

Article

Using Social Media for Citizen Participation: Contexts, Empowerment, and Inclusion

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Abstract: Social media have been increasingly used by governments and planning professionals to gain public opinions, distribute information, and support participation in planning practices. Nevertheless, few studies have been conducted to understand the influence of local contexts and the extent to which social media can enhance citizen power and inclusion. This study investigates the role of social media in citizen participation by taking case studies in the Netherlands. It adopts a mixed methods approach that combines interviews, web scraping, and content analysis to understand the characteristics of social media participation. There are several key findings. First, support policies and a high level of social media penetration rate are preconditions for more inclusive participation. Second, social media enhance social inclusion by engaging many participants, who may not be able to participate via traditional methods. Third, they facilitate interactions and different levels of citizen power, though the government still plays a leading role within top-down approaches. Finally, they improve the effectiveness of participation regarding transparency, accessibility, and workable solutions. However, there are several potential political and social bias associated with social media technology. The combination of online and offline participation methods is properly necessary to engage different groups in the planning process.



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1. Introduction

Citizen participation has become important for contemporary planning due to increasing complexity and diverse interests [1]. The potential benefits of public participation include the promotion of transparent, inclusive and fair decision making processes [2]. There is a growing body of literature on different levels of citizen power, participation forms and methods, and the evaluation of effectiveness in American, European, Chinese and other contexts [3–6]. Nevertheless, traditional participation often selected a small number of representatives as stakeholders and required participants to be present in a physical place at a particular time, resulting in many problems such as the issues of inclusion, and the inflexibility of participation.

In recent years, scholars, planners, and policymakers have turned their attentions toward digital tools in order to overcome the problems of traditional participation methods [7,8]. In particular, social media have been increasingly used in planning practices to support citizen participation [9]. The interactive and multidirectional features make them an effective tool for e-participation [10]. They have the potential to fulfill many different participation needs ranging from inform to empower. Informing the public offers the least level of citizen control, while consulting, involving, collaborating, and empowering stages allow citizens to more influence the decision-making [11]. They can assist the realization of participatory democracy, building trust, and long-term social capital between the government and citizens [11]. Different types of social media platforms have been used by governments as a tool to gain public opinions, distribute and share information, and support citizen participation in various local contexts [7,12]. For instance, many local

governments in Europe have actively used Facebook and Twitter to communicate with citizens in policy-making [13]. In China, social media has not only been utilized by the government to organize top-down participation, but also used by citizens and experts to facilitate collective actions in planning practices [14,15]. However, there has been a lot of criticism on the limitations and issues of social media technology. A potential issue is that they may create new digital divides and population bias, excluding some social groups, who do not get access to or are not familiar with digital tools [16,17]. There have also been considerable debate on whether the use of social media has led to opinion polarization [18], and on potential problems such as information incredibility, privacy concerns, the impact of social relations, the political and social bias, and the unequal outcomes of their use [11,19,20]. Considering the potential problems associated with social media, scholars argue that it may be necessary to combine online and offline participation in order to engage a wide range of participants and promote social inclusion [9].

Until now, there has been little empirical evidence on digitally supported engagement and participation [7]. Fewer research have been conducted to understand the extent to which social media can combine with traditional participation methods to support inclusive participation. There is also a lack of studies on the influence of local policies and institutional contexts on social media participation. Therefore, this study aims to understand the role of social media in empowering citizens and enhancing social inclusion in specific contexts. It takes two Dutch case studies of social media participation in traffic projects—the iBike Alkmaar Campaign in Alkmaar City and the regeneration of traffic routes in Overvecht in Utrecht City. First, the Netherlands has a high percentage of social media users, i.e., more than 95% of the population in the age group 12 to 54 years use social media [21]. Besides, social media usage among the elderly has soared in the past few years, particularly the group 65 to 74-year-olds (ibid). Facebook is one of the most used social networking sites in the Netherlands, having about ten million users [22]. Other popular social media include WhatsApp, Twitter, Instagram, and Snapchat. Since social media are highly accessible to the majority of citizens in the Dutch context, they have the potential to promote more inclusive participation. Second, many municipalities have increasingly used social media platforms such as Facebook and Twitter to assist citizen participation in the past few years. But different policies and institutional contexts may affect the qualities and outcomes of participation. Therefore, we select two case studies in two cities: iBike Alkmaar campaign in the city of Alkmaar, and the regeneration of traffic routes in Overvecht in the city of Utrecht. The former only uses social media for citizen participation, while the latter combines traditional methods with online participation tools. The comparison of these two different case studies enables us to understand the role of social media and the interaction between online and offline engagement. An innovative mixed methods approach that combines interviews, data mining, and computer-assisted content analysis is also developed to understand issues associated with social media participation.

The paper is structured as following. First, it conducts a literature review on citizen participation regarding empowerment and contextual embeddedness as well as the relations between social media participation and inclusion. Second, methods and data collection are introduced. Third, it analyzes institutional contexts, levels of citizen power, and social inclusion in the two case studies. Finally, we discuss and conclude the role of social media in citizen participation.

2. Literature Review

2.1. Citizen Participation: Empowerment and Contexts

Crucial to citizen participation is empowerment. Arnstein [3] defines citizen participation as: “the redistribution of power that enables the have-not citizens, presently excluded from the political and economic processes, to be deliberately included in the future.” She develops a ladder of citizen participation including three ranks of citizen participation, which are further divided into eight levels of empowerment. At the bottom of the ladder are levels of non-participation including manipulation and therapy. At the middle of

the ladder are different degrees of tokenism. These include informing and consultation (e.g., neighborhood meetings), in which citizens have a voice but no guarantee for the real effects on planning outcomes. The highest rank of tokenism is placation, in which citizens are allowed to advise but the powerholders are still in charge of decision-making. At the top of the ladder are levels of citizen power. Partnerships allow citizens to negotiate with the government, while delegated power and citizen control entitle citizens to make the major decision or have full managerial power. Arnstein's ladder has been widely used to understand citizen power in procedural planning in the past few decades. There have been considerable debates on citizen participation in recent years. Based on an extensive literature review, Brown and Chin [2] present a useful framework for evaluating the effectiveness of public participation: (1) Process criterion include representativeness, early involvement, transparency, and resource accessibility; (2) outcome criterion refer to increased understanding and trust, consensus reached, workable solutions, and citizen satisfaction. However, scholars argue that in practice the government often controls or leads the participatory process, thereby limiting citizen power, motivation, and contribution [23]. Factors that hinder public participation include the accessibility to a venue, the ability to find the time to participate, power dynamics between various actors, and communication issues from diverse communication styles and public speaking abilities [24].

Recent studies have emphasized the influence of different institutional and political contexts on citizen participation [6,25]. Legal and administrative support is important for the effective implementation of public participation in urban planning. Citizen participation in democratic societies is also considered as a means to promote transparent and inclusive decision-making processes, and thereby improving democratic legitimacy and the problem-solving capacity of public policies [7,26,27]. In the Netherlands, there has been increased policy freedom at the local level and interactions between the municipal government and citizens [25]. The enactment of a new national law—Environment and Planning Act (Omgevingswet) has stimulated citizen participation in order to bridge the gap between government and society [28]. Widening participation is a response to cope with growing complexity and diversity in society.

Nevertheless, there has been a lot of criticism of traditional participation methods (e.g., public hearings, neighborhood meetings, stakeholder workshops, and surveys), which often require citizens to be present in a physical space at a particular time [23,29]. On the one hand, these methods only allow the engagement of a small amount of stakeholders as representatives and may exclude disadvantaged groups in the process. On the other hand, fixed schedules and physical meetings lead to inflexibility for participation in the planning process. Some stakeholders may not have time to participate in physical meetings. While traditional participation methods continue to underpin citizen engagement, recent studies have explored digital tools to increase participation.

2.2. Social Media Participation and Social Inclusion

The widespread use of information and communication technologies (ICTs) have gradually changed the intensity and nature of public participation, and promoted new types of interactions between government and citizens [30]. Among others, social media has been increasingly used by government and citizens in participatory and collaborative planning practices [9]. Social media are open, web-based and user-friendly applications that allow the creation and exchange of user-generated contents [16,31]. Facebook, Twitter, Instagram, and other social networking sites open new channels of communication through the posting and forwarding of instant messages, the uploading of photos, and the connection between users. They facilitate real-time information dissemination and online dialogue, in which citizens communicate with planners and public authorities. They have the potential to improve government's interactions with citizens, and thereby changing state-society relationships [32]. Compared with traditional participation methods, they are more accessible to the majority of citizens, because citizens can use social media in mobile phones for communication anytime anywhere. This is the so-called mobile participation, i.e., the

use of mobile devices to increase citizen participation by enabling participants to connect with each other, share information, and provide real-time feedback [29,33]. The forwarding or sharing function of social networking sites provides an opportunity for different social groups to raise a voice and make a specific concern to reach a large audience. Therefore, some scholars argue that social media enable augmenting public participation, which “captures a wider audience by including people who are unable to attend physically” [34].

There has been considerable debate on the relationship between social media participation and social inclusion. The debate often refers to the inclusion of different social groups, the improvement of deliberative democracy, and the creation of new social capital. Pflughoeft and Schneider [24] argue that participation through digital tools can overcome constraints associated with traditional participation methods and meet different levels of participation needs, and thereby increasing inclusive deliberative democracy, public trust, and planning success. Lin and Geertman [9] point out that social media provide opportunities for the engagement of young citizens and marginalized groups, who do not formally participate in urban planning. Tayebi [35] (p. 91) also indicates that “planning activists can use social media to encourage public participation by raising public awareness and advocating for marginalized interests.” Some scholars pay more attention to how social media can enhance citizen competences, awareness, and social capital [36]. Verdegem [16] (p. 33) argues that “social media may support the enhancement of citizens’ social capital as it enables interactions between offline and online sociability and the enrichment of social relations by creating and maintaining links through the use of social networks.” However, the use of social media could also lead to the creation of new digital divides and social exclusion for certain groups [16]. Recent studies show that it may be necessary to combine online participation with offline participation in order to promote a more inclusive planning process [9,14].

3. Methods and Data Collection

This study selects two case studies in Netherlands, including the ibike Alkmaar Campaign in Alkmaar City and the regeneration of traffic routes in Overvecht in Utrecht City. There are two main reasons for the selection. First, social media play an important role in gathering ideas from citizens and other participants in both case studies. Second, they are comparable in terms of differences of local policies, levels of citizen power, and participation methods. The ibike Alkmaar Campaign uses only social media for citizen participation, while the regeneration of traffic routes in Overvecht combines digital tools (social media, government portals, the online voting tool, etc.) with offline participation methods. The comparison of the differences and similarities of participation processes and outcomes in these case studies could lead to identify the advantages and shortcomings of social media participation.

The data were mainly collected from public social media accounts, government portals, and other online platforms. First, the ibike Alkmaar campaign started on 16 September 2015, when the municipality posted six messages on their Facebook account @ibikeAlkmaar. Within 22 days, there were 575 comments for the six messages. Therefore, we collected the online data during September to October 2015. A web scraping tool-ScrapeStorm was used to extract data (e.g., messages posted by citizens) from the Facebook account. The total number of comments, likes, and shares for the six messages posted by the municipality were also collected. In the case study of Overvecht, the messages were collected manually, because only the top 24 ideas were available in the Facebook account. Second, computer-assisted content analysis was conducted. Content analysis is “an technique for making inferences by objectively and systematically identifying specified characteristics of messages” [37] (p. 14). In recent years, computer-aided technologies have been applied to understand the contextual information available on social media [38]. In this research, content analysis was conducted in Nvivo, i.e., a computer software package that helps researchers to manage, query, and visualize data collected from social media and other sources. To identify key words in the online conversations, we run the word cloud of the

comments posted under the six messages in the Alkmaar case study. Statistical analysis was also conducted in Excel to calculate the number of participants, likes, posts, and others. Besides, in-depth interviews were conducted with key stakeholders (two communication advisors in municipalities of Alkmaar and Utrecht) to understand the local policies and the role of social media in the participation process. The interviews were conducted by telephone, because face-to-face interviews were not possible due to COVID-19 measures. Each interview lasted about half to one hour.

4. Empirical Work

4.1. Ibike Alkmaar Campaign

4.1.1. Policy Context in Alkmaar

In the city of Alkmaar, cycling is an important mode of transport, as people use bicycles for 42% of their trips [39]. The ibike Alkmaar campaign was part of the 2016–2020 “Lekker Fietsen!” (Enjoy Cycling) plan, in which local authorities attempted to maintain and stimulated a high level of bicycle use. The plan was based on two pillars, namely safety and attractiveness, which were further divided into five themes: networks and routes, safety, user comfort, bicycle parking, and promotion and education. Based on these five themes, the ibike campaign was launched on 16 September 2015. The municipality aimed to collect the information from citizens about the cycling environment and address several key questions: What are the problems? How can they improve bicycle safety (e.g., crossing, speed differences, busy school routes)? How can the problems associated with bicycle racks and parking spaces be solved? Where could be the new bicycle routes located? When the campaign started, social media was hardly used by the municipality and there was no policy about it. As a communication advisor in the municipality of Alkmaar stated (interview, May 2020):

“The social media policy, which the municipality now has, did not exist in 2015 or was very much in the early stage. The communication department did not set up any program in the field of social media at all. At the time, we mainly used Facebook when there were disasters or crises.”

Since the ibike Alkmaar campaign, the municipality has grown its awareness of using social media for citizen participation. This is reflected by the establishment of a new policy, which indicates that citizen participation is of great importance to the early stage of spatial planning. All interested parties should be able to express their opinions and participate in the process. The municipality is now using various social media channels such as Instagram, Facebook, Twitter, YouTube, and LinkedIn for citizen participation and other purposes. Social media is now an important tool for citizen participation and communication. However, social media participation in the ibike Alkmaar campaign costed the municipality a great deal of time and money.

4.1.2. Citizen Participation through Facebook

At the beginning of the campaign, the public Facebook Page @ibikeAlkmaar was created, with more than 400 followers (Figure 1). The municipality posted six messages on Facebook to ask citizens for ideas and solutions in terms of three different subjects, namely bicycle parking, bicycle safety, and new bicycle routes. In total, these messages were liked 491 times and shared 41 times, and received 575 comments (Table 1). However, the responses for the messages were different in terms of the number of comments, likes, and shares. The most comments were given for bicycle safety, while the least comments were provided for the message about solutions for bicycle racks, parking spaces for mopeds, scooters and cargo bikes, and charging points for electric bikes. There were also less comments for the message about new bicycle routes. This suggests that people paid more attention to current bicycle safety that affected their daily lives than solutions and planning new bicycle routes for the future.

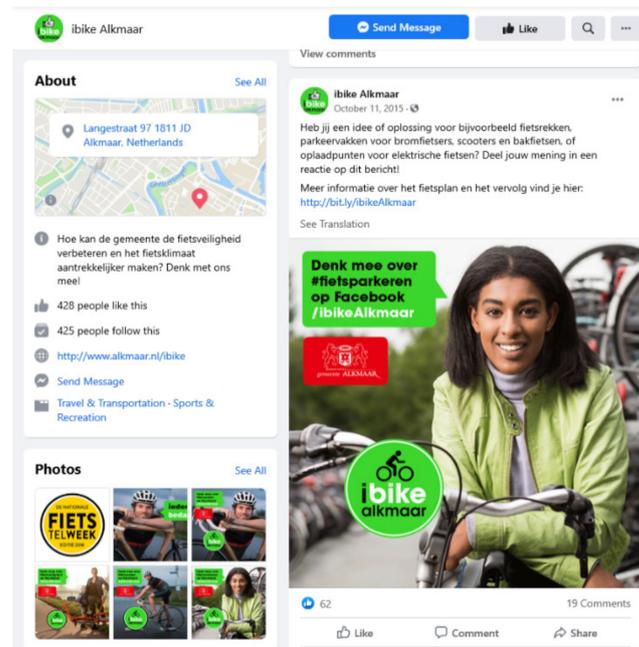


Figure 1. Facebook Page @ibikeAlkmaar.

Table 1. Overview of the six messages.

Messages	Subjects	Likes	Comments	Shares
1st	Solution for bicycle parking (bicycle parking, theft prevention, and theft enforcement)	99	87	10
2nd	Bicycle safety and improving attractiveness of cycling	28	179	4
3rd	Improving bicycle safety in neighborhoods (e.g., busy roads, lighting)	81	137	8
4th	New bicycle routes	112	30	10
5th	Solutions for bicycle racks, parking spaces for mopeds, scooters and cargo bikes, and charging points for electric bikes	62	19	0
6th	Improving bicycle safety (e.g., crossings, speed differences, and busy school routes)	109	123	9
Total number		491	575	41

The municipality of Alkmaar played a leading role in the participation process. It created the Facebook page @ibikeAlkmaar and posted the mentioned six messages, which received a lot of comments, likes, and shares. It also posted 208 comments and 64 likes. The active role of the municipality was also reflected in the word cloud of the comments posted under the six messages (Figure 2). Since the participation was about cycling, it is reasonable that “fietsers” (cyclist) is the most frequently used word. It is interesting that “bedankt” (thank you) is another frequently used word, because the municipality responded to most citizens’ comments and thanked them for their participation. This suggests that social media facilitates the real time interaction between government and citizens. Government takes care of citizens’ comments and opinions. It also seems that government attempts to lead dialogue and facilitate more positive opinions. Positive and active interactions could avoid negative opinion polarization, which is a potential issue of social media platforms. Nevertheless, there was limited depth of communication through social media. Most citizens’ messages only got one response, which was often from the municipality who thanked them for their efforts. If the municipality did not fully understand the comment,

As indicated in previous studies, some online participants could become centers/sub-centers of a network created through a social media platform [6,14,40]. Some citizens played a more influential role than others through posting more comments. For instance, Participant A responded to five messages posted by the municipality. He discussed with the municipality about various related topics and solutions, thereby influencing the participation process. However, he indicated that the outcome of the campaign was limited. Although he supported the initiative, he would like to see more changes in real life, such as the creation of new spaces for cyclists. Another key actor is Participant B. Although she only responded to one message, she had a lot of discussions with other citizens and the municipality. She pointed out the problem of the bicycle parking facilities and asked the municipality to solve this problem. Other three citizens also reacted to her comments. The municipality reacted that the comments would be examined by the expert group comprising the representatives of the cyclist association, the municipality, and other stakeholders. Participant C responded to three messages and posted his ideas. He also responded to other citizens in order to clarify a problem, but he was quite positive for the municipality. However, the majority of participants did not engage in any discussion. Although citizens post many ideas and comments, there was no substantive discussion. This is mainly because citizens did not react to the municipality, who asked a follow-up question regarding their comments or questions. The mentioned three participants were almost the exceptional cases that citizens had dialogue with the municipality. Due to the interactions, they were able to exert more influence.

4.2. *The Regeneration of Traffic Routes in Overvecht in Utrecht*

4.2.1. Policy Context in Utrecht

The municipality of Utrecht created a participation standard, namely “De Utrechtse Participatiestandaard” [41]. This standard includes five steps: (1) Making a force field analysis; (2) determining the level of participation; (3) determining actors with a core message; (4) creating a calendar; and (5) determining instruments of participation. The municipality has not only used traditional instruments such as neighborhood reports and consultation evenings, but also promoted innovative means such as internet panels and digital debate. In particular, the program “Samen Stad Maken op de Utrechtse Manier” (creating a city together in the Utrecht’s way) aims to empower more citizens to express their ideas and concerns on policy-making [42]. The current policy promotes online participation in order to allow more voices to be heard and obtain information in an easy and accessible way. Digital tools such as social media, apps and websites offer new opportunities for online participation, through which citizens do not need to be physically present in a meeting. In short, the municipality of Utrecht has support policies for social media participation. However, traditional participation methods (e.g., face-to-face meetings, stakeholder workshops, public hearings, information evenings, surveys) still remain important and combine with online participation in planning practices. As mentioned in the participation standard, an assessment is made to determine which participation methods could be used in different kinds of projects.

The regeneration of traffic routes in Overvecht has been fit to the current policy of the city. The interview with the communication advisor of Utrecht Municipality in May 2020 shows that the intention of the project was to reach a lot of people in an accessible way and involve local residents of the neighborhood in the planning process. The outcome of the project reflects that social media platforms were very useful for citizen participation, especially during the COVID-19 Pandemic.

4.2.2. Online and Offline Engagement

As a district of Utrecht City, Overvecht was built in the 1960s and characterized by post-war modern urban fabrics and high-rise buildings. The streets were designed to be very wide in order to enable motor traffic [43]. Nevertheless, the street layout is unsafe for walking and cycling, and does not meet the current need of the people. The municipality

of Utrecht has initiated several projects for the regeneration of this district. A number of roads will be renewed in Overvecht and the surrounding urban area. For example, several 50 km/h roads will be converted into 30 km/h roads (Figure 3). However, it will take a long time to renew the road network. The interview (May 2020) with a communicative advisor in Utrecht Municipality shows that how to solve traffic problems in the short term became a key concern of the district. Therefore, the municipality initiated a competition of traffic solutions in order to develop low-cost and quickly implemented measures. The competition collected ideas and solutions from citizens and engaged local residents in the process.



Figure 3. Redesigned roads in Overvecht [44]. Source: <https://overvecht.onzewijk.nl/> (accessed on 8 August 2013).

The competition has four phases. In the first phase, the municipality used both online platforms (government portals such as utrecht.nl, social media, etc.) and offline channels (newspapers, local organizations, etc.) to inform residents and interested parties about the competition. Facebook played an important role in this phase. The competition was promoted in many Facebook pages, including @GemeenteUtrecht (a public account of the municipality with more than 35 thousands followers). Several related messages were also posted in @EchtOvervecht, with about four thousands followers mainly from the district of Overvecht. This Facebook page was more accessible to local residents, and informed them about the latest development in the district. The message about the competition received thirty-six responses. Many residents expressed their experiences on traffic issues and proposed ideas for changes, while some of them considered enforcement as a better solution (Figure 4).

'Top idea! Dangerous traffic in several places.'
'At the Neckardreef there is also anti-social driving. Very dangerous with 2 schools along that road. It's almost impossible to cross, you'll be hit in no time 🙄'
'That won't solve anything. More enforcement and handing out fines. 👍'
 (The text was translated from Dutch to English)

Figure 4. Citizen posts on Facebook (Source: @EchtOvervecht, 2019).

The combination of online and offline participation methods enabled the engagement of a large number of participants in the competition. More than 100 ideas were collected from citizens. Project O which is a local networking organization played an important role in this phase. They had face-to-face meetings with local residents in several public places such as community centers and sports clubs, and informed them about the competition. They helped to reach more people in the neighborhood and obtain more ideas from different groups. At the same time, the online participation took place, in which Facebook played an important role to call people's attention to participate the competition. Social media participation is more feasible and motivates more citizens to engage in the process. The real-time feature allows citizens to participate anytime anywhere. Citizens could also express their ideas in an informal and detailed manner such as writing posts and uploading drawings. Some ideas from citizens were very thoroughly considered and grounded to the specific local context (Figure 5).

Zigzag roads

Create zigzag roads to force the driver to reduce speed. The cheapest and most fun solution for the environment is to do this by making large planters with many kinds of greenery that flower in every season. The planters could be managed by local residents in the neighborhood. Plants and bulbs could be supplied by the municipality. There could be crash barriers and rubbers around the planters to reduce the damage of accidents.

(The text was translated from Dutch to English)

Figure 5. One of the top five ideas from citizens (Source: @EchtOvervecht, 2019).

As a result, the municipality received more citizen input through the online participation, compared with traditional methods such as surveys and interviews. As a communicative advisor in Utrecht Municipality stated,

“People came up with ideas that were really thought through. Some people even came up with design drawings about what they imagined. We asked them to provide not only a title of an idea, but also a summary of the idea and further elaboration. Some people were really active about this. Therefore, we got more (input) than only asking them questions in a meeting” (interview, May 2020).

In the second phase, the assessment team consisting of various experts evaluated the 100 ideas from citizens and made a list of top 24 ideas, which were categorized into behavioral measures, measures around schools, temporary physical measures, and permanent physical measures. However, the municipality did not take the ideas about more enforcement, because they did not have authority over this. The top 24 ideas from citizens together with those from consultant agencies were published on the online platform OnzeWijk. Local residents and other participants then used the online voting tool of this platform to vote for the best ideas from both citizens and consultant agencies. The Facebook page @EchtOvervecht and Project O also played a role in promoting the voting process. The received 200 votes ultimately counted for 20% of the jury's weighting. The jury was elected by the municipality, including the technical chairman and some local residents. It chose the five best ideas, which were taken into account in the next phase of the campaign.

In the third phase, the award ceremony was organized for presenting and awarding the top five ideas. It was originally planned to take place in a market place, but moved to a digital meeting due to the COVID-19 pandemic. A “Zoom Meeting” was organized to engage 70 participants. In the meeting, residents still could use the chat function of Zoom to ask questions about road safety and other matters. This project is now in the fourth

phase, in which the municipality is involving the prize-winners to explain and implement their ideas. Citizens are still informed for the progress through the online platform of OnzeWijk.

Therefore, the combination of different digital tools (social media, the online voting tool, government portals, etc.) and offline participation methods contributes to engaging different social groups in different planning phases and the success of this project. The use of social media makes participation easier and more accessible. It allows more interactions between citizens, organizations, and government. Although the project was initiated by the government, it empowered citizens to present and implement their ideas, and thereby influencing the decision-making process and planning outcomes. According to the Arnstein's ladder [3], the level of citizen power in this case is related to partnership and delegated power. Government set up certain rules and mechanisms, while citizens had some degrees of freedom to come up with ideas for solving planning problems. Citizens and government have then worked together to implement the ideas.

5. Discussion and Conclusions

The widespread use of social media has provided new platforms of citizen participation in planning practices. The real-time and open characteristics make social media become a powerful tool to engage a large number of participants and facilitate new forms of interactions between government and citizens. This research provides empirical evidence on the use of social media in planning practices by taking two case studies in the Netherlands. It reflects several benefits and shortcomings of using social media for citizen participation.

First, technological and policy contexts are often considered as important for the participation process. As argued by Lin [15], the technological context is one of the key factors influencing the success of applying digital tools in supporting participation and collaboration. There is no doubt that the high social media penetration rate makes social media become an effective tool for citizen engagement in the Netherlands. The introduction of citizen participation into Dutch planning reflected the democratic movement in the 1960s and there have been policies at national and local levels to stimulate citizens to participate in governance processes [23]. The regeneration of traffic routes in Overvecht in Utrecht has been supported by local policies, which promote online participation but also recognize the importance of traditional participation methods. In contrast, there was no policy for using social media in citizen participation when the iBike Alkmaar campaign started. Nevertheless, since then the municipality has increased its awareness of using social media for citizen participation and established a related policy. In other words, local institutions are changed after gaining practical experiences. This proves the argumentation of Healey [45] that governance activities are not only shaped by existing institutions, but also actively develop new institutional capital from the grassroots' concerns of stakeholders.

Second, social media are easily used and accessible to anyone, who has a social media account. In both case studies, Facebook plays an important role in informing citizens and collecting citizens' comments and ideas in real time. The open and real-time features of social media allows citizens to participate anytime anywhere and express their ideas in an informal and detailed manner. This has led to augmenting public participation that captures a wider audience of participants [34]. Nevertheless, the case study of Utrecht also demonstrates the added value and complementary efforts of offline participation methods that help to engage a large number of residents at local communities in the process. As indicated in previous studies, the combination of online and offline methods could lead to the inclusion of various social groups in planning practices [9,14]. Especially in the iBike Alkmaar Campaign, there was no offline participation method for engagement and communication, while the discussion via social media lacked in-depth communication. The good communication in the case of Overvecht was largely attributed to the combination of online participation with the offline engagement.

Third, social media could facilitate interaction between government and citizens, and generate different levels of citizen power [24,30]. The content analysis in the two case studies showed that there were interactions between government and citizens, but citizen power was still determined by local government. The power of citizens in the case of Alkmaar was low, since citizens were mainly informed and consulted in order to identify cycling problems and there was no guarantee for taking the input in the final decision-making. The power of citizens in Utrecht was much higher, since citizens provided, selected and implemented solutions for solving planning problems. The collaboration between government, citizens, experts and civil society organizations has also contributed to the success of the case. Although the ways of participation are still determined by government in top-down approaches and online dialogue may not be in-depth due to short texts, social media provide opportunities for citizens to express their comments and ideas in an accessible way. There may be also questions about whether it is the intention of the government to empower citizens or whether it is just a mean to gather citizen's information on alternatives or cheap solutions. We argue that nowadays it is difficult for the government to deal with urban problems themselves due to the increasing complexity and pluralism, so the engagement and empowerment of citizens to some extent are practical solutions for collectively solving the problems. For instance, the case of Utrecht shows that some citizens' ideas and solutions were finally adopted by the municipal government, and a partnership between citizens and government was also set up in planning practice. According to Arnstein's participation ladder [3], these citizens are at the higher level of participation (i.e., partnership that enables them to negotiate with traditional powerholders). They were empowered by government in order to find cheap and feasible solutions to deal with complex planning issues.

Therefore, support policies and a high social media penetration rate are preconditions for the inclusion of a wide range of citizens. Social media could improve the effectiveness of participation that refers to transparency, accessibility and workable solutions [2]. It also could empower citizens and enhance social inclusion by engaging many participants, who may not be able to participate in traditional participation methods. However, it does not mean that planners and public authorities have less tasks by using social media in citizen participation, because there is a requirement of good management and organization of the participation process in order to facilitate more interactions between government and citizens and promote more positive dialogue. For instance, it seems that it is difficult for the municipality of Alkmaar to set up a similar participation process in the near future due to limited budget. As argued by Kleinhans et al. [7], the use of social media is not necessary to reduce the amount of work for planning professionals due the new flow of information that needs to be managed.

This study reflects some positive aspects of using social media for citizen participation, but it also shows several potential issues such as a lack of in-depth discussions. The limitation of this study is that it was difficult to get access to online participants and conduct face-to-face interviews with them to understand their motivations and opinions on social media participation. Besides, attention should be paid to the limitations of social media technology. As argued by Feeney and Porumbescu [20] (p.1) "practitioners should recognize that social media platforms are not 'neutral' tools. They have political and social bias embedded in their design, users bring social and political bias to their adoption and application, and outcomes of their use are unequal." Future research should critically evaluate the design and political nature and potential bias of social media platforms, including ownership, privacy concerns regarding data protection and transfer, censorship, and manipulation. Considering the pros and cons of social media platforms, online participation will be a supplement to traditional participation methods rather than replacing them. The combination of online and offline participation methods is proved to support a more inclusive participation process. However, there is no one-size-fits-all solution, because there are different participation needs in different projects. More research is required to

understand the influence of social media on citizen participation in different planning and political contexts.

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