

29-7-2021

How to evaluate digital tools in public participation?

A framework to evaluate the success of the participatory planning process

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Master thesis Spatial Planning Course 2020 - 2021

29-7-2021

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ABSTRACT

The academic discourse on e-participation is in a heterogeneous, diffuse state of knowledge. There is a need for the development of the consistent, comprehensive, and systematic formation of knowledge. The diffuse state of knowledge manifests in practice, where planners lack strategies to improve participation and feel unsure about evaluating digital participatory tools. In planning support science, the discrepancy between theory and practice is termed the implementation gap. Various authors have expressed the need for more best practices and case studies to promote using digital support tools to practitioners. This study addresses these knowledge gaps by questioning: how to evaluate digital tools in participatory planning processes?

To answer the question, the study presents a conceptual framework that links the five values transparency, equality, inclusiveness, quality, and suitability to 21 indicators drawn from the literature. The framework is demonstrated by presenting three cases in which three different digital tools evaluate according to the indicators and the values of the framework. It concerns the video conference, a participatory GIS tool, and a digital participatory platform. The study concludes that the framework is suitable to evaluate the use of digital tools in planning processes. Further research could reveal the suitability of the framework for the evaluation of non-digital participatory means or the success of participatory processes itself.

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1. INTRODUCTION

1.1 PROBLEM STATEMENT AND KNOWLEDGE GAP

One of the most characteristic developments of the last two decades is the rapid digitisation of societies. The increasing availability of high-speed internet and the affordability of devices such as computers and smartphones accompany this trend. In many Western countries, digitisation encompasses a growing share of public services to be provided digitally. Most public institutions have a website and communicate through all kinds of digital channels. From civil registrations to tax declarations to reporting crimes to the police: digital tools are increasingly becoming the accepted practice.

Remarkably, whereas the digitalisation has left its marks in governments, this applies to a considerably lesser extent to public participation. This may be because several studies show that digital tools by themselves are not able to improve citizen participation and involvement (Sæbø et al., 2008; Macintosh et al., 2009; Medaglia, 2012). It appears that digital tools cannot substitute traditional methods but are rather complementary (Kubicek, 2010). Conceivably a result of this, scientific interest in e-participation has somewhat waned, and fewer publications have appeared over the last decade (Le Blanc, 2020).

Nevertheless, several authors emphasise the potential of the use of digital tools in public participation. Wirtz and others (2018) argue that ICTs enable individuals to follow public events and provide input for planning issues. Tai and others (2020, p. 278) suggest that 'e-participation may mobilise a broader spectrum of citizens to engage in public affairs.' Others have argued that digital participation is less dependent on physical resources and seems to result in less political backlash (Frederick & Foth, 2013). Furthermore, various types of digital tools offer specific advantages. Digital participatory platforms, for example, enable participants to participate whenever they want and control the amount of time they want to spend on participation (Desouza & Bhagwatwar, 2014).

A substantial problem in the debate on the use of digital tools in public participation appears to be the lack of criteria to evaluate the success of a process and the lack of comprehensive knowledge. Wirtz and others (2018) argue that e-participation is still in a 'heterogeneous, diffuse state of knowledge' (p. 9). Medaglia (2012) conformingly notes that the interdisciplinary background of e-participation causes a diversified methodological, epistemological, and normative research landscape that hampers the establishment of common grounds. Others draw similar conclusions, stating that inconsistent central concepts and a lack of comprehensive theoretical contributions hinder the systematic formation of knowledge (Sanford & Rose, 2007; Macintosh & Whyte, 2008; Susa & Grönlund, 2012; Kleinhans et al., 2015; Faclo & Kleinhans, 2019).

The diffuse state of knowledge reflects in practice. Laurian and Shaw (2009) found that that about two-third of the participatory processes are not evaluated by planners. Moreover, only 10% of the planners evaluate planning processes consistently. Furthermore, the authors notice that planners lack a large share of criteria such as fairness, the impact of participation on legitimacy, and planning outcomes for the most disenfranchised. A communication manager from Rijkswaterstaat, the Dutch Directorate-General for Public Works and Water Management, says in an interview that there are many uncertainties about using digital tools in participation in planning processes. It is often unclear to what extent digital tools add value to the process (PE, March, 2021). An advisor of the Participation Directorate, a national board that advises the ministry about participation, argues in conformity that investing in a digital tool with no guaranteed success is a risk for planners and policymakers (KE, February, 2021).

In the past, several authors have provided evaluations of successful participation in planning processes. Some authors offer suggestions on successful participation (e.g., Chess & Purcell, 1999; Reed, 2008; Bryson et al., 2013), and others have developed indicators to evaluate participatory processes (e.g., Buchy & Hoverman, 2000; Laurian & Shaw, 2009; Fung, 2015; Ianniello et al., 2019). However, the available evaluations are heterogeneous, as most authors mention different criteria for successful participation. Furthermore, these frameworks are

designed for analogue participation processes, and it is questionable to what extent they are suitable for assessing the use of digital tools in participatory processes. Macintosh and White (2008) stress the need for more frameworks to evaluate e-participation in different contexts. Apparently, in both science and practice, there is a need to develop coherent evaluation criteria that can weigh using digital tools in participatory planning processes.

1.2 RESEARCH QUESTION AND AIM OF THE RESEARCH

Seeking to fill the gap in knowledge, this study addresses the question: how to evaluate digital tools in participatory planning processes?

The research aims to develop a framework that provides comprehensive coherence to the diffuse discourse on e-participation and is suitable for practitioners who want to evaluate digital participation tools. The first part of the study consists of an extensive literature review in which public participation, the usage of digital tools in public participation, and the degree of success of participation are discussed. Based on the literature review, a conceptual framework is presented to evaluate digital tools. The framework is demonstrated by analysing three different digital tools used in participatory planning processes. The three tools each serve as a case. The implications of the evaluation of the cases are described, and finally, the suitability of the framework is evaluated.

1.3 SCIENTIFIC AND SOCIAL RELEVANCE

CONTRIBUTION TO E-PARTICIPATION

Researching the role of digital tools in participation in planning processes is relevant from several academic perspectives. The first research field is the field of e-participation. E-participation in its broadest sense includes the involvement of stakeholders in all kinds of governmental processes. As a result, e-participation is a field with contributions from various sciences such as public administration, ICT studies, communication sciences, and planning theory. Although e-participation has been of little use in practice after the advent of the computer, the relevance of the field seems to have increased (Le Blanc, 2020). With the appearance of the smartphone and the increasing availability of high-speed internet, digital adeptness among the public has increased. Furthermore, the covid-19 pandemic has compelled citizens to embrace digitalisation. The oft-heard criticism that digital illiterates got excluded from society seems to diminish with the increasing adeptness. There also may be an element of habituation: nowadays, citizens expect the government to handle government affairs quickly and efficiently digitally. Where e-participation could not gain momentum ten years ago, it is relevant to investigate whether it does in the present time. As many authors stress the need for more comprehensive theoretical contributions, it seems pertinent to develop a conceptual framework that identifies a holistic set of criteria for successful participation (Sanford & Rose, 2007; Macintosh & Whyte, 2008; Medaglia, 2012; Susha & Grönlund, 2012; Kleinhans et al., 2015; Wirtz et al., 2018; Faclo & Kleinhans, 2019).

CONTRIBUTION TO VARIOUS OTHER DISCIPLINES

Several (sub)disciplines study the use of digital tools in public participation from different perspectives. These disciplines are not easily categorised and overlap in several ways. The most important disciplines are mentioned here and are related to the research gaps to which this thesis contributes.

Planning Support Systems (PSS) is a research field that studies the usage of digital tools in planning processes. Some digital participatory tools could be categorised as PSS. Although academics PSS studied for decades and many authors agree on their relevance, they are still little used in practice. In PSS, this discrepancy is referred to as the implementation gap. According to Geertman (2017), there is a need for best practices to show the relevance of PSS to practitioners. Russo and others (2018) add that PSS needs more evaluations to highlight its importance. In addition, other authors argue that there is a need for more empirical case studies and best

practices, from both stakeholders and planners (Pelzer et al., 2015; Te Brömmelstroet, 2017). Regarding digital participatory platforms (DDPs), several authors argue for a need for empirical case studies and the use of DPPs in practice (Desouza & Bhagwatwar, 2014; Falco & Kleinhans, 2019). This study contributes to these research needs by evaluating a participatory GIS tool and a (DDP) case study to evaluate PSS and show experiences and best practices.

As a result of the covid-19 pandemic, many participation meetings have used video conferencing. The implications of using this tool in participation meetings are not studied yet. Likely, its use significantly affects participation in the planning process. For example, how planners and citizens experience participation when using the videoconference. Or, to what degree does video calling alter the quality and the outcomes of the process? This study offers a case to provide some first insights into how video calling affects participation.

SOCIAL RELEVANCE

During the last decades, European societies underwent some fundamental changes. The level of education of the average European has substantially increased (Khalik, 2013), citizens, in general, became more empowered, and citizen respect for the government has declined (Schram, 2019). Developments such as the aging population resulted in certain citizens groups in more free time, allowing them to get increasingly involved in participatory processes (Murphey, 2017). Furthermore, rapid digitalisation enables citizens to express their growing empowerment faster and through different communication means. The results of these fundamental changes lead to an exciting combination in planning processes: highly educated, empowered citizens together with (or against) market and civil stakeholders. This research fits well with these trends, which show that public participation is becoming increasingly important in the governance of Western societies over the past decades. The use of digital tools can probably improve the participation process. A good evaluation of the use of digital tools is therefore evident.

Furthermore, other trends suggest the need for research on participation. Fung (2015) perceives a decline in trust in governments in industrialised countries. From a societal perspective, citizen participation is a fundamental tool for governments to enhance the transparency of decision-making processes, public trust in governments, and governmental legitimacy (Lourenço & Costa, 2007; Dedotava et al., 2014). The satisfaction of citizens with a government seems to be predominantly determined by how citizens perceive their influence on government decisions (Kleinhans et al., 2015). In addition, it adds to a stronger connection between citizens and their environments, which might enhance environmental responsibility and a higher quality of life (Gierveld, 2019). Douglas and Friedmann (1998) argue that participation can add to the exchange of information, the construction of relations promotes mobilisation capacity, and revitalises democracy.

Finally, this research intends to contribute to specific questions from practitioners about digital participation. Interviews with a knowledge expert and a practice expert indicate the need for additional knowledge on the evaluation of digital tools. This corresponds with what Laurian and Shaws (2009) observe in a study on practitioner evaluations. Many practitioners appear not to evaluate or to evaluate inconsistently and often overlook important indicators of successful participation.

1. THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This study examines how to evaluate digital tools in public participatory planning processes. This chapter, the theoretical framework, provides an overview of the relevant literature concerning the key concepts of this research: public participation, digital tools, and successful participation. As Bryman (2016) mentions, a framework provides knowledge and directions for gathering data. In addition, a framework helps to make the theory more tangible when analysing data. The first part of this chapter describes the Dutch planning landscape to provide contextual background and scope of the research.

2.2 PARTICIPATORY PLANNING PROCESSES IN THE NETHERLANDS

A considerable aspect of the origination of the Dutch planning landscape is its geographical location. As the country is relatively small and densely populated, space is scarce, and land prices are high. The centuries-old battle against water forced the Dutch to establish partnerships at an early stage in history. The water management authorities are one of the oldest democratic administrations in Europe. Another factor that forces cooperation is the dependence on trade. The location on the Rhine and Meuse rivers and the lack of scarce raw materials contribute to the fact that a large part of the Netherlands' GNP comes from trade. The need to cooperate is a feature of the Dutch planning system as well, of which the polder model is probably the best-known example (Schreuder, 2001). Planning in the Netherlands often follows several phases. In an exploration phase, an initiator and the main stakeholders explore the possibilities of an initiative. In a subsequent phase, the idea develops into a plan that is compared to alternatives. Subsequently, realisation takes place, and the last phase is the management and maintenance phase. This study examines participation in all phases.

The initiative of planning processes can lay with either the government or a private party. In the Netherlands, there are roughly four administrative layers: the national government, the provinces, the municipalities, and the water authorities. In addition, there are regional collaborations and agreements to which governmental organisations can be bound to a certain extent. In practice, the national government is responsible for large-scale spatial matters such as the Delta Works, motorways, main waterways, and the vastest nature areas. The provinces are responsible for subjects that transcend municipalities, such as the management of groundwater, nature reserves, and the quality of bathing water. The water boards are responsible for, among other things, smaller waterways, the disposal of rainwater, wastewater, and the management of drinking water. The municipalities regulate other local affairs. These include zoning plans and housing.

The authorities outsource a large share of the planning activities to private and semi-private stakeholders. Unique in the Dutch planning system are the housing associations. These were once entirely responsible for the realisation of new housing. At their peak in the 1970s, 40% of the Dutch housing stock consisted of social housing, all built by the associations. Under the influence of the neo-liberal reforms of the late 1980s, the associations were partially liberalised, but the government still retains a substantial legal interest in the associations.

Although the State takes the spatial decisions, it is bound to the spatial legislation. The main body of legislation is the Spatial Planning Act, the so-called Wet Ruimtelijke Ordening. This law stipulates, among other things, that governments at various levels should have legislation such as a master plan (Structuurvisie), local regulations (Verordeningen), and zoning plans (Bestemmingsplannen). In addition to the Spatial Planning Act, separate laws regulate specific subjects, such as the Nature Conservation Act (Wet natuurbescherming), the Housing Act (Woningwet), and the Environmental Protection Act (Wet milieubeheer). Currently, the Dutch environmental law system is facing the vastest legal transition since the Second World War. The new law, called the Environmental Spatial Planning Act (Omgevingswet), will merge most spatial legislation (26 acts) into one single act. The new Act aims to provide a more integrated approach to spatial decisions, enabling faster and increasingly cost-effective decision-making.

The enactment of the Omgevingswet fits in the zeitgeist of the Dutch administrative landscape. A remarkable change in the environmental legislation is the new requirement for public participation in the decision-making of spatial issues. This change will further institutionalise public participation in the Dutch planning system. However, the law does not provide clarity on how to accomplish the participation requirement. Therefore, critiques argue that the participation requirement is not prescriptive enough. However, many policymakers and civil servants are preparing themselves for the participation requirement. New initiatives develop to experiment with participation, and new companies are emerging to facilitate the participation process.

2.3 PARTICIPATION AND PLANNING THEORIES

PARTICIPATION IN PLANNING THEORY

Participation has been an object of study in planning theory for decades. In the early 1900s, most authors on public participation were Marxists, seeking to involve citizens in planning decisions. The first legislations of public participation in European countries derive from the 1940s (Monno & Khakee, 2012).

In the post-war era, planning was comprehensive and based on general theory. Planners used theory predominantly analytical and conceptual to understand the object of planning (Needham, 1988). During the following years, the realisation dawned that in practice planning is often not comprehensive, but rather successive and the analyses of planning contexts are limited (Lindblom, 1959). Rittel & Webber (1973) coined the term 'wicked problems', because of the complexity of planning issues, where every solution culminates in new problems. With the paradigm shift towards process-oriented planning, planning increasingly emphasised the communicative aspect of planning (Hartmann & Geertman, 2016).

Another development during the post-war decades is the emergence of participation in planning theory. Jacobs (1961) criticised the rational planning of the 1950s. With the invention of terms like 'social capital' and 'eyes on the street' she created awareness of many social aspects of cities, pointing out that the city is meant for its inhabitants. She pleaded for a role of public engagement in neighbourhood developments. Davidoff (1965) went further than Jacobs and recognised that not all stakeholders could equally get involved in planning processes. In his perception, the interests of the lower socioeconomic groups are vulnerable to the stakes of the private companies and larger institutions. Therefore, he argued for a system where planners would be advocating the concerns of the less prosperous, resulting in the evolution of advocacy planning. Burke (1968) put up another concern regarding participation. He recognised conflicts between participatory democracy and professional expertise. Therefore, he advocated for adopting strategies for participation, specifically developed for the context of particular organisations. A year later, Arnsteins (1969) notorious 'A ladder of citizen participation' appeared, distinguishing between different levels of citizen participation by juxtaposing the influence and power of citizens with their level of influence.

THE COMMUNICATIVE TURN

With the rise of neoliberalism at the end of the 1970s, the importance of participation increasingly faded into the background. Although participation had become institutionalised, participation became increasingly equated with consumer choice and willingness to pay (Campbell & Marshall, 2000; Monno & Khakee, 2012). This changed with the communicative turn (e.g., Innes, 1995; Healey, 1993, 1998, 2003) and the rise of governance (Jessop, 1998; Rhodes, 2007). Inspired by the ideas of Habermas (1991) the concept of communicative planning developed. Some of the main assumptions of communicative planning include that communication exists in different forms, knowledge is a social construct, people's interests are shaped by their context (Healey, 1996), and power relations can suppress the interests of others (Rabinhow, 1984). A planner's context includes his experience, language, and actions, which also influence the communication process. Furthermore, Innes & Booher (1997) endorsed that planning occurs in everyday life where social relations and networks play a

substantial role. Innes and Booher (2007) describe the planner as a bricoleur between different networks. Many communicative planning theorists recognise consensus-building as a successful tool for creating collaborative and engaging planning environments that allow various stakeholders to participate. With the rise of communicative and collaborative planning came a renewed interest in participation.

With the communicative turn, the role of the planner increasingly shifted to the role of a stakeholder. In this respect, participation in various forms has come to play an increasingly important role in planning. Indeed, the communicative approach requires dialogue, argumentation, and discourse (Hillier, 1993; Healey, 1996). Moreover, it requires expanding the range of actors who can have a legitimate interest in a planning process (Hillier, 1995). Therefore, participation should not only include consultative and placating, but in communicative theory, participation should probably also include negotiation and debate (Healey, 1996). Participation, therefore, is fundamental in communicative planning (Lane, 2005). Innes and Booher (2004) go even further. They criticise the then institutionalised system in the U.S., arguing that (tokenist) participation can create anger and mistrust. They, therefore, argue for authentic dialogue, networks, and more institutional capacity. In practice, the discussion of planning dilemmas should occur in forums and arenas. Participants that lack the knowledge or financial resources, should get training and financial support.

TYPOLOGIES OF PARTICIPATION

Throughout the years, various authors typified participation using different perspectives. The most well-known is Arnstein's (1969) ladder of participation, based on the degree of influence of citizens on the policies. Over the years, many other authors have suggested alternatives to the ladder (e.g., Biggs, 1989; Lawrence, 2006). Another typology is the typology of Rowe and Frewer (2000): they typify participation based on the direction of communication flows. Herein, the term communication denotes the flow from planners to recipients. Obtaining information from participants is categorised as consultation, and participation itself is a two-way dialogue in which both the planner and the participant contribute to (new) information. Beierle (2002) typifies participation on a theoretical basis, distinguishing between pragmatic, and normative participation. Others have typified participation based on the objectives for which participation is utilised (e.g., Tippett et al., 2007). As Arnstein's ladder is the most widely used approach by far, the following section covers the categories of the ladder.

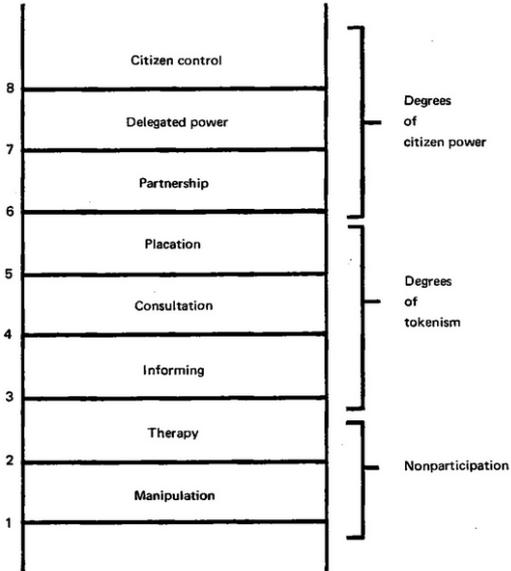
At the bottom of Arnstein's ladder is nonparticipation. Arnstein uses the example of the citizen committees that were supposed to stand up for the poor or ethnic minorities, but in reality, were established to eliminate these particular minorities. Arnstein aptly considers this as manipulation. A step higher on the ladder, therapy, occurs when officials see the powerlessness of people as a mental illness that can be 'cured'.

Higher up on the ladder, Arnstein refers to participation as tokenism. At the lowest rung, citizens get plainly informed. A step higher, citizens get the opportunity to have their voices heard, and the planner can deliberate. The highest rung of tokenism is termed placation by Arnstein. In this step, citizens have a good relationship with planners, and there is mutual trust. Due to the sound relationship, citizens have more influence than in the case of a consultation. Monno and Khakee (2012) juxtapose tokenist participation and the communicative model that emphasises civic engagement, dialogue between different stakeholders, and consensus-building (Healey, 2008).

The highest steps of the ladder, partnership, delegated power, and citizen control, demonstrate steps in which citizens get the power to be involved in the decisions. Within planning theory, several theories on citizen control have developed. Monno and Khakee (2012) speak of the insurgent or radical model. This model advocates the empowerment of marginalised groups and the building of structures within which participants can work with each other's conflicts (Aylet, 2010). The fundamentals for radical planning were laid by Friedmann (e.g., 1998). In his interpretation of radical planning, Friedmann emphasises three pertinent concepts: civil society, insurgent citizenship, and empowerment. Democracy is formed in a continuous process by the state, the market, and civil society. Whereas tokenism highlights engagement in participation, radical planning is about the empowerment

of citizens in the face of the elite. The concept of insurgent citizens develops around the rights of citizens. Unlike Arnstein’s perception of participation, radical planning does not function within the established power order. The goal of radical planning is to change this order (Purcell, 2009). Therefore, Friedmann (1978) conceives participation more as a social learning process in which acting and knowing are inextricably linked. Furthermore, long-term progress within history cannot be achieved without civil society taking an active position in determining its future (Monno & Khakee, 2012; Friedmann, 2018).

Figure 1
A ladder to citizen participation



Note. The ladder as it appeared in 1969. From “A ladder of Citizen Participation,” by S. Arnstein, 1969, *Journal of the American Institute of Planners*, 35:4, p. 217 Copyright 2019 by American Planning Association.

VALUE OF PARTICIPATION

Participatory planning is argued to have some advantages over non-participatory planning. Politicians might strive for their selfish interests, for example, re-election, and citizens are not. Furthermore, citizens may be more aware of what is going on at a local level and might be more openminded as they are not used to decision-making in complex planning issues. Citizens can also assist by framing specific problems in words that are more understandable to citizens than administrative language. Concerning ethical or materialist considerations, citizens might be better or more honest voters than public administrators. Furthermore, citizens can provide relevant solutions. Voorberg and others (2015) notice that it often is unclear what the specific expectations are of participation in a planning process. Although there are all kinds of benefits, rarely the benefits sought are mentioned.

In addition, public participation helps to increase political support: involving the public in decision-making processes can create understanding for (unpopular) decisions. Allowing the public to raise their voices might make it easier to accept decisions. It also reduces the chance of time-consuming and expensive legal objections and appeal procedures, which eventually may lead to lower development costs in the planning process (Evans-Cowley & Griffin, 2012). Furthermore, participation can help to legitimise government decisions (Booth & Richardson, 2001). Participation can also increase citizens' trust in a government. Kleinhans and others (2015) notice that citizen satisfaction with a government is predominantly dependent on the perceived influence on the process of decision-making by the government. Moreover, participation can positively contribute to social justice. Firstly, by shifting the balance of power from dominant majorities to less affluent groups. Secondly,

equality can increase by allowing the less well-being citizens to achieve their equality on a small scale (Fung, 2015).

Based on their literature review, Visser and others (2019) find that most authors believe that governments should initiate and improve participatory processes. However, developments such as the advance of the energy society raise the question whether citizens and social institutions should also initiate participation (Hajer, 2011). Others that advocate the initiation of participation are from the school of radical planning. According to Friedmann (1987), the value of public participation lies in connecting knowledge to forms of action that are deeply rooted in the ideals of a good society. Sandercock (1998) adds that radical planning does not even have to be insurgent as the goal is to change power relations between the state and citizens through small changes. Since empowerment cannot be planned, the importance during the process of empowerment is that citizens can transform their claims into desired actions and outcomes. Although empowerment cannot be planned, planners can play a role by mobilising citizens against the established power. When empowerment occurs, planners should facilitate citizens to achieve their desired outcomes (Monno & Khakee, 2012).

A DEFINITION FOR PARTICIPATION

The term participation is an ambiguous term with different meanings in academic literature (Steelman & Ascher, 1997; Webler, 1999). Participation in its broadest sense covers various topics such as voting in elections, donating, boycotting, buying specific products, volunteering in a community project, demonstrations, using social media, etcetera (Theocharis & Van Depth, 2018). Moreover, different overlapping terms are used, such as public involvement, or citizen engagement, stakeholder inclusion, interactive decision-making, deliberative engagement, co-creating governance, or other combinations between words such as, 'public', 'citizen' or 'civic' and 'involvement' and 'engagement' (Rowe & Frewer, 2005; Ianniello et al., 2019). The choice of term can be deliberate. For example, the word 'citizen' might suggest that only people with citizenship rights are allowed to participate, thus excluding immigrants without citizenship status and other minorities. In addition, another explaining argument to the variety of terms around participation may be the different academic fields that continuously contribute to participation, such as public administration, public policymaking, participatory democracy, psychology, and planning theory (Webler, 1999; Bryson et al., 2013; Pestoff, 2014).

This study uses the term public participation. Not to repudiate other terms, but this term seems to be most appropriate for this particular research. The term stakeholder participation does not seem convenient as it strongly emphasises the people with specific interests over residents. The term public appears to be a middle ground and is therefore considered the most appropriate. The word participation is chosen over words like involvement and engagement, as those suggest meanings that are not entirely appropriate to the scope of this research. Involvement might imply that the public merely participates without being actively engaged in a participation process. The word engagement neglects the informing as it suggests that participants are highly active in the process.

Webler (1999) argues the contributions from different research fields both to be 'a blessing and a curse' (p. 62). Although the variety of disciplines gets insights from different perspectives, the multi-laterality also causes academics to dialogue past each other. Due to the ambiguous use of the term of participation, different definitions are applied in the literature. A commonly used definition is that of the World Bank: 'participation is a process through which stakeholders influence and share control over development initiatives and the decision and resources which affect them' (Luyet, Schlaepfer, Parlange & Buttler, 2012, p. 213). Although this definition applies to planning contexts, it strongly focuses on development aid, which is understandable from the perspective of a development organisation such as the World Bank. Yet, development aid is not very applicable in the Dutch and the Western or European context. Another widely used definition of participation is that of Reed (2008). He defines participation as: 'a process where individuals, groups and organisations choose to take an active role in making decisions that affect them' (p. 2418). This definition emphasises the 'active role' of

participants and decision-making. Rowe and Frewer (2005) are more specific on the active role. They define participation as 'the practice of involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organizations/institutions responsible for policy development' (p. 253). Such a definition is highly applicable to policymaking. Another definition specifically developed for the Dutch planning context comes from Visser and others (2019). Translated from the Dutch language, they argue that 'Participation is a process by which individuals, groups and organisations influence and share control over collective issues, decisions or services that affect them' (p. 4). Alike the definitions of Luyet and others (2012), Reed (2008), Rowe and Frewer (2005) the definition of Visser (2019) and others imply that participants always influence or share control. Yet, as one of the interviewed experts points, participation in the Dutch planning contexts is often only about informing the public rather than let them influence the process or even share control (KE, February, 2021). Therefore, this study combines the suitable elements of the abovementioned definitions into the following definition: 'participation is the practice of involving public individuals, groups, and organisations in spatial issues, decisions, or services that affect them.'

CRITIQUE ON PUBLIC PARTICIPATION

Albeit the general positivism towards participatory planning, many authors have expressed their criticisms. The literature frequently mentions the tension between representative and participative democracy. As the participants at the decision table decide the outcome, choosing who participates is crucial in the participatory process. However, this choice is always biased and can never be fair (Ianniello et al., 2019). Another concern is the timing of allowing the public to participate. In practice, most of the elementary decisions of a planning process are made at the beginning of a process. However, most public participation occurs in the later stages (Mouter et al., 2020). In addition, there is a lack of literature on the question if participation and how participation should happen in crises. For example, the Netherlands is currently battling a substantial housing shortage. As participation costs time, it seems reasonable to argue that participation could be redundant under specific critical circumstances. However, the implications of such policies are not available in the literature (KE, February, 2021).

Another concern about participation is the representativeness of the participants. As political parties are chosen by a representative share of a population, it is questionable whether a small group of participants should be allowed to influence decisions. Planners are supposed to strive for the best-balanced outcome for all stakeholders, whereas non-representative citizens may seek political influence, competition, and networking (Thompson, 2008). Dahl (2008) argues that political participation becomes increasingly laborious when decisions apply to a large scale. Politicians are elected representatives of society and allowing the public to participate in decisions that hardly affect them, could be considered undemocratic. Whereas participation within urban regions still has its value, it is questionable to what extent participation has value in national or pan-national contexts. Hibbing & Theiss-Morse (2002) add that people are less interested in participating in processes that address general issues. In contrast, people tend to be very antagonistic when a spatial development is closely concerning them. The NIMBY syndrome is an example of such a phenomenon (Morell & Magorian, 1982). It appears that the issue of representativity needs more research as there are too many unclarities (KE, February, 2021).

Another issue is that merely the highly educated, affluent citizens tend to participate. However, fair participation should include a representative share of a population (Stringler et al., 2006; Carpenter & Brownhill, 2008). Although the public in participation processes seems to have broadened a little over the decade, the conventional public hearing or meeting is still dominant. In these meetings, most participants merely spectate and are allowed a small input during a discussion session. Furthermore, the results of such meetings are seldom more than advisory to the decision-makers (Fung, 2015).

Although many planners recognise the importance of participation, planners seem to lack the knowledge of how to facilitate public participation. In practice, however, planners happen to see participation merely as a token to

the population, neglecting the input citizens provide. This seems not entirely unreasonable from a planner's perspective, as it can be weird for planners to see their expert knowledge-based decisions getting overruled by the lay knowledge of the public. Moreover, planners may be reluctant to the costs and time delays of participation (Gilljam & Hermansson, 2003; Monno & Khakee, 2012). Ultimately, others argue that participation can also frustrate potential stakeholders and potentially empower an already important stakeholder (Irvin & Stansbury, 2004; Reed, 2008; Luyet et al., 2012).

Another concern is that particularly citizens appear to have a limited understanding of the goals and obstacles of other stakeholders. Public participation, therefore, suffers from the same information deficits and asymmetries that are common in principle-agent interactions. Furthermore, it appears that governments often lack knowledge of the preferences of citizens. On the other hand, also many citizens seem to have too limited awareness of governmental processes and the main goals of government. This is particularly true when it comes to complex problems that require a high degree of technical knowledge, such as environmental issues (Sun et al., 2009). Therefore, some authors argue that only scientists and managers should be included in participatory processes, with power retained exclusively by an elite group of people (Stringer et al., 2006; Luyet et al., 2012).

In respect to the citizen, it is difficult to expect an individual to engage in complex planning issues. In the case of individual participation, therefore, the more individuals participate, the better. When individuals unite in an association or a non-governmental organisation, there is a greater chance, especially in the case of a vast association, of altering the decision-making process (Baum, 2001). However, NGOs can have their own agendas and undesirable links to politicians. Or, in the case of some specialisms, NGOs can have more knowledge and thus undermine political clout (Burby, 2003; Monno & Khakee, 2012).

Webler (1999) notes that manuals, frameworks, and definitions of good participation can never be entirely driven by factual evidence because there is also a moral aspect to it. The choice to let participants participate remains a choice in itself. In addition, Reed (2008) mentions that the arguments in favour of participation are predominantly normative, but rarely are tested. In addition, Ianniello and others (2019) notice that the value of participation is often taken for granted, even though there are numerous examples of under-analysed or overestimated successes or failures. There seems to be a lack of knowledge on what extent to which the benefits of participation processes can beat the costs (Burton, 2009). Costs can, besides monetary costs, consist in respect of time, ignorance of the public's input by decision-makers, mistrust of the public towards the government, and a loss of control by the government (Ianniello et al., 2019).

2.4 DIGITAL TOOLS IN PUBLIC PARTICIPATION PROCESSES

E-PARTICIPATION

When the computer, the internet, and later the smartphone became accessible for the general public, new theoretical fields emerged like e-governance and e-democracy (Ho, 2002; Fountain, 2004; Yildiz, 2007). As a result, and concerning these fields, e-participation and e-collaboration came into existence. In the literature on e-participation, several definitions exist, of which most refer to the use of digital tools in activating citizens in decision-making and public service delivery (Macintosh, 2004; Sæbø et al., 2008; Medaglia, 2012; Kleinhans et al., 2015; Le Blanc, 2020).

Le Blanc (2020) mentions that digitalisation changed a high number of processes in public administration. Governmental systems have been digitised in recent decades, potentially changing the relationship between government, social society, and market stakeholders. A slight increase in digital tools can be observed in public participation as well. However, several studies have shown that digital tools by themselves cannot make public participation more successful (Sæbø et al., 2008; Macintosh et al., 2009; Medaglia, 2012). As a result, interest in e-participation has somewhat waned, and fewer publications have appeared during the last decade (Le Blanc,

2020). However, those studies did not rule out the high potential of e-participation. Wirtz and others (2018) argue that ICTs enable individuals to follow public events and provide comprehensive input for planning issues. Furthermore, those studies were conducted in an era where smartphones, tablets, social media, and large online stores were not yet available for the general public. As the general public is digitising rapidly, accelerated by the covid-19 pandemic, now might be the window of opportunity to reconsider using digital tools in participation. The added value that digital tools can have is, amongst others, that e-participation processes tend to attract a broader audience that is also younger. Furthermore, digital participation makes it easier for disabled people to participate. Another advantage of e-participation is that people can participate from their own place during their own time. Moreover, compared to traditional analogue participation, there is less dependence on physical resources. There also seems to be less political backlash (Frederick & Foth, 2013).

Despite the potential benefits, there are some definite critiques on e-participation. A literature review on the extent to which, social media and other digital tools, have a measurable effect on public participation compared to traditional tools, shows that digital processes can only add value if combined with offline engagement tools. It appears that when planners disagree with the input provided by citizens, digital participation adds nothing more than traditional participation (Kleinhans et al., 2015). Furthermore, unpopular opinions may be suppressed by crowd pressure, although Zhao and others (2018) argue that this issue is solved by adding norms to online participation processes. Additionally, there is a greater chance of miscommunications and distortion because digital information is interpreted differently (Afzalan & Muller, 2014). Moreover, there is a security risk in digital participation as the government often uses platforms of third parties. Finally, using digital means might increase the costs of participation processes: information systems and data have to be purchased and have maintenance costs (Van Dijk et al., 2015).

DIGITAL TOOLS

Information and communication technology

Information and communication technologies (ICTs) form a broad spectrum of digital tools that facilitate communication through technology. Within participation research, some of the implications of using digital tools have been studied. Especially during the last decade, social media are increasingly used in the analysis and modelling of spatial regions and transport systems. Social media provide a new platform for participation, communication, and collaboration and allow for the inclusion of the voices of different social groups, even if these groups do not formally participate in the planning process (Lin & Geertman, 2019). Van Dijk and others (2015, p.19) define social media as: *'applications for the exchange of information by internet users in (partly) public and private networks or communities.'* Problems reported of using data from social media are spatial biases, privacy concerns, and validity issues (Lin & Geertman, 2019). Moreover, the voices of groups that do not use social media are excluded from the planning process.

Another ICT is the videoconference. Somewhat surprising, not much research has been conducted regarding this subject. When searching on Google Scholar or Scopus for videoconferencing in public or citizen participation, information of any kind is rarely available. The only study that provides an argument against the use of videoconferences in participation, dates to 2008. Williams (2008) mentions that it is expensive to implement and difficult to organise videoconferences. However, during the past decade, videoconferencing in many Western countries has become easily affordable for the majority of the public. As a high share of the public participation processes nowadays uses the videoconference to facilitate public meetings, it is highly relevant to study its implications for the successfulness of a participation process.

At first sight, videoconferencing as a means for the public meeting shows many potentials. Planners save time, making them more effective. In addition, organising public meetings online saves costs in terms of renting space and providing refreshments for the attendees. Moreover, it also benefits the participants, as they save travelling time and might experience a lower barrier to attend a meeting. On the other hand, videoconferencing might

raise privacy issues. In addition, the lack of non-verbal communication might also have negative implications. Insight into such implications is of substantial relevance for the use of videoconferencing in the future.

Planning Support Systems

Planning Support Systems (PSS) have the potential to be used in planning for many purposes, such as analysing planning contexts, supporting planning processes and modelling planning outcomes (Stillwell & Geertman, 2020). A broad definition of a PSS is the definition Te Brömmelstroet (2013, p. 299): *'any kind of infrastructure which systematically introduces relevant information to a specific process of related planning actions.'* According to Te Brömmelstroet (2013), the goal of PSS is to improve the planning process and the planning outcome. Albeit the promising theoretical functions and improvements of PSS, in practice there seems to be a discrepancy between the PSS instruments and a lack of demand for the application of PSS. Geertman (2017, p.15) notes that this 'implementation gap' can be overcome by highlighting the best practices. Furthermore, he recommends acknowledging the diversity of available PSS and apply those on specific issues within their context.

Another issue concerning PSS is the mismatch between functionality and the expectations of planners. Therefore, Russo and others (2018) argue to design PSS in a way that better meets the needs of planners. They stress the need for more evaluations of PSS to increase its usability. In addition, Pelzer and others (2015), as well as Te Brömmelstroet (2017), stress the need for more empirical case studies of experiences from practice, from both stakeholders and planners.

Public participation geographical information systems

The field of PSS can be distinguished in many sub-categories. For example, those PSS focus on optimising communication with stakeholders, so-called communicative PSS (Klosterman & Pettit, 2005). Another category in PSS are Public Participation Geographical Information Systems (PPGIS). The following section elaborates on PPGIS as one of the investigated cases of this study is a PPGIS.

PPGIS make use of geographical information systems (GIS) to support participation processes. An example can be a GIS-map attached to a survey or a GIS-map to demonstrate the issue at stake at a public meeting. One of the main advantages of PPGIS is that it seems to attract more participants and therefore enhances inclusivity (Rall et al., 2019). PPGIS can contain large amounts of data and help to visualise these data, which supports participants in their understanding of complex planning processes. Furthermore, participants can interact with planners, other participants, and the input (Sieber, 2006). In addition, PPGIS are easy to implement by planners, as they are applicable in various geographical scales, phases of a planning process, and several sectors. Other advantages are that it fosters individual participation, conveniently reveals spatial conflicts of participants, and provides local, high-quality data. Moreover, the use of GIS allows data to be integrated into existing systems, the results are easier processed and analysed (Kahila-Tani et al., 2019).

In contrast to the advantages of PPGIS, also several disadvantages have been observed and identified. First, there is a potential lack of transparency. Furthermore, it brings several methodological and technical challenges, and there is the potential to misuse the data. As for all digital tools, people who cannot afford or handle digital tools are excluded. Although anonymity may stimulate people to participate, planners cannot approach participants for additional questions or verify the contribution of participants. In addition, the large amounts of data can also create an information overflow and can take the form of non-meaningful participation. To conclude, like all digital tools, PPGIS cannot replace the analogue dialogue (Kahila-Tani et al., 2019).

Digital participatory platforms

Often mentioned barriers to participation in literature are non-trivial (long travelling time to the city hall for public meetings, taking time off from work, unattractiveness of a survey). Digital participatory platforms (DPPs) offer a solution to such barriers, as participants can participate whenever they want and control the amount of time they want to spend on participation (Desouza & Bhagwatwar, 2014). Falco and Kleinhans (2019, p. 54) define DPPs as:

“a specific type of civic technology explicitly built for participatory, engagement and collaboration purposes that allow for user generated content and include a range of functionalities (e.g., analytics, map-based and geo-located input, importing and exporting of data, ranking of ideas).”

As this definition shows, DPPs may include several aspects of PSS and ICTs. DPPs enable governments and citizens to co-produce in spatial processes: DPPs enable citizens and governments to make better use of each other's assets and resources. Desouza and Bhagwatwar (2014) distinguish between four main categories of DPPs: citizen-centric and government data, citizen-centered and citizen data, government-centric and citizen-developed solutions, government-centric and citizen data. Within the centric categories, the primary information flows are from citizen to citizen or, respectively from government to government. The other distinction is between the different sources of the data: data can be generated through collaboration or data is provided by the government.

In contrast to the framework of Desouza and Bhagwatwar (2014), Falco & Kleinmans (2019) offer another categorisation, more or less based on the level of involvement of participants: information sharing, interaction, and civic engagement, involvement, and collaboration.

Albeit the benefits of DPPs, there are also challenges and criticisms. One of the main criticisms is, as with most other digital tools, the digital divide and digital illiteracy (Falco & Kleinmans, 2018). Other challenges can be related to the institutional framework, such as data security and accessibility by people with disabilities (Bertot et al., 2012). Such regulations require additional, costly work and expertise from the providing institutions of the platforms. In addition to institutional challenges, also organisational challenges are mentioned. Mergel (2013) criticises the lack of strategic policymaking and reflection on the usage of DPPs by governments. Local governments need to invest in developing policies on how to engage with the public (Bryer & Zavattaro, 2011). Furthermore, there are several technological challenges identified. Public institutions that host platforms, need additional technological expertise. Moreover, changing circumstances and innovations can make platforms rapidly outdated, leading to additional costs and potentially outdated data (Bertot et al., 2012; Picazo-Vela et al., 2012; Falco & Kleinmans, 2018). Another criticism on the use of DPPs is that many of them already exist, and policymakers in practice tend to develop new tools while existing tools have often already gained practical experience. DPPs depend on planners who can disregard input from DDPs (Falco & Kleinmans, 2019).

Several academia mention gaps in the literature on DDPs and new research directions. They notice that internet-facilitated co-production is not studied systemically yet (e.g., Meijer, 2011; Linders, 2013; Falco & Kleinmans, 2019). In addition, Falco and Kleinmans (2019) argue for a need for more in-depth research to explore the extent to which DDPs are either substantial or limited of use, aiming to identify the process, outcome, implications of digital facilitated participatory co-production.

2.5 A FRAMEWORK TO ANALYSE SUCCESSFUL PARTICIPATION

This study seeks to develop a framework to evaluate the use of digital tools in participatory planning processes. To develop a framework, it is relevant to study successful participation, as successful participation could provide evaluation criteria. The question of what constitutes successful participation has been broadly debated in the literature. Visser and others (2019) emphasise the importance of five values in participatory planning processes. First, transparency, inclusivity, and equality are elementary democratic values: everyone should be informed and allowed to participate equally. Quality and suitability are crucial values in specifically planning processes. Quality helps to improve the process and the outcome. Suitability determines to a large extent which kind of participation is appropriate. Hence, these five values are suitable for this study, as they were selected based on an extensive literature review and specifically devised for the Dutch planning context (Visser et al., 2019). In order to make the values more measurable, the literature on successful participation is reviewed, exploring what indicates good participation. The following figure shows the values of participation and a set of relating indicators. The following paragraph explains the values and the indicators.

Figure 2*Values and indicators for successful participation*

Value	Indicator	Author
<i>Transparency</i>	Informing the public	Bryson et al., 2013; Fung, 2015
	Openness	Webler, 1999; Buchy & Hoverman, 2000; Gilljam & Hermansson, 2003
	Joint process customisation	Chess & Purcell, 1999; Buchy & Hoverman, 2000; Innes & Booher, 2004; Ianniello et al., 2019
	Trust	Laurian & Shaw, 2009; Bryson et al., 2013, Kleinhans et al., 2015
<i>Equality</i>	In-depth equal interaction	Fung, 2015; Ianniello et al., 2019
	Fair holistic decision	Reed, 2008; Laurian & Shaw, 2009; Fung, 2015
	Role of the planner	Chess & Purcell, 1999; Buchy & Hoverman 2000; Richards et al, 2004; Dahl, 2008
	Public influence	Arnstein, 1969, Laurian & Shaw, 2009, Kleinhans et al., 2015
<i>Inclusivity</i>	Public engagement	Arnstein, 1969; Laurian & Shaw, 2009
	Diversity of participants	Buchy & Hoverman, 2000 Stringler et al., 2006; Carpenter & Brownhill, 2008; Bryson et al., 2013
	Communication diversity	Bryson et al., 2013
	Empowerment	Jacobs, 1961; Davidoff, 1965; Friedmann, 1998; Purcel, 2009; Monno & Khakee, 2012, Fung 2015
<i>Quality</i>	Comprehensive input	Stringer et al., 2006; Pestoff, 2014; Fung, 2015; Ianniello et al., 2019
	New resources	Buchy & Hoverman, 2000; Stringer et al., 2006
	Adaptability	Bryson et al., 2013
	Effectiveness	Evans-Cowley & Griffin, 2012; Bryson et al., 2013; Fung, 2015
	Collaboration	Healey, 1997; Reed, 2008; Innes & Booher, 2010; Bussu & Bartels, 2014; Ianniello et al., 2019
<i>Suitability</i>	Process context	Burke, 1968; Chess & Purcell, 1999; Irvin & Stansbury, 2004; Reed, 2008; Luyet et al., 2012
	Scale	Morell & Magorian, 1982; Hibbing & Theiss-Morse, 2002; Stringer et al., 2006; Dahl, 2008
	Problem identification	Bryson et al., 2013
	Institutional context	Chess & Purcell, 1999; Reed, 2008; Luyet et al., 2014; Ianniello et al., 2019

Note. It should be mentioned that most indicators indicate other values as well. Therefore, the indicators are structured according to the value they relate most closely to. For example, how the public is informed strongly indicates transparency, yet it also indicates equality (are all participants equally informed) and inclusivity (are all potential participants included). In addition, the indicators overlap in many respects. For instance, an in-depth dialogue is likely to result in comprehensive input, and a participant who experiences a process as unfair might also experience a low level of trust.

TRANSPARENCY

Bryson and others (2013) notice that transparency and good communication are inextricably linked when determining the success of participation. Good communication provides openness about what is happening with the stakes of stakeholders. Furthermore, it enables stakeholders to influence decisions with the same information. The availability of symmetric information for participants depends on when and how participants are informed. In this respect, the institutionalisation of participation also contributes to better communication, as it provides clarity on the rules of a process and how communication occurs (Ianniello et al., 2019).

Buchy and Hoverman (2000) stress the importance of openness about interests. Asymmetric information between the participants and the planner, for example, due to a lack of technical knowledge under participants, can hamper the processes. Therefore, many authors suggest that a process is more transparent if a planner invests in joint research and sustained interaction (Chess & Purcell, 1999; Reed, 2008; Ianniello et al., 2019). In addition, jointly setting goals and expectations may contribute to transparency and symmetrising information (Buchy & Hoverman, 2000). This also includes the openness about moral argumentation of both planners and participants. Webler (1999) argues that manuals, frameworks, and definitions of good participation can never be entirely driven by factual evidence because there is also a moral aspect to it. The choice to let participants participate remains a choice in itself. Pursuing a relationship of learning and negotiation stimulates trust. In addition, trust requires planners to be honest about difficult decisions that may negatively affect stakeholders. Participants should be (made) aware of the limits of their influence on the decision-making process (Ianniello et

al., 2019). Bryson and others (2013) suggest that marginal miscommunication, conflicts between stakeholders, and stakeholder trust in the decision process indicate a transparent participation process.

EQUALITY

Equality is an essential value for participatory processes in many respects. Like transparency, from the equality perspective, symmetrical information among participants and planners can contribute to successful participation. In an extensive literature review, Ianniello and others (2019) found that the focus on long and in-depth interaction is one of the most frequently mentioned indicators of successful participation in the literature, mainly because it contributes to equal information. In addition to in-depth interaction, Ianniello and others (2019) found that building collaborative capacity among core institutions and using knowledgeable facilitators can enhance information equality among participants. Several authors have suggested that when a process is collaborative, and participants feel that they are equally involved, the process and the decisions made are experienced as fair and holistic (Webler, 1995; Chess & Purcell, 1999; Richards et al., 2004). Reed (2008) adds that trust and learning can also be indicators of good participation. Therefore, fairness and holisticness can also indicate successful participation.

Besides in-depth interaction and fair decision-making, the role of the planner can indicate equality in participatory processes. It appears to be essential to avoid hierarchical arrangements: planners who see participation as a means rather than an end indicate successful participation (Ianniello et al., 2019). Buchy and Hoverman (2000) observe different roles of planners, depending on the paradigm adhered to participatory democracy or non-participatory democracy. In the first instance, it is assumed that planners perceive regional heterogeneity and act during the planning process as catalysts or facilitators. In the second case, it is assumed that elections at the national and regional levels are sufficiently legitimate to make decisions representative of a community. Hitherto, there is no uniform view in the literature about how the role of the planner should be in a participation process. Therefore, this issue has been discussed with an expert in an interview. He argues for a distinction between politically driven decisions and participation driven decisions. He believes that the city official should not take the place of the politician and vice versa. In the case of politically driven decisions, a planner should not operate as a facilitator but rather as an executive of the politicians. If there are no politicians involved in decisions, planners should involve the public (K.E., February, 2021). To conclude, a planner who grants participants equal information and, if applicable, an equal voice during a non-politically driven participatory process indicates successful participation. In the case of a politically driven participatory process, the role of the planner becomes less relevant as participants have already had to participate during the elections.

The last indicator concerning equality is public influence. Kleinhans and others (2015) notice that public trust in governmental institutions is, amongst others, based on the perceived influence of citizens on the decision-making process. Other scholars mention reasons to leave participants out of the decision-making process, for example, because of the costs and the potential to frustrate other stakeholders (Reed, 2008; Ianniello et al., 2019). In this study, it is assumed that the degree of influence that the public should have on decision-making, depends on the planning context. Therefore, public influence cannot indicate whether participation is not successful. In some contexts, it seems more plausible to expect citizens to have a higher degree of control than in other contexts. In this thesis, therefore, no citizen influence is not seen as an indicator of unsuccessful participation, whereas it is assumed that citizen influence indicates successful participation.

INCLUSIVITY

Inclusivity is about including participants in planning processes in which they have a stake. Public engagement seems to be an indicator of inclusivity in participation. Yet, a common criticism in this respect in the literature is that participation mainly draws the attention of affluent citizens (Stringer et al., 2006; Carpenter & Brownhill, 2008). In addition to public engagement, inclusivity is about the extent to which participants represent the interests at stake. In other words, inclusivity concerns the legitimacy of decision-making (Fung, 2015). Therefore,

the diversity of the participants appears to be an indicator of inclusive participation. Reed (2008) notes that an extensive stakeholder analysis can contribute to inclusive participation as such an analysis can help to include the most representative stakeholders. Furthermore, inclusive participation is about how the participants are informed. This can be indicated through the size of the group approached (the more, the better), the diversity of communication tools, an increased public awareness after the participation process, improved distribution of benefits and harms, and satisfaction among the public about how they have been informed (Ianniello et al., 2019). These indicators are summarised under the indicator 'diversity of the communication tools'.

Finally, empowerment indicates inclusivity (Friedmann, 1998; Purcell, 2009; Monno & Khakee, 2012). Successful participation should not only include the excluded citizens. It should support the less affluent ones to overcome the more well-being citizens. Planners should provide information equally and openly, and participants who lack the required knowledge should be supported. In addition, a flexible design of the participation process can help to enable the participant to contribute with their own resources. Another option is to use financial incentives to involve the less empowered citizens (Ianniello et al., 2019).

QUALITY

When multiple stakeholders are involved, participation can enhance the quality of the decision-making process (Chess & Purcell, 1999; Stringer et al., 2006; Pestoff, 2014; Fung, 2015; Ianniello et al., 2019). As already mentioned regarding equality and transparency, long interactive dialogues and joint research participants are associated with better outcomes (Bussu & Bartels, 2014; Ianniello et al., 2019). Furthermore, including both scientific and local knowledge is associated with better outcomes as well. These outcomes are of higher quality as multiple stakeholders can provide comprehensive information input during the interactive dialogues (Reed, 2008). Hence, the retrieved input also depends on the role of the planner. The use of highly skilled facilitators is essential as participation processes with facilitative leadership are associated with better outcomes. Several authors even state that the outcome of a participatory process depends more on how participation is facilitated than the used means (Chess & Purcell, 1999; Richards et al., 2004).

In addition to comprehensive input, the emergence of new resources indicates successful participation. Participation sets various parties in motion, making several resources available such as capital, knowledge, and information. This creates more opportunities to realise solutions to address planning issues (Buchy & Hoverman, 2000; Stringer et al., 2006). Furthermore, participation processes allow participants to build new networks to learn new skills. Consequently, a successful participatory process uses collaborative, deliberative approaches to learning (Healey, 1997; Innes & Booher, 2010). Such an approach occurs when new relationships form, and new resources become available during the process.

Collaboration and learning also can contribute to participants changing their views. As participants gain further knowledge, they can increasingly articulate their viewpoints and gain an increased understanding of the views of others (Bryson et al., 2013). Therefore, adaptability to other views and unforeseen circumstances during the process is a good indicator for quality in successful participatory processes (Bryson et al., 2013). On the other hand, the findings of Stringer and others (2006) suggest that complementarity and strongly diverging interests in the case of a particular issue reduce the chance of successful participation because the road to a deliberative decision is time-consuming and therefore may not be cost-effective. Regarding cost-effectiveness, effectiveness itself also can be an indicator for successful participation. The fewer lawsuits, conflicts, and delays, the lesser the costs and the increasing effective the participation process gets (Fung, 2015).

SUITABILITY

Environmental contexts are generally complex, uncertain, multi-lateral, multi-scaled, and affect multiple actors (Reed, 2008). Therefore, decision-making requires to be embedded in a diversity of values, knowledge, transparency, and flexibility to changing circumstances (Chess & Purcell, 1999). Furthermore, the process should

be customised appropriately for a specific context (Ianniello et al., 2019). Chess and Purcell (1999) argue that participation strategies should be selected only if the objectives of the planning process are precisely formulated and when participants are involved in the participation process in a reasonable time. Appropriate strategies can be chosen based on, for example, the steps of the ladder (Arnstein, 1969) or based on communication (Rowe & Frewer, 2000; Reed, 2008). In this study, the entirety of strategies, objectives, time frame is summarised into the process context indicator. Besides the process context, the scale of the planning process and the scale of what is planned matters (Chess & Purcell, 1999; Irvin & Stansbury, 2004). Stringer et al. (2006) note that the scale can influence the degree of success. In the case of a small-scale process, participants seem more inclined to be involved in a participatory process.

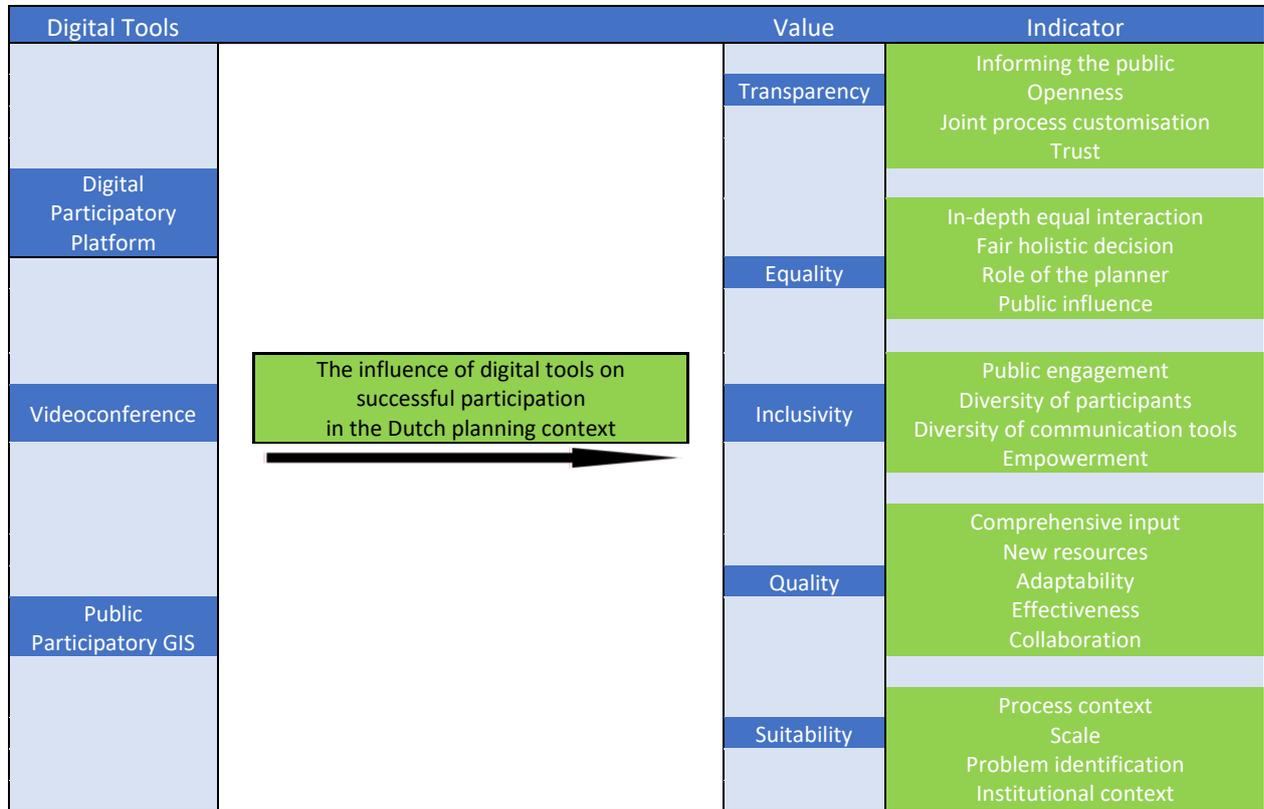
A participatory process that does not take the context into account runs the risk of addressing the wrong problem. If a developed addresses a technological issue, technologists should at least participate in the process. The solution of a wrongly identified problem is not a solution (Bryson et al., 2013). In respect of addressing the right issue, it also matters that the valid citizens are included. Otherwise, a process risks a 'Park bench problem': only those who are really interested should participate. If the government starts to invite citizens for every bench in the park, participants might feel not considered respected and may even lose confidence in the government. Participants should not get the feeling that they are participating for the sake of participating.

A last meaningful factor concerning contexts is the organisational culture in which (semi) government organisations work well together. Institutionalising participation processes changes attitudes towards participation within a government organisation (Ianniello et al., 2019). In addition, the culture within organisations matters: do government bodies really want to learn from participants, and is there room to make mistakes? Organisations that want to make more room on the agenda for participation should guard against 'gate-keeping', the phenomenon whereby political and governmental restrictions hinder new policy approaches (Booth & Richardson, 2001). Participation does not only thrive on good intra-organisational cooperation but also inter-organisational cooperation. If there is good cooperation between governmental bodies and potentially also private parties, participation processes can run more smoothly (Booth & Richardson, 2001).

2.6 CONCEPTUAL MODEL

The values and indicators are presented as the framework of this study. To demonstrate the framework, the framework is applied on three digital tools. The digital tools causally influence the participation process, as the indicators nor the values can influence the tools. The following figure shows the conceptual model of the study.

Figure 3
Conceptual model



Note. The framework at the right side of the model is demonstrated by evaluating three digital tools (at the left side of the model). Thus, the study evaluates the influence of the three digital tools in the Dutch planning context by following the framework.

3.1 INTRODUCTION

The research question of this study states: how to evaluate digital tools in participatory planning processes? The study aims to present a framework to evaluate the use of digital tools in participatory planning processes. The framework emerges from an extensive literature review. The first section of this chapter describes how the literature review is conducted. The framework is demonstrated using the evaluation of three digital tools. The vastest part of this chapter is about the methodological choices made for the case studies. Throughout the chapter, the weak points and pitfalls of these methodological choices are discussed and justified in relation to the research question and the context.

LITERATURE REVIEW

The reviewed literature of this study is in the first instance retrieved from the Scopus database, encompassing international peer-reviewed academic journals. The most cited relevant articles are selected searching for terms such as: (citizen) participation, public participation, e-participation, planning support systems, digital participatory platforms, videoconference in participation, digital tools in planning, successful participation, and indicators for successful participation. In addition, two experts are interviewed to get insight into the gaps in knowledge and recommendations for relevant literature. It concerned one theoretical knowledge expert, with academic experience in the field of participation and practical experience in advising the Dutch Ministry of Infrastructure and Water management regarding participation. The other expert is a senior communication manager with practical experience with participation processes, who works for the same Ministry. Finally, the snowball method is applied to fill the missing parts of the review.

CASE STUDIES

To demonstrate the framework, three digital tools are evaluated using a qualitative approach. Both the values and the indicators of the framework are used to question participants who were involved in a participatory planning process where was made use of one or more of the three analysed tools. Determining the success of participation is a complex undertaking. It appears to be difficult to make complex constructs such as 'in-depth equal interaction' or 'public engagement' measurable. As it is unclear to what extent the chosen indicators measure the five values, a qualitative approach seems to be more appropriate than a quantitative approach. Furthermore, Gehman and others (2018) argue to use qualitative research for theory building and quantitative research to test theories relationships. The fact that the aim of this study is to develop a framework rather than to test the relationships between the values and the indicators of the framework, it seems justifiable to follow a qualitative approach.

In this study, the three analysed tools are considered as cases. In the first instance to demonstrate the framework. In addition, the case studies contribute to academic theory building by adding complexity to the discourses about the previously mentioned debates on digital participation (See paragraphs 1.3 & 2.4). The cases are selected based on maximum variation (information-based selection) using different tools in different contexts (Flvybjerg, 2006).

The first tool that is analysed is the videoconference. Especially since the advent of the coronavirus, the videoconference is one of the most used digital tools in participation processes. The videocall is predominantly used to organise public meetings, which is still the most frequent form of participation in the Netherlands. The second tool is a digital participation platform. Such platforms offer a range of new possibilities in comparison with the regular public meeting. The third tool that is analysed is Maptionnaire, a participatory GIS-tool that offers planners a location-based survey. A comprehensive description of the cases can be found in the chapters of each case.

3.2 DATA COLLECTION

INTERVIEWS

Data is collected by conducting 21 in-depth interviews. In addition to the interviews, several websites are consulted, and a field visit to Amersfoort took place. The duration varied from 13 minutes up to 1 hour and 20 minutes, with an average time of 37 minutes and a median duration of 30 minutes. The interviews are held with 10 citizens, 4 senior planners, and 3 participation consultants. The following table shows an overview of the interviewees per case. Appendix 1 shows a comprehensive overview of the factual data of the interviews, such as the date of collection, the length, and the anonymised codes that are used.

Table 1

Overview of the interviewees

Case	Videoconference A2	Videoconference A9	Maptionnaire Vught	Mett Platform Amersfoort
<i>Citizens</i>	3	3	2	4
<i>Senior Planner</i>	1	1	1	1
<i>Senior consultant</i>			1	2

Note. The table shows which interviewees are interviewed in which case. The interviewees who participated using the video conference are involved in two comparable road widening projects. See paragraph 4.1 for further explanation and a detailed description of these cases.

Most interviews are conducted using videoconferencing software. A single interview is conducted analogue, and three interviews by telephone. An advantage of the tele-interviews is that it saves on traveling time. Furthermore, during the 'MS Teams'-interviews, still, some non-verbal communication is visible as well. However, this cannot fully compensate for the lack of non-verbal communication. Bryman (2016) mentions two potential disadvantages of digital interviews: people may refuse to be recorded, or the software may fail. In this study, the potential disadvantages are managed as follows. All records and transcripts are anonymised, to assure citizens would want to speak on the record. All interviewees agreed to speak on record under the conditions that were communicated to the participants prior to the interview. The invitation message sent to the participants is included in Appendix 3. Regarding the other potential disadvantage Bryman (2016) mentions, software issues, it seemed before the interviews that MS Teams would be reliable enough to get high-quality audio files. However, some participants last minute decided that they only wanted to speak on the telephone. Two of those interviews had to be reconstructed due to recording issues.

SEMI-STRUCTURED APPROACH

The interviews are conducted using a semi-structured approach. A topic list and a flexible questionnaire are used. The topic list is the same as the indicators of successful participation. The interviewee is asked at least one question about each indicator, specifying how the participant views or experiences participation when a digital tool is used in a participatory process. The topics are discussed in a random sequence, flowing with the course of the conversation. By keeping a random order of topics, the different topics come back at separate times in the interviews, which may increase the variety of answers per topic. Furthermore, this approach has the advantage that the interviewer can spend longer on topics that still lack theoretical saturation.

A different questionnaire is used for the citizens and the experts. Citizens are less familiar with the issues concerning participation and speak another language as the experts professionally involved in participation processes. Schaffer (2015) emphasizes the power of interviews in plain language. Plain language allows cultural differences, different interpretations of words and reduces other potential miscommunications. The interviews are all conducted using the Dutch language. The following table shows some example questions. Appendix 2 contains an overview of all the interview questions.

Table 2*Examples of some interview questions*

Interviewee	Indicator	Question
Planner	Adaptability	Citizens can change their point of view in a good process. In which process do you think this is easier?
	Trust	What was it like to build trust during the digital and analogue processes?
Citizen	Informing the public	How were you informed about the participation process?
	Public influence	In which process do you, as a stakeholder, have more influence? In an analogue process or in a digital process?
Planner & Citizen	Fair holistic decision	Which process feels more fair and complete? A digital or an analogue meeting?

Note. The left column shows to who the question is asked. The middle column shows the relating indicator and the right column shows the question.

ABOUT THE INTERVIEWEES

According to Hammersley and Atkinson (1995), interviewing individuals to understand their point of view is effective for developing a broader view of reality. An in-depth interview reveals descriptions, explanations, and evaluations. Interviewing both planners and citizens results in more perspectives and in a less biased view of the case. For example, a planner might tend to tell only success stories as it is not in his interest to criticise his own work. On the other hand, compared to a citizen, a planner might be more aware of the interests of other involved stakeholders and will probably have a more holistic overview.

The planners interviewed in this study are senior project managers, communication managers, a senior communication advisor, a community worker, and two participation consultants. The interviews with the experts can be categorised as ‘theory generating’. Theory generating interviews target beside the specialist knowledge of an expert, also the interpretive knowledge and procedural knowledge obtained in practice (Bogner et al., 2005).

Approximately half of the interviewed citizens are part of a neighbourhood association. Members of associations tend to participate regularly and are therefore able to speak from a broad experience. On the other hand, it appears that participants who often show up in participatory meetings do not always have a large share of what is at stake. The planners in the interviews refer to this group by naming them ‘usual suspects’, or ‘the old grey men’, as the group predominantly exists out of male pensioners who had a career in some public or juridical working field. The planners notice that the usual suspects primarily participate because they feel responsible for the neighbourhood, work for the local newspaper or enjoy being active in a public governmental environment. The remaining interviewed citizens are concerned citizens who rarely participate. This group appears to participate due to their large share of the interest that is at stake. Although they do not have the same experience as the members of the associations, they add another perspective on participation.

3.3. DATA PROCESSING

The interviews are transcribed verbatim. Although the disadvantage of transcribing is the large amount of time it takes, the interviews are processed most accurately, increasing the reliability of the study. It also brings the researcher closer to the data whereby the researcher identifies key themes and becomes aware of similarities and differences between the different participants (Bryman, 2016). Some small parts of interviews are not

transcribed. It concerns the introduction and the outro of the interviewees, and some small sections deemed uninspiring or irrelevant for the study. Some authors criticise such an approach as the introduction and outro show the informal atmosphere in which the interview occurs. However, Becker and others (2002) describe the non-transcription of irrelevant parts as a proper choice for the researcher, as it saves valuable time that could be invested in, for example, an additional interview.

The transcripts are coded using open and selective coding (Strauss and Corbin, 1990). The codification is performed by using the software programme Nvivo12, a computer-assisted qualitative data analysis tool, also referred to as a CAQDAS (Bryman, 2016). Some authors have criticised the coding of transcripts. They argue that potentially the context in which an interviewee speaks can be omitted (Bryman, 2016). In this study, this is overcome by labelling the fragments with the indicators from the theoretical framework. Another criticism of codification is that the fragmentation of the transcripts loses the narrative flow of the interview (Coffey & Atkinson, 1996). Such a loss seems to be especially the case when using CAQDAS. By theorising in relation to the interviewee's narrative, the loss of narrative flow is mitigated (Bryman, 2016). Therefore, in this study, the backgrounds and the narratives of the interviewees are presented where possible. Despite the critique, the use of CAQDAS is more efficient and faster. This allows more interviews to occur in a limited time, possibly leading to more reliable data (Bryman, 2016). The following table shows how the code tree that is used in NVivo to process the data.

Table 3
Coding tree

Case	Tool	Codes					
A2	MS Teams	Description	Transparency	Equality	Inclusivity	Quality	Suitability
A9	MS Teams	Description	Transparency	Equality	Inclusivity	Quality	Suitability
Amersfoort	Digital participatory platform	Description	Transparency	Equality	Inclusivity	Quality	Suitability
Vught	Public participatory GIS	Description	Transparency	Equality	Inclusivity	Quality	Suitability

Note. The code tree shows how the data is processed according to the framework. At the left side the case and the applying tool are mentioned. The right side of the table shows the codes that are used.

A last analytical tool to be mentioned is theoretical sampling, in which data collection, coding, and analysis are intertwined, and the analyst repeatedly collects new data until theoretical saturation occurs. Strauss and Corbin (1997) note about theoretical saturation that the researcher should be continuing interviewing until an additional interview does not produce any new relevant data in respect of a coded category, the category is developed far enough, or the relationships between the categories have been established and validated far enough. In this research, no new interviews are planned after reaching theoretical saturation. Especially in the videoconference case and the digital platform case, it was easy to accomplish theoretical saturation. In particular during the interviews with the citizens, the added value of the data became less and less relevant. In the case of the participatory GIS-tool, all the interviews were needed to gather a substantial amount of data.

The coded fragments are used to evaluate the cases. The cases are each included in a chapter and structured according to the framework. For each value, an evaluation is provided in which the implications for the participation process are discussed. In the following chapter, the implications of the cases are compared.

3.4 VALIDITY & RELIABILITY

INTERNAL VALIDITY

The internal validity of the framework is reasonably high. The sources used are widely cited publications with hundreds or even thousands of citations on search engines like Scopus and Google Scholar. During the literature

review, no views or ideas were found that contradicted the logic of the framework. Neither did the comprehensive literature review by Ianniello and others (2019). Moreover, a knowledge expert is interviewed prior to the literature review, who helped selecting appropriate references.

The internal validity of the case studies is also considerably high. By conducting semi-structured interviews, the researcher had the freedom to ask questions in such a way as to obtain answers of sufficient quality. Moreover, the researcher always had the opportunity to ask supplementary questions. Citizens who provided brief answers, for example, were sometimes asked follow-up questions by the researcher so that they provided adequate and comprehensive input.

EXTERNAL VALIDITY

The framework presented in this study is applicable to many participatory planning processes in Western societies. Also, in other countries or contexts, in which values such as transparency, equality, and inclusiveness are of paramount concern, the criteria from the framework form a suitable evaluation method for a successful participatory process. In contrast, the framework is less useful in countries or contexts in which transparency, equality, and inclusivity, are considered of lesser importance. For example, in countries with highly state-centered politics or dictatorial regimes. The significance attached to the values transparency, equality, and inclusivity, determine the extent to which the framework is suitable for other contexts.

ECOLOGICAL VALIDITY

The framework is developed during a process of reviewing the literature, reflection, and brainstorming. It appears complex to determine whether different research conditions would have resulted in a distinct framework. Regarding the case studies: as mentioned, most of the interviews are conducted using MS Teams. Two interviews are conducted by telephone. Compared to the only live interview, the differences are not substantial. An interview via video call or phone call might be more factual and involves less non-verbal communication. However, this study is mainly about the content of what the interviewees have to say. The non-verbal communication was therefore not lacking. More live interviews would probably not have led to more profound or differing information.

The ecological validity of the interviews would have been lower if fewer interviewees had been interviewed. Some respondents gave shorter answers, which led to less rich data. By also interviewing other respondents, such differences are balanced out in this study.

RELIABILITY

By consulting a knowledge expert prior to the literature study, it was easier to obtain high-quality literature. Furthermore, searching with Scopus has ensured that most of the works cited are peer-reviewed publications. Therefore, the framework has substantial reliability.

Regarding the case studies, more interviews might have made the results even more reliable. Although interviewing stopped after theoretical saturation occurred, hypothetically, a higher number of respondents should lead to even more unique quotations and potentially new perspectives. However, more interviews would not have been feasible given the time frame of the study. Furthermore, it would not have been very relevant as the cases are primarily used to demonstrate the framework.

4. CASE 1: THE VIDEOCONFERENCE

4.1 CASE DESCRIPTION

The first case covers an analysis of the use of a videoconference during the participation meetings that were organised in the context of the widening of two motorways in the Netherlands. It concerns the widening of the A9 between Badhoevedorp and Holendrecht and the A2 between Vonderen and Kerensheide. Both projects used the videoconference tool Microsoft Teams. Furthermore, the projects are operated and executed by Rijkswaterstaat (the national Department of Public infrastructural affairs). Rijkswaterstaat is responsible for the construction and maintenance of the Netherlands' national motorways. Rijkswaterstaat works with Integrated Project Management (IPM) teams. An IPM team consists out of a technical team, a controller team, and an environmental team. All the teams are steered by one or two managers and consist, depending on the working load, of 5 – 25 advisors. The environment team and the project manager are majorly responsible for public participation.

A9 VONDEREN - KERENSHEIDE

The widening of the A2 beholds an additional driver's lane to the two already existing lanes. In order to realise the extension, 11 of the existing flyovers and tunnels have to be removed and rebuilt. The results of the first phase of the investigation, part of the Road construction law (in Dutch: Tracéwet) were sent to the Dutch Parliament in 2013. In 2016, a participatory 'Neighbourhood Platform' was established including citizens from all adjacent towns, villages, and municipalities, mostly involved via the existing bodies of local village councils and other local participation initiatives. Since then, the Neighbourhood Platform has been informed and about the most significant plans and decision-making of the planners and additionally allowed to react to those plans and decisions. Informing and consultation happened mostly through traditional public meetings on a 3–4-month frequency. Since the covid-19 pandemic, all meetings were organised by using the videoconference tool MS Teams.

Figure 5

The A2 between Vonderen and Kerensheide



Note. An overview of the motorway between Vonderen and Kerensheide.. From “the website of Rijkswaterstaat,” author unknown, Copyright 2021 by Rijkswaterstaat.

A2 BADHOEVEDORP – HOLENDRECHT

The widening of the A9 beholds an addition of a drivers' lane and the reconstruction of several bridges, flyovers, tunnels and additionally requires the construction of the road foundations. First explorative studies were conducted back in 2005. The communication manager says that during the following years until now, 'the focus in the participation process shifted gradually from primary informing to more consultation' (CMA9, April, 2021). Currently, participation is organised through several approaches. First of all, there is a visitor centre in Amstelveen where citizens can pass by every day and see posters, flyers, videos, and other informing features. Every Thursday (12:00 – 17:00), communicational experts from Rijkswaterstaat and the local municipalities are available in the visitor centre for questions and complaints. Furthermore, information on all stages of the construction can be found on a website, including the expected nuisances for citizens with the opportunity to ask questions and leave a comment. In addition, the project team of the road construction organizes various meetings with citizens from affect neighbourhoods, enabling citizens to react to the developments in their environments. These meetings are organised offline and during the pandemic online using the videoconference tool MS Teams. The frequency of the meetings from the end of the planning phase until the end of the realisation phase is about one meeting every six weeks, with nine different neighbourhood platforms.

Figure 4

The A9 between Badhoevedorp and Holendrecht



Note. An overview of the motorway between Badhoevedorp and Holendrecht. As the photo shows, the trees at both sides of the motorway, are removed for the widening. From "the website of Rijkswaterstaat," I.W. Van Hemert, Copyright 2021 by Rijkswaterstaat.

PARTICIPATION CHARACTERISTICS

Hence, the environmental team also organises participatory events and meetings, which is part of their expertise. Most meetings are informative or consultative: the majority of the events facilitate the possibility to talk about complaints, gathering local knowledge, and give participants the opportunity to raise their voices. Moreover, in some cases also what Arnstein (1969) mentions as placation exists. It is not uncommon that communication managers work on the same road construction project for 5 or even 10 years. As participatory events are regularly organised, communication managers and participants get regularly in contact with each other which establishes ground to build relationships. Any forms of citizen power are not likely to happen in the projects of Rijkswaterstaat. Hence, both the project manager of the A2 and the communication manager of the A9 mention that participation also serves the purpose of '*soothing the pain*' of affected citizens and discouraging citizens to

go to court (CMA9, April, 2021; PMA2, May, 2021). One citizen of the A2 said to feel sorry about dispensing her court proceeding as she felt socially forced to let it down (CA2-1, May, 2021). So, arguably, a critic might also perceive some of what Arnstein (1969) mentions as therapy in the participation processes of Rijkswaterstaat.

The citizens that participate in the public meetings have different positions, goals, and backgrounds. It concerns citizens with a high stake and lower stakes. For example, one dwelling of a citizen is close to the highway. After the realisation, the façade of the dwelling will be exposed to a noise level up to 67 decibels, which is substantial. On the other hand, other citizens live more than 5 kilometres from the highway and are also involved in the participation process due to their concerns about high noise exposure. Regarding the position, some citizens that have a big stake (such as the owner of the dwelling close to the highway) are not used to participation processes, in contrast to other citizens who are for example members of the self-appointed village council or journalists for the local newspaper.

4.2 ANALYSIS

TRANSPARANCY

Transparency is an important value in a democratic governmental system (Visser et al., 2019). Participants of this study have been asked about their thoughts on transparency when using the videoconference in public meetings. Based on the literature, transparency is indicated by how the citizen is informed, openness, joint process customisation, and trust. It should be mentioned that the degree of transparency is not only determined by whether a meeting is digital or not, but also by the acting of the planning institution. The opinions of the citizens on how transparent Rijkswaterstaat positioned itself were different. A critical citizen argues:

“It’s never transparent [...] We do feel ourselves to be stakeholders as we do suffer from the A9. But from Rijkswaterstaat’s perspective, we are no stakeholders. The A9 must be built and [for them] that is what matters. From their point of view, residents of the surrounding neighbourhoods, they shouldn’t hamper the process too much”. (CA9-1, April, 2021)

The communication manager confirms that *‘although the project team aims to satisfy the participants wherever they can, they are bound by the decisions of the higher management’* (CMA9, April, 2021). For example, the cost of a noise barrier is in many cases not cost-effective. Even if the project team is willing to investigate the possibilities of building a noise barrier, higher management can still block their decision.

Informing the public

All the interviewed citizens felt well about how they were invited and how they were informed about the planning process. Some citizens add that Rijkswaterstaat shares all their relevant documents, investigations and tries to explain as much as possible why and how they make decisions. However, the sharing of information during the videoconferences was far from optimal. This is emphasised by both citizens and planners. The communication manager of the A9 says for example that he *‘lacks the feeling of the atmosphere in the room, and the feeling behind a question, so I cannot always provide the answer someone is looking for’* (CMA9, April, 2021). The project manager of the A2 adds: *‘during an online meeting one person is talking, in an offline meeting, all 25 advisors are talking, so we can share 25 times more information, making the online process less transparent if you ask me’*. Furthermore, he adds: *‘being able to send less information makes it harder to open up for the interest of individuals. So, although we want to be open about our interests and expectations, in an online meeting there isn’t simply the time’* (PMA2, May, 2021).

Openness

The citizens share mixed feelings about the openness of interests and moral argumentation. Most of them agree that Rijkswaterstaat and other involved participants are as open as they can. Some even compliment the project

team. However, the digital environment seems to hamper most citizens. One of the citizens mentions that she felt confined in an online environment such as MS Teams.

“Somebody during the last meeting was complaining about the removal of 5 trees. In from of my house, 700 trees have been removed! In an analogue conversation, I would have told her that she should not complain about her 5 trees. But it seems there is an invisible barrier in a public meeting.” (CA2-1, May, 2021)

Other citizens give similar examples. *‘We cannot speak at the same time which makes me reluctant to react and to start a discussion. Furthermore, I am less prone to ask in-depth questions’* (CA2-2, April, 2021). Interestingly, one citizen who has over 20 years of experience with video calls due to his international career, does not think that the use of MS Teams was hampering the process. He recognises the formality of video calls, but he argues that it did not change the perceived transparency during the process (CA2-3, April, 2021)

Joint process customisation

Joint process customisation and joint agenda-setting occurred to some extent. The citizens could not make decisions, but they could indicate which topics they considered important and wanted to know more about. The planners then organised meetings at which these themes were discussed. The final decision rested with the planners, but the citizens did influence the process. This is in accordance with the answers given by most citizens. Some indicated that the video calls made it more difficult to get through to the project team with a question. This was confirmed by the project team. The project manager of the A2 gives an example:

“During the last meeting, there was someone who had doubts about the noise calculations provided by the engineering consultancy. The environment manager gave a two-minute answer. Question settled. At least, that is how it goes online. But that did not dispel the doubts, of course.” (PMA2, May, 2021)

Trust

The project manager of the A2 notices about trust: *‘generally, after an analogue meeting, satisfaction and trust are pretty high. However, I noticed after our digital meetings that we needed two meetings more as people were not satisfied at all’* (PMA2, May, 2021). The opinions of the citizens about the influence of MS Teams on trust in Rijkswaterstaat vary. The communication manager of the A9 notices that it is much harder to *‘establish a relationship with citizens’* and that online meetings *‘take much more preparations as you have to think every minute of the meeting through’* (CMA9, April, 2021).

Some of the citizens experience less trust as the videoconferences are more about informing rather than discussions and open dialogue. Others say that they understand that the project- and communication teams cannot respect all their wishes. This seems particularly the case for the citizens who are more experienced with the use of videoconferences.

EQUALITY

Equality is about the equality of the position of citizens in the participation process. For example, equal access to information and equal speaking time. It is also about the relationship between the planner and the citizen. Are citizens only there to meet the participation requirement or are they fairly and equally involved in the process. The following indicators were used based on the literature: in-depth equal interaction, fair holistic decision, the role of the planner, and public influence.

In-depth equal interaction

In the review of Ianniello and others (2019), in-depth interaction is found to be the most widely used indicator for successful participation. The majority of the interviewees experienced a very low level of interaction in

videoconferencing. Online meetings appear to be unilateral. The project manager of the A2 says that *'at a regular information market, you are literally talking at the same level and looking each other in the eye'* (PMA2, May, 2021). A citizen from the A2 platform says:

“It's more distant [...] you can't really address each other in such a meeting because if I have a different opinion than you, I have to wait until you finish. I do not see anything from other people how they would react if I expressed my opinion, so you tend to keep quiet [...] it is often more of communication of facts. Coincidentally, the other day I got a personal call from the contractor. Then you have a completely different conversation.” (CA2-1, May, 2021)

The non-verbal communication in a videoconference is very different compared to an analogue meeting. The project manager of the A2, for example, tells that if he sees someone shaking his head in a meeting, he can respond immediately in an analogue setting. In addition, several citizens notice a lack of interest among the other participants. For several participants, the camera is turned off, others look uninterested, and people sometimes pick their noses. This disinterested atmosphere works contagiously under the participants.

Another comment that most interviewees made is concerning the use of the chat function. The A2 project manager says that this is a very efficient way of dealing with questions. It is also more accessible for some citizens. At the same time, some people fill up the chat out of exuberance. Although the planners answered as many questions as possible, most citizens experience the chat function as an inadequate way of interacting.

“The two-way communication is that you can send a message in the chat but if you don't have anyone looking at the questions you won't get anywhere [...] you can sit there waving your hand but in most cases that don't work either.” (CA2-2, April, 2021)

In addition to the deficiency of the chat function, citizens agreed that the numbers of participants in a digital environment are important. The fewer the number of participants in the meeting, the deeper and better the interaction. Mett's consultant points out that there are also people who say more in digital sessions due to a higher level of anonymity.

Fair holistic decision

Due to the lack of room for interaction, many citizens feel that the process is less honest and holistic. For example, one citizen recalls saying almost nothing in the digital meetings although there was an opportunity for this in the analogue meetings. The project manager of the A2 mentions that he is more open and honest in an analogue meeting. *'At an information market, you're just gabbing away with everyone. Now that these meetings are online and can be recorded, I think ten times about what I'm going to say'* (PMA2, May, 2021).

The communication manager of the A9 says that he finds the question of honesty and holism a question of conscience. *'Suppose you manage to attract more people with a digital session, then the neighbourhood will be more representative. But that has to work out'* (CA9-1, April, 2021).

Role of the planner

The project manager of the A2 explains how his role as planner changes in a digital participation meeting:

“We used to organise information evenings and then there would be a podium on which the director would stand and make a speech. There would be five people on the podium, and they would answer questions, and there would be two microphones in the middle of the hall. I have noticed that that was quite a threshold. [...] The digital meetings that we have held so far were very much like that podium.” (PMA2, May, 2021)

The role of a planner seems to be more presidential rather than facilitative. *'I determine when we move on to the next question'* (PMA2, May, 2021). In contrast to the critical tone of the project manager, the communications advisor from Amersfoort sees opportunities:

“You have to turn it into an event, a kind of television broadcast with fast-changing images in which you function as a moderator [...] people can then respond in the chat. The great thing about the chat is that after the meeting you still have time to answer all the questions in the written form.” (CAAM, April, 2021)

The more presidential role of the planner has another advantage. The consultant from Mett comments that it can be easier for a planner to interrupt the screamers during a meeting. A citizen living along the A9 says that during the first analogue meetings, people who live relatively far from the motorway came to ‘scream’ about non-relevant issues such as the environmental concerns, while he himself lives right next to the motorway and therefore has a much greater interest (CA9-3, April, 2021). The communication manager of the A9 adds that he sometimes distributes screamers over different meetings so that others get a fairer opportunity to participate. The advantage of video conferences is that it is much easier to plan, and, in this way, attention can be distributed more cost-effectively and more rapidly (CA9-1, April, 2021).

Public influence

The opinions about the perceived public influence differ. Some citizens want to wait to answer questions until they know whether they got what they asked for. Others provide examples of things they have already achieved. They doubt whether the influence has been smaller in the digital process. Interestingly, those with longer experience of video calls do not experience much difference, while less experienced citizens express the idea that they have less influence on the process. The project manager of the A2 feels that citizens have less influence: *'in the context of Arnstein's ladder, you are much more informational [...] it is certainly not co-creation that you are doing [in a video call]'* (PMA2, May, 2021).

INCLUSIVITY

Ideally, in a participation process, everyone who has an interest should not only be allowed to participate but would also do so. In practice, however, it is usually the same ‘old grey men’ who attend participation meetings. Or the people who truly have a major interest because they live, for example, right next to the motorway and have to contend with serious noise pollution. This study assumes, based on the literature, that inclusivity is indicated by the degree of public engagement, diversity of the participants, diversity of communication tools, and empowerment.

Public engagement

The interviewees mention some reasons why people do not engage. A number of citizens say that they know people who stopped attending participatory meetings after the covid-19 pandemic forced to process to be held digitally. Those who quit were often at an older age and did not want to learn how to use MS Teams. Other reasons mentioned have to do with being too busy. A citizen of the A9 for example indicates that it is understandable that busy young families do not participate as ‘their interests are represented by the local neighbourhood committees anyway’ (CA9-2, April, 2021). Others did not participate because they did not have the knowledge or technology to do so.

“There are also a lot of over-70s who are very good at it and want to do it [video calls]. But you also notice that it is a generation that does not use the internet much at all or perhaps does not even have access to it. So yes, you do notice that there is a certain resistance to it. It's not for everyone.” (CA2-2, April, 2021)

One of the citizens of the A9 who was involved, wonders why such a broad public is invited. He says that he himself has no desire to attend such a meeting and is only there because of his major interest. He experiences that many others, with a smaller interest, *'just yell something'* and when you approach them, they *'stick their tongues out'* (CA9-3, April, 2021). He does have an argument, as he is one of the few in his neighbourhood who live on a much shorter distance to the highway. In effect, he raises the question of the necessity of involving such people in the process. The A9 communication manager says that he must involve the screamers because otherwise, they could cause problems through the local media or legal channels, potentially resulting in delays and higher costs.

Diversity of the participants

The citizens who participated in this study were either people with a major interest or usual suspects who usually had a smaller interest. In the case of the A9, it concerns two people who live right next to the motorway and who suffer from considerable noise pollution because the exit will be much closer to their house, and a row of trees along the motorway will be cut down. According to the communications manager, the third citizen interviewed could be found at every participation meeting in the Amstelveen area and is involved in various local newspapers. In the case of the A2 motorway, there were two citizens who participated more often and a woman with a high stake. During the interviews, it became clear that most of the participants were all over 50. However, there were also a few young people present, the youngest being about 35. Another thing that stood out was that there were often more people taking part. The communication advisor from Amersfoort estimates that in most of their digital meetings, about twice as many people take part as would take part in an analogue meeting. The interviewed planners had the impression that there is *'a different audience'* in the meetings (CAAM, April, 2021; CMA9, April, 2021; PMA2, May, 2021; PE, March, 2021). However, this does not necessarily increase the level of diversity among the participants. The communication manager of the A9 recalls an example that he had to lead an evening in Amsterdam Zuid-Oost. *'There are 177 different nationalities living in that part of the city, but on the public meeting, there were still 200 old grey men'*. (CMA9, April, 2021)

Diversity of communication tools

In the case of both developments, people were informed through various channels. From an official newsletter to social media, websites, flyers, and, in Amstelveen, even a visitor centre. At the same time, it appears that the same people participate. A citizen remarks that people might be more inclined to participate if they were approached personally. *'I think people are willing to think and talk, but they just need to be carried over the fence'* (CA2-2, April, 2021). He also notes that the use of communication tools such as social media only works if people are already interested. Since Rijkswaterstaat used just as many different communication channels before the pandemic as it did during the pandemic, it seems that the rise in the number of people participating in video conferences is not so strongly influenced by this and has more to do with the video conference itself. An exception is a story from the A9 project.

“In the Bijlmer, in Amsterdam Zuidoost, we thought hard about reaching a larger target group. We did that in two ways. At a certain point, we did door-to-door rounds [...] so that you just get to see the whole range of people who live there. And [...] every Friday we sat down with the live broadcast of Salto Radio, the Caribbean radio station of AT5, and yes, and everything that is Antillean and Surinamese listens to it, so that also helped a lot that we got people to our meetings or occasionally some other people than those we normally had.” (CMA9, April, 2021)

Empowerment

There are few or no people from lower social classes or other minority groups present at the meetings. The communication advisor from Amersfoort says that his experience is that these groups are usually more active on Facebook and tend to avoid public meetings.

“I suppose they don't care enough or find it difficult to speak to someone at such a stage. Especially in a dialogue, there are pros and cons and then you notice that people sometimes have difficulty grasping it all.” (CAAM, April, 2021)

The communication manager of the A9 says that he rarely sees people from lower classes in video conferences. The example of the Bijlmer mentioned above is a positive exception, because since the radio broadcasts a more diverse public attends participatory meetings. However, these people do not know how to behave during a meeting and do not get involved in the dialogue. The communication manager gives the example of a group of Surinamese people who *'are not used to talk to the government in this way'* (CMA9, April, 2021).

QUALITY

Participation in planning processes can contribute to both the quality of the process and the quality of the decisions that are made. Based on the literature, the degree of quality is determined by the criteria of comprehensive input, new resources, adaptability, effectiveness, and collaboration.

“I think that [there are] two sides to the fact that participation helps to improve public support. That is, as a project you will be able to reach the finishing line because you will have [...] fewer dissatisfied people. You want to prevent people from going to local politics and the media and spreading all sorts of cock-and-bull stories. But another one, that I think is very important, is that, for the budget you have, you can generate [...] more quality because what you build for your budget with the people who have thought along with you is more in line with the wishes of the people who live there and who have to face up to it. In that case, I think you owe it to your residents in terms of intrinsic motivation. So it's the business side of trying to steer your project through with as minimum fuss as possible and, on the other hand, as a resident of the Netherlands, I think you just have to make as many people as possible happy.” (CMA9, April, 2021)

Comprehensive input

Participation in planning processes can contribute to both the quality of the process and the quality of the decisions that are made. Based on the literature, the degree of quality is determined by the criteria of comprehensive input, new resources, adaptability, effectiveness, and collaboration.

As already discussed in the sections on transparency and equality, using the videoconference results is less exchange of information, and the dialogue is more superficial. Consequently, both citizens and planners experience less extensive input from citizens in the process, which substantially reduces the qualitative contribution of citizens to the process. In some meetings, the chat function was disabled, and people were only allowed to speak if they raised their digital hands. The citizens who commented on this all said that they were reluctant to use the chat.

New resources

Several citizens consider it a major problem of videoconferencing that there is little or no contact with other participants. There is no possibility of *'sparring with a neighbour'* or *'discussing what someone exactly means'* (CA2-1, May, 2021). Although there is sometimes the opportunity to respond to each other or to linger for a while after the session, this is rarely if ever used. People experience a threshold and tend to adopt a more formal attitude in the process. Consequently, none of the citizens mention to have met new people, whereas this was the case for some of them during the analogue meetings. Moreover, there is no support from other people in the room. And yet this support can help planners to identify what is going on among a certain group of participants. The planners also notice that the digital environment is much more formal, and they say they miss the informal talks at the coffee table.

New resources are also about learning new things. The video conference offers a more limited form of communication, which makes learning during meetings less optimal. Nevertheless, citizens indicate that if this is

properly addressed, for example by giving shorter presentations, this is not a problem. A citizen from the A9, for example, said that he learned a lot about road traffic noise during the digital sessions.

Adaptability

In the context of adaptability, a number of people indicated that it takes more dialogue to change positions when using a video call. At the same time, citizens with more experience of video calling remarked that they are not really hindered and could still adapt to the views of others or of the planners.

In addition to changing views, citizens and planners indicated that the process is more flexible in a digital setting. A citizen of the A9:

“I simply have my own space here, so I can organise it the way I want, whereas when I'm in the council chamber, I have a table where I sit with limited space and everyone else [...] can watch me on my screen [...], so in that sense, it's also a bit safer.” (CA9-2, April, 2021) video conference offers a more limited form of communication, which makes learning during meetings less optimal. Nevertheless, citizens indicate that if this is properly addressed, for example by giving shorter presentations, this is not a problem. A citizen from the A9, for example, said that he learned a lot about road traffic noise during the digital sessions.

Effectiveness

The effectiveness of the digital meetings appears to depend on the specific occasion. For example, the quality of the input provided by citizens is lower and citizens comment that the information sent by the planner is sometimes more difficult to comprehend. The project manager of the A2 motorway about digital meetings: *‘I thought it had less effect [and] not everyone was convinced, and certainly not everyone was satisfied with the answers that were given’* (May, 2021). Citizens also stress the greater effect that can be achieved through personal contact. A citizen of the A9:

“I think that it is very important that the first contact is personal. They [Rijkswaterstaat] are always used to just giving information, and then you are like hitting a wall, and I think to myself, it's coming anyway, just let it go, you know.” (CA9-3, April, 2021)

The communication manager of the A9 notes that it is much easier to spoil the atmosphere in a digital meeting.

“Whereas if you [...] stand in a room you notice a difficulty beforehand so then [I] just stand with Mrs. X or Mrs. Y and get a cup of coffee or I walk with them to the map and tell them something or you say gosh I noticed last time you still had problems with this maybe we can come and explain it so that you have more possibilities to settle things individually and now in a digital environment [...] you can't get it right [...] because you are with the whole group at once.” (CMA9, April, 2021)

One of the most frequently mentioned arguments for organising digital meetings is the ease of organising them. The project manager of the A2 says that it is a *‘great advantage, a great good to have these digital sessions [...] because it is so easy and so quick to organise and there is so little hassle, and everyone can come and go as they please’* (May, 2021). A citizen from the A9 adds that it is also possible to organise multiple meetings *‘because everyone has more time in the agenda because no one has to travel’* (CA9-2, April, 2021). Citizens express their pleasure in not having to travel. *‘In the past, you always spent an hour travelling towards and an hour travelling back and now you hang up and you are home, and you haven't travelled a single kilometre’*, says a citizen from the A2 (CA2-3, April, 2021).

Collaboration

Some citizens were reasonably satisfied with the cooperation with Rijkswaterstaat. A citizen of the A2 motorway says that he felt the project team was really looking for local knowledge and that the citizens were really needed to point out which local interests were at stake. For example, the importance of a particular junction. He has the feeling that he was listened to carefully and that if nothing could be done, for example, because of higher costs, this was always properly shared with the community platform. Yet most citizens always emphasise that there was much less collaboration in an online setting.

SUITABILITY

Suitability is particularly about the extent to which citizens and planners consider video conferencing appropriate in a participation process. In this study, this is measured by the process context, the scale, the identification of the right problem, and the institutional context.

Process context

Most interviewees prefer a mix of online and offline meetings. The majority of them emphasise that, especially when there is a need for dialogue, for example when it comes to emotional themes, a physical environment is a better place than an online environment. *'If there is no other alternative, you probably could do it online. But if I have a preference, I want to discuss sensitive items [...] [in a physical setting,] then you should be able to look each other in the eye'* (CA2-2, April, 2021).

For 4 out of 6 citizens, informational meetings can be organised online because it saves travelling time and expenses. One citizen from the A2 even says that, as far as he is concerned, almost all meetings can be organised digitally. *'One or two analogue meetings a year, to shake hands as the occasion arises, is sufficient'*, he says (CA2-3, April, 2021). A citizen of the A9 says that it is very important to be informed before nuisance-generating activities take place. This could also be achieved perfectly well online. The A2 project manager says that he will certainly do more informational meetings digitally in the future because they are much easier to organise and *'because the costs and effort are simply much lower'* (May, 2021).

When asked whether digital or non-digital meetings should be organised in the future, one citizen replied as follows:

"[it] always gave me tremendous energy to actually go to such a meeting and then perhaps even more so the coffee breaks... to have a drink together or those conversations when you just look each other in the eye and exchange ideas, how do you do this, how do you do that... those are such valuable moments." (CA9-2, April, 2021)

Scale

Citizens say that the number of people participating in a digital meeting matters. A citizen of the A2, for example, states that a group of 20 or 25 people is far too big to properly engage in a digital conversation, while it is much easier to do so with three or four people.

Problem identification

Since communication in a video conference is less optimal, the identification of issues is likely to be more imprecise. For example, there is less freedom to ask open questions. The communication manager gives an example of the importance of asking open questions.

"In the beginning, my colleagues and I were perhaps not yet adept at SAA [internal project name] at asking open questions, so sometimes we assumed too freely that this was important to them and this was not important to them. And then there was a great turning point when there was an item on AT5 [(Local Amsterdam Television Broadcast) ...] by people in the polder. I myself had once thought of adding a small cycle path so that the residents could use the much longer cycle path that we had laid down. It

was really a 50 metre stretch through a small strip of grass. Nobody ever asked. We just assumed it was all there, so of course, everyone would be happy. And then AT5 came along; they'd just filmed a group of 10 ladies talking in plain Amsterdam accent who were really more colourful than Jiskefet [Dutch cabaret group] and couldn't think of a single reason why that cycle path was not completely idiotic. That was a real lesson that made us think, oh, it is really important to check whether they would really be so happy with the new cycle path because they weren't. And then, finally, the municipal council also decided to do something about it. Eventually, the district authority declared that this would cause so much commotion that it would be better to remove the path and reinstate it." (CMA9, April, 2021)

To prevent such problems, it is crucial to have a decent dialogue. The communication manager of the A9 explains that within Rijkswaterstaat they have investigated what tends to disturb and annoy people.

"Where do you really hit that level of local a bench, a cycle path, a bridge, because really, I have noticed that: people when they can no longer walk their lap with their dog, that is what gets them annoyed." (CMA9, April, 2021)

The communication manager says that discussing such local matters is sometimes possible by videoconference if he already knows the people more personally. He, therefore, suggests starting with physical meetings and to explore the possibility of organising digital meetings later on.

Institutional context

One of the citizens of the A9 states that he expects that after the pandemic, about 50 - 60% of the participatory meetings will be in a digital format. From his experience as a construction consultant, he thinks it is of importance in the construction sector to sometimes have the opportunity to visit a construction site or to stand in a group of people surrounding a large area map. This certainly applies to an executive organisation such as Rijkswaterstaat. On the other hand, he feels that video conferencing is too efficient to avoid using it. If site visits or field visits are not necessary, he expects 70% - 80% of the meetings to be held online (CA9-1, April, 2021).

5. CASE 2: GIS-BASED ONLINE QUESTIONNAIRE

5.1 CASE DESCRIPTION

This case describes the use of the participatory GIS tool 'Maptionnaire' for the redevelopment of the Bretautélaan in the town of Vught. The redevelopment was performed by a project team from the municipality of Vught. The street is characterised by spacious dwellings with abundant gardens. The street has a single driving lane with bicycle lanes on both sides and a 30 km/h speed limit. In addition, on both sides of the street, at approximately 10-metre intervals, there are oak trees with an estimated age of 30-50 years. In addition, there is a footpath on one side of the road.

The background to the redevelopment is the reconstruction of the N65, a national road that runs straight through the town of Vught. The N65 will partly be constructed at a lower level, which means that De Bretautélaan will no longer cross the road but instead will bridge it. As the Bretautélaan will be partially reconstructed and the asphalt shows signs of degradation, the municipality has decided to redevelop the whole road.

Figure 6

A street view of the Bretautélaan

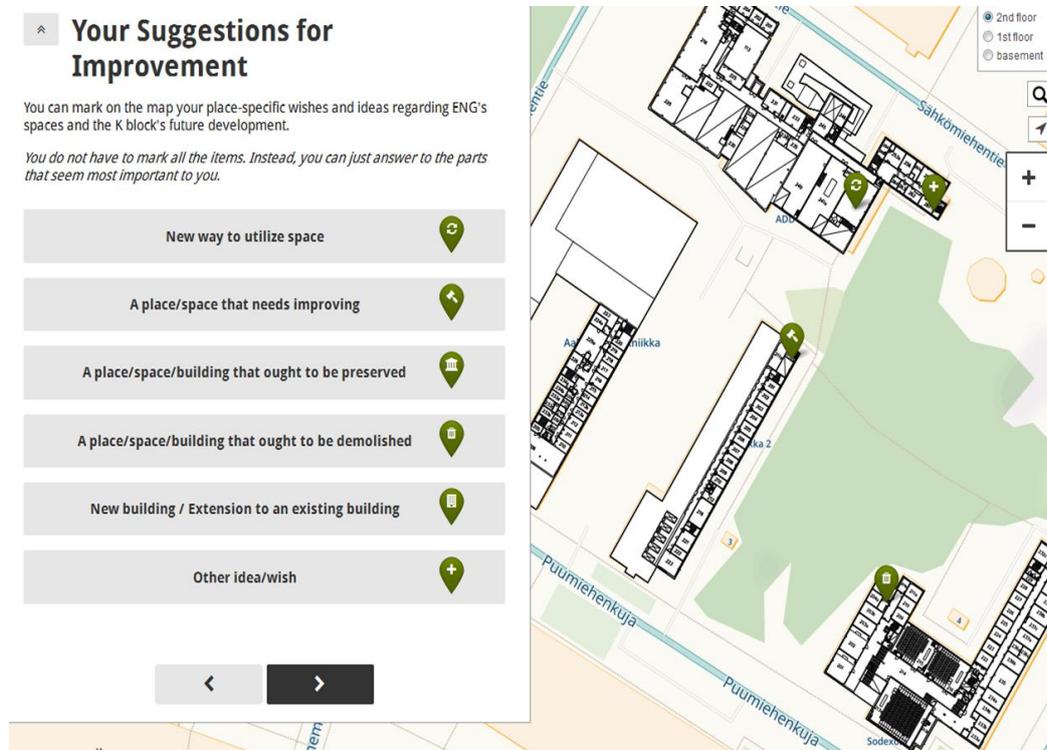


Note. A street view of the Bretautélaan in Vught. The street consists of large dwellings with abundant gardens. From "Google Streetview," Copyright 2021 by Google.

The Maptionnaire tool is a tool that originated from the environmental psychology SoftGIS methodology developed at Aalto University from 2005 onwards. The method can be used to study topics such as a child-friendly environment and urban safety. The SoftGIS studies human behaviour with a focus on which location the behaviour takes place. Starting from SoftGIS, Maptionnaire has been commercially developed into a tool that allows planners without coding or GIS experience to create surveys with location-specific questions that can be loaded into GIS-compatible data files. Besides loading the data into GIS-maps, they can be analysed with statistic measures as well. When using Maptionnaire, the planner has to think up the survey questions and the survey design by himself.

Figure 7

An example question in Maptionnaire



Note. An exemplary view of a question in Maptionnaire. At the left side, participants can choose a spatial measurement which they can mark on the map on the right side of the view. From "Geoawesomeness," author unknown, Copyright 2021 by Geoawesomeness.

In the participation process of the Bretautélaan redevelopment, about 400 households were invited. The project team of the municipality had no experience with the use of Maptionnaire prior to the project. However, according to the project manager, it was very easy to create a survey and everyone at the municipality was very enthusiastic about the quality of the data and the high response rate. During the participation process, in addition to the survey, several residents were asked to participate in a number of consultative meetings with the project manager as representatives of the street. The results of the survey were shared during these meetings. According to Arnstein's (1969) ladder, the process involved informing and consulting. It is likely that, based on the size of the plots and the houses, most of those invited belong to the affluent citizens of Vught.

5.2 ANALYSIS

TRANSPARANCY

Informing

The Maptionnaire consultant argues that transparency begins with properly informing citizens. *'This is what determines the success of the survey and Maptionnaire is very suitable for this'*. He adds that, *'by asking questions that are linked to a location visible on a map, citizens are more likely to understand what they are responding to and therefore respond more accurately'* (CONM, May, 2021).

One of the participants of the Bretautélaan notes that she is visually oriented and therefore prefers to have a visual design in a survey rather than a map-based design. She says that a map does not provide her the understanding that a visual can provide. The consultant of Maptionnaire mentions that it is possible to add visuals and sketches to a survey, but that it is up to the planner (May, 2021).

Openess

One of the citizens suggests that the process might become more open by using digital tools. *'It is sometimes easier for people to write something down than to speak'* (CBV-2, May, 2021). At the same time, openness about interests strongly depends on the planning authority. A planner who does not want to share interests can easily hide himself behind a survey. Another disadvantage when using a survey is that citizens only can learn about the interests of other participants after the process rather than during a meeting where communication goes back and forth.

Trust

In regard to trust, the citizens indicate that they gain trust in the municipality primarily on the content rather than on the course of the process. If the municipality acts on what the citizens suggest, trust grows. One citizen says:

"I do believe that the people at the municipality have good intentions. The individual people we had contact with were very friendly and I think they made an effort. And a survey tool like that works very well too. But afterwards, you still get the feeling that you didn't have any part of it." (CBV-1, May, 2021)

Trust seems to be established especially through personal contact. A good relationship between citizens and the municipality appears to be fundamental. If a planner online provides a survey without any contact, a survey can be even counterproductive. *'It actually gives the municipality the opportunity to make the process less transparent. In a conversation I feel I can make my argument more explicit'*, says one citizen (CBV-2, May, 2021).

Joint process customisation

A survey can provide a representative picture of what residents consider important in their neighbourhood. Such input could be used to identify relevant agenda items. This is also what happened during the redevelopment of the Bretautélaan: input was collected through the survey and later discussed with a number of representative citizens. Such an approach shows how a survey can be used in joint process customisation. Yet, it also shows a potential weakness. A survey might be entirely inappropriate if the wrong questions are asked.

"If you ask people, 'well, we're going to renovate your street and we think it needs two speed bumps and a bench, you can put them where you think it's suitable'. See, that's a completely different type of question than just *going Godmode*: 'just think of something pleasant for your neighbourhood'. Such an approach would give way less valuable input." (CONM, May, 2021)

It is apparent that if a survey is used, certain boundaries should be provided in advance of the process, so that not all participants come up with the extremely divergent ideas which subsequently turn out to be unworkable for the planner.

EQUALITY

Equal in-depth dialogue

Compared to a plenary meeting, the dialogue performed through a survey questionnaire is more equal in some respects. Participants all receive the same information and the same opportunity to respond. The project manager of the municipality of Vught says he received more unique responses than in a residents meeting. He summarises where he believes the value of the Maptionnaire lies in comparison to an analogue residents' meeting:

"If a lot of comments are made about a particular spot, saying that people are driving too fast here and there is too much parking pressure there [...], and this comes ten times from different residents, then

you can say you have to do something about it [...]. Suppose you organise a plenary session about the current situation in the neighbourhood and one person stands up and says 'yes, but at Pietje Puckstraat there's a very big parking problem'. [...] then it's a bit of a guess about the significance of that issue. [...] Maybe at the end of the evening you will be pulled by your sleeve [by someone] who actually lives nearby and he will say 'it's not that big of a deal, you know'. Is it a heavy issue then, or is it just someone who reacts fanatically? Of course, that makes it tricky. With Maptionnaire you can simply say that if ten out of twenty people respond that there is a parking problem. Well then, it really is a parking problem, with no added emotion." (PMV, April, 2021)

In other words: the information collected by a survey is more equal and more objective. A municipality can therefore rely on facts rather than on a residents' meeting in which the loudest screamer has the upper hand. Furthermore, the information gathered by a survey seems more rational compared to a residents' meeting in which emotions can dominate the content of the discussions. Moreover, the dialogue is better controlled through a survey than at a residents' meeting. The community worker from Amersfoort explains from her experience with residents' meetings in various cities that people usually complain about the same matters: *'youth nuisance, dog dirt and behavioural traffic'* (CWAM, June, 2021). Yet a planner in a participation process would want to discuss other issues. For example, if a planner is commissioned to realise an x number of houses, he will have no reason to deal with citizens who complain about youth nuisance or dog dirt. The fact that Maptionnaire offers the option of asking location-specific questions ensures that participation can be managed even more effectively. Besides the advantages in terms of equality, there are evident shortcomings of the survey tool as well. People cannot respond to each other and experience the dialogue through a survey as less in-depth.

Fair holistic decision

Residents say they did not necessarily find the decisions fairer or more holistic. They would have wished that the municipality acted more on the concerns they raised in the meetings. Ultimately, the perceived fairness and holisticness of a decision seems to lie more in the outcomes of the process and in the relationship with the municipality, rather than in the actual influence citizens have on decisions.

Role of the planner

As already mentioned in the section on transparency, the role of a planner is crucial in a process that uses a survey. Asking the right questions will provide valuable input for the process. The location-based questions that can be asked with Maptionnaire can help in asking the right questions. At the same time, the consequences of asking the wrong questions will be significant. Furthermore, the planner is in a more dominant position than in a residents' meeting in which he has to defend himself verbatim at the scene. A planner could decide against sharing the results of a survey and could carefully reconsider a response.

Public influence

The degree of influence the citizen has is strongly dependent on how the planning authority deals with the responses. For example, a citizen says: *'Yes, the survey in itself is good. I think the municipality did a very good job. I would give the survey an 8. But the way the survey was interpreted was not so pleasant'* (CBV-2, May, 2021). Another citizen says that the questionnaire did not leave any lasting memory. She would remember a conversation much better. *'People have no idea what location maps are showing [...] you can't envision what it is going to be like'* (CBV-1, May, 2021). That is why she remembers the conference evenings more than a survey. Although citizens can provide more objective information with a survey, the perceived influence may be limited as the moment of participation is less strongly remembered.

INCLUSIVITY

Public engagement

According to the experience of the project manager of Vught, the number of unique responses is higher than at a plenary residents' meeting. Furthermore, people have more time to respond to a survey compared to the short during residents' meeting. In addition, people who cannot be present at a fixed time can still complete the survey in their own time. Moreover, people can leave their response anonymously and may therefore be inclined to mention matters that they would perhaps not say in the public sphere. According to the project manager of Vught, this consequently increases public engagement. This was also the case at the process of the Bretautélaan: according to those involved, the level of participation was very high. The Maptionnaire consultant says that they are usually informed by their clients that they receive a substantially higher response compared to an information meeting.

Diversity of participants

Although no specific questions were asked about the diversity of the participants who completed the survey of the Bretautélaan, it is very likely that the diversity is higher as the response rate is much higher than in the online meetings. At the same time, citizens do indicate that they live in an affluent neighbourhood and therefore the participation rate may be higher. The Maptionnaire consultant adds:

“Take an information evening. You might get the usual suspects there, and they will undoubtedly fill in the survey as well. But we see from the response numbers that these often exceed 1000. You would not have had these people in a community centre for 100%. So by definition, you get a larger response.” (CONM, May, 2021)

Diversity of communication tools

During the development of the Bretautélaan, people were informed by letters through the mailbox. According to the project manager of Vught, letters from the municipality are usually fairly well read. However, the response might have been even higher if a greater variety of communication tools had been used.

Empowerment

According to the citizens and the project manager there are few to no people living in the Bretautélaan belonging to a class of lower income or an excluded minority. The street is located in a wellbeing neighbourhood with large dwellings and wide avenues. It is therefore obvious that there has been no sign of empowerment. The Maptionnaire consultant says that from his experience excluded groups of people are not inclined to come to residents' meetings. He estimates that the best way to reach these groups is to investigate what channels they use to communicate and try to reach them through those channels. He further adds that an online location-based survey that is easy to complete is an interesting approach to solicit responses from these groups. Often, they are less able to express themselves or don't quite know what the issue is. By asking very specific questions, they might be easier to reach. He also points out that these people may be digitally illiterate or may not have the technological resources to participate. The project manager estimates that it is mainly people over 80 who will sometimes drop out of a digital survey. Maptionnaire's consultant suggests that these people may still have a chance to participate by making the survey available on paper.

QUALITY

Comprehensive input

As mentioned earlier, the using of Maptionnaire can generate more unique responses. The citizens were both convinced of the survey as a suitable tool. They nevertheless remarked that it would not have been feasible without the residents' meetings.

“A conversation makes you consider things you wouldn't have thought of otherwise. If the neighbour says yes, we can do this or that, you might be inspired to say yes, I actually think it's a good idea, why don't we do it that way? And in such a survey, it's just one-to-one.” (CBV-1, May, 2021)

The consultant explains to what extent Maptionnaire can provide high quality data:

“The people who answer the questionnaire are of course not aware of it, but in fact they are filling in a unique experience map by responding with their responses. So if you say, hey, where do you feel unsafe, well, right there on the map I feel unsafe. So basically you stick a digital yellow on our GIS map, on our Google Maps or whatever map you want to use. And the result is a map with all those dots from all those other people who independently provided all those answers. And there you will see that you will get concentrations [...] It's a bit of a cliché but it tells more than 1,000 volumes, you can see at a single glance that a lot of people feel unsafe there, something must be going on there. Then you can start investigating why people have indicated that they feel unsafe. Troublesome kids, perhaps we should do something about that.” (CONM, May, 2021)

New resources

The use of Maptionnaire results in experience maps that are compatible with GIS. In addition, it also provides quantitative data. These are highly valuable data for a municipality. By providing the results of the survey to the citizen, the citizen learns a lot and decisions are made understandable. However, a survey does not include the networking aspect. Citizens do not get to know new people and have no chance to unite.

Adaptability

One citizen says that he *‘definitely changes his mind’* if the survey reveals that people in the neighbourhood have a different opinion than he does. *‘You have to be open to change your opinion. And if the whole neighbourhood thinks something and I don't, then I find it perfectly understandable to go along with that’* (CBV-2, May, 2021). The consultant gives an example of how Maptionnaire can be applied to inform citizens who sometimes change their point of view. It concerned a project in Zevenaar where the municipality wanted to uncouple people from the sewers.

“Initially, people were generally not very keen on uncoupling the sewage. But now they've completed the survey, which contained only a few questions, mostly informing them about what the municipality could do for the residents. They explained quite clearly what it means. Subsequently, if you would like us to organise this for you, we will do so free of charge. The municipality will take care of it, you don't have to worry about it and it doesn't cost you anything. We just spend an hour sawing through the pipe and everything goes well. Finally, the question was: are you interested in the project? Well, there was a sizeable number of people. Based on the survey, the citizens said: “Here's my contact information.” (CONM, May, 2021)

Effectiveness

The citizens and the project manager say they find a survey very effective because citizens can participate at a time that is convenient for them and it clearly increases the response rate. The quality of the data is high as it is feasible for statistic measurements and easily shows the residents what the majority of them has chosen. The results of the Maptionnaire can also be loaded as a GIS map, so that, as the consultant expresses feasibly, *‘the respondents are in fact filling in a unique experience map. Very practical compared to an A0 paper with small yellow notes on it, which can easily be lost’* (CBV-2, May, 2021).

The citizens also say that it is practical for a municipality because it enables them to consider the issue beforehand. However, a survey without a public hearing is not effective enough. *‘That is a must’* (CBV-1, May, 2021). The Maptionnaire consultant also says that a meeting is not replaceable. *‘We [at the company] always say: Maptionnaire is an addition, you should see it as an enrichment, not as a replacement’*. The project manager of Vught says that he does not know whether the survey can lead to fewer objections and lawsuits. Without good feedback on defensible choices, or without speaking to people at all, people will tend to feel ignored.

Collaboration

The redevelopment of the Bretautélaan did not work out so well in the eyes of the citizens. One citizen notes that he raised several issues during the meetings that, according to him, also clearly arose from the survey. He gives the example that he and the residents' committee would like to see different cobbles to improve the street view. This would have improved the street's appearance and the bricks were available; they would not have cost anything more. The municipality, however, did not go along with this.

“And then you get the feeling you're not being taken seriously. In the end, the municipality's argument was that people in wheelchairs might have difficulty with the cobbles. Very strange, because I've never seen anyone in a wheelchair in our street. So I said that in that case it would be best to put asphalt on the road. But the council didn't go along with that either. That's what I mean by arguments and showing up at such a meeting just for the sake of it. In the end the council said yes, well, we've already decided. So that's how we're going to do it. So that gives you the feeling that you're sitting there for nothing.” (CBV-2, May, 2021)

This example shows that, once again, the position of the planning authority is crucial for participation to be successful. In addition, a questionnaire often does not collect all the information that may be relevant. The fact that the residents want different clinkers that they even have available themselves is a big missed opportunity for collaboration.

SUITABILITY

Process context

Citizens find the survey a suitable tool for participation in planning processes. One of the citizens comments that it would be very helpful if the survey not only included maps but also sketches that were more in line with her visual disposition. The project manager of Vught expects to use Maptionnaire more often in the future. He finds the increase in unique responses in particular a clear added value. Furthermore he says:

“We have had a situation where you hang your design on the wall [...] so people can stick their comments [on a piece of paper] or a stack of sticky notes on the design and then let the people express their opinions during the residents' meeting, if they don't or can't do that in a plenary session [...] That's not really necessary now. You can say go home now, have a cup of coffee [...] then the next two weeks, when it suits you best, you can sit quietly, [fill in the survey] and have another good look at the design. I think that really is a great added value.” (PMV, April, 2021)

Problem identification

Maptionnaire offers a unique approach to identifying location-specific issues. As mentioned before, in the blink of an eye the map shows where people experience problems and where they would like to see changes. At the same time, Maptionnaire does not offer the possibility that a conversation does: in a conversation, someone can add something, clarify something or something else can occur to someone.

Institutional context

The consultant says that Maptionnaire is suitable for all projects by any company. *‘As long as you are genuinely interested in the opinion of stakeholders’*. He explains that the tool is not only used for participation in the environment, but also, for example, in healthcare. However, most projects for which Maptionnaire is used are of a planning nature. *‘It is not for nothing that Maptionnaire's unique selling point is its location-based questions’* (CONM, May, 2021).

6. CASE 3: DIGITAL PARTICIPATORY PLATFORM

6.1 DESCRIPTION

Mett is a consultancy agency with a high level of expertise in the field of participation, particularly in spatial developments. Mett's consultants have developed a platform that can be used in participation processes. The platform is in effect a website on which all information can be placed about a certain project or about all projects in a certain region or by a certain authority. For example, Rijkswaterstaat has a project that investigates whether solar panels can be positioned on the verge of the motorway. This project, called 'A6 zon', arranges participation through the platform of Mett. Besides all the information about the project, the platform can be used to inform people about participation meetings, contain reports or even recordings of meetings, and contains all kinds of possibilities to get reactions from citizens. For example, surveys, polls, and social media can be connected to the platform so that people can engage in discussions and learn about each other's points of view. This provides the planning authority with data that can be useful during the participation process.

Figure 8

The Mett-platform of the municipality of Amersfoort

The screenshot shows the 'Mett Amersfoort' website. At the top, there is a navigation bar with 'Welkom', 'Mett Amersfoort?', 'Projecten', and 'Contact'. A search bar with 'Zoeken' and a magnifying glass icon is on the right. Below the navigation bar, the heading 'Projecten' is displayed. A sub-heading reads: 'Op deze pagina staan de projecten waar je op dit moment over kunt meedenken of meepraten.' Below this, there are five project cards arranged in two rows. Each card features a representative image, a title, and a short text description with a 'Link openen' button.

Project 1: *Verbetering Palmstraat en Hulstraat*. Bij de Palmstraat en Hulstraat vergroten we het riool en richten we de straten en pleinen opnieuw in. Wat vind jij van het ontwerp? [Link openen](#)

Project 2: *Verbetering Dollardstraat-Spaarnestraat*. De gemeente Amersfoort gaat de Dollardstraat en Spaarnestraat verbeteren. Daarmee willen wij wateroverlast tijdens hevige en/of langdurige regen voorkomen. Welke wensen of aandachtspunten moeten wij meenemen in onze plannen? [Link openen](#)

Project 3: *Beheerplan groengordel Soesterkwartier*. We gaan het populierenbos en zijn omgeving opnieuw inrichten. Vertel ons wat je van het concept ontwerp vindt. Dat kan tot en met 21 mei 2021. [Link openen](#)

Project 4: *Ambliedocument nieuw stadhuis*. Voor het nieuwe stadhuis verzamelden we de afgelopen maanden wensen en ideeën van inwoners, medewerkers en experts. Het resultaat bundelden we in een concept-ambliedocument. Hier kon oenieder op reageren. [Link openen](#)

Project 5: *Omgevingsvisie*. Wat vind jij belangrijk voor de toekomst van Amersfoort? [Link openen](#)

Registeren en inloggen?
Bij de meeste projecten kun je meedoen zonder te registreren of in te loggen. Als dat wel moet staat het bij het project aangegeven.
Voordeel van registreren is dat je projecten kunt volgen: je krijgt dan een notificatie in je mail als er nieuws is.

[Ik wil mij registreren](#) [Ik wil inloggen](#)

Note. A screenshot from the Mett-platform of the municipality of Amersfoort. At the page are several projects where citizens from Amersfoort can participate in. It includes local redevelopments and the environmental vision for the city. From "Mett-Amersfoort," author unknown, Copyright 2021 by Mett Amersfoort

The practical expert interviewed for this study is a communications manager at the A6 Sun project of Rijkswaterstaat. According to the creator and developer of the platform, Amersfoort is an exemplary municipality of how the platform performs best. The other interviewees are all active in Amersfoort. The municipality of Amersfoort puts as many spatial developments as possible on the platform. The communication advisor of the municipality of Amersfoort said that the redevelopment of Neptunesplein was one of the successful projects where the platform was used. Therefore, two residents and a community worker from that district around Neptunesplein *were* interviewed. In addition, a citizen who had participated in the platform elsewhere in Amersfoort was interviewed.

Figure 9

Participatory visual of the Neptunesplein



Note. A visual from the Neptunesplein, subdivided into small sections (A-F) where the citizens of the neighbourhood around could give their location-based suggestions. From “Hallo Kruiskamp Koppel,” W. Wüthrich, *Copyright 2021 Willemijn Wüthrich Grafisch Ontwerp & Illustratie*

The Neptunesplein is located in the residential area of Kruiskamp. There are several flats for senior citizens, a number of newer houses where young families live, and a large number of smaller houses where people with lower incomes live and especially people with a migration background. During the field visit, it was striking how busy the square is with lots of honking, parked cars in the middle of the road, and people crisscrossing each other. The users of the square seem to be mainly people with an immigrant background and some elderly people from the flats. According to the community worker, about 60% of the residents are low-educated and 40% are highly educated. Last year, a number of the facilities had to be replaced and the municipality decided to renew the greenery as well. The municipality went into the neighbourhood with a blank planning map, with the idea of letting the citizens decide as much as possible.

The redevelopment of Neptune Square was announced through a letter, social media, and the platform. Residents were asked to come to a residents' meeting with ideas and to share them. People could specify on a map in which area of the square they would like to see a change. For example, a bench in area A and a few extra trees in area B. The residents' meeting took place in a digital meeting. It was recorded and posted on Youtube so that people who could not attend could still respond later. Subsequently, the municipality made three designs and people could choose their preferred design via the platform. The preferred design finally won with 93 votes. The votes were counted per household.

TRANSPARANCY

Informing

As primarily mentioned, citizens were informed through as many channels as possible. The platform creates a snowball effect: one of the citizens says he came to the platform through a survey and then immediately filled in another survey, which was also relevant to him, but which he had not heard through the usual channels. Combining projects within a certain region on the same platform can thus be a new instrument to inform people who are already interested in participation. Furthermore, citizens say that the platform is easy to use. *'Look, with something like this, you just want to understand in three clicks what it says and what it's about. And that was just fine'* (CAM-2, May, 2021).

Mett's consultant explains how he envisions the platform's role in informing citizens.

"We always advise our clients that it is very beneficial to have a digital format because it is the start and the heart of your project. That's where you always get involved. So at first, you may be latently involved or you may reach a point where you think you'd better ask. Then you actually want to be able to find everything in one place, clearly and transparently. But people simply have different entry points for such a digital platform. One person will check it out when he is searching for it, another will be triggered by social media, a third will only look if he gets something in the mail when he is able to hold it and a fourth will only look if he has been at a meeting or has had a conversation with someone or if he has been phoned. Regarding those entry points, I believe that such a digital information tool [(the Mett platform)] can be very much the connector between all those different channels." (SCM, April, 2021)

Openness

When asked to what extent the Mett platform contributes to openness, the Mett consultant surprisingly replies that he does not think it necessarily leads to more openness about interests.

"Imagine that something is going to happen in your community and the municipality would like you to think about it. So first of all, you need to know that it's happening. Secondly, you have to be interested and be able to relate it to your own environment. Subsequently, you have to make it important, it has to be so important that you want to do something with it. Next, you have to immerse yourself in it and then you have to trust in the process: that it makes sense to contribute and that it also makes sense to speak out. So someone who wants to become more open needs quite a few steps to achieve this, and it does not mean that these steps always take place in the same channel. So it may well be that someone studies the platform, becomes interested in it, then attends a meeting where he starts to consider it important, then calls a communications manager with a question, and only then submits an opinion. Then you see that those five steps go through different channels; people have to go through the whole journey. So I think that such a platform sometimes contributes to this, sometimes to that, so not always in actually becoming more open in the platform, because that can also be exciting. Because if you have an interest, you don't want everyone to know about it." (SCM, April, 2021)

Joint process customisation

Several citizens feel that the reform of Neptune Square was not entirely transparent as far as they were concerned. The main reason they mention is that none of their wishes were fulfilled. One citizen says: *'I think they [(the municipality)] have met the requirements to inform the people but if they don't act on it, you can say it is transparent but of course it is not really so'* (CAM-1, May, 2021). It is interesting that the citizens experience this way because the municipality has made an extra effort to be transparent and to design the square together

with the citizens. Still, people apparently continue to feel afterwards that they have not been listened to if their own ideas are not realised.

Trust

“It [trust] depends on how the municipality deals with the results of these kinds of surveys afterwards. If it is communicated openly and clearly and as widely as possible, what was said in the surveys and what the residents thought of it. And that it is then also visible what is done with the results in the decision-making, then it can be very useful and I do have faith in that. But I think this is a form of participation that cannot be compared to a process in which a group of residents is involved throughout the decision-making process.” (CAM-3, May, 2021)

Judging by the reaction of this citizen, communication is particularly important and a survey cannot function without dialogue. Another citizen goes even further. He is the chairman of the owners' association of one of the blocks of flats for senior citizens and he is trying to talk to the municipality about the traffic problems at Neptune Square. He says:

“As I said, I find it unbelievable that the municipality is so difficult to reach and gives no response. That is indeed worthless for the trust. It gives you the feeling that you're not being taken seriously as a neighbourhood. Anyway, I think that if you look at the survey and how the platform works, then the municipality has done a good job. We were simply kept well informed about it.” (CAM-2, May, 2021)

EQUALITY

Equal in-depth interaction

The use of a platform and, for example, a survey appeals to citizens. One citizen says that the information is more equal, and everyone gets the same chance as everyone else. Compared to public hearings, however, citizens miss the dialogue. I do realise that there is more nuance to be given than can be conveyed in a survey.

Fair holistic decision

Most citizens agree about the fairness of the process. The process and the platform are good, but they still have some criticisms about what the municipality could have done better. As far as the communication manager is concerned, the process has indeed become fairer.

“Well, I'm not a fan of the plenary information meeting. If you give a presentation, you only need to have one screamer and he sets the mood for the whole evening. That screamer will and must make his point, and three-quarters of the audience will stare in front of him, wondering what the hell I'm doing here. I might as well have left. I've also seen people say: 'And now I want to say something too!', 'And now shut up! The self-correcting ability of the audience, nice to see. But that's why, physically, we prefer to do a walk-in meeting one-on-one as much as possible. However, I have also experienced that when someone tries to make a point, there is a whole queue behind them of people who also want to ask a question. What you do see in online participation is that people experience a bit more freedom to speak, so they dare to say more, since, of course, there is a distance between them. A computer doesn't say anything back.” (CAAM, April, 2021)

The community worker from Amersfoort partly agrees, but also thinks that screaming is a democratic right. The consultant from Mett does not want to go so far as to call the process fairer or more holistic. He finds that this depends too much on other aspects, such as how the municipality ultimately deals with the input of residents. He does admit, however, that in his experience citizens dare to say more in a digital environment.

Role of the planner

Most citizens are not satisfied with the role of the municipality. There is a big parking problem on and around the square. This was also observed during the field visit. Especially the elderly people feel unsafe. The municipality has (possibly deliberately) not done anything about this problem. This is understandable because the redevelopment of the greenery of the square was at stake, rather than solving the traffic problem. At the same time, ignoring the signals about the busy traffic and the traffic problems results in many citizens not feeling heard.

Public influence

One of the citizens says it was a pity that the survey was distributed so late. He says that the plan has already been written in cooperation with the residents and that the questions in the survey, therefore, do not really matter. He argues that the residents would have experienced more influence if the survey had been conducted earlier and the input would have been incorporated into the plan. So, the timing of a survey in the process is essential. In a process with residents' meetings and the platform, the communication advisor thinks that people have more influence than in a process with only residents' meetings:

"I think so, yes. Because they have more courage to speak out and have more time to think about it, you get better quality input and that [hopefully] results in fewer opinions and more support. So, once you move on to implementation, there will be fewer or no objections. This means that your legal consent will be granted more quickly, and you will be able to start implementing more quickly and gain more support during implementation. That if you have to cause any nuisance at all, people will already know about it, and they will know that this is a design they support. So, it's a bit of a sour moment, but we'll get something beautiful in return. Yes, I am convinced that the interaction between physical and online will really help". (CAAM, April, 2021)

The chairman of the owners' association thinks that the citizens' influence in the process is not so bad. He says: *'A public participation meeting like that isn't really a public participation meeting. I experienced that a lot in my time at FNV [(trade union)]. I always said: you have the input, but I have the output'* (CAM-2, May, 2021).

INCLUSIVITY

Public engagement

One of the citizens argues that a survey and participation via a platform make participation more accessible. He mentions an example:

"Something like the poplar grove in the green belt does not hold much interest. Perhaps the people who dwell there daily or who have a view on it, but the average neighbourhood inhabitant simply has no business there. When it comes to traffic on Noorderwierweg, everyone has an opinion on that, but not on the greenery. So, to really invest an entire evening in going out and attending a consultation meeting that will only take place once or maybe twice, depending on how the municipality organises it. That is a higher threshold than filling in a questionnaire at a moment's notice, so in that sense, you can lower the threshold by offering it in this way." (CAM-3, May, 2021)

This lowering of barriers to digital participation seems to be very important to most citizens. For example, the chairman of the senior citizens' flats says that he invested as little as possible in the process. *'I quickly filled in the survey and voted, but a residents' evening? Then it should really be about something. I am far too busy with other things'* (CAM-2, May, 2021). Mett's consultant agrees with what the citizens say about low accessibility. He considers the word inclusivity not very suitable because it suggests that people should be allowed to participate. *'I think it also very much has to do with whether people who can participate can be motivated to do so'*. He continues:

“People are busy with their work, with their sport with their children. Not I don't sit on the couch in the evening to see what I can think about. I actually have to make an effort in my head and yes I would rather watch Ajax Roma last night than sit on the couch and see if I can think along with the municipality or Rijkswaterstaat.” (SCM, April, 2021)

Diversity of the participants

During the redevelopment of Neptune's Square, it was primarily the grey-haired men and a few young adults who participated. Presumably, they live in the senior citizens' flats and the new owner-occupied dwellings. Yet most of the users of the square are people with a migrant background who mainly live in the older small public housing units. The chairman of the owners' association notes that he remembers from his time with the trade union that *‘they are always up for a chat in the street, but they won't come to such a meeting’* (CAM-2, May, 2021). According to him, personal contact is a more convenient way to involve this group in the process.

Citizens find it a disadvantage that the platform is only online. Precisely those people who are not so used to dealing with computers [...] or who are not so familiar with the Dutch language' are denied the opportunity to participate. Mett's consultant nuances the group of people who are not comfortable with digital tools:

“Digital illiterates are of course more difficult. Because you won't serve real digital illiterates well [by digital tools]. But [...] the digital illiterates are a shifting spectrum as you can notice that people find certain aspects difficult but everyone is able to order a new TV from bol.com. And anyone can buy a ticket for the Efteling online [...] people are becoming increasingly digitally adept. And you do have to ensure that you avoid using words that are too complicated. But that's more in terms of digital accessibility. The group of people who lack access to the Internet, for example, is gradually disappearing. So the word digital illiterate gets a different meaning. It's more about accessibility and understandability rather than about knowing which button to press [...] I think it's just the very oldest and perhaps the people with disabilities. And that's why I also think it's important to keep viewing things alongside each other. So don't say: online replace offline, but online enrich offline.” (SCM, April, 2021)

What is also interesting is that there are citizens who say they would like to be represented in a participatory process. Although a meeting with usual suspects or a survey filled in by these citizens may appear to display a low level of diversity, they may in fact represent a considerable proportion of the community.

Diversity of communication tools

One of the citizens says that he came to discover the platform via another participation process and subsequently became involved in a different process. The platform acts, like the consultant at Mett points out, as an additional element in the journey of a citizen to ultimately participate. However, a citizen also indicates that he might forget the platform in about half a year. *‘It is not like I am going to check the platform every month [...] I will have to be reminded via a newspaper or via mailing that there is a new survey on the platform that is relevant to me’* (CAM-3, May, 2021). Citizens also say they are triggered to participate by personal contact or a poster on a location they pass by every day, such as a lamppost in the street. Mett's consultant suggests that citizens should be well informed and should be referred to the platform repeatedly. *‘If people want to do more reading or want to be informed in their own time [...] they can easily do that. That's where the strength really lies. It is also referred to as bricolage’* (SCM, April, 2021).

The community worker mentions that especially the lower educated tend to throw letters from the municipality in the bin without reading them as they fear the content of the letter. People may have debts or other problems. She says that this group and people with a migration background are more likely to be reached by spreading videos on social media or simply by ringing the doorbell.

To the question of whether only a mix of communication tools motivates people, the Mett consultant answers a resounding no. The communication tools are just a vehicle for reaching people. The image that peoples stand behind a line waiting to be allowed to participate is not valid. They are pretty much busy with other activities. He says:

“Suppose you are in a market square, and you want people to think with you. You cannot simply stand there and wait for people to come to you. Similarly, with a platform, you can't put it up and expect people to be interested in it. No, you still have to stand on a box and say hey, think with me. Hey, come! Come here! Think with me! Come on! You know, and that's what's often missing. We do have this box; someone is standing on it but he keeps his mouth shut [...] You need a kind of participation marketer.” (SCM, April, 2021)

Empowerment

The community worker is critical of the municipality. In her opinion, the municipality has not really involved the users of the square in the redevelopment. In line with the observations of the field visit, she mentions that most users of the square are people with a migration background and the lower-income classes. However, according to the municipality, these people were not present at the residents' evening.

Furthermore, the community worker notices that the municipality did not include the neighbourhood ambassadors, participation brokers, community workers, and all others who are indirectly employed by the municipality to reinforce social cohesion and support the residents of the area. She also suggests that many young women who are third or fourth generation from a migrant background often enjoy a decent education and are perfectly capable of participating.

“They can play a significant role, a sort of flywheel. They can represent that group. People with a migration background are usually not used to collaborating with the government. And if they've recently been forced to flee, they're not inclined to contribute. Of course, education in the country of origin also makes a big difference. If you originate from a region where you were a shepherd, you won't be used to thinking along, so to speak. But if you were a dentist in Syria, you'll likely feel differently.” (CWAM, June, 2021)

QUALITY

Comprehensive input

The citizens believe that a platform and a questionnaire can contribute to the quality of the input provided by citizens in a participation process. One citizen nuances that it highly depends on the questions that are asked. *‘I have filled in numerous surveys [...] but the questions sometimes prevented me from giving my opinion’* (CAM-3, May, 2021). Mett's consultant remarks that the question is when input is of sufficient quality. *‘Is it good if 10, 100, 1000 people respond? Or 10%?’* (SCM, April, 2021). He adds that sometimes one reaction can make a world of difference.

“I think there is certain reciprocity in working with digital tools. That can contribute greatly to quality. So it enables people to answer questions quickly, and reflect on them. Back and forth again. And in a form that is also visible to others. So you can make the latent dialogue visible. [...] I can suddenly start to understand more about a dilemma or what the pros and cons are when I stumble on something on Monday evening. And I can't do that if it's not there. [...] So making these considerations visible, and showing what steps you take, I think that can contribute to the quality of the conversation.” (SCM, April, 2021)

The communication advisor of the municipality has observed an interaction between the platform and the public meetings. *‘Giving people a bit more time to think about it and then to react later on [...] such an information meeting is always a snapshot in time’* (CAAM, April, 2021). He goes on to say that such a redevelopment can be

quite emotional for people and that offering them more time to consider often results in qualitatively better responses.

New resources

For the chairman of the owners' association, it is no loss to be limited in speaking to other people in digital participation meetings. *'I have 1200 people in my network, and I know all of them, you know?'* (CAM-2, May, 2021). However, the other interviewees felt that this was a disadvantage and that it would be valuable to be able to connect with others during the participation process.

Adaptability

The communications advisor from Amersfoort has a good example of how the platform can play a role in the thinking process of citizens. He mentions the example of the new junction Hoevelaken on the A1, where a new tunnel is being constructed and two business parks are being connected. A school with special secondary education will be built on the corner of that business park. In the first online meeting, there was a great deal of resistance from local residents living on the edge of the industrial area.

"There will be a special school, and we can already see whole flocks of pupils going to the shopping centre and storming the supermarkets. And there will be a nuisance in the neighbourhood [...] so right from the start one resident started a petition: 'we don't want the school'. Then we organised the online evening, which was an afternoon and an evening, and after that, we put the documents on the platform. Then you did indeed get a reaction from residents who said 'I signed the petition but now that I review the plans properly, in hindsight I shouldn't have signed the petition at all. You spoke to me so well [...] And the board [(of the school)] was there too, the director phoned those people back and politely said this is our side of the story and we are doing everything we can to be a good neighbour, of course'. So later on you see that people who have gradually changed their standpoint." (CAAM, April, 2021)

Effectiveness

According to the municipality's communications advisor, the cost of the Mett platform is worth the high quality. We have a sort of ticket structure which we can use to hire Mett consultants when we are short of staff or have difficulties with something.

"I really like the digital format, actually. It is very efficient. I don't have to travel anywhere and it all works pretty smooth. I do quite a lot of things digitally myself. It is convenient and easy to do from home. So for me, it's no problem at all. I just filled it all in and took my responsibility that way. So I don't really see any disadvantages." (CAM-2, May, 2021)

It is not only the citizens who find the digital tool effective. It is also useful for the municipality. You can export it very easily, you can let people react to it much more easily'. Mett's consultant agrees with this but emphasises again that, despite the efficiency and transparency, the contents determine the success. Digital tools are not decisive in this respect. Yet the platform does support the dialogue with the residents, claims the communications advisor. *'We have noticed that the use of both a live digital meeting and an online platform has improved the dialogue [...]. Since residents can think in between meetings, apparently a more profound discussion takes place'* (CAAM, April, 2021).

Collaboration

Regarding collaboration, Mett's consultant emphasises that it is crucial to motivate people, to convince them to participate. The community worker from Amersfoort agrees. She thinks that going to the residents with a big empty map is definitely the best approach. *'Because then people are like, well, I've been able to share my thoughts, I've signed my name. Let children sign too, everyone can participate'* (CWAM, June, 2021). The communication advisor of the municipality points out that the best way to bring about collaboration is still to

'just go into the neighbourhood and look people physically in the eye. People who then like to join in the discussion', according to the advisor, 'are then taken into a participation group. Then you focus on the group of people who are really intrinsically involved and want to stay involved' (CAAM, April, 2021).

SUITABILITY

Process context

Most citizens consider the Mett platform a welcome addition to the regular participation meetings. They enjoy the convenience of avoiding all the travelling and the long meetings, and they appreciate being able to respond in digital anonymity. But, certainly in the case of major interests, it should remain complementary. A citizen and also an official says:

"I think it's a great supplementary tool, but when it comes to some kind of development in a neighbourhood or a town, I would always prefer to organise physical or online meetings so you can have a genuine conversation. Just to respond by typing a message or by writing something is not as meaningful. I think it's important to have that conversation, to be able to discuss things with each other. I would consider it a pity if this were to disappear entirely and that you would be limited to such a platform. It's a good tool to have in addition." (CA2-2, April, 2021)

Scale

Mett's platform is suitable for both large and small-scale projects. The users of the platform in Amersfoort and also the larger-scale project A6-zon are quite satisfied. By using the platform for a particular region, such as the municipality of Amersfoort, many participatory spatial developments can be made accessible through the platform. The more projects, the lower the costs. But it also seems to work well on a large scale. The practical expert, environment manager at a large project of Rijkswaterstaat, also works with it.

Problem identification

As mentioned previously, the community worker believes that in the redevelopment of Neptune Square, too little attention was paid to the users of the square. Especially the groups of people with a migration background and lower incomes did not participate. According to her, this would have been the case if more attention had been paid to these groups during the process. Furthermore, she would have thought it would have been appropriate for the municipality to ask the local community workers. After all, they have a thorough knowledge of the neighbourhood.

Institutional context

The consultant of Mett argues that the platform is very suitable for a wide variety of institutions. Most users of the platform have a public interest. The platform is not only used in planning processes, but also for healthcare institutions and other purposes. The size of the institution is not important. However, the size of the institution might increase the cost-effectivity.

7. IMPLICATIONS

This chapter evaluates the results of the cases from the perspective of the literature. After the cases are evaluated, an overview of the findings follows. Finally, a comparison between the cases is described.

7.1 VIDEOCONFERENCE

TRANSPARANCY

As Bryson and others (2013) stress the importance of good communication for making a participatory process successful, the results suggest that the videoconference is a poor tool for informing the public. Probably resulting from suboptimal communication, participants tend to be less open about interests in a videoconference, which makes the process less successful (Buchy & Hoverman, 2000). Moreover, the videoconference seems to be a tool that is less useful for joint research and sustained interaction compared to its analogue equivalent. This implies that the available information among the participants will be more asymmetric, all resulting in less successful participation (Chess & Purcell, 1999; Reed, 2008; Ianniello et al., 2019). Furthermore, it seems that trust is also lesser experienced. Based on all the indicators, the participation process using the videoconference appears to be less transparent in comparison to an analogue meeting.

EQUALITY

All participants experienced considerably less in-depth dialogue in a video conference compared to an analogue meeting. As a consequence, many participants felt that the process was less honest and holistic in a videoconference. This implies that the video conference might lead to less successful participation (e.g., Webler, 1995; Chess & Purcell, 1999; Richards et al., 2004). In the light of the role of a planner, as described by Buchy and Hoverman (2000), in the situation of Rijkswaterstaat, decisions are often politically driven. Although the public is allowed to speak its mind, the interests and costs are of such high that it is often senior management or politicians who ultimately make the decisions. In that respect, the situation of motorway extensions is an appropriate participation process. At the same time, in practice, this does entail the inevitable advantages and disadvantages, which planners must consider within their respective contexts.

Opinions differ in the literature about the extent to which citizens should be allowed to influence the process. More influence could lead to more trust in government (Kleinhans et al., 2015) but at the same time could also result in higher costs and delays (Reed, 2008; Ianniello et al., 2019). The users of the video conference perceive the influence they had on the process differently. What is certain is that using videoconferencing does not increase the perceived influence but rather reduces it. In conclusion, using videoconferencing does not make participation processes more equal and consequently not more successful.

INCLUSIVITY

Compared to an analogue process, in a videoconference, the public seems to be less profoundly engaged. The communication is impaired and, the dialogue lacks depth. On the other hand, it appears that the number of participants increases when using the videoconference. From that perspective, using the videoconference seems to make participation more inclusive and increases its success (Ianniello et al., 2019). However, using the videoconference in a public meeting tends to exclude a minority that is digitally illiterate or does not want to learn working with digital tools. So, the question is, who are those people who do show up when using the videoconference but won't show up in a physical meeting?

It is concluded that video conferencing contributes to some degree to increase the representative population. Consequently, videoconferencing may lead to more legitimate decisions (Fung, 2015). However, using the

videoconference does not contribute to empowerment where Monno and Khakee (2012) pledge for, and it is not clear to what extent the group it reaches increases the diversity among the participants.

QUALITY

The lack of networking, support, and the reciprocity of knowledge among citizens can be a substantial disadvantage of a videoconference (Buchy & Hoverman, 2000; Stringer et al., 2006). A successful participatory process should use collaborative, deliberative approaches to learning (Healey, 1997; Innes & Booher, 2010). Furthermore, networking and exchanging knowledge appear essential when citizens want to achieve something in terms of empowerment, for instance, against a powerful organisation such as Rijkswaterstaat.

The videoconference does not necessarily influence the adaptability of participants, as long as there is enough room for dialogue and discussion. Furthermore, in terms of effectiveness, there appear to be two conclusions. On the one hand, a videoconference is much easier to organise. However, in terms of dialogue, it is less effective. In particular in a larger group or when there are high interests at stake. The quality of the outcome will be lower during a videoconference (Reed, 2008; Bussu & Bartels, 2014; Ianniello et al., 2019).

In conclusion, the quality of the content of the process becomes lower when using video conferencing. However, the price of facilitating the process is also lower. So, in terms of price quality, there may be situations where videoconferencing can indeed lead to more successful participation. For example, when meeting with a small group or when the interests allow it. But, in many cases, it will prove to be less effective.

SUITABILITY

Environmental contexts are generally complex, as there are many different aspects and actors involved (Reed, 2008). Based on the interviews, video conferencing seems to be a poor tool to facilitate participation in complex contexts with high stakes. However, regarding lower stakes and fewer complex environments, it can be appropriate to use the videoconference. Furthermore, video conferencing tends to make participation in the decision-making process more superficial, indicating less successful participation (Chess & Purcell, 1999).

In the case of a large scale, where it is likely that more citizens will be involved, the tool is seemingly to be less successful due to the lack of dialogue (Irvin & Stansburg, 2004). On the other hand, citizens tend to be more involved in smaller projects (Stringer et al., 2006). Thus, in regard to a smaller project, video conferencing seems to be an appropriate tool for a successful participatory process. Planners should then monitor the quality of the dialogue in small settings to ensure the suitability of the videoconference. Not only in terms of scale but also in terms of problem identification, that dialogue is of utter importance. Here, it is imperative that participants feel like a valuable additional part of the process: citizens who do not feel taken seriously may be more likely to negatively influence the process (Bryson et al., 2013). So again, from this perspective, if the planner can facilitate the dialogue that participants feel heard and respected, video conferencing is an excellent tool for a participatory process. However, if the planner is not able to facilitate a proper dialogue videoconferencing is an impaired tool. This seems especially the case when larger groups are involved.

Interestingly, people with experience with video conferencing see fewer disadvantages and emphasize the advantages. This may indicate that as videoconferencing becomes institutionalised, the tool may become more suitable through habituation (Ianniello et al., 2019).

7.2 PARTICIPATORY GIS

TRANSPARANCY

Compared to a public meeting, the tool Maptionnaire has the advantage that every participant receives the same information. Ianniello and others (2019) mention this as an eminent criterion for successful participation. On the

other hand, the design of a digital survey is highly dependent on the planner. A questionnaire that does not contain accurate information, or does not resonate with citizens, can be a form of poor communication. And that is, in fact, an indicator of poor participation (Bryson et al., 2013). It is also questionable to what extent a digital survey is suitable for questioning citizens on complex, technical issues. After all, this increases the likelihood of asymmetric information, which is also an indicator of poor participation (Buchy & Hoverman, 2000).

Especially the visual aspect of Maptionnaire, the map, can also enhance communication. Compared to a paper survey, this seems to be a significant advantage. Furthermore, a survey generates higher equal information among a particular group of citizens, enhancing the representativity of the results. The generated data is suitable to set goals and determine agenda items. If the survey is used in this way, it can produce more transparent participation (Chess & Purcell, 1999; Reed, 2008; Ianniello et al., 2019). At the same time, the process will be less transparent if the survey is used as the only tool in the participatory process, or at least perceived as such. For example, if there is no feedback to the affected citizens, they may feel that their input gets neglected.

The survey is a less appropriate tool than the public meeting to build trust, as trust seems to depend heavily on mutual understanding and the relationship between the planner and the citizens (Ianniello et al., 2019). Indeed, a dialogue is more appropriate for this purpose. However, because Maptionnaire contains more (visual) features than a regular survey, trust when using Maptionnaire might be higher than when using a paper survey. After all, the planner gets the opportunity to communicate better and thus gain more understanding from the citizen. It is concluded that Maptionnaire makes the process more transparent compared to a paper survey. Nevertheless, it remains crucial that the planner asks the right questions and designs the questionnaire appropriate to the contexts of the process.

EQUALITY

A survey is an adequate tool to collect further equal information among the participants and provides every participant with the same opportunity. It reduces the influence of the screamer on the process and gives planners a much more objective view of the actual issues in an environment. Therefore, using a survey can be deemed more honest and holistic (Webler, 1995; Chess & Purcell, 1999; Richards et al., 2004). At the same time, the survey does not allow for dialogue: during a survey, sending and receiving take place only once, whereas, in a conversation, this occurs much faster. Participants who are more knowledgeable and able to express themselves, for example, may have an advantage during the survey. A deep dialogue can contribute to allowing other participants to reach the same level of knowledge. So from the indicator in-depth dialogue, a survey is not a format for more successful participation.

Even more so than in a public meeting, the role of the planner is essential in a survey. Not only does the planner determine the questions, but the planner also handles the results (Buchy & Hoverman, 2000; Ianniello et al., 2019). In the dialogue of a public meeting the planner still must defend himself, which is in a survey, not the case. The role of the planner is also important in terms of public influence. The more the planner is open to input from citizens, the greater the public influence will be. Since citizens are more equally involved through a survey, a survey also reveals a more representative picture of what is going on in a specific environment. In this respect, a survey can contribute to more public influence and thus more successful participation. At the same time, the perceived influence among citizens in a survey may be smaller, because a dialogue sticks much better. This may reduce the success of a participation process (Kleinhans et al., 2015).

INCLUSIVITY

In comparison to a public meeting, the survey proves to be an adequate tool to involve more public in a participatory process. Furthermore, the public seems to be engaged more profoundly as it gets the possibility to leave an in-depth response. Therefore, using a survey in a participation process can increase the legitimacy of the process and the degree of success of the process (Fung, 2015). It remains unclear which participants besides

the usual suspects actually participate and whether the audience becomes higher diversified. In the presented case, there was no empowerment. Overall, the survey seems to be an appropriate tool, that can contribute to a more inclusive process, whereby higher public support for the planning decisions is perceived.

QUALITY

With Maptionnaire, the planner can obtain an understanding of a particular environment based on data. These data are a form of valuable new resources for the planner and the perception of complex issues of the citizens. Furthermore, it might also enhance learning and collaboration. Therefore, in this respect, participation becomes increasingly successful when a survey is used in addition to public meetings (Healey, 1997; Buchy & Hoverman, 2000; Stringer et al., 2006; Innes & Booher, 2010).

The information the planner receives is different compared to the information provided in a public meeting. There is no in-depth dialogue, so the planner who solely uses a survey as a participation tool is likely to lack comprehensive input that he could receive in a public meeting (Bussu & Bartels, 2014; Ianniello et al., 2019). Furthermore, when fixating on quantitative data, there is a risk that the data does not capture the crux of an issue. For example, if the questions are inaccurate or the responses are not valid. Nevertheless, a survey does provide the planner with plain quantitative data, which allows him to make a more objective decision and consequently makes the decision easier to justify. Potentially, data can also help change the citizens' opinions.

The main advantage of Maptionnaire over a paper survey is that the data is digital. This means much lower processing costs, and, in addition, the location-specific data can be loaded into GIS maps, creating an experience map that integrates with other mapping systems. Compared to a paper survey, Maptionnaire can therefore increase the effectiveness of a participation process considerably. Compared to a paper survey, Maptionnaire provides a more successful form of participation (Stringer et al., 2006; Fung, 2015).

SUITABILITY

Maptionnaire is usable in a wide range of participatory processes. The interviewees all say that it is an appropriate tool, yet only if it is used complementary to a public meeting with engagement and dialogue. Furthermore, the survey supports embedding decisions in a diversity of values and knowledges (Chess & Purcell, 1999). Moreover, the survey can be designed in many different ways, so it is suitable to adopt the questionnaire to the particular context. In this role, the tool can increase the success of participation (Ianniello et al., 2019).

Maptionnaire is applicable at different scales. However, the tool does seem to be less valuable at a small-scale level. In such cases, a planner should approach the relevant stakeholders personally. The larger the scale, the more suitable Maptionnaire is to use. First, because the tool generates quantitative data and provides a more objective perception than the limited number of citizens one can speak to at a public meeting. Second, because Maptionnaire is considerably more accessible than participation in a public meeting. Since participants tend to be less interested at a larger scale, the Maptionnaire offers the opportunity to generate a high response (Stringer et al., 2006).

Compared to a paper survey, Maptionnaire is ideally suited for spatial planning processes due to its location-specific questions. Therefore, it is a highly suitable tool for identifying spatial problems and can thus increase the success of a participatory process (Bryson et al., 2013). Finally, the tool seems adequate within different institutional contexts.

7.3 DIGITAL PARTICIPATORY PLATFORM

TRANSPARANCY

The Mett-platform can enhance the transparency of a process. However, this depends on the planner. By placing all information from participation processes on the platform, participants can easily find information about developments in a specific region. Besides, the platform can act as an additional entry point, approaching participants through a new channel. Moreover, the platform offers opportunities for better communication compared to a process where there is no platform. In this sense, it can therefore contribute to more successful participation (Bryson et al., 2013; Ianniello et al., 2019).

The platform can contribute to being open about interests and underlying reasons of a planning authority. This can also make the participation process more successful (Buchy & Hoverman, 2000). In addition, the dialogue between participants is visualisable to interested parties, and participants can engage in anonymous discussions on the platform. Among other things, this can contribute to joint process customisation, which indicates a positive influence on the success of participation (Chess & Purcell, 1999; Reed, 2008; Ianniello et al., 2019).

Through open and honest communication through the platform, higher levels of trust might be generated as well. It should be mentioned that trust is largely created through a good personal relationship, so again the role of the planner is essential.

EQUALITY

The platform can contribute to increasing equality. In this respect, the platform cannot do without participation evenings with a dialogue. To facilitate a conversation merely via a platform would make the process less equal. But as a supplement to the discussion, the platform can help. People can continue the dialogue at a time that suits them. And newcomers can easily immerse themselves in the previous conversation shared via the platform. By making the dialogue public, it is also possible that more collaboration between participants will occur, possibly resulting in the process being experienced as fairer and more holistic (Webler, 1995; Chess & Purcell, 1999; Richards et al., 2004).

A planner who sees the platform as a means to improve the process will also be able to make the process better (Ianniello et al., 2019). Possibly, the platform can also contribute to the perceived public influence and thus improve the participation process, for example, by allowing citizens to vote and making the process as transparent as possible. On the other hand, the platform cannot prevent frustrated citizens.

INCLUSIVITY

It seems that using the Mett platform makes it more accessible to participate in a participatory process, and as a result, more people get involved. First, it takes less effort to leave a comment, and second because people can respond at their own time. This means that the platform can contribute to more legitimate decisions (Fung, 2015). Furthermore, the platform is a central point where all communication channels come together. This not only increases the diversity of the communication tools but potentially strengthens their operation. This presumably also contributes to more people participating.

It appears that, at least in this case study, the participants during the digital process are more diverse than in a single public meeting. In that respect, the Mett platform seems to have the potential to reach a more diverse group. At the same time, the less well-being citizens did not participate, while many people from this group live in and around the square and are users. Therefore, there was no empowerment.

QUALITY

The comprehensive input that citizens provide may increase as the dialogue can continue on the platform besides the public meetings. As citizens have more time to think about their reactions, more in-depth and unique responses are observed. In addition, the platform helps to ensure that citizens who join later can still follow the entire process. This allows them to base their responses on the preceding dialogue without asking the same questions others used at the beginning of the process. The higher quality of the feedback may also improve the quality of the outcomes of the process (Bussu & Bartels, 2014; Ianniello et al., 2019).

Because everything is visible online, citizens can acquire knowledge of what has been discussed at their own level and in their own time. As a result, the platform could have a positive effect on learning. Furthermore, the platform offers additional possibilities to connect with other participants, potentially enhancing networking and collaboration. This could make new resources available to the process, making the process more successful (Healey, 1997; Buchy & Hoverman, 2000; Stringer et al., 2006). However, it does depend on the extent to which the planner facilitates these possibilities.

As people can follow the dialogue via the platform, there is also a greater chance that participants will gain a more comprehensive understanding of each other's points of view (Bryson et al., 2013). It also clarifies what the debate should be about, which also results in better outcomes (Richardson & Booher, 2001).

Finally, both citizens and planners indicated that they find the platform effective. Even though the platforms' costs are to be calculated, the process improves, and more people participate. Although it is difficult to determine when it is cost-effective, the planner of the municipality of Amersfoort dared to do so.

SUITABILITY

The Mett platform is applicable to all kinds of contexts. The large number of options for bundling information in one central place also makes complex environmental contexts easier to understand for citizens. The offered flexibility and the possibility to share a variety of values can enhance the success of the participatory process (Chess & Purcell, 1999; Ianniello et al., 2019). The platform can also contribute to better participation at different scales. Where people may be less inclined to participate in a distant issue, the platform makes this somewhat simpler.

As the dialogue is publicly visible and people can respond in their own time, it is more likely that a process will be successful because the participants are more aware of the discussed problem. Also, the synthesis of a live dialogue in a public meeting and a written discussion gives people the chance to think more deeply, and the platform contributes to solving the right problem. Finally, the institutionalisation of the platform appears to have the effect of giving citizens an idea of oh, this is how it works with participation, which may enable them to participate better (Ianniello et al., 2019).

7.4 EVALUATION

In accordance with the literature on digital participatory tools, it follows from the case studies that a digital tool by itself cannot enhance the success of a participatory process. Further, the role and intentions of the planner are crucial for the success of a participation process. A planner who wants to 'tick a participation process off the list' and is not concerned with the success of the process can personally ensure the process to be a failure. Furthermore, it is remarkable that a successful participation process is rarely possible without analogue public meetings. Several components are essential. The dialogue with non-verbal communication and the opportunity to shake hands with others contribute to the participatory process being more successful. Thus, in line with the literature, digital tools should be used as a complement in a participation process.

Yet, it is interesting to notice that, if used properly, these tools can indeed enhance the success of a participation process. The public meeting has several drawbacks, and using digital tools can counter some of those drawbacks.

The analysis shows that video conferencing is a tool where planners should be careful with use. The process becomes less transparent, equal, and inclusive when using the. The quality of the content is poor, and video conferencing is not suitable in all contexts. The tool seems to be only adequate for meetings with few participants that are mainly informative in nature. In the case of substantial or emotional interests, a physical meeting seems in most cases to be more successful.

In contrast to the video conference, the participatory GIS tool can be a valuable addition to many processes. The process becomes increasingly equal as all participants have the same opportunity to respond. Moreover, the use of the tool is more accessible than a public meeting, which means that more people tend to participate. Furthermore, Maptionnaire generates quantitative data that can play a valuable role in the process. Compared to an ordinary paper survey, the data is processed more effectively. The tool is also suitable in different contexts where the planner wants citizens to participate or where many decisions have not yet been made. In the case of projects such as the motorway widening of the Department of Public Works, the usefulness of a survey may be lower. The location-specific questions make the tool ideally suited for spatial contexts.

Like Maptionnaire, the Mett platform is a tool that, when used properly, can contribute to a higher degree of success in many processes. The process becomes more transparent, more equal, more inclusive, and also of higher quality. In addition, the tool is suitable for various contexts.

8. DISCUSSION

8.1 CONCLUSION

During the last two decades, a substantial number of digital tools have been developed to support participatory planning processes. Albeit the digitalisation of many public services and the recognised potential of digital participatory tools, usage of digital tools has remained sparse in practice. There is a lack of criteria to evaluate digital tools, and within the scientific discourse, there appears to be a lack of comprehensive understanding. This study addresses this gap by asking the question: *how to evaluate digital tools in participatory planning processes?*

Following from the literature review, it is concluded that the values of transparency, equality, inclusivity, quality, and suitability are the reason why public participation is considered essential in Dutch planning processes. Transparency, equality, and inclusivity are fundamental values in particular in democratic societies. Decision-making in democracy should be transparent, and all its people should be able to get equally involved. Quality is essential as it includes how the democratic values are applied within a participatory process, hence the quality of the decision-making, and the process itself. As all planning processes are different, suitability is about how a process and a decision are adequate for a specific context.

Furthermore, the literature reveals a broad spectrum of indicators that indicate successful participation. In theory, these indicators should somehow represent the underlying values of public participation. Based on this assumption, the indicators are compiled and prioritised according to what the literature suggests as the values the indicators most comprehensively represent. The values and indicators together form a theoretical framework that evaluates public participation.

The analysis results provide a comprehensive understanding of how digital tools influence participatory planning processes. Moreover, the indicators create a nuanced impression. By linking the indicators to the five values, the framework has a substantial degree of comprehensiveness. It is concluded that the framework is suitable for evaluating the use of digital tools in planning processes.

8.2 THEORETICAL IMPLICATIONS

IMPLICATIONS FOR E-PARTICIPATION

The framework presented in this research contributes to filling the need for evaluation criteria of digital tools in planning processes by adding a comprehensive study to the field of e-participation. Previously published works only provide indicators for some aspects of successful participation. This framework establishes a scope that allows for a more holistic analysis by connecting the values and the indicators.

In line with previous studies, this study also shows that digital tools by themselves cannot make participation processes more successful (Sæbø et al., 2008; Macintosh et al., 2009; Kubicek, 2010; Medaglia, 2012). However, the cases show that in some respects, digital tools can contribute to better participatory processes. With increasing digital adaptability and capability in society, the potential of digital tools implies that e-participation is a field that will continue to develop in the future and new research remains relevant.

IMPLICATIONS FOR OTHER DISCIPLINES

The case studies show that digital tools potentially optimise participation processes in various contexts. Moreover, the cases represent best practices that can help overcome the implementation gap in planning support science (Pelzer et al., 2015; Te Brömmelstroet, 2017; Geertman, 2017; Russo et al., 2018).

The case of video conferencing provides an impetus for a discourse on using video conferencing in participation processes. Although the tool does not seem to make participation more successful, both citizens and planners

indicate in the interviews that they want to use it in the future. The discourse will probably focus on the low cost and time savings of a video call versus the higher transparency, equality, inclusiveness, quality, and appropriateness of analogue participation processes.

The Maptionnaire case highlights the relevance of using a survey in participatory processes. In line with the findings of Rall and others (2019), Maptionnaire attracts more participants than only a public meeting would do. In accordance with Sieber (2006), the interviewees notice that a PPGIS supports understanding complex planning issues. Similar to the study of Kahila-Tani and others (2019), the Maptionnaire case shows that a PPGIS provides local high-quality data. Such data is highly valuable as it integrates with other existing GIS-systems. Furthermore, the same potential risks noted by Kahila-Tani and others; emerge from this study. For example, the position of the planner, as the quality of the questions determine the outcome of the process for a large share. The Maptionnaire case thus confirms many existing studies and has verifying value (Flyvbjerg, 2006). In addition to the similarities with the current literature, this research shows that the use of Maptionnaire potentially makes the process more transparent, equal, inclusive, qualitative, and appropriate for many planning contexts.

The case of the Mett platform confirms the findings of Desouza and Bhagwatwar (2014): interviewees in this study also indicate that they see it as a great advantage to be able to participate less time and on their own time. However, the issue of digital illiteracy is mentioned less often in the interviews than it would be expected based on the literature. It seems that digital illiteracy in society is getting smaller. As one participation consultant points out, *'anyone can order a TV from bol.com these days'* (SCM, Arpil, 2021). Another contrast to the literature is that DPPs are criticised for their high (maintenance) costs, technical difficulties, and data security (Bryer, & Zavattaro, 2011; Bertot et al., 2012). However, the planners who used digital tools did not mention this as a problem and said that working with the tools is cost-effective and user-friendly. This could imply that the cost of digital tools has decreased, and the ease of use has improved.

8.3 SOCIAL IMPLICATIONS

With the presented framework, policymakers, planners, communication advisors, and others who facilitate participation processes have a convenient evaluation tool to evaluate the use of digital tools. The framework is applicable to different social planning contexts. Potentially, the framework is applicable to other process contexts as well. For example, in the health sector or other domains in which participatory processes occur.

Besides the fact that the framework is suitable for evaluating digital tools, using the framework in a participatory process may also enhance participation. As the framework established on the values of participation in a democratic society, the framework is more holistic than existing frameworks for successful participation. In the Netherlands, this is especially relevant in the context of the Omgevingswet. The Omgevingswet stipulates that participation is mandatory in every spatial development. In practice, many planners, engineers, and constructors indicate that they do not yet know how to interpret this participation requirement. This framework can be an excellent tool for giving substance to this.

8.4 LIMITATIONS

The relationships between the values and the indicators are partly based on the literature and partly on assumptions. Furthermore, the indicators differ from each other, and some indicators represent multiple values. Furthermore, it is not always clear whether they represent an outcome, a precondition, or both. However, the question is in which non-mathematical framework this is the case. Values such as transparency and indicators such as trust are complex constructs that are difficult to classify. Nevertheless, the framework is suitable because it provides high-quality input for research questions and the answers give a comprehensive understanding of the success of a particular tool or process.

Like all frameworks on successful participation, this framework cannot determine when participation is successful enough. What is the minimum standard? When is a process sufficiently inclusive? When is a process

truly cost-effective? The framework is applicable in comparing a participatory process to an alternative participatory process. For example, to what extent does a process, with a digital tool improve participation, compared to an ordinary public analogue meeting?

The framework is demonstrated using a qualitative approach, but not through a quantitative approach. By making the indicators measurable through a number of questions, a questionnaire of about 100 questions could be comprised. This would alleviate a substantial limitation of the framework: conducting qualitative research is time-consuming. With a fixed questionnaire, based on the framework, an evaluation can be faster realised. And that may be even more useful in practice. However, this falls outside the scope of this study.

What also falls outside the scope of this study is testing the framework on analogue participation processes. Because the indicators are based on the literature on successful participation, it could very well be that the framework is also applicable to analogue processes. This could be confirmed by evaluating several cases in which some form of analogue participation has taken place. A related limitation of the research is that the digital illiterate and the non-participant are not interviewed. Only citizens who had already been involved in a digital process, were included in the study. Consequently, the research lacks an understanding of what exactly motives people to participate or not.

Finally, a case study such as this one can only demonstrate how a framework can work. As long as a case does not falsify - that is: the case shows that the framework is not suitable for analysing participation processes - the number of cases that demonstrate that the framework is suitable increases the burden of proof in favour of the framework. Quantitative research, for example, could be used to generate greater validity and reliability of the findings of this study.

8.5 RECOMMENDATIONS

FURTHER RESEARCH

In this research, the framework was tested by evaluating three digital tools. However, the framework is also likely applicable to evaluate participation processes that do not use digital tools. That could, for instance, be tested by a case study of an analogue process. If the framework applies to all participatory processes, it is much easier for practitioners to work with because they do not have to use a different evaluation method for digital and non-digital participatory processes.

In addition, it is advisable to test the framework quantitatively by examining each indicator with a number of questions in a participation panel. Statistical analysis can enhance the reliability and validity of the evaluations. Furthermore, it enables a practitioner to choose either a qualitative or quantitative approach. A quantitative approach is likely to be less time-consuming and might increase the social relevance of the framework.

The literature on digital participatory tools shows that many tools have their own subdiscipline, for example, digital participatory tools or participatory GIS tools. Further research could, for example, by using the framework presented in this thesis, investigate to what extent a participatory planning process is more successful when several different tools are combined.

In accordance with the literature, it follows from the case studies that more people are inclined to get engaged in a participatory process. During the interviews, the planners appear to eminently value more participants, even if it is at the cost of other aspects of the process. Although this theoretically enhances inclusivity, it is questionable what the added value truly is. Further research could reveal who those additional people are that would not show up in an analogue meeting, and moreover, how deeply do they get involved? Are they worth it to decide on a tool that decreases, for example, equality?

SOCIAL RECOMMENDATIONS

Practitioners can use the framework to evaluate both digital tools and participatory planning processes. It is advisable to have some knowledge of the underlying theory. The evaluation of concepts such as empowerment or joint process customisation is only suitable if there is sufficient knowledge among policymakers and planners. Gathering more theoretical and objective knowledge is advisable for practitioners anyhow. During the interviews with the planners, it became clear that planners often have a large base of practical knowledge, but that the literature and theory were not always well known. Gathering scientific knowledge is essential to improve participation in practice, and if practitioners were to be better informed, participation should improve.

Concerning the cases, practitioners should use the video conference for small groups, where no substantial or emotional interests are at stake, or for meetings where citizens only need to be informed. In these situations, the use of videoconferencing is desirable because it is more (cost) effective, makes the process more accessible for the public, without detracting too much from the fundamental values underlying a participation process.

The use of Maptionnaire is advisable if there is a need for using a survey in a particular context. The use of Maptionnaire is more suitable than a customary paper survey for two reasons. Firstly, because the digital processing of the data is much more effective. Secondly, because the location-based questions are highly appropriate when facing planning issues. By providing a number of customary paper surveys for the digital illiterates, this group retains the opportunity to participate.

Concerning the Mett-platform, the tool is a convenient addition to public participation evenings because it can make processes more transparent, more equal, more inclusive, more qualitative, and more appropriate. The larger and more complex development is, the greater the added value appears to be. It is therefore advisable to make use of them in the case of such projects.

9. REFLECTION

9.1 START OF THE RESEARCH

During the preliminary phase of the research, the following question was considered: to what extent can digital tools improve participation processes? From that question, other questions arose. What is successful participation, and what is the role of digital tools in participation processes? With these questions, a first exploration of the literature was started. The major discourses were examined, such as e-participation, planning support science, participation in planning theory, and successful participation. During the exploration, the question arose: what makes participation successful and why does participation actually play the role it does in so many societies around the world? Here, the idea emerged to connect the values of participation (the why) with several digital tools.

9.2 CHOICES DURING LITERATURE REVIEW

Now that the central idea of the research had emerged, it was time for a more extensive investigation of the literature. This consisted of completing and writing out the first paragraphs of the second chapter, about the role of participation in planning theory, determining the scope of the study, and the literature on digital participation tools.

The literature review emerged from using the most cited articles in the Scopus database and the snowball method to fill the remaining gaps. The advantage of this approach was that in a relatively short time, a substantial number of frequently cited articles came together. However, this method is not without critiques. For example, Miranda and Garcia-Carpintero (2018) notice an overcitation and an overpresentation of review papers in most disciplines. They found that reviews are cited three times more often than the original research articles. As a result, when using the most cited works as search criteria, the literature consulted tends to contain a large share of literature reviews. Another criticism comes from Aksnes and others (2019). They argue that, by focusing solely on the citation criterion, too little attention is allocated to other important indicators of the quality of research such as plausibility, organizability, scientific and social value. The search for peer-reviewed articles sometimes is criticised as well. Van Raan (2000) argues that the reviewing of an article relies entirely on human subjectivity. Furthermore, the snowball method is criticised because it makes it more difficult for other scientists to check the research, and it risks using articles of less scientific value or less valid studies.

Despite the criticism, there are good arguments for the choices made for the literature search as well. Although searching for the most cited articles is a criterion with limitations, the number of studies does say something about the prominence of an article and potentially also about its relevance for society and science (Aksnes et al., 2019). Furthermore, despite the human subjectivity of a reviewer, a peer-reviewed article is less likely to be of low quality. Finally, the snowball method proves to be an excellent choice in many cases. In several case studies, authors using a snowball method reached the same conclusions as to when they did with protocol-driven search strategies. There are also cases in which a systematic protocol-driven search strategy did not yield sufficient useful information (Wohlin, 2014).

Looking back on the literature review of this research, it would have been an improvement if a more comprehensive search protocol had been used. By describing the search terms and the number of articles consulted per search term, the reproducibility of the study would be higher. At the same time, this would have been a time-consuming task given the time frame of the research. Especially, when considering the large number of discourses and potential search terms that could be relevant regarding digital tools and participation.

9.3 METHODOLOGICAL CHOICES

With the literature review ready, the choice appeared to test the framework as best as possible within the time schedule of the research. Roughly speaking, there were four choices: a quantitative approach, expert interviews, a triangulate study, or a case study.

With quantitative research, statistical claims about the indicators and possibly the values would have been interesting. For example, by asking how citizens perceive trust on a Likert scale. The advantage over a qualitative approach is that the quantitative information is reliable, as a striking statement in an interview can also be a fluke. Furthermore, quantitative data generally allows for easier comparison, which would make it easier to compare different cases. Another advantage is that it would enable planners and policymakers to evaluate a tool or a process more quickly and cheaply than through a qualitative evaluation. However, the indicators from the framework are synoptic terms for several indicators from other publications. Quantitatively expressing such indicators, would erode the depth of understanding and meaning of the indicators. In addition, qualitative research is appropriate for exploratory studies about which there is not yet much information available (Bryman, 2016). While a substantial base of information is available for most tools, this is not the case for others. The latter arguments contributed to ultimately choosing a qualitative approach.

In addition to quantitative research, expert interviews have been considered. As experts have a lot of knowledge and experience from the field, experts can produce a high amount of rich data in a relatively short period of time. However, there were three disadvantages to this. First, the framework of this study focuses on public participation. By only interviewing experts, the crucial perspective of the citizen would be missing. Second, expert interviews could not show how the framework would work in the case of a particular tool or context. Third, Laurian and Shaw (2009) already studied evaluation criteria for participatory planning processes by conducting expert interviews.

In retrospect, a triangular approach would have been even better than the method used in this study. Triangulation is the "combination of methodologies in the study of the same phenomenon" (Denzin, 1978, p. 291). Based on the geometric principles, it is assumable that multiple viewpoints achieve greater accuracy (Smith, 1975). In the case of this research, applying both a quantitative and a qualitative approach to three cases would also allow the benefits of a quantitative approach to be utilized (Jick, 1979). In practice, this proved impossible within the time frame available. Furthermore, there was also a practical concern. Finding interviewees appeared to be easier than a quantitative database. Moreover, it seemed more interesting to analyze three different tools within different contexts, adding contrasting layers of depth to the study.

9.4 GATHERING DATA

Finding video conference participants went fast and easy. Theoretical saturation was achieved quite soon after the first interviews. Finding citizens who had experience with Maptionnaire appeared to be more difficult. Via the reseller of Maptionnaire and a project manager from Vught, three citizens were open to participating in the study. One citizen eventually withdrew without giving a reason. One of the other citizens was only available by telephone, which resulted in a different conversation than during the interviews recorded with MS Teams. Concerning the Mett platform, it was initially difficult to find citizens to interview. After the communication advisor of the municipality of Amersfoort mentioned Neptune Square as an example, citizens were approached during a field visit on the street. Having personal contact with the citizens, helped to find enough interviewees. It is interesting for the research that the citizens were from different groups of the population.

The recording of two interviews was damaged, or at least it was not possible to listen to the excerpt, which meant the interviews had to be reconstructed. The reconstruction took place within a day after the interview so that the most crucial thoughts of the interviewee were still recognisable. The recordings of two other interviews were occasionally unclear, which resulted in losing small parts of those interviews.

Finally, there was one interview in which an exacerbated citizen spent 1.5 hours expressing his anger at Rijkswaterstaat, the government, and the project developers who had allowed several wind turbines being built behind his house. During the interview, there was little room for questions, and the questions that the researcher could manage, were answered with angry statements directed at Rijkswaterstaat, and other evil in this world. For this reason, this interview was not transcribed and not included in this study.

9.5 CONCLUSIONS

The transcription of the interviews went well. At the start, a transcription tool was tried out, but it did not provide accurate assistance. Therefore, all interviews were transcribed verbatim. The process of coding went quickly. Analysing the cases and linking the findings to the literature went smoothly as the researcher invested a substantial amount of time in the literature review. The extensive literature review also helped with drawing conclusions. Because of the large number of articles and taking the time to work out the conceptual model, all the information needed to conclude and link to the theory was available. The process of reading and developing a research idea may have seemed leisurely at the start, but it paid off later.

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APPENDICES

APPENDIX 1: ANONYMISED OVERVIEW OF THE INTERVIEWS

Nr.	Project	Role	Type of interview	Date of conduction	Usefull	Transcription	Length	Code
1	Pre-research	Knowledge expert	MS Teams	26-2-2021	Yes	Fully	29,22	(KE, February, 2021)
2	Pre-research	Practice expert	MS Teams	4-3-2021	Yes	Mostly	16,23	(PE, March, 2021)
3	A9	Citizen	Live	14-4-2021	Yes	Partly	29,33	(CA9-1, April, 2021)
4	A9	Communication Manager	MS Teams	9-4-2021	Yes	Fully	44,43	(CMA9, April, 2021)
5	A9	Citizen	MS Teams	16-4-2021	Yes	Fully	42,21	(CA9-2, April, 2021)
6	A9	Citizen	MS Teams	19-4-2021	Yes	Fully	26,13	(CA9-3, April, 2021)
7	Mett	Communication Advisor	MS Teams	28-4-2021	Yes	Fully	35,57	(CAAM, April, 2021)
8	Mett	Senior consultant	MS Teams	16-4-2021	Yes	Fully	48,15	(SCM, April, 2021)
9	Mett	Citizen	Telephone	14-5-2021	Yes	Fully	26,11	(CAM-1, May, 2021)
10	Mett	Citizen	Telephone	20-5-2021	Yes	Reconstruction	23,20	(CAM-2, May, 2021)
11	Mett	Community worker	MS Teams	3-6-2021	Yes	Fully	22,28	(CWAM, June, 2021)
12	Mett	Citizen	MS Teams	27-5-2021	Yes	Fully	30,25	(CAM-3, May, 2021)
13	Mett	Citizen	MS Teams	9-4-2021	No	No	1,21,31	(CAM-4, May, 2021)
14	A2	Projectmanager	MS Teams	12-5-2021	Yes	Fully	31,49	(PMA2, May, 2021)
15	A2	Citizen	MS Teams	10-5-2021	Yes	Mostly	59,24	(CA2-1, May, 2021)
16	A2	Citizen/manager	MS Teams	20-4-2021	Yes	Fully	43,36	(CA2-2, April, 2021)
17	A2	Citizen	MS Teams	20-4-2021	Yes	Fully	27,22	(CA2-3, April, 2021)
18	Maptionnaire	Senior consultant	MS Teams	4-5-2021	Yes	Fully	46,14	(CONM, May, 2021)
19	Maptionnaire	Projectmanager	MS Teams	29-4-2021	Yes	Fully	40,16	(PMV, April, 2021)
20	Maptionnaire	Citizen	MS Teams	12-5-2021	Yes	Fully	26,11	(CBV-1, May, 2021)
21	Maptionnaire	Citizen	Telephone	19-5-2021	Yes	Reconstruction	13,29	(CBV-2, May, 2021)

APPENDIX 2: OVERVIEW OF THE INTERVIEW QUESTIONS

A. Expert interviews - Environment Managers, Facilitators, Policy Makers, etc.

1. Introduction

- Based on literature: 21 indicators for 'good participation', based on 5 underlying values. The content of the questions is based on this. We won't go through all the questions in a row, but I will make sure that the conversation continues to revolve around this.

- The interview will be recorded if you consent, processed anonymously, and deleted within three months.

2. General

- Name the project where participation took place.

- How did the process go? What was digital and what was not? How many participation moments were there?

- How was that for you? Have you participated in Rijkswaterstaat projects before? What was for you the most striking difference between digital and non-digital? What advantages and disadvantages did you notice?

3. Transparency

- How do you think digital meetings influence transparency?

- How was it to inform citizens of the project?

- Openness about interests and the moral considerations of a planner are mentioned in the literature as important factors. Do you feel more open about interests in a digital process or not?

- Setting goals together, doing research together, and determining agenda items together is mentioned in the literature as an indicator of good participation. If there was cooperation, to what extent did 'the digital' influence it?

- What was it like to build trust during the digital and analogue processes? Did you experience more or less trust? More or fewer conflicts, views, and court cases?

4. Equality

- To what extent does a digital process affect the dialogue between the planner and the citizen? In-depth yes/no?

- Which process feels more fair and complete? A digital or an analogue meeting?

- What role do you assume as a planner in a digital or analogue process? Do you tend to have a facilitating role or a chairing role?

- In which process do you think the citizen has more influence... digital or analogue?

5. Inclusivity

- How are citizens chosen? To what extent do you use digital means?

- How many and what kind of people showed up at the participation meetings? How diverse was the audience?

- Were minorities or people from lower social classes also present and able to secure their interests? Maybe also include younger people?

- Was there a difference between digital and analogue meetings?

- Which means of communication were used to reach people?

6. Quality

- Participation processes can produce a lot. Think of new information that may be important for the project. New networks can also be built and participants, in particular, can gain new knowledge and skills. To what extent did this happen and to what extent was it influenced by the use of digital or analogue means?

- According to the literature, participation can make a planning process more effective or ineffective. Think of the costs of participation processes, views, legal procedures, and time gains. Which form of participation do you think is more effective: digital or analogue?

- Citizens can change their point of view in a good process. In which process do you think this is easier?

- Which process is more flexible according to you?

- Which process was more collaborative according to you? Digital or analogue?

7. Context

- To what extent do you consider a digital participation process appropriate compared to an analogue participation process, based on the context of your project?

B. Interview with a Citizen

1. Introduction

- Based on literature: 21 indicators for 'good participation', based on 5 underlying values. The content of the questions is based on this. We won't go through all the questions in a row, but I will make sure that the conversation continues to revolve around this.

- The interview will be recorded if you consent, processed anonymously, and deleted within three months.

2. General

- Name the project you have been involved in.

- How did the process go? What was digital and what was not? How many participation moments were there?

- How was that for you? Have you participated in Rijkswaterstaat projects before? What was for you the most striking difference between digital and non-digital? What advantages and disadvantages did you notice?

3. Transparency

- How were you informed of the participation process?

- Did you feel that the organisers and participants were open about their interests? Was this more or less the case during the digital meetings?

- As a stakeholder, were you also allowed to set goals, propose agenda items, and did you have the feeling that there was cooperation? What influence do you think the 'digital aspect' had on this?

- To what extent do you experience a sense of trust in the organisation? To what extent is that influenced by digital?

- How do you think digital meetings influence transparency in general compared to analogue meetings?

4. Equality

- To what extent does a digital process influence the dialogue between the organisation and you as a stakeholder?

- Which process feels more fair and complete? A digital or an analogue meeting?

- In which process do you, as a stakeholder, have more influence? In an analogue process or in a digital process?

5. Inclusivity

- How were you informed about the participation process?

- How many and what kind of people showed up at the participation meetings? How diverse do you think the audience was?

- Were minorities or people from lower social classes also present and could they, in your opinion, defend their interests? Possibly young people

- Was there a difference between digital and analogue meetings?

- Do you know people who also have an interest but do not participate and do you have any idea why they do not?

- What do you think could motivate these people? And what role could digital tools play in this?

6. Quality

- Participation processes can produce a lot. Think of new information that could be important for the project. New networks can also be built and participants, in particular, can gain new knowledge and skills. To what extent was this the case and to what extent was it influenced by the use of digital or analogue means?

- Did you change your point of view during the process?

- Which process do you think was more focused on collaboration, learning together, researching together? Digital or analogue?

- What was the role of the organiser in the process, was it more of a facilitator or a chairperson? And was that more or less in a digital meeting?

7. Context

- In your opinion, to what extent were the right issues discussed during the participation processes? To what extent was the core of the issue discussed? And what influence do you think a digital process had on this?

- Considering the project, to what extent do you think a digital participation process is appropriate compared to an analogue participation process?

APPENDIX 3: INVITATION MESSAGE FOR THE INTERVIEWS

Door het nieuwe digitale werken ten gevolge van de covid-19 crisis is op het gebied van participatie veel veranderd. Ook na de covid-19 crisis zal naar verwachting participatie deels digitaal worden gefaciliteerd. Het is daarom van groot belang voor overheidsorganisaties om op de hoogte te zijn hoe digitale middelen participatie beïnvloeden en hoe bewoners en andere belanghebbenden digitale participatie ervaren. Met uw deelname draagt u bij aan wetenschappelijke kennisontwikkeling rondom participatie en helpt u Rijkswaterstaat om verder door te blijven ontwikkelen.

In dat kader wordt een serie interviews afgenomen met mensen die hun ervaring delen met verschillende digitale participatie-middelen. De interviews worden afgenomen in een semigestructureerde vorm. Dit betekent dat het interview meer zal aanvoelen als een gesprek waarbij wordt gesproken over een aantal onderwerpen dan dat u als geïnterviewde wordt ondervraagd. De onderzoeker zal er voor zorgen dat alle onderwerpen tijdens het gesprek aan bod komen. Dit gaat over waarden zoals transparantie, kwaliteit en inclusiviteit en verder over thema's als openheid, context en effectiviteit.

Het interview duurt 30- 45 minuten. Het interview zal, indien u toestemt, in verband met wetenschappelijke verwerking en verslaglegging worden opgenomen. De opname wordt binnen drie maanden verwerkt waarbij de beelden worden verwijderd en het audiobestand, zonder dat het wordt gedeeld met andere personen dan de onderzoeker en supervisor, enkel bewaard blijft tot de voltooiing van het onderzoek. Uw gegevens worden indien gewenst geanonimiseerd.