire implementation process (VB#3).
Apart from educating the working of Verbeterdebuurt, the employees of Verbeterdebuurt engage in **educating** aimed on the implementation process. There needs to be awareness with the organization on how to reach effective project management in implementing Verbeterdebuurt, as all the actors involved need to agree and collaborate (VB#3).
In order to educate the employees of the municipality, Verbeterdebuurt uses a checklist based on the Transnational Government Framework of Oasis (Borras et al., 2014). This is furthermore used to **theorize** on how the joint realization of various aspects can lead to a successful implementation. However, where this framework clarifies and founds the implementation procedure, it cannot always be successfully executed: "The idea of using the checklist was: The study emphasized based on experience what aspects need to be changed. In reality, it is often too complex." (VB#3).
For the technical part, Verbeterdebuurt needs to be connected to the reporting system. Verbeterdebuurt is specialized in the ICT part that receives the report directly from the customer. This part needs to be connected with the back office of municipalities, this requires a lot of technical complex work (VB#1, VB#3). In order to ease the technical connection of the platform with the ICT of the municipality, Verbeterdebuurt has **constructed normative networks** with software companies that are specialized in the back office and intake software (VB#1, VB#3).

Apart from the employees of Verbeterdebuurt, municipal actors executed **educating** institutional work by explaining the working of Verbeterdebuurt. Municipality of Amsterdam started a project group to keep all involved actors updated on the possibilities and impossibilities of Verbeterdebuurt and how the working processes for Verbeterdebuurt can be improved. VB#5 of Municipality Beverwijk executed **educating** institutional work by the provision of clear instructions for colleagues that resist change in

order to ease the use. Another form of institutional work executed by municipal actor, was the changing of normative assumptions. **Changing of normative assumptions** was used to indicate its urgency, as developments keep following (VB#4). This institutional work aimed to increase the priority for changing reporting service. Furthermore, VB#4 of Municipality Beverwijk engaged in the **changing of normative associations** by emphasizing it is part of the job functions: "explaining why we use it [Verbeterdebuurt], to help citizens, it is your job to help citizens, it is part of the functions of your job" (VB#4).

### *6.4.3 Sedimentation stage*

After a municipality has adopted the instrument, further **advocacy** by the municipality is executed to attract citizens to use the platform. VB#3 emphasizes the necessity for this: "You need to work hard to attract reports on Verbeterdebuurt [..] because if you do not inform citizens well, they will not use it". Verbeterdebuurt provides the municipality with leaflets, posters and postcards to distribute among their citizens, these are used by municipalities to continuously promote the use of Verbeterdebuurt (VB#1). This promoting is acknowledged an important way to attract citizens to the platform (VB#2, VB#4, VB#5, VB#6). Civil servant VB#6 explains that the promotion has clearly resulted in an increase of reports: "the more you promote, the more the platform is used" (VB#6). Furthermore, the municipalities are stimulated by Verbeterdebuurt to use their own channels for promoting Verbeterdebuurt to citizens (VB#2, VB#4, VB#5, VB#6). VB#4, VB#5 and VB#6 of municipality Amsterdam and Beverwijk explain that each time citizens contact their municipality with reports on public space, they encourage the use of Verbeterdebuurt by redirecting citizens towards Verbeterdebuurt: "Showing that we use it and that it works" (VB#4) and "Making potential users enthusiastic about Verbeterdebuurt" (VB#6).
In order to maintain municipalities to use Verbeterdebuurt, the employees of Verbeterdebuurt engage in continuous **policing** by monitoring the adopting municipalities. According to VB#3: "municipalities do not directly understand how to implement and user Verbeterdebuurt, you need to continuously monitor them and watch how they use it" (VB#3). VB#2 confirms the importance of maintaining close contact and adds that you need to be responsive to developments within the municipality to ensure compliance. One way Verbeterdebuurt keeps contact with adopting municipalities is the organization of a user event, where municipalities can share their experiences with Verbeterdebuurt and learn about new functionalities. VB#4 of the Municipality of Beverwijk, evaluates the user event as positive, and likes the possibility to be able to give new input to the organization. Another way is to keep municipalities informed on new developments of Verbeterdebuurt as well as interesting applications of Verbeterdebuurt in other municipalities, both by personal contact as well as via newsletters (VB#2).

Furthermore, **theorizing** was used to demonstrate the effects Verbeterdebuurt has had on the reporting systems of municipalities to other municipalities (VB#1, VB#3). "With these arguments we try to persuade municipalities to adopt the product" (VB#2). These results can show municipalities the feasibility of the improvements.

Table 19 presents an overview of the institutional work executed in the case of Verbeterdebuurt as described in this chapter.

*Table 19: Institutional work Verbeterdebuurt*

| **Institutional work** | **Smart governance** | |
|---|---|---|
| ***Habitualization stage*** | | |
| **Theorizing** | | VB#1 |
| **Constructing normative network** | Building user community<br>Form collaborations that ease adoption | VB#1<br>VB#1; VB#2 |

| | | |
|---|---|---|
| ***Objectification stage*** | | |
| **Advocacy** | Continuous promotion<br>Encouraging use | VB#1; VB#2; VB#4; VB#5; VB#6<br>VB#4; VB#5; VB#6 |
| **Changing of normative associations** | Job functions<br>Urgence | VB#4<br>VB#4 |
| **Constructing normative networks** | Form collaborations that ease adoption<br>Collaborative implementation | VB#1; VB#3<br>VB#3 |
| **Policing** | Referring to obligation municipality | VB#2 |
| **Educating** | Educate on implementation process<br>Educate on working instrument | VB#3<br>VB#3; VB#4; VB#6 |
| **Mimicry** | Adapt instrument to municipality | VB#1; VB#2; VB#3 |
| **Theorizing** | Founded implementation procedure<br>Emphasize added value of instrument | VB#3<br>VB#1; VB#2; VB#3 |
| **Undermining assumptions and believes** | Dissolve suspicion through testing | VB#2 |
| ***Sedimentation stage*** | | |
| **Theorizing** | Demonstrating effects | VB#1; VB#2; VB#3 |
| **Advocacy** | Continuous promotion<br>Encourage use | VB#2; VB#4; VB#5; VB#6<br>VB#4; VB#6 |
| **Policing** | Monitoring the adopting municipalities | VB#1; VB#2; VB#3; VB#4 |

# 7. Analysis

The previous chapters aimed to understand how institutional change takes place with regard to three types of smart governance by exploring the main institutions that influence the possibility for smart governance and the institutional work actors engage in to create, maintain and disrupt institutions. This chapter addresses the main similarities and differences found when comparing the results of each case. The chapter first discusses the main findings on how existing institutions allow for the smart governance initiatives. Section 7.2 discusses the main similarities and differences found when comparing institutional work and institutional change for the cases.

## 7.1 Existing institutions

With respect to the existing institutions the results show that the degree to which the smart governance types are congruent with the existing institutions varies among smart governance types.

### Regulative institutions

When comparing the regulative institutions for the three cases, the results show that the nature of smart governance influences its congruence with existing regulative institutions. This relates to the degree to which the smart governance types allow citizens to exert influence on the outcome of political procedures. The instrument of Budgetmonitoring aims at a form of governance where citizens collaboratively discuss and participate in the budget distribution. However, this strongly collides with the existing institutions which leave limited influential power to the citizens as budgets are determined by municipal actors. The case of BUURbook also experienced that the decisive power in political procedures mainly lies at municipal actors, constraining the structural inclusion of citizens' competences and experiences in these procedures. However, whereas this type of smart governance requires a lower degree of power transfer, the incongruence is less as compared with Budgetmonitoring. For the case of Verbeterdebuurt, these limited possibilities to influence the outcome of political processes were not experienced as a constraining institution as the smart governance type of Verbeterdebuurt implies less influential power from municipal actors. For Verbeterdebuurt, an institution was identified that stimulated the enabling of smart governance where citizen act as data collectors. Because of the municipal obligation to collect and process reports on public space, Verbeterdebuurt could initially send their collected reports to municipalities, knowing that municipalities had to process the reports.

Apart from this varying congruency with existing institutions based on the degree of influential power, other differences between cases were found. The instrument of Budgetmonitoring requires procedures to change in order to enable citizens to discuss the budget distribution. Existing procedures do not design budgets on the level of the neighborhood and involve fixed expenditures which cannot be altered easily. These required procedural changes were less prevalent for BUURbook and Verbeterdebuurt, where citizens are less involved in the political procedures itself, but which focus on the collection of competences, experiences, and data as input for political procedures. Apart from the institution that constrains direct public contact for BUURbook, BUURbook and Verbeterdebuurt mainly encountered the embeddedness of other citizen participation channels. These other channels were both enabling as well as constraining smart governance for these cases. Even though the existing channels are different in terms of technology and citizen participation, the existence of these other channels is for some municipalities reason to not further expand citizen participation channels.

These differences between existing regulative institutions imply that mainly to the difference in form of citizen participation aimed for, results in different degrees to which the smart governance types are congruent with existing regulative institutions. Budgetmonitoring was identified to collide the most with the existing regulative institutions because this smart governance aims for a higher influential power of citizens on the outcome of political procedures and in order to allow for citizens to participate

in discussions, the set-up of budget distributions requires change. For BUURbook, this was less in comparison with Budgetmonitoring. Verbeterdebuurt collided the least with existing institutions, and could profit from municipal obligations to process citizens' data.

### Normative institutions

The type of smart governance also plays a role in compliance with normative institutions. As described in the previous paragraph, the degree of municipal information that is required to execute the smart governance differs among the types. For the smart governance type of Budgetmonitoring information needs to be publicly shared to enable citizens to participate indecisions on these data. However, existing institutions only allow the public sharing of data when the data is complete and exact due to the possible sensitivity of the data shared. And as the provision of complete and exact budget data is nearly impossible according to the findings, this institution formed a major constrain in the institutionalization. For BUURbook the main constraining normative institution concerned the activity of municipal actors on the platform, municipal actors were detached in doing statements on the platform in the fear of publicly stating something that is not allowed. This constrains the participative working of BUURbook as in order for citizens to effectively provide competences and experience, participation of municipal actors is required for providing insights on the subjects of discussion. For Verbeterdebuurt these restraining institutions were not identified the focus of this instrument is mainly on collection of information.

An aspect that was prominent for the smart governance types of Budgetmonitoring and BUURbook but absent for Verbeterdebuurt is the required representativeness of citizen input. If citizens are allowed to participate in decisions on budget distributions for their neighborhood or show their views and knowledge on developments in public space, there needs to be assurance that the input given is a reflection of the general opinions in the neighborhood. This institution is identified more relevant for Budgetmonitoring and BUURbook as for these smart governance types, opinions and views on the matter are included which can differ among citizen groups or even individual citizens, where for Verbeterdebuurt more objective and informative data is gathered, which contain less variation in opinions among citizens.

For the case of Verbeterdebuurt, there was a normative incentive created by the obligation to process reports that stimulated municipal actors to put effort in optimizing services for collecting and processing reports since "it is part of the job". However, also for Verbeterdebuurt a constraining institution was found. This institution, related to the technological aspect of smart governance, implies that municipal actors are cautious with the implementation of ICT projects on a larger scale due to possible risks of failure. Remarkable, this institution was not identified for the other two cases.

After comparing the three smart governance types of the cases, also the existing normative institutions are identified as increasingly constraining for Budgetmonitoring and BUURbook, where Verbeterdebuurt encountered less constraining normative institutions.

### Cognitive institutions

In all cases resisting change is encountered as a restricting cognitive institution, the reasons for this change differ among cases. Where for Budgetmonitoring the main reason concerns the fear of losing control and giving up part of their functions, for BUURbook resisting change is related to losing control as well as avoiding risks, whereas for Verbeterdebuurt the general attachment to existing routines is experienced as main reason for resisting change. This indicates that for the cases that aim for higher influential power on the outcome of political procedures, the reason for resisting change is more related to the fears related to a more influential role of citizens, where for smaller institutional change mostly a change itself is avoided.

Another cognitive institution experienced as constraining for all cases is the low priority that institutionalizing smart governance has. For all three cases, the municipal actors do not experience a certain need or urge to implement the instrument resulting in a lower priority of the instrument.
Part of this lower priority is for Budgetmonitoring and BUURbook caused by the expectation that citizen participation implies high effort on the part of municipalities, which some municipal actors are not willing to give. Furthermore, in these cases, there is inconsistency in whether citizens have enough valuable knowledge to act in these types of smart governance. These latter two constraining institutions are only identified for Budgetmonitoring and BUURbook which require more effort from municipal actors in terms of institutional change and are for a successful outcome more dependent on the value of citizen input.
In contrast, for Verbeterdebuurt the enabling institution of custom with treating reports was identified. Despite the fact that Verbeterdebuurt implies changes in the way citizens' reports are collected and processed, municipal actors are more custom with the use of data generated by citizens. due to the regulative institution that obliges municipalities to collect and process reports by citizen.
Finally, for BUURbook and Verbeterdebuurt there are cognitive institutions that relate to the technological aspect of smart governance. For BUURbook, interviewees were inconsistent on whether the technology was applicable enough to be used by all users. This hampers the institutionalization as the technology should be applicable for all citizens, to allow for representativeness to form. However according to other interviewees a decreasing amount of citizens is un custom with the technology due to the positive effect of digitalization on citizen's possibilities with using technology. This digitalization trend is also identified for Verbeterdebuurt.
The results on cognitive institutions show that Verbeterdebuurt requires less institutional change with respect to cognitive institution in comparison with Budgetmonitoring and BUURbook.

Furthermore, a remarkable result of exploring the existing institutions is that the main institutions influencing the institutionalization of smart governance for all three types are mainly related to the citizen participation aspect of smart governance. With a few exceptions there are barely technologically oriented institutions that influence the institutionalization. The study revealed that the main majority is already accustomed to the use and implementation of technologies in daily life and it is expected that due to the digitalization this attitude will only increase in the future. Furthermore, interviewees argued that the institutions that implied technological challenges were resolvable and the main challenges lied in non-technical institutions.

Table 20 presents the existing institutions identified for the three cases.

*Table 20: Existing institutions smart governance*

| | Budgetmonitoring: Citizens as democratic participants | BUURbook: Citizens as source of competences and experience | Verbeterdebuurt: Citizens as data collectors |
|---|---|---|---|
| **Regulative institutions** | | | |
| **Decisive power in lies at public authorities** | | | |
| **Obligation municipalities to treat and collect reports on public space** | | | |
| **Municipal budgets are not area specific** | | | |
| **Budgets involve fixed costs and existing contracts** | | | |
| **Public communication via communication department** | | | |
| **Citizen input is regulated via existing municipal instruments** | | | |
| **Normative institutions** | | | |
| **Data should be complete and exact before publicly released** | | | |
| **Cautious with statements on the web** | | | |
| **Citizen participation requires equal representativeness** | | | |
| **Report service part of job** | | | |
| **Cautious with implementing ICT projects** | | | |
| **Cognitive institutions** | | | |
| **Resisting change** | | | |
| **Low priority** | | | |
| **Belief high effort to include citizens** | | | |
| **Inconsistency on whether citizens have valuable knowledge** | | | |
| **Custom with treating reports** | | | |
| **(Un)custom with technology** | | | |
| **Digitalization trend** | | | |

## 7.2 Institutional work

With respect to institutional work the comparison of the three cases indicated the explanatory role of smart governance type and institutionalization stage on how actors engage in institutional work. As discussed in the previous section the degree to which existing institutions allow for the different types of smart governance varies. This influences the institutional change required for institutionalization and when comparing the three cases, this results in different types of institutional work that actors engage in.

When comparing the institutional work for the three cases, institutional work for the case of Budgetmonitoring involved more disruptive institutional work as compared to the cases of BUURbook and Verbeterdebuurt. Actors of Budgetmonitoring actively emphasized that the existing budget procedures has led to faults in the budget distribution and actively disapprove the role distribution in budget distribution, budget distribution itself and the lack of transparency via the institutional work of undermining core assumptions and believes and disassociating moral believes. These types of institutional work were considered essential for the achieved progressions in institutional change. For the other two cases, disrupting institutional work was identified limitedly and solely used to eliminate fears and cautious attitudes towards the use of technology and possible risk. This more disruptive character of the institutional work in Budgetmonitoring is expected to be explained by the relatively higher incongruence with existing institutions as described in the previous section. For smart governance types that collide more with the existing institutions, more disruptive institutional work is required for the institutionalization of the specific type.

For the case of Verbeterdebuurt, where citizens act as data collectors, the institutional work identified contains more maintaining institutional work in comparison with the other two cases. In the case of Verbeterdebuurt the actors of Verbeterdebuurt use the municipal obligation to process reports and the more extensive opportunity that Verbeterdebuurt provides for collecting reports as argument to adopt the instrument. Also, interviewed civil servants engaged in the maintaining institutional work of policing to emphasize the role of municipalities in collecting and processing reports on public space. In contrast, for the cases of Budgetmonitoring and BUURbook, no maintaining institutional work was identified. This indicates the increasing use of maintaining institutional work for smart governance type where citizens act as data collectors due to more congruence with existing institutions.

The institutional work of ***advocacy*** was executed in all cases for promoting and encouraging the use of smart governance by both citizens as well as municipalities and other organizations. This advocacy was executed both in promoting the smart governance via for example the writing of blogs and leaflets. However, there were also differences in the way advocacy was used. For the cases of Budgetmonitoring and BUURbook, also more informal face-to-face contact was used to persuade municipalities and citizens to support the instrument. Furthermore, for Budgetmonitoring the creation of a co-creative climate was used to attract civil servants to contribute and think along in an informal, sociable and open-minded setting. These more informal ways of advocacy are plausible to be executed in a context where the formal existing institutions are restricting, as is more the case for Budgetmonitoring and BUURbook.
In order to stimulate the implementation at municipalities and provide the knowledge and skills to work with the instrument, actors of all cases engaged in ***educating*** institutional work by both explaining the working of the instrument as well as the implementation of the instrument. This form of institutional work, was extra important for Budgetmonitoring, as in contrast with the other two cases, citizens require trainings to be able to participate in the instrument.
The **constructing of normative networks** was used by actors of all cases to connect with organizations that could stimulate the adoption to acquiring knowledge for developing the instrument and show the feasibility of the instrument. Furthermore, the three cases aimed to convincing the municipalities to

use the instrument. For the case of Budgetmonitoring, the initiating actors aimed to involve the municipality to co-create the instrument. This can be explained by the earlier finding that to enable the building of the instrument for Budgetmonitoring, knowledge of municipal actors on the budgets is required where for the other two cases, the instrument itself can be built without the help of the municipalities. Furthermore, in the cases of BUURbook and Verbeterdebuurt, the constructing of normative networks is executed by building an initial network to enable the first use of the instrument. Where for all cases **mimicry** was used, this form of institutional work was executed differently among the cases. Whereas the actors of BUURbook and Verbeterdebuurt mainly focused on emphasizing the suit between the municipal developments and on adapting the framing of the instruments' advantages to the needs of municipalities, the actors of Budgetmonitoring mainly used mimicry, to adapt the framing of the instrument as well as the instrument itself. Where Budgetmonitoring started with arguing that citizens have the right to influence the budget distribution, this view was adapted towards citizen participation arguments as this turned out that municipalities were more interested in these arguments. Furthermore, during the development of Budgetmonitoring, the instrument is continuously adapted in order to maintain the support of the municipality. As a wide variety of institutions are incongruent with the instrument, the instrument has a hard time to be implemented. Multiple interviewees posed the approach of continuously find space to work, and find out what is possible and build up from there towards Budgetmonitoring.
Also the institutional work of ***changing normative associations*** was executed differently among the three cases. For the cases of BUURbook and Verbeterdebuurt, this type of institutional work was used to respectively emphasize the need and urgency for using the instrument. The actors of Budgetmonitoring mainly focused on finding intrinsic motivations for municipalities to institutionalize the instrument and on emphasizing that citizens should be able to control and directly influence the expenditures in their neighborhood.
For **theorizing** other arguments are used as well. Verbeterdebuurt and BUURbook mainly focus on theorizing the added value for citizens and municipalities. The actors of Verbeterdebuurt mainly focus on the cost advantages Verbeterdebuurt brings by digitalizing the reporting system, as well as the expanded scope of users that will report as it becomes easier to do reports. The actors of BUURbook mainly focus on how citizen's knowledge can improve policies within the neighborhood and increase the social cohesion. For Budgetmonitoring, the actors emphasize how the instrument causes increased citizen participation and decision making. These differences have to do with that BUURbook and Verbeterdebuurt collect data, and competences and experiences that citizens use to improve the neighborhood, for Budgetmonitoring the smart governance is only partly for directly include the knowledge of citizens, but mainly for allowing citizens to co-decide.

Apart from the type of smart governance, the institutionalization stage influences the institutional work actors engage in. When comparing the three cases, the results indicate that for the habitualization stage, the main forms of institutional work identified are the **constructing of normative networks** and **theorizing**. These forms of creating institutional work imply the building of connections through which practices become normatively sanctioned and the elaboration of chains of cause and effect respectively. This institutional work was mainly aimed at the creating of views within an initial network and develop the instrument to some sort of habitualized form. The theorizing for all three cases was aimed at forming causal relations of how the instrument could enable its form of smart governance and its added value compared to the existing governance.
For the case of Budgetmonitoring, the initiating actors started in this stage with the ***changing of normative associations.*** Another difference among the cases is the institutional work of ***educating*** that was identified solely for the case of Budgetmonitoring. For the other two instruments this type of institutional work did not occur in the habitualization stage, reason for this is that less knowledge is required for citizens to be able to participate in the instrument.

Whereas in the habitualization stage the activities focus on the creating of a habitualized form of the instruments with complementing institutions, in the objectification stage the institutional work mainly

aimed at the distribution of the developed created views and institutions in a wider network of actors as well as the deinstitutionalization of existing institutions that are constraining for the specific instruments. In this stage the smart governance types are more confronted with the influence of existing institutions that enable or constrain smart governance.

For the sedimentation stage the continuous promotion of the instrument remains active, also after a municipality has decided to implement or participate the instrument. The advocacy is an important aspect to gain users for the instrument, as VB#5 from Verbeterdebuurt emphasizes: “citizens won’t automatically start using it”. To ensure a long term institutionalization of the instrument, the instrument requires this continuous encouraging of using the instrument. For the instrument of Verbeterdebuurt uses other types of institutional work as well to strengthen its acquired developments. Furthermore, theorizing was used by demonstrating the effects that the instrument of Verebterdebuurt has reached and showing this to the specific municipality, leads to the consciousness of the advantages the instrument has caused. These effects are also shown to municipalities in order to convince them to adopt he instrument as well. Apart from theorizing, the maintaining institutional work of policing was executed by the organization of Verbeterdebuurt to keep monitoring the municipalities that have adopted the instrument in order to maintain the use of the instrument.

# 8. Conclusions

Whereas smart cities and smart governance are widely discussed in social and scientific discussions, how smart governance is embedded within existing governmental structures receives significantly less attention. This research examines this aspect by gaining more insights in how institutional change towards smart governance instruments occurs. The research contained a multiple case study on three cases of smart governance each characterized by a different form of smart governance according to the distinction of Berntzen and Johannessen (2016). Based on in-depth interviews and secondary data first the encountered existing institutions were explored, analyzing the main institutions that influence the institutionalization of smart governance, after which the institutional work aimed at these institutions were identified using the framework of Lawrence and Suddaby (2006). In this chapter first an answer on the three sub question will be given, followed by the answer on the main research question: "*How can institutional change with regard to smart governance be understood in Dutch smart governance projects?"*.

## 8.1 Existing institutions

The first part of the analysis aimed to map the existing institutions for the three cases of smart governance in order to answer the first sub-question: "*How do existing institutions allow for Dutch smart governance projects?*". Making use of the distinction in institutions by Scott (2008), the regulative, normative and cognitive institutions are identified and compared for each case. The findings indicate that the existing institutions in Dutch smart city projects still limitedly allow for smart governance, but the incongruence of existing institutions with smart governance differs among smart governance types. Table 20 shows an overview of the main institutions enabling and constraining the three types of smart governance.

The smart governance form where citizens act as democratic participants, was found to collide the most with existing institutions. In comparison with the other two types, this form of smart governance implies the most influential power for citizens on the outcome of political procedures as it aims to let citizens actively co-decide and requires municipalities to share data to enable citizens to participate. This is incongruent with existing institutions that allow for a limited role of citizens in political procedures and where municipal data is not transparent and understandable for citizens to control and influence, and the sharing of municipal data. Furthermore, the aspect of representativeness complicates the legitimacy of the initiative and part of the municipal actors are unsure whether citizens have enough knowledge for this form of smart governance. Existing institutions lead actors to actively resist change towards losing control and influence, posing further restrictions to the institutionalization of smart governance.

In the type of smart governance where citizens are a source of competences and experience, citizens aim to influence the outcome of political procedures by sharing their competences and experiences during these procedures. This type of smart governance is constrained by institutions that only allow for limited role of citizens in the outcome of these procedures as well, however, whereas this type of smart governance aims at providing input, the institutional change of influential power is less in comparison with smart governance where citizens act as democratic participants. Other institutions that constrain the institutionalization of this smart governance type concern the required representativeness of citizen input, the redirecting to existing channels of citizen participation, hesitations on whether citizens have enough competences and experiences and the restrictions on direct contact between citizens and municipalities.

The smart governance where citizens act as data collectors encountered the least institutional incongruence. An institution that enables the institutionalization of smart governance, obliged municipalities to collect and process citizens' data of the case. This also led to citizens being custom with citizens in the role of data collectors and feeling the urge to respond to this institution correctly.

However, this type of smart governance also encountered hindering institutions, concerning the attachment to existing channels and resisting change in general.

To conclude, in line with the expectations of Meijer and Bolívar (2015), this research showed that the cases are confronted with differences in existing institutions and more importantly differences in the degree to which these institutions constrain and enable the types of smart governance. These institutions were identified most constraining for smart governance where citizens act as democratic participants and least constraining for smart governance where citizens act as data collectors. Furthermore, these findings show that the incongruence with that this is mainly due to the citizen participation aspect that smart governance aims to achieve. The constraining and enabling institutions influencing the institutionalization of smart governance were mainly related to the citizen participation aspect of smart governance, and few institutions to the technological aspect of smart governance.

## 8.2 Institutional work

This research tried to understand this process of institutional change by analyzing the institutional work executed in the second sub question: "*What institutional work is executed in order to institutionalize the implementation of smart governance?"* and third sub question: "*How can the occurrence of varying types of institutional work be explained?*". The findings show that the congruence with existing institutions helps to understand the types and forms of institutional work. Whereas for all smart governance cases creating institutional work was used to develop new institutions supporting the smart governance type, there existed differences in the degree existing institutions were disrupted. For the smart governance where citizens act as **democratic participants** the degree of constraining institutions was identified the highest, hence the institutional work focused more on the de-institutionalization of existing institutions by means of disruptive institutional work as compared to the other two cases. Actors actively disrupted the procedures where the institutions that limited the influence of citizens by indicating these institutions where normatively wrong and that smart governance would improve the governance. This disrupting institutional work resulted in that actors got the attention, space and the opportunity to continue with creating institutions. This disruptive institutional work was only limitedly identified for the other two types of smart governance. For these types of smart governance, the existing institutions collide less, resulting in less need to actively disrupt existing institutions.
For smart governance where citizens act as **data collectors**, the institutional work mainly involved the creating and maintaining institutional work. This higher presence of maintaining institutional work can be explained by that for the researched case the institution that obliges municipalities to process data collected by citizens was identified as enabling institution. Actors within this case actively maintained this institution to stimulate the institutionalization of this type of smart governance.

Another explanation for the higher degree of maintaining institutional work for this case is related to a second pattern identified in this research. Apart from the type of smart governance and congruency with existing institutions, this indicated that the institutionalization stage helps to understand what institutional work is executed in line with Binz et al. (2016). The findings on institutional work showed that in the habitualization stage other forms of institutional work were executed in comparison with the objectification stage and sedimentation stage.

## 8.3 Institutional change

Combining the answers of these sub-questions, an answer can be given to the research question: "*How can institutional change with regard to smart governance be understood in Dutch smart governance projects?"*.

This research found that institutional change with regard to smart governance can be understood as a process in which actors challenge and maintain existing institutions as well as create new institutions in order to embed smart governance in the existing governance structures. However, there exist not one strategy that works for all smart governance types. As the congruence of the smart governance with existing structures differs, it is crucial to adapt the institutional work to the smart governance type. This is mainly explained by the differences in citizen participation the smart governance aspires. Smart governance initiatives where citizens are aspired to have more influential power on the outcome of political procedures are identified to collide more with existing institutions. The institutionalization of these smart governance initiatives requires more disrupting institutional work, whereas smart governance types that focus more on the acquiring of citizens input via ICT, focuses more on the creating and maintaining of institutional structures.

# 9. Discussion

This section discusses the theoretical implications of the results, limitations of the research and suggests avenues for further research. Section 9.1 gives insight in the theoretical implications, and section 9.2 provides managerial implications. Hereafter, limitations relating to the methods used to acquire results are discussed, as well as suggestions for further research.

## 9.1 Theoretical implications

### *9.1.1 Smart governance*

This research provides support for the view that there is no one way of implementing smart governance. The findings of this research show that the implementation strategies depend on the congruence between the existing institutions and the smart governance type. The findings specifically support the view of Meijer and Bolívar (2015) that conceptualizations of smart governance matter in the degree to which existing governmental structures need to transform by showing how varying smart governance types require different degrees of institutional change. This research, expands this view by presenting an indication of what institutions smart governance initiatives could encounter and how implementation strategies differ among smart governance types.

Research on the smart city discourse and smart governance discourse tend to have mainly technological view on implementing smart governance and focus on how technological innovations in ICT can be implemented (Scholl and Alawadhi, 2016; Meijer and Bolívar, 2015). However, this research has shown that within the smart governance discourse, the implementation encountered mainly constraining institutions that were related to the citizen participation aspect of smart governance. The institutionalization was only limitedly influenced by institutions that were related to the technological aspect of smart governance. These findings support the views on the smart city and smart governance discourse that criticize the primarily technological focus on smart governance implementations (Hajer and Dassen, 2014) and this research subsequently argues for more attention in discussions on the citizen participation aspect of smart governance in institutionalizing smart governance.

Furthermore, the findings of this research can be useful for fields of study that focus more on the participative aspect of smart governance. This larger influence of the citizen participation aspect in smart governance implementation implies a possible link to the literature on collaborative and specifically on participatory planning. These literature streams focus on a range of inclusive and participative governance processes in spatial planning (Healey, 1997). The research area of collaborative planning has linked smart governance literature to literature field of collaborative planning and planning support systems (Lin and Geertman, 2015) and could use insights from this research for more research on institutionalization of smart governance forms.

### *9.1.2 Institutional change*

This research used the distinction of Scott (2008) to map the existing institutions influencing the allowance and institutionalization of smart governance. This distinction was combined with the framework of Lawrence and Suddaby (2006) to explore the institutional work and the institutionalization stages of Tolbert and Zucker (1999) to indicate the progressions in the institutionalization of smart governance. This framework was useful to analyze how the congruence existing institutions of smart governance led certain actors to engage in institutional work to influence the institutionalization. However, a theoretical implication is the limited accountability of situational influences in this framework, which are not specifically aimed at the institutionalization or deinstitutionalization of smart governance but have a significant influence on the process of institutionalization. In this research, such a situational influence appeared in the case of Budgetmonitoring, where the centralization of the municipality had significant influences on the institutionalization of Budgetmonitoring as institution, even though it was a distinct development.

Institutional theory, and specifically the theory on institutionalization stage, could present a more holistic understanding of institutionalization processes and institutional change by including these situations influences in their views. The literature stream could profit from insights form the contingency approach which emphasizes the importance of contingent situational influences on sources of power (Ocasio & Thornton, 1999). Including these influences would lead more holistic understanding of institutional change.

## 9.2 Policy implications

The findings of this research has led to policy implications for both municipalities as well as groups or individuals that aim to start and implement a smart governance initiative.

For municipalities that aim to implement smart governance, first a close examination of the smart governance is required as the implementation process can differ among smart governance initiatives. When the smart governance assigns citizens to co-decide in political decisions to influence the outcome of political procedures, the implementation of the initiative requires close collaboration between municipalities and citizen groups. Furthermore, municipalities should engage in the facilitation of trainings and information provision for this type of smart governance in order to educate citizens to increase their knowledge and hereby ability to participate.
For the other two initiatives, this close collaboration is less important and more distance can be kept with citizens. However, when implementing these initiatives, the municipalities are required to actively engage in the stimulation of citizens to use the instrument, as well as in the stimulation of civil servants to redirect citizens to use the instrument.

Similar to the advice for municipalities, citizens need to take into account the type of initiative. For initiatives, that aspire for citizens to co-decide in political decisions, it is important to involve the municipality from an early stage as the development of the instruments require support and knowledge of municipalities. To achieve this, the municipalities need to be convinced, not only why the instrument causes added value, but also actively persuade on why the existing way of governing is lacking.
For initiatives that aim to influence political decisions by the input of competences and experiences, and collected data, the initial development of the instrument and attracting other citizens to start using the instrument does not specifically require the co-creation of the municipality. This building of the instrument and acquiring a customer base shows the feasibility and reach of the instrument and can stimulate municipalities to adopt the instrument.

## 9.3 Limitations

The main limitation of this research is its external validity in terms of generalizability of the findings. The selected cases varied with respect to region, scope and type of initiating actor. This was due to the relatively limited regions that include all three smart governance types of Berntzen and Johannessen (2016). However, differences in these other factors influence both the existing institutions as well as the institutional work executed. Governance systems may vary among municipalities and pose varying existing institutions influencing the institutionalization of smart governance types, for example due to the size of municipalities as well as country. This complicates the generalizability of the findings on existing institutions for different municipalities. Further comparable case studies among smart governance types are required to reinforce findings on institutionalization of smart governance.

Another limitation of this research is that it focused on the institutional work that aimed at institutionalization of smart governance. Because of this, the results do not include institutional work aimed at constraining institutional change. The reason for this is the complication of arranging interviews with the actors possibly engaging in maintaining institutional work and the expected reserved answers towards the engaging in maintaining institutional work. Including the maintaining

institutional could give more elaborated insights on how existing institutions are actively maintained and how this affects the institutional change of smart governance.
Furthermore, only one of the selected cases has reached the sedimentation stage, findings on institutional work in different institutionalization stages could be further reinforced by analyzing more cases of smart governance that are further in the institutionalization process.
Preferably the multiple case study involved three cases within one region, to be able to compare institutions and institutional work without too many regional differences and environmental factors influencing the results. However, due to the relatively initial stage of smart governance and limited amount of smart governance initiatives, the three cases are distributed over multiple cities, decreasing the external validity of the research.

A limitation for the internal validity of the results is the relatively positive attitude actors occupy in discussions on smart governance and citizen participation (Bolívar, 2015). This complicates the valid elaboration of institutions, of the normative and cognitive institution in particular. This sometimes led to inconsistencies in views on existing institutions, whereas some interviewees emphasized the initial constraining attitude of an actor, the actor had a different experience of the situation. Where in most cases this inconsistency was elaborated on in the empirical results, sometimes the most dominantly prevalent view was treated as being the closest to the true institutions.

## 9.4 Further research

Where this research conceptualized smart governance according to Berntzen and Johannessen (2016), further research can analyze what other forms of smart governance exist and how this influences the understanding of institutional change. For example, varying types of citizen participation based on the frequently used distinction given by Arnstein (1969) could be linked to the smart governance literature. Furthermore, whereas this research analyzed three smart governance initiatives that involved a platform, further research could focus on whether the institutionalization encounters other institutions with smart governance initiatives that use other technologies as for example apps.

The current research has mainly focused on what institutional work has been executed, where possible and existing, the effect of institutional work was elaborated. But this research was not able to determine under what conditions the institutional work led to institutional change. An avenue for further research is to establish under what conditions the execution of institutional work will lead to institutionalization of smart governance. Insights from institutional entrepreneurship could for example be used to determine the social capital, authority and expertise of the actors that engage in institutional work (Empson et al., 2013; Perkmann and Spicer, 2008; Battilana et al., 2009).

Furthermore, future research could focus on how to achieve institutional change that lead to an increase in the public value aspect for smart governance. More critical researches towards the smart city and smart governance discourse warn for issues like panoptic surveillance, technocratic and corporate forms of governance, technological lock-ins, profiling and social sorting and anticipatory governance, which are often left unexplored in the popularity of the discourses (Kitchin, 2014). Efforts to improve governance with new technologies should aim to contribute to the public value in a city (Meijer et al., 2015).

## 10. References


Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of planners, 35*(4), 216-224.

Battilana, J., Leca, B., & Boxenbaum, E. (2009). 2 how actors change institutions: towards a theory of institutional entrepreneurship. The academy of management annals, 3(1), 65-107.

Blaikie, N. (2009). *Designing social research*. Polity.

Bolívar, M. P. R. (2015). Smart Cities: Big Cities, Complex Governance?. In*Transforming City Governments for Successful Smart Cities* (pp. 1-7). Springer International Publishing.

Bryman, A. (2008). Social research methods. Oxford university press.

Berntzen, L., & Johannessen, M. R. (2016). The Role of Citizen Participation in Municipal Smart City Projects: Lessons Learned from Norway. In Smarter as the New Urban Agenda (pp. 299-314). Springer International Publishing.

Binz, C., Harris-Lovett, S., Kiparsky, M., Sedlak, D. L., & Truffer, B. (2016). The thorny road to technology legitimation—Institutional work for potable water reuse in California. Technological Forecasting and Social Change, 103, 249-263.

Bolívar, M. P. R., & Meijer, A. J. (2015). Smart Governance Using a Literature Review and Empirical Analysis to Build a Research Model. Social Science Computer Review, 0894439315611088.

Camarinha-Matos, L. M., & Afsarmanesh, H. (2014). Collaborative systems for smart environments: Trends and challenges. In *Collaborative Systems for Smart Networked Environments* (pp. 3-15). Springer Berlin Heidelberg.

Chourabi, H., Nam, T., Walker, S., Gil-Garcia, J. R., Mellouli, S., Nahon, K., ... & Scholl, H. J. (2012, January). Understanding smart cities: An integrative framework. In System Science (HICSS), 2012 45th Hawaii International Conference on (pp. 2289-2297). IEEE.

Coe, A., Paquet, G., & Roy, J. (2001). E-governance and smart communities a social learning challenge. Social Science Computer Review, 19(1), 80-93.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. Qualitative sociology, 13(1), 3-21.

DiMaggio, P. J. (1988). Interest and agency in institutional theory. *Institutional patterns and organizations: Culture and environment, 1*, 3-22.

DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. *American Sociological Review, 48*(2), 147-160.

DiMaggio, P. J., & Powell, W. W. (Eds.). (1991). The new institutionalism in organizational analysis (Vol. 17). Chicago, IL: University of Chicago Press.

Eisenstadt, S. N. (1964). Institutionalization and change. American Sociological Review, 235-247.

Empson, L., Cleaver, I., & Allen, J. (2013). Managing partners and management professionals: Institutional work dyads in professional partnerships. *Journal of Management Studies, 50*(5), 808-844.

Engbersen, R., Fortuin, K., Hofman, J. (2010). Bewonersbudgetten, wat schuift het? Ervaringen van gemeenteambtenaren met bewonersbudgetten. Publicatiereeks over burgerarticipatie. Den Haag: Ministerie van Binnenlandse Zalen en Koninkrijksrelaties.

Falco, E. (2016). Digital Community Planning: The Open Source Way to the Top of Arnstein's Ladder. International Journal of E-Planning Research (IJEPR), 5(2), 1-22.

Flick, U. (2009). An introduction to qualitative research. Sage.

Fuenfschilling, L. (2014). A dynamic model of socio-technical change: Institutions, actors and technologies in interaction (Doctoral dissertation, University_of_Basel).

Fuenfschilling, L., & Truffer, B. (2016). The interplay of institutions, actors and technologies in socio-technical systems—An analysis of transformations in the Australian urban water sector. *Technological Forecasting and Social Change*, *103*, 298-312.

Fuenfschilling, L., & Truffer, B. (2014). The structuration of socio-technical regimes—Conceptual foundations from institutional theory. Research Policy,43(4), 772-791.

Georgiadou, Y., Bana, B., Becht, R., Hoppe, R., Ikingura, J., Kraak, M. J., ... & Miscione, G. (2011). Sensors, empowerment, and accountability: a Digital Earth view from East Africa. International Journal of Digital Earth,4(4), 285-304.

Giddens, A. (1984). The constitution of society: Outline of the theory of structuration. Univ of California Press.

Giffinger, R., Fertner, C., Kramar, H., & Meijers, E. (2007). City-ranking of European medium-sized cities. Centre of Regional Science, Vienna UT.

Gil-Garcia, J. R., Helbig, N., & Ojo, A. (2014). Being smart: Emerging technologies and innovation in the public sector. *Government Information Quarterly*, *31*, I1-I8.

Hajer, M., & Dassen, T. (2014). *Smart about cities: visualizing the challenge for 21st century urbanism*. nai010.

Healey, P. (1997). Collaborative planning: Shaping places in fragmented societies. UBc Press.

Irvin, R. A., & Stansbury, J. (2004). Citizen participation in decision making: is it worth the effort?. Public administration review, 64(1), 55-65.

Jolly, S., Spodniak, P., & Raven, R. P. J. M. (2016). Institutional entrepreneurship in transforming energy systems towards sustainability.

Kitchin, R. (2014). Making sense of smart cities: addressing present shortcomings. Cambridge Journal of Regions, Economy and Society, rsu027.

Klein Woolthuis, R., Hooimeijer, F., Bossink, B., Mulder, G., & Brouwer, J. (2013). Institutional entrepreneurship in sustainable urban development: Dutch successes as inspiration for transformation. Journal of Cleaner Production, 50, 91-100.

Kogan, N., & Lee, K. J. (2014). Exploratory research on success factors and challenges of Smart City Projects. Asia Pacific Journal of Information Systems, 24(2), 141-189.

Komninos, N., Schaffers, H., & Pallot, M. (2011, October). Developing a policy roadmap for smart cities and the future internet. In *eChallenges e-2011 Conference Proceedings, IIMC International Information Management Corporation.* IMC International Information Management Corporation.

Kurniawan, M., & de Vries, W. T. (2015). The Contradictory Effects in Efficiency and Citizens' Participation when Employing Geo-ICT Apps within Local Government. Local Government Studies, 41(1), 119-136.

Lawrence, T.B., Suddaby, R., Leca, B. (2009). Introduction: Theorizing and studying institutional work. TB Lawrence, R. suddaby & B. Leca (eds.), Institutional Work: Actors and Agency in Institutional Studies of Organizations, 1-27.

Lawrence, T. B., & Suddaby, R. (2006). 1.6 Institutions and Institutional Work. *The SAGE Handbook of Organization Studies*, 215.

Lawrence, T., Suddaby, R., & Leca, B. (2011). Institutional work: Refocusing institutional studies of organization. *Journal of Management Inquiry, 20*(1), 52-58.

Lawrence, T. B., Leca, B., & Zilber, T. B. (2013). Institutional work: Current research, new directions and overlooked issues. *Organization Studies, 34*(8), 1023-1033.

Leblebici, H., Salancik, G. R., Copay, A., & King, T. (1991). Institutional change and the transformation of interorganizational fields: An organizational history of the US radio broadcasting industry. Administrative science quarterly, 333-363.

Lin, Y., & Geertman, S. (2015). Smart Governance, Collaborative Planning and Planning Support Systems: A Fruitful Triangle?. In *Planning Support Systems and Smart Cities* (pp. 261-277). Springer International Publishing.

Meijer, A., & Bolívar, M. P. R. (2015). Governing the smart city: a review of the literature on smart urban governance. International Review of Administrative Sciences, 0020852314564308.

Meijer, A. J., Gil-Garcia, J. R., & Bolívar, M. P. R. (2015). Smart City Research Contextual Conditions, Governance Models, and Public Value Assessment. Social Science Computer Review, 0894439315618890.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. American journal of sociology, 340-363.

Ocasio, W., & Thornton, P. H. (1999). Institutional logics and the historical contingency of power in organizations: Executive succession in the higher education publishing industry, 1958-1990. American Journal of Sociology,105(3), 801-843.

Pardo, T. A., & Nam, T. (2016). A comprehensive view of the 21st century city: Smartness as technologies and innovation in urban contexts. In *Smarter as the New Urban Agenda* (pp. 1-19). Springer International Publishing.

Perkmann, M., & Spicer, A. (2008). How are management fashions institutionalized? The role of institutional work. *Human Relations*, *61*(6), 811-844.

Salazar, J. L., Piles, J. J., Ruíz, J., & Moreno-Jiménez, J. M. (2008). E-cognocracy and its voting process. Computer Standards & Interfaces, 30(3), 124-131.

Scholl, H. J., & Alawadhi, S. (2016). Creating Smart Governance: The key to radical ICT overhaul at the City of Munich. Information Polity, 21(1), 21-42.

Scott, W. R. (2008). Institutions and Organizations: Ideas and Interests.

Tijl, H. (2014) Smart Cities: Naar een Smart 'Urban Delta'. *Ministerie van Infrastructuur en Milieu.*

Tolbert, P. S., & Zucker, L. G. (1999). The institutionalization of institutional theory. Studying Organization. Theory & Method. London, Thousand Oaks, New Delhi, 169-184.

Vanolo, A. (2013). Smartmentality: The smart city as disciplinary strategy.Urban Studies, 0042098013494427.

## Secondary literature

Autoriteit Persoonsgegevens (2016a) Wet bescherming persoonsgegevens. Retrieved on 21 July 2016 from: https://autoriteitpersoonsgegevens.nl/nl/over-privacy/wetten/wet-bescherming-persoonsgegevens

Autoriteit Persoonsgegevens (2016b) Meldplicht datalekken. Retrieved on 21 July 2016 from: https://autoriteitpersoonsgegevens.nl/nl/melden/meldplicht-datalekken?qa=meldplicht

Borras, J., Brown, P.F., Parker, C. (2014) *Transformational Government Framework Version 2.0.* OASIS Committee Specification 01. Retrieved on July 21 2016 from: http://docs.oasis-open.org/tgf/TGF/v2.0/cs01/TGF-v2.0-cs01.html

BUURbook (2014a) Platform voor co-creatie. Retrieved on 22 July 2016 from: http://buurbook.nl/content/folders/BUURbook-folder-juni-2014.pdf

BUURbook (2014b) Wijkprofessionals houd contact met bewoners op BUURbook. Retrieved on 12 September 2016 from: https://buurbook.nl/nieuws/wijkprofessionals-houd-contact-met-bewoners-op-buurbook-81

BUURbook (2014c) Organiseer in 3 stappen je buurtinitiatief. Retrieved on 12 September 2016 from: https://buurbook.nl/nieuws/organiseer-in-3-stappen-je-buurt-initiatief-1144

BUURbook (2014d) Bewonersinitiatieven, hoe faciliteer je die? Retrieved on 12 September 2016 from: https://buurbook.nl/nieuws/bewonersinitiatieven-hoe-faciliteer-je-die-2282

BUURbook (2014e) 10 geboden voor co-creatie en e-participatie voor professionals. Retrieved on 12 September 2016 from: https://buurbook.nl/nieuws/10-geboden-voor-co-creatie-en-e-participatie-voor-professionals-1101

BUURbook (2014f) Een eigen platform voor jouw buurt. Retrieved on 12 September 2016 from: https://buurbook.nl/nieuws/een-eigen-platform-voor-jouw-buurt-2309

BUURbook (2015) Ambtenaren en wijkprofessionals: maak zichtbaar wat jij doet voor de buurt! Retrieved on 12 September, 2016 from: https://buurbook.nl/nieuws/ambtenaren-en-wijkprofessionals-maak-zichtbaar-wat-jij-doet-voor-de-buurt-6836

Gemeentewet (2016). Retrieved on August 18 2016 from: http://wetten.overheid.nl/BWBR0005416/2016-07-01

Gündüz, Z. and Delzenne (2013) Budget Monitoring and Citizen Participation in The Netherlands. Rozenburg Quarterly The Magazine. Retrieved on 13 June 2016 from: http://rozenbergquarterly.com/budget-monitoring-and-citizen-participation-in-the-netherlands/

Mehlkopf, P. (2016) Follow the money – Een zoektocht naar de potentie van budgetmonitoring. Centrum voor budgetmonitoring en burgerparticipatie.

Rijksoverheid (2016) Persoonsgegevens. Retrieved on 21 July 2016 from: https://www.rijksoverheid.nl/onderwerpen/persoonsgegevens

Van der Velde, M., Voesten, R., Koopman, N., Van der Hoeven, N. (2013) Stadsinitiatief BUURbook: projectplan en Businesscase.

Verbeterdebuurt (n.d.) Verebterdebuurt voor gemeenten. Retrieved on 6 September 2016 from: http://blog.verbeterdebuurt.nl/verbeterdebuurt-voor-gemeenten/

Wittmayer, J.M. and S. Rach (2016) Participatory Budgeting in the Indische Buurt; Chapter 5 of TRANSIT Case Study Report Participatory Budgeting. TRANSIT: EU SSH.2013.3.2-1 Grant agreement no: 613169

## Appendix A - Interviewees

| Type of actor | Position | Interview date | Referred to as |
|---|---|---|---|
| **Budgetmonitoring** | | | |
| CBB | Trainer Budgetmonitoring<br>Community leader | 22 June 2016 | BM#1 |
| CBB | Trainer Budgetmonitoring | 2 May 2016 | BM#2 |
| Municipality of Amsterdam, District East | Civil servant at district Amsterdam-East | 11 May 2016 | BM#3 |
| Municipality of Amsterdam, District East | Civil servant at district Amsterdam-East | 4 May 2016 | BM#4 |
| Municipality of Amsterdam | Partner Concept Development OIA Method (oiax.org). and Project leader neighborhood budget instrument<br>Previous:<br>Financial department city district and central municipality | 2 June 2016 | BM#5 |
| Meevaart OntwikkelGroep, CBB | Executive<br><br>Trainer Budget Monitoring | 19 May 2016 | BM#6 |
| Citizen Indische Buurt<br>Municipality of Amsterdam | Participant Budgetmonitoring | 18 July 2016* | BM#7 |
| Citizen Indische Buurt | Participant Budgetmonitoring | 4 July 2016* | BM#8 |
| BUURbook | | | |
| BUURbook | Founder | 16 March 2016 | BB#1 |
| District advisory committee, Municipality of Rotterdam | Chairman | 11 May 2016 | BB#2 |
| Municipality of Dordrecht | Communication advisor | 18 May 2016 | BB#3 |
| Municipality of Rotterdam | Spokesperson Alderman | 28 June 2016* | BB#4 |
| Respondents organization | Office manager | 18 May 2016 | BB#5 |
| Citizen Schiebroek | Participant BUURbook | 19 May 2016 | BB#6 |
| Respondents organization | Chairman | 7 July 2016* | BB#7 |
| Verbeterdebuurt | | | |
| Verbeterdebuurt | Executive and co-founder | 20 June 2016 | VB#1 |
| Verbeterdebuurt | CRO | 28 June 2016 | VB#2 |
| Verbeterdebuurt | CTO | 5 July 2016 | VB#3 |
| Municipality of Beverwijk<br><br>Municipality of Beverwijk | Customer services professional<br>Web editor, Social media advisor | 12 July 2016 | VB#4<br><br>VB#5 |
| Municipality of Amsterdam, District West | Department of licensing, supervision and enforcement | 27 July 2016 | VB#6 |

**Interview by phone*

## Appendix B – Interview questions (Dutch)

**Introduction**

- Introduction of the researcher
- Introduction of the research including aim of the research
- Asking permission for recording interview

**Describing the case**

1.
    a. *Oprichter:* Wat was de aanleiding voor het opzetten van [naam van het project]?
    b. *Niet-oprichter:* Hoe kwam u in aanraking met [naam van het project]?
2. Wat is uw rol in het project?
3. Wat is het huidige doel (/zijn de doelen) van [naam van het project]?
4. Kunt u in het kort de belangrijkste ontwikkelingen binnen het project vertellen?
    a. Waar staat [naam van het project] momenteel?
5. Is dit doel in de loop van het project veranderd? Om welke redenen?
6. Hoe verschilt het project van de gangbare gang van zaken?
7. Hoe is het project hetzelfde als de gangbare gang van zaken?

**Smart governance**

*Citizen participation*

8. Hoe draagt [naam van het project] volgens u bij aan burgerparticipatie, waarbij inwoners meer invloed krijgen op beslissingen binnen hun buurt?

*Technology*

9. Hoe helpt het gebruik van Informatie en Communicatietechnologieën hier aan mee?
    a. Kunt u een beschrijving geven van de functie van ICT?

**Institutional work - Creating**

10. Kunt u de handelingen vertellen die u heeft uitgevoerd om [naam van project] op te zetten?
    a. Welke hulpmiddelen gebruikte u hiervoor?
    b. Welke argumenten gebruikte u hiervoor?

**Fit with existing institutions**

11. Past [naam van project] bij:
    a. De huidige wet- en regelgeving?
    b. Standaarden en procedures binnen [organisatie(s)]?
    c. Huidig beleid?
    d. Huidige visie over rolverdeling tussen inwoners en [organisatie]
    e. Huidige normen en waarden [over burgerparticipatie] van [organisatie/inwoner]?
    f. Huidige prioriteiten van [organisatie/inwoner]?
    g. **For each institution, when project does not fit an institution, go to question 13, if project fits institution, go to question 19.**

**Institutional work**

*Follow-up questions if answers on question 12 contain hindering institutions:*

12. Waarom niet?
13. Heeft u geprobeerd [the hindering institution of question 12] te veranderen?
14. Kunt u voorbeelden geven van hoe u dit specifiek heeft aangepakt?
    a. Met welke argumenten?
    b. Welke middelen heeft u hiervoor gebruikt?

15. Werd er wel eens weerstand geboden tegen deze aanpassing? Op welke manieren?
16. Hoe word er geprobeerd om deze weerstanden te overkomen?
17. Wat was het effect van deze acties?

Wanneer instituties wel passen bij project:

18. Zet u zich in om [de betreffende institutie] te behouden?
19. Kunt u voorbeelden geven van hoe u dit heeft aangepakt?
20. Wat was het effect van deze acties?

**General questions and afsluiting**

21. Wat ziet u momenteel nog als de grootste benodigdheden voor de ontwikkeling van [naam van het project]?
22. Hoe zouden deze ingevuld kunnen worden? Bent u hier al mee bezig?
23. Hoe ziet u de toekomst van het project?
24. Zijn er nog vragen die ik niet gesteld heb die u wel verwacht had? Wat moet nog zeker genoemd worden wat we nog niet besproken hebben?