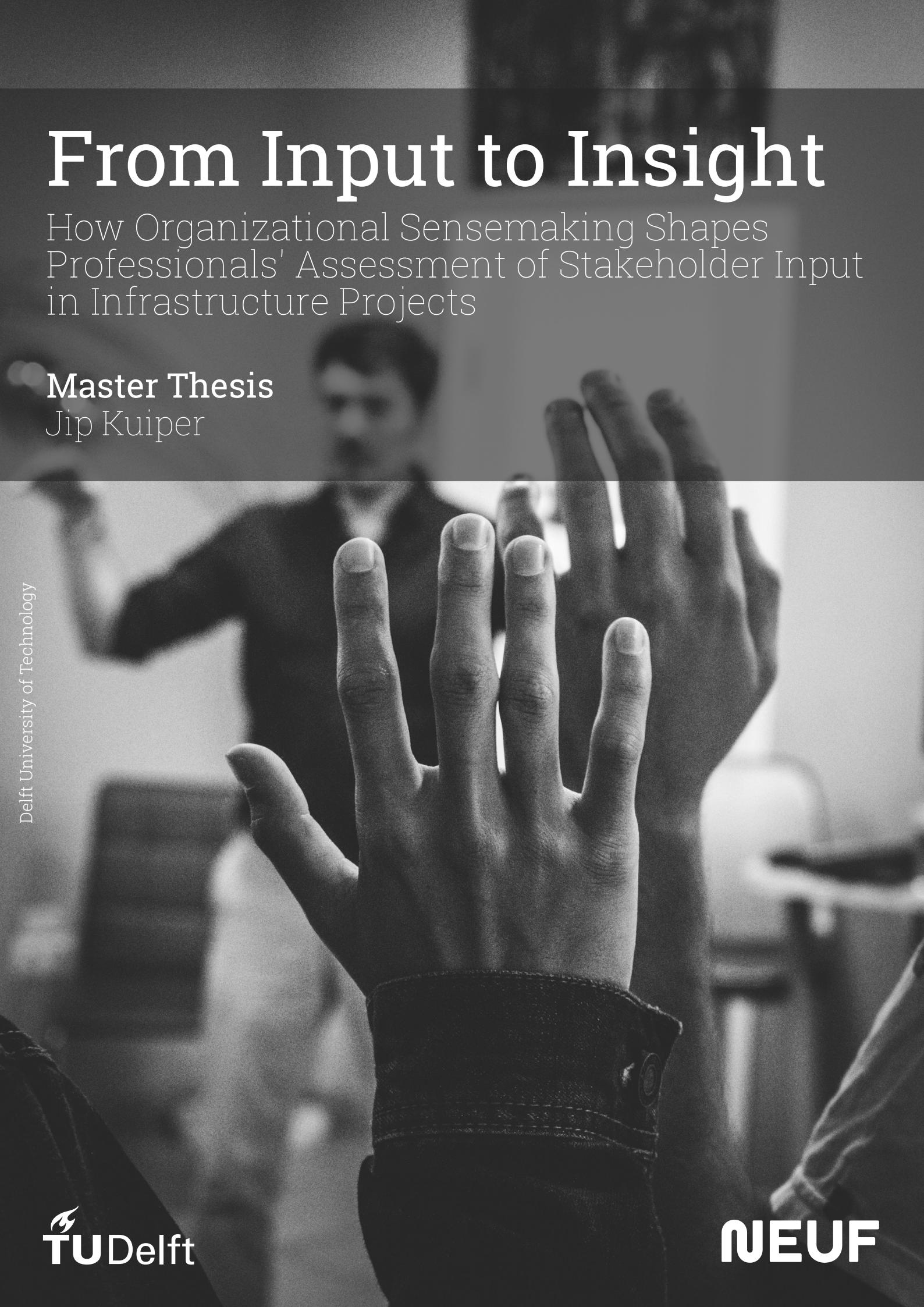
From Input to Insight

How Organizational Sensemaking Shapes Professionals' Assessment of Stakeholder Input in Infrastructure Projects

Master Thesis

Jip Kuiper



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How Organizational Sensemaking Shapes Professionals' Assessment of Stakeholder Input in Infrastructure Projects

by

Jip Kuiper

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Cover: Two people raising their hands during a meeting (Maltsev, n.d.).

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Preface

This master's thesis report was completed over several months, marking the end of my journey at Delft University of Technology. Over a period of well over seven years, I am lucky to have had a fantastic time in Delft, filled with unforgettable experiences and personal growth.

During my bachelor in Civil Engineering, I came to realize where my interests lie, as integral design and project management quickly became subjects that sparked my enthusiasm. Luckily, the subsequent choice of the Construction Management and Engineering master felt like the right fit straight away, further embedding my eagerness to acquire more insights into the urban development field and the social domain. Having the opportunity to complete my education through research related to these topics therefore felt like a privilege.

Several people have made these past months a success, without whom this thesis would not have been completed. Accordingly, my utmost appreciation goes out to Marcel, Johan, and Aksel, whose feedback, insights and general enthusiasm were instrumental for this work. I enjoyed our shared moments thoroughly, with the mutual passion for the research topic being an important driver for my own motivation. More specifically, I would like to thank Johan, whose guidance, expertise, and genuine interest in my research have been outstanding during our weekly meetings. I look forward to continuing this collaboration through our work on a potential research paper.

In addition, my thanks go out to the interviewees, focus group attendees, and all other colleagues at Neuf. The warm welcome during my very first week continued all the way up to the final days. All the discussions, questions, and conviviality at the office and during the many walks outside have made this thesis period that much more enjoyable. But above all, I would like to sincerely thank Kati, whose excitement, expert insights, and personal attention were extremely valuable. All the Friday mornings were moments to genuinely look forward to and I am very keen to find out where our efforts will lead to in the future.

Next to that, I am grateful to everyone else that has contributed to this study. From the policymakers, participatory experts, and other practitioners that gave me the opportunity to acquire a better understanding of public participation, to all friends and family that showed sincere interest in me personally by never failing to ask "how's the thesis going?".

Finally, I want to acknowledge you, the reader. I wish that this research sparks your interest in this topic, just like it continuously did for me during these previous months. I hope you enjoy the read.

Jip Kuiper
Delft, April 2026

Executive Summary

Public participation is becoming an institutionalized component of projects in the infrastructure sector, which is driven by legislative reforms, heightened public expectations, and increased recognition of the value of early stakeholder involvement. Despite this institutionalization and the demonstrated benefits of public participation, local stakeholder input is still frequently undervalued in project decision-making. This devaluation can lead to significant drawbacks, including stakeholder dissatisfaction and project delays. Consequently, scholars and practitioners aim to mitigate these risks by enhancing the quality of public participation through innovative procedural improvements.

Although the literature extensively documents methods for improving these procedural aspects, it offers limited insight into the influence of practitioners' mindsets and organizational cultures on the quality of public participation. Accordingly, this research investigates how practitioners' attitudes toward public participation develop and persist by using Weick's (2005) organizational sensemaking theory as a theoretical framework.

The study specifically targets the Dutch infrastructure sector, where the new Environment and Planning (Dutch: Omgevingswet) has created a relevant research context. As a result of this new legislation, professionals' mindsets are shifting as they have to navigate when and how to organize public participation at earlier project stages. This creates an interesting research environment with valuable opportunities to explore how mental and organizational factors influence public participation's quality. Public Engagement Professionals (PEPs) (Dutch: Omgevingsmanagers) play a crucial role in this environment, as they are responsible for designing, implementing, and facilitating participatory initiatives. Within this role, they have to justify the project organization's decisions to local stakeholders, as well as stand up for the local perspective during the internal decision-making process. This unique position enables them to resolve institutional and mental barriers through their expert knowledge of both the project environment and the internal organization.

Accordingly, this study answers the following main research question: *How do organizational sensemaking processes shape how project organizations assess local stakeholder input in infrastructural (re)development projects, and how can Public Engagement Professionals intervene in these processes?*

The study adopts a qualitative research approach combining a literature review, exploratory study, and semi-structured interviews. Additionally, two co-creative expert sessions are organized to validate the study's results. In total, 17 semi-structured interviews are conducted with PEPs and project managers employed at interim-management bureau Neuf & Associates B.V.. These interviewees provide perspectives on diverse projects and participatory processes, leading to extensive insights into public participation. Interviews focus specifically on urban (re)development projects in the Netherlands, as they are characterized by their complexity, a large number of affected stakeholders, and varied project objectives, thereby generating a comprehensive dataset through which the outlined research objectives can be achieved.

The findings of the study illustrate how the organizational process of participatory initiatives can be analysed using Weick's (2005) *Enactment* theory, in which three interdependent sensemaking stages (Enactment, Selection, and Retention) shape organizational attitudes toward public participation. To illustrate the interrelatedness of these stages, the study develops three organizational sensemaking models: the *Process*, *Vulnerability*, and *Strategy* model.

The *Process* model reflects the process that project organisations go through when organising participatory initiatives. This process is set in motion by an organisation's intention to involve the public in a project. This is followed by the *Enactment* phase, in which the project organisation develops a participatory strategy and selects appropriate participation methods to gather input from local stakeholders. The research findings emphasise that the underlying considerations leading to a chosen participation strategy are significantly influenced by the context in which the project organisation operates. This current context depends on three levels: sectoral trends (e.g. the political landscape), the internal organisational culture (e.g. the organisation's identity and values) and the individual mindset of professionals and teams regarding public participation. After gathering local perspectives, the *Selection* phase follows, in which the collected stakeholder input is processed and evaluated. Finally, in the *Retention* phase, professionals process the results of a participatory process and retain their findings. This subsequently influences the organisation of future participatory processes; for example, a participatory process with favourable outcomes ensures that professionals are inclined to approach the next process more positively. The organisational process of participatory initiatives can therefore be viewed as a cycle, in which the outcomes of previous processes can have both a positive and a negative impact on the organisation of subsequent participatory processes.

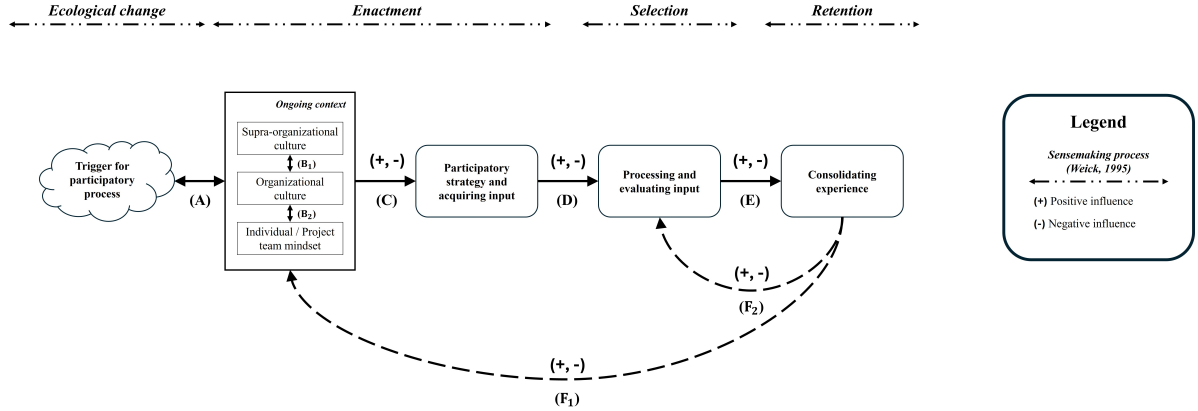

Figure 1: The *Process* model, adapted through Weick's (2005) enactment theory (own illustration).

The *Process* model highlights a critical finding: public participation's quality is indeed determined by the aforementioned procedural aspects, but just as much by *cognitive* factors. Procedurally, participatory quality depends on project organizations' available flexibility, which is influenced by project frameworks, legislation, and governance structures. However, mental factors, such as organizational culture and prior experiences, also significantly affect how organizations decide on participatory strategies and how input is valued.

The *Vulnerability* model extends the *Process* model by identifying how and where institutional vulnerabilities can reduce the quality of public participation. Importantly, the model does not claim all infrastructure organizations exhibit each vulnerability; rather, it maps potential

failure points for professionals' self-assessment.

The following institutional vulnerabilities are identified:

1. During the *Enactment* stage, two categories of vulnerabilities emerge. First, sectoral barriers (i.e. political interference) and restrictive organizational governance (i.e. top-down decision-making) can reduce the manoeuvring room of project organizations to organize public participation effectively. Second, established dismissive mindsets (i.e. technocratic bias) and unsupportive institutional cultures (i.e. a lack of organizational vision) can negatively influence how organizations perceive public participation.
2. During the *Selection* stage, institutions without established methods for evaluating the value of stakeholder input risk relying on intuitive approaches that are vulnerable to personal biases and cherry-picking. These issues can be exacerbated when institutions lack a mutually agreed-upon organizational vision, especially when professionals hold different opinions on what "effective engagement" entails.
3. During the *Retention* stage, negative participatory experiences pose a specific risk by creating self-reinforcing feedback loops: The aforementioned challenges (limiting external factors, negative mindsets and operational shortcomings) often result in sub-standard participatory processes, which in turn causes dissatisfaction among stakeholders, thereby generating negative associations toward public participation among professionals. Professionals then interpret these experiences as confirmation that public participation does not add sufficient value to projects. However, this resulting attitude actually leads to these existing challenges not being resolved.

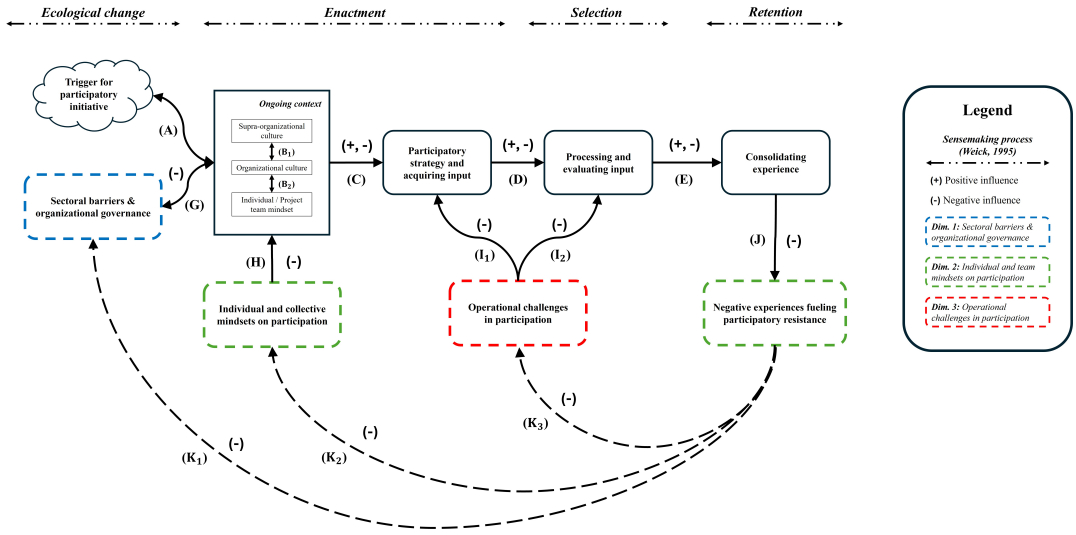

Figure 2: The *Vulnerability* model (own illustration).

Even though the *Vulnerability* model reinforces the argument that organizing high-quality public participation is genuinely difficult, it remains important to understand how mental and organizational factors might disrupt the participatory process. The model shows that established mindsets matter and influence how public participation is organized, with the identified recursive feedback cycles showing how institutional vulnerabilities are likely to persist within organizations if left unaddressed. The key insight is that policy reforms, such as the Environment and Planning Act, address what organizations must do *procedurally* but cannot reshape how organizations *think* about public participation. Consequently, if

these organizational and mental barriers remain unaddressed, procedural improvements alone might be insufficient to achieve participatory development in the infrastructure sector. Furthermore, the model serves as an assessment framework, enabling professionals to identify *which* challenges they recognise within their organisation, *where* in the participatory process these may arise, and *why* they can lead to negative consequences.

The *Strategy* model provides solutions to the identified institutional vulnerabilities by introducing strategies that target mental and organizational barriers at specific stages of the organizational process. Two co-creative expert sessions identified a total of twenty intervening strategies. These strategies are organized into four strategy clusters, each corresponding to distinct sensemaking stages of the organizational process:

1. *Organizational Foundations & Culture*, addressing the influence of limiting external factors;
2. *Team Alignment & Integrated Strategy*, focusing on dismissive mindsets and cultures;
3. *Input Processing & Evaluation Methods*, targeting operational challenges;
4. *Reflection & Continuous Learning*, aiming to resolve the effect of negative experiences.

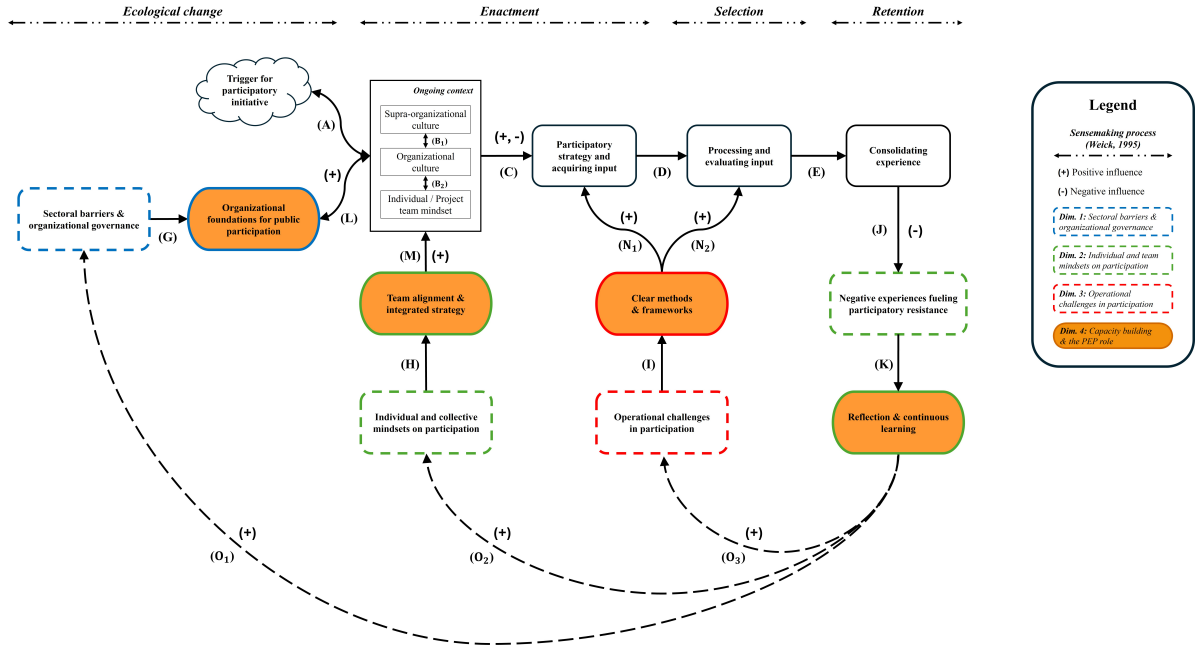

Figure 3: The *Strategy* model (own illustration).

Each of these strategies is positioned on a two-dimensional grid, considering its strategic impact and the organizational level it affects. Additionally, strategies are categorized as meaning-oriented (shaping perception), structure-oriented (creating systems), or practice-oriented (learning through action), enabling practitioners to select approaches matching their institutional context and personal style. By using these intervening strategies as systematic guidance to address barriers, PEPs can help restore disrupted organizational processes in public participation within their personal organizational context.

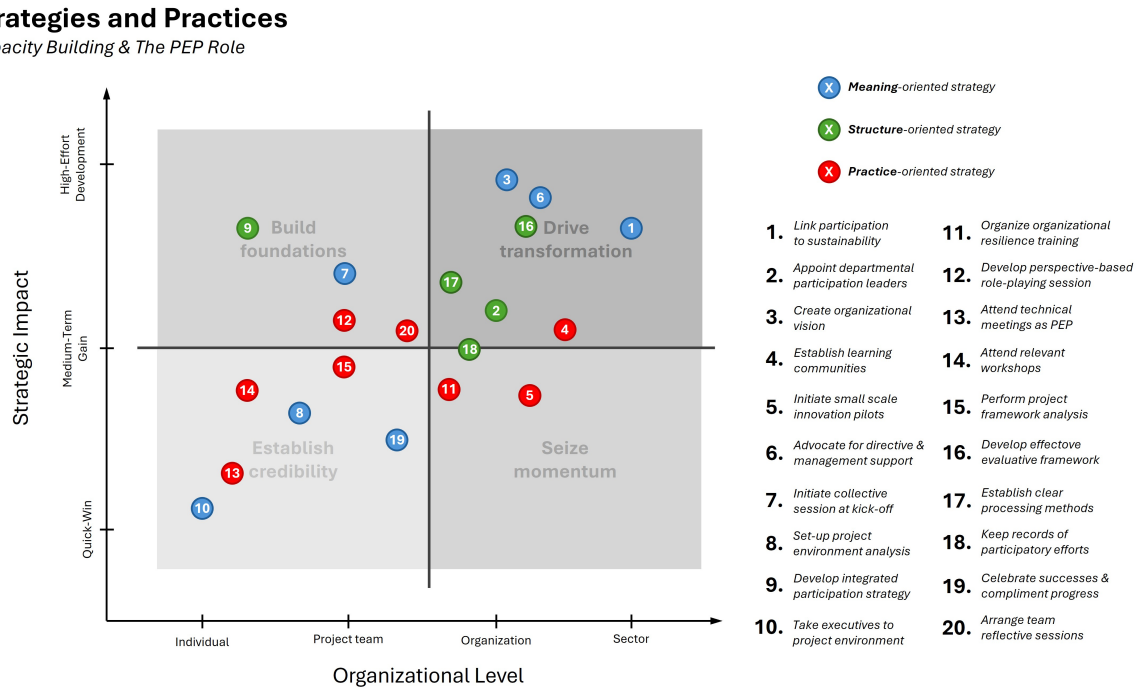

Figure 4: Overview of all intervening strategies (own illustration).

By framing public participation as a continuous organizational *and* mental process rather than just a procedural activity, this study contributes to a deeper understanding of why local stakeholder input is regularly undervalued in projects. The three interconnected sensemaking models provide both a theoretical explanation for the persistence of negative attitudes and practical guidance for improving the organizational process of public participation initiatives. The research shows that participatory development requires more than addressing procedural issues alone; it also involves tackling mental barriers across different organizational levels. Through insights and guidance for transforming dismissive attitudes and unsupportive institutional cultures, this study supports practitioners in ensuring that public participation is not solely perceived as a legal requirement but is instead seen an essential driver of project success.

Samenvatting

Participatie wordt alsmaar belangrijker in de infrastructuursector, onder meer door recente wijzingingen in wetgeving, hogere verwachtingen van de samenleving en een toegenomen erkenning van het belang van vroege stakeholderbetrokkenheid bij projecten. Ondanks deze institutionalisering en de aangetoonde voordelen van participatie, wordt de inbreng van lokale belanghebbenden bij de besluitvorming van projecten nog steeds vaak ondergewaardeerd. Deze onderwaardering kan leiden tot aanzienlijke nadelen, waaronder ontevredenheid bij stakeholders en vertragingen in projecten. Dit heeft ertoe geleid dat wetenschappers en professionals veel aandacht besteden aan het beperken van deze risico's, met name door de kwaliteit van participatie te waarborgen via procedurele verbeteringen.

Hoewel in de literatuur uitgebreid wordt ingegaan op methoden om deze procedurele aspecten van participatie verder te ontwikkelen, is er slechts beperkt inzicht in de invloed van professionele houding en organisatiecultuur op de kwaliteit van participatie. Zodoende analyseert dit onderzoek hoe de mindset van professionals ten opzichte van participatie tot stand komt en wat voor effect deze heeft op het organiseren van participatietrajecten. Hierbij wordt gebruik gemaakt van Weick's (2005) *sensemaking* theorie om te begrijpen hoe deze cognitieve aspecten ontstaan en verder ontwikkelen.

Het onderzoek richt zich specifiek op de Nederlandse infrastructuursector, waar de nieuwe Omgevingswet een relevante onderzoekscontext heeft gecreëerd. Als gevolg van deze nieuwe wetgeving wordt er anders met participatie omgegaan, gezien er nu in een vroeger stadium van projecten moet worden bepaald of en hoe participatie wordt georganiseerd. Dit creëert een interessante mogelijkheid om mentale en organisatorische factoren ten aanzien van participatie te onderzoeken. Omgevingsmanagers spelen daarbij een cruciale rol, gezien zij verantwoordelijk zijn voor het ontwerpen, implementeren en faciliteren van deze participatietrajecten. Binnen hun rol vertegenwoordigen zij dan ook zowel de besluiten van het project team, als de belangen vanuit het lokale perspectief. Deze unieke positie stelt hen in staat om mindset-gerelateerde uitdagingen binnen hun eigen organisatie aan te kaarten door middel van hun kennis van zowel de projectomgeving, als de interne organisatie.

Dit onderzoek biedt dan ook een antwoord op de volgende hoofdvraag: *Hoe beïnvloeden sensemakingprocessen de manier waarop projectorganisaties van infrastructurele (her)ontwikkelingsprojecten de inbreng van lokale belanghebbenden beoordelen, en hoe kunnen omgevingsmanagers invloed uitoefenen op deze processen?*

Het onderzoek maakt gebruik van een kwalitatieve onderzoeksmethode, waarbij een literatuurstudie, een verkennend onderzoek en semi-gestructureerde interviews worden gecombineerd. Daarnaast zijn twee co-creatieve expertsessies georganiseerd om de onderzoeksresultaten te valideren. In totaal zijn 17 semi-gestructureerde interviews afgenomen met omgeving- en projectmanagers, die allen werkzaam zijn bij interim-managementbureau Neuf & Associates B.V.. De interviews richten zich specifiek op stedelijke (her)ontwikkelingsprojecten in Nederland, aangezien deze worden gekenmerkt door hun complexiteit, een groot aantal be-

trokken belanghebbenden en uiteenlopende projectdoelstellingen, waardoor een uitgebreide dataset wordt gegenereerd om de geschetste onderzoeksdoelstellingen mee te bereiken.

De bevindingen van het onderzoek laten zien hoe het organisatorische proces van participatie kan worden geanalyseerd aan de hand van Weick's (2005) *Enactment*-theorie, waarin drie onderling afhankelijke fasen van sensemaking (*Enactment*, *Selection* en *Retention*) de houding van projectorganisaties ten opzichte van participatie tot stand brengen en beïnvloeden. Om de onderlinge samenhang van deze fasen te illustreren, ontwikkelt het onderzoek drie sensemakingmodellen: het *Proces*-, *Kwetsbaarheid*- en *Strategie*-model.

Het *Proces* model weerspiegelt het proces dat projectorganisatie doorlopen tijdens het organiseren van participatie initiatieven. Dit proces wordt in gang gezet door een organisatie's intentie om het publiek bij een project te betrekken. Hieruit volgt de *Enactment* fase, waarin de projectorganisatie een participatiestrategie ontwikkelt en daarbijbehorende participatiemethoden selecteert om input van lokale belanghebbenden te verzamelen. De resultaten van het onderzoek benadrukken dat de onderliggende overwegingen die tot een gekozen participatiestrategie leiden aanzienlijk worden beïnvloed door de context waarin de projectorganisatie opereert. Deze actuele context is afhankelijk van drie niveaus: sectorale trends (e.g. het politieke landschap), de interne organisatiecultuur (e.g. de identiteit en waarden van de organisatie) en de individuele mindset van professionals en teams ten aanzien van participatie. Na het verzamelen van lokale perspectieven volgt de *Selection* fase, waarbij de opgehaalde stakeholder input verwerkt en geëvalueerd wordt aan de hand van beoordelingskaders. Ten slotte, in de *Retention* fase, verwerken professionals het resultaat van een participatietraject en onthouden zij hun bevindingen. Dit heeft vervolgens invloed op het organiseren van toekomstige participatietrajecten, een participatietraject met gunstige uitkomsten zorgt er bijvoorbeeld voor dat professionals geneigd zijn om een volgend proces positiever te benaderen. Het organisatorische proces van participatie initiatieven kan dan ook worden gezien als een cyclus, waarin de resultaten van eerdere processen zowel een positief als een negatief effect kunnen hebben op het organiseren van daaropvolgende participatietrajecten.

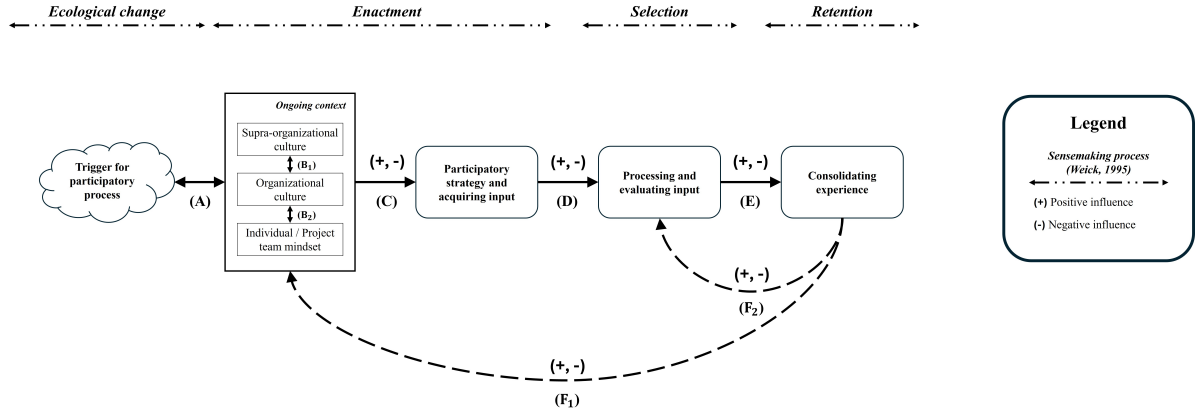

Figure 5: Het *Proces* model, aangepast op basis van Weick's (2005) enactment-theorie (eigen illustratie).

Het *Proces* model brengt een cruciale bevinding naar voren: de kwaliteit van participatie wordt inderdaad bepaald door de eerdergenoemde procedurele aspecten, maar net zo goed door *cognitieve* factoren. Procedureel gezien hangt de kwaliteit van participatie af van de organisatieruimte waarover professionals beschikken. Deze ruimte wordt daarbij aanzienlijk beïnvloed door aanwezige projectkaders, wetgeving en governance structuren. Echter, hebben mentale factoren, zoals de organisatiecultuur en professionals' eerdere ervaringen

met participatie, ook een grote invloed op de manier waarop project teams beslissen over participatiestrategieën en hoe verkregen input wordt gewaardeerd. Het belangrijkste inzicht is daarbij dat beleidshervormingen, zoals de nieuwe Omgevingswet, weliswaar addreseren wat project organisaties *procedureel* moeten doen, maar niet kunnen veranderen hoe professionals participatie *waarderen* binnen projecten. Procedurele verbeteringen alleen zijn dan ook waarschijnlijk onvoldoende om positieve ontwikkelingen in participatie te realiseren als deze mentale en organisatorische uitdagingen niet gelijktijdig worden aangepakt.

Het *Kwetsbaarheid* model vormt een uitbreiding op het *Proces* model door in kaart te brengen hoe en waar mentale en organisatorische uitdagingen de kwaliteit van participatie kunnen verlagen. Belangrijk is dat het model niet beweert dat alle organisaties deze kwetsbaarheden ondervinden; het model brengt alleen potentiële tekortkomingen in kaart, waarmee professionals zelf hun eigen organisatie kunnen evalueren, al dan niet positief ontwikkelen.

De volgende primaire uitdagingen zijn naar voren gekomen in de interviews:

1. Tijdens de *Enactment* fase komen twee categorieën aan uitdagingen naar voren. Ten eerste kunnen externe belemmeringen (e.g. politieke ondermijning) en restrictieve governance (e.g. top-down besluitvorming) de flexibiliteit van projectorganisaties beperken om participatie effectief in te richten. Ten tweede kunnen vooringenomen houdingen (e.g. technocratische vooroordelen) en conservatieve organisatieculturen (e.g. een gebrek aan participatievisie) een negatieve invloed hebben op hoe professionals participatie waarderen.
2. Tijdens de *Selectie* fase lopen organisaties zonder vastgestelde methoden voor het evalueren van opgehaalde input het risico om te vertrouwen op intuïtieve beoordelingsmethoden, welke kwetsbaar zijn voor persoonlijke vooroordelen en cherry-picking. Deze problemen kunnen worden verergerd wanneer organisaties geen onderlinge participatievisie hebben vastgesteld, met name als er verschillende meningen zijn over wat "effectieve participatie" moet bieden aan een project.
3. Tijdens de *Retentie* fase vormen negatieve ervaringen met betrekking tot participatie een specifiek risico, aangezien deze er toe leiden dat vooringenomen houdingen in stand blijven: de eerderbenoemde belemmeringen (limiterende externe factoren, negatieve mindsets en operationele uitdagingen) leiden vaak tot ondermaatse participatietrajecten, wat vervolgens ontevredenheid bij belanghebbenden opwekt. Dit veroorzaakt negatieve associaties ten aanzien van participatie bij professionals, welke zij vervolgens als bevestiging gebruiken dat participatie onvoldoende waarde tot projecten biedt. De resulterende houding dit hieruit volgt leidt er echter juist toe dat bestaande problemen niet worden opgelost.

Hoewel het *Kwetsbaarheid*-model het standpunt onderstreept dat het organiseren van hoogwaardige participatie een significante uitdaging is, blijft het belangrijk om te begrijpen hoe deze mentale en organisatorische factoren participatietrajecten kunnen verstoren. Het model laat zien dat vooringenomen houdingen er echt toe doen en van grote invloed zijn op hoe participatie wordt georganiseerd. Bovendien dient het model als een beoordelingskader, waarmee professionals kunnen vaststellen *welke* uitdagingen zij in hun organisatie herkennen, *waar* in het participatieproces deze zich kunnen voordoen, en *waarom* ze mogelijk tot negatieve gevolgen leiden.

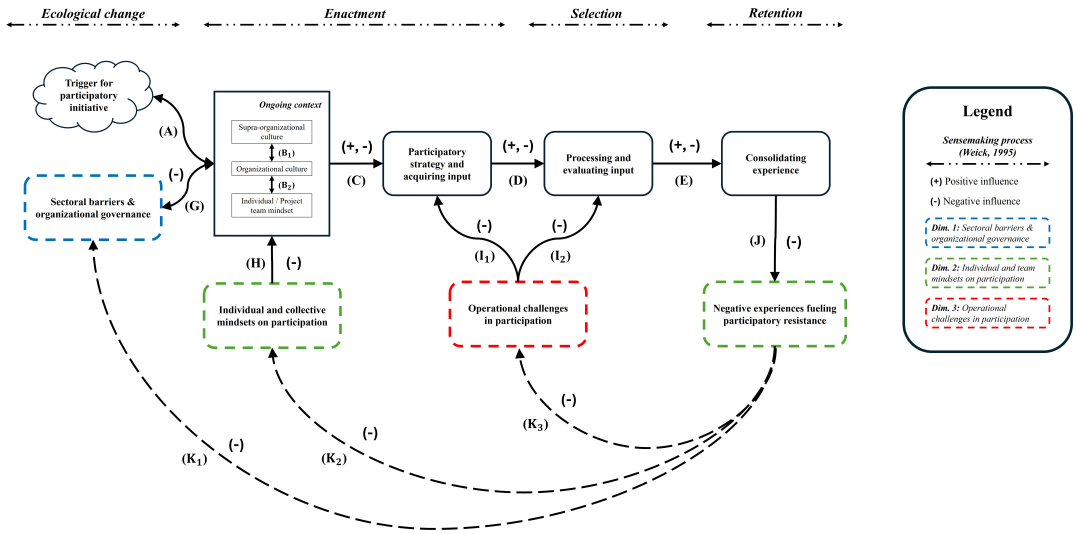

Figure 6: Het *Kwetsbaarheid* model (eigen illustratie).

Het *Strategie* model biedt oplossingen voor deze uitdagingen door strategieën te introduceren die gericht zijn op het verhelpen van mentale en organisatorische belemmeringen in participatie. Tijdens twee co-creatieve sessies met deskundigen zijn twintig interventiestrategieën vastgesteld. Deze strategieën zijn onderverdeeld in vier clusters, die zich elk richten op één van de geïntroduceerde uitdagingen in het organisatorische proces van participatie:

1. *Organizational Foundations & Culture*, gericht op belemmerende externe factoren;
2. *Team Alignment & Integrated Strategy*, gericht op negatieve houdingen en conservatieve organisatiecultuur;
3. *Input Processing & Evaluation Methods*, gericht op operationele uitdagingen;
4. *Reflection & Continuous Learning*, gericht op de gevolgen van negatieve ervaringen.

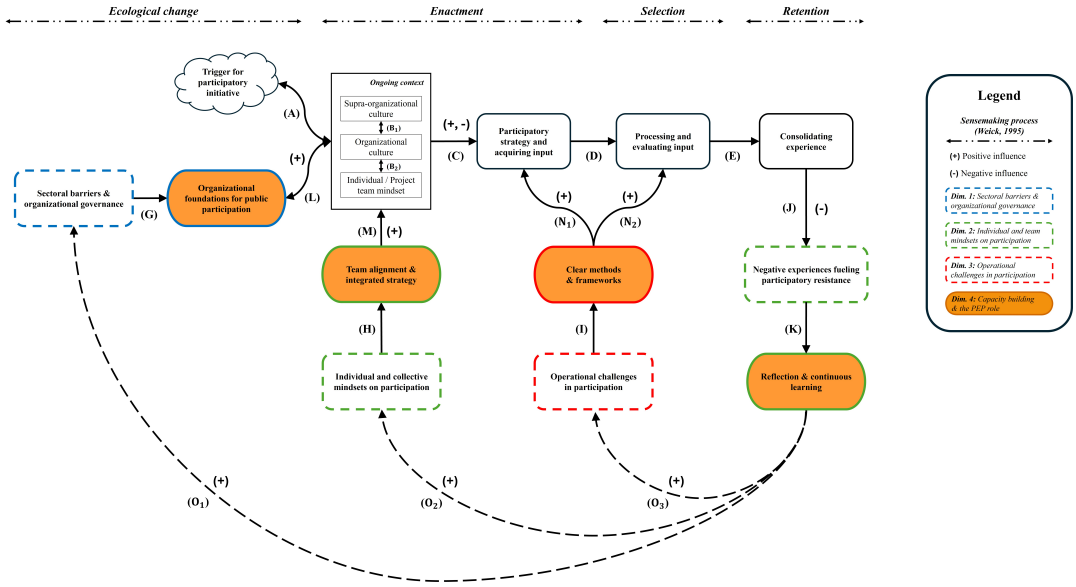

Figure 7: Het *Strategie* model (eigen illustratie).

Elk van deze strategieën is in een tweedimensionale matrix geplaatst, waarbij zij onderling worden vergeleken op basis van hun strategische impact en het organisatieniveau waarop ze van invloed zijn. Daarnaast zijn strategieën gecategoriseerd als betekenisgericht, structuurgericht of praktijkgericht. Deze 2D-matrix biedt professionals dan ook een inspiratiebron om strategieën te selecteren en prioriteren op basis van hun eigen organsatiecontext en persoonlijke stijl, om zo de participatietrajecten binnen hun eigen organisatie waar nodig te verbeteren.

Figure 8: Overzicht van alle strategieën (eigen illustratie).

Dit onderzoek draagt bij aan het verder ontwikkelen van participatie door te benadrukken dat zowel procedurele, *als* mentale factoren een grote rol spelen in de kwaliteit van participatietrajecten. De resultaten van dit onderzoek laten zien dat het juist deze mentale aspecten zijn waardoor de inbreng van lokale belanghebbenden vaak ondergewaardeerd wordt. De drie sensemakingmodellen bieden zowel een theoretische verklaring over het ontstaan van organisatorische uitdagingen, als praktische richtlijnen voor het verbeteren van participatietrajecten. Door middel van deze inzichten en de ontwikkelde interventiestrategieën ondersteunt deze studie professionals in het stimuleren dat participatie niet alleen maar als een wettelijk vereiste wordt beschouwd, maar juist wordt gezien als een essentiële factor voor het creëren van succesvolle projecten.

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Nomenclature

Abbreviations

Abbreviation	Definition
NIMBY	Not In My Backyard
PEP	Public Engagement Professional
PSU	Project Start-Up
SDG	Sustainable Development Goal

Glossary

Term	Dutch translation
Activity outside the environmental plan	Buitenplanse Omgevingsplansactiviteit
Environment and Planning Act	Omgevingswet
Environmental Permit	Omgevingsvergunning
Customer Requirements Specification	Klanteisenspecificatie
Participatory state	Participatiestaat
Prince's Day	Prinsjesdag
Project Decision	Projectbesluit
Public Engagement Professional	Omgevingsmanager
Spatial Planning Act	Wet Ruimtelijke Ordening
Speech from the Throne	Troonrede
Transport Infratructure Planning Act	Tracéwet
Water Boards	Waterschappen

1 Introduction

Pursuing and improving a healthy society is one of the first indicators pointed out in the UN's Sustainable Development Goals (SDGs) (Santo et al., 2023). The infrastructure sector plays a key role in this regard, as public works are vital for socio-economic development (Ninan, Mahalingam, & Clegg, 2024). Consequently, projects in this field play a major role in shaping our environment (Liu et al., 2018) and arguably have a greater impact on advancing society than those in any other sector (Close & Loosemore, 2014). At the same time, public infrastructure projects are evolving alongside a rapidly changing world, becoming increasingly complex, urgent, and difficult to manage (Klakegg et al., 2016). A key driver of this rising complexity is the growing number of stakeholders involved in individual projects (Klakegg et al., 2016).

The public represents a stakeholder of particular importance in this context, as most infrastructure projects are carried out, managed, or monitored by at least one publicly funded organization and primarily undertaken for societal benefit (Gasik, 2016; Locatelli et al., 2025). This creates a political and moral obligation for project executives to respect the needs of non-professional stakeholders, who may face potential nuisances and serve as the end-users of the resulting public environment (Bailey and Grossardt, 2006; Legacy et al., 2024). Accordingly, the success of any public infrastructure project largely relies on how its results are perceived by these affected stakeholders (Ninan, Clegg, et al., 2024), making effective front-end public engagement efforts a key component of the project cycle (E. Williams, 2022).

Consequently, international organizations, governmental institutions, and industry experts are increasingly recognizing the importance of engagement efforts and the local perspective (White & Langenheim, 2021). Recent developments in international policy emphasize this shift, including the aforementioned SDGs (SDG9 for sustainable infrastructure and SDG17 for partnerships) (Boyle et al., 2022) and new EU mandates for social sustainability (Santo et al., 2023). This importance is further exemplified by citizens' growing ability to process complex information and offer place-based solutions through their tacit local knowledge (Hrivnák et al., 2021). Project organizations value this input for its ability to improve urban design and legitimize project objectives (Uittenbroek et al., 2019). As a result, local stakeholders have gradually received more opportunities to shape the policies that affect their lives through *public participation* (Lowndes & Pratchett, 2006), wherein citizens, NGOs, businesses, and other

external stakeholders are involved through engagement efforts and ideally have control over a project's decision-making process (Visser, 2024).

In recent decades, public participation has evolved into an important project activity for achieving sustainable local development (Green and Sergeeva, 2019; Hrivnák et al., 2021; Liu et al., 2018), with successful governance currently perceived as dependent on effective public participation (Mohammadi et al., 2018). This view, alongside growing civic awareness and welfare demands (Lee et al., 2017), have shifted professionals' perspective in public participation from a previously very technical regime to one that aims for more "participatory planning" (Meriluoto & Kuokkanen, 2022). Hence, many project organizations currently see it as their moral responsibility to spend valuable time and resources to undertake participatory initiatives, aiming to improve society as a whole (Gemeente Utrecht, 2024; Uittenbroek et al., 2019).

1.1. Problem Description

Public participation has become increasingly recognized as an essential aspect of infrastructure project success, yet organizing effective participatory processes remains a challenge (Boyle et al., 2022). This is often caused the complexity of handling community concerns effectively, as project organizations have to balance local needs with other (frequently contrasting) project objectives (Boyle et al., 2022; Close and Loosemore, 2014). Additionally, decision-making in public infrastructure projects is becoming increasingly complex (Gasik, 2016), as the public space in urbanized areas is scarce, while simultaneously being subjected to a growing number of rules and regulations. As a result, reaching consensus with affected local stakeholders proves difficult in any public project (Ninan, Clegg, et al., 2024).

The severity of these issues is recognized in literature, with many scholars investigating how the *procedural* elements associated to public participation can be further developed. For instance, through modern participatory design strategies (i.e. Bobbio, 2019; Hrivnák et al., 2021; Poiner and Drake, 2021), analysing how communities can effectively be represented (i.e. Boyle et al., 2022; Carrick et al., 2023; Rowe and Frewer, 2000), and investigating the importance of trust and communication (i.e. Ninan, Clegg, et al., 2024; White and Langenheim, 2021).

However, in addition to these procedural complexities, the quality of the participatory process seems to be influenced by practitioners' attitudes and their overarching organizational culture. According to Weick et al. (2005), such attitudes form through organizational sensemaking, in which several mental processes shape whether professionals adopt and retain receptive or dismissive attitudes toward public participation. This can explain that despite the positive effects of engagement initiatives being proven in practice, project organizations still frequently (and unjustifiably) perceive public participation as too arduous, intimidating, or time-consuming (Carrick et al., 2023; Close and Loosemore, 2014; Poiner and Drake, 2021). As a result, professionals risk organizing substandard participatory initiatives (Klakegg et al., 2016), in which acquired stakeholder input is insufficiently incorporated into project decision-making. This can result in significant drawbacks, such as flawed designs, social conflict, reputational damage, and, in extreme cases, project cancellation (Lee et al., 2017; Liu et al., 2018; Poiner and Drake, 2021; E. Williams, 2022). Yet, despite these risks, research investigating how cognitive processes form and maintain dismissive organizational attitudes toward public participation remains limited.

1.2. Objectives of the Study

Understanding how the project organization's attitude shapes the assessment of local stakeholder input can help improve the quality of participatory processes, ultimately leading to better project outcomes, stronger stakeholder relationships, and broader societal learning (Grossardt and Bailey, 2018; Uittenbroek et al., 2019). Therefore, the study aims to identify mental and organizational challenges that cause these dismissive sentiments, using Weick's (2005) sensemaking theory as an analytical lens.

'Public Engagement Professionals' (PEPs) (Dutch: Omgevingsmanagers), practitioners responsible for public engagement in Dutch infrastructure projects, play a crucial role in this regard. They possess the expertise to address shortcomings in public participation in their role, while simultaneously operating within the internal structures of project organizations (van de Grift et al., 2020). Consequently, they can bridge the cognitive gaps between the project organization and external stakeholders, making them well positioned to influence organizational attitudes through intervening strategies (van de Grift et al., 2020). Accordingly, this study aims to answer the following main research question:

RG: How do organizational sensemaking processes shape how project organizations assess local stakeholder input in infrastructural (re)development projects, and how can Public Engagement Professionals intervene in these processes?

The main research question is incrementally answered through several sub-questions. These sub-questions target specific aspects of the main research question, enabling an all-encompassing understanding of the subject. The following sub-questions have been formulated:

SQ1: How are participatory processes in infrastructural (re)development projects structured, and which factors influence the extent to which stakeholder input is incorporated?

This sub-question established the foundation for understanding public participation by reviewing how participatory processes are structured, the value they provide to projects, and the factors that influence the incorporation of stakeholder input.

SQ2: What role do Public Engagement Professionals play in shaping participatory processes, and which organizational factors constrain or enable their influence?

To identify how PEPs can intervene in organizational sensemaking, it is essential to understand their role. This sub-question illustrates how PEPs shape public participation and what factors enable or limit them in reaching their objectives.

SQ3: How do organizational sensemaking processes shape attitudes toward public participation in infrastructural (re)development projects, and which factors can disrupt these processes?

This sub-question investigates how organizational sensemaking processes unfold and influence the project organization's attitude toward public participation. Furthermore, institutional and cognitive factors that disrupt these processes are identified. Understanding how these factors develop and persist is essential for identifying effective intervening strategies.

SQ4: What strategies can Public Engagement Professionals employ to address organizational sensemaking obstacles and enhance the incorporation of local stakeholder input into project decision-making?

This sub-question identifies intervening strategies that PEPs can use to address how local stakeholder input is assessed within the project organization. It provides an effective framework for fostering organizational attitudes that are more receptive toward public participation.

1.3. Research Scope

The research questions are answered through the perspectives and experiences of actors involved in the Dutch infrastructure project. The Netherlands currently offers a relevant research context, as the new Environment and Planning Act has made public participation an integral part of the decision-making process in the industry (Visser, 2024). As a result, professionals' mindsets regarding public participation have shifted, as they now need to consider whether public engagement efforts are required at earlier stages of the project life cycle (Eiff et al., 2024). Consequently, many organizations are struggling to effectively organize participatory processes in accordance with the new legislation (Hobma et al., 2025). This change in organizational mindset presents a valuable research opportunity to explore how PEPs can leverage this shifting perspective to improve participatory processes through effective strategies and practices.

An understanding of these strategies is acquired through experiences within participatory processes of urban (re)development projects. These projects are of particular interest because their complex environments and large numbers of affected stakeholders are likely to yield a more comprehensive set of identified strategies, specifically because the expressed needs of participants at this local level are most complex (de Vries et al., 2025).

To acquire relevant project experiences, perspectives are gathered from professionals employed at interim-management bureau Neuf & Associates B.V. (hereafter referred to as *Neuf*). Neuf's executives are generally individually hired by governmental institutions to work on projects within the infrastructure sector, specifically in the field of area (re)development. As a result, Neuf's professionals work on a wide range of projects, with many executives taking on multiple assignments simultaneously. This makes Neuf a suitable environment for gathering relevant data while keeping the scope of the study manageable.

1.4. Outline of the Report

The introduction of this study is followed by the research methodology in Chapter 2. Then, in Chapter 3, relevant findings from previous studies are outlined in a literature review. After the literature study, the theoretical foundation of the study is presented through a theoretical framework in Chapter 4. Next, the results and findings of the study are outlined in Chapter 5 and Chapter 6 respectively. This is followed by a conclusion in Chapter 7. The research is finalized in Chapter 8 with recommendations for future research and limitations of the study.

2 Research Methodology

The following chapter outlines the research methodology of this study. First, the methodological approach is presented. This is followed by details on the sample size of acquired data and the way this data is validated. Next, the various types of data and the associated collection methods are outlined. Finally, details are provided on data analysis efforts.

2.1. Methodological Approach

This study explores the literature gap (see Section 1.2) through a qualitative research approach. This form of research methodology is appropriate for the subject that this study aims to address, as qualitative methods allow the researcher to investigate "relationships, organizations, problems and other anomalies" through widespread methods (Mohammadi et al., 2018). Accordingly, a qualitative approach is widely used in research concerning public participation and other social science studies (Mohammadi et al., 2018), as it reveals insights in behaviour, perspectives and experiences (Holloway, 1997). Furthermore, a qualitative approach is apt for studies that intend to generate novel understandings for future research or to gain a better understanding of a familiar issue (Ninan, Mahalingam, & Clegg, 2024). The following subsections outline how various research techniques contribute to this qualitative approach.

2.1.1. Literature Study

Developing research through existing knowledge and relating it to prior findings is fundamental to all academic research (Snyder, 2019). A thorough literature study can therefore be useful to gain insights into the background, developments, and previous research initiatives on public engagement and the participatory process. Furthermore, an extensive literature review is an effective method to uncover potential research gaps in the industry that is investigated (Snyder, 2019).

Accordingly, the literature study of this research is used to gain knowledge on definitions, historic developments, effective designs and strategies, organizational influence, and other relevant characteristics of public participation. The results of this effort are outlined in Chapter 3.

2.1.2. Exploratory Study

Next to the literature review, an exploratory study is conducted to gain a better understanding of how public engagement unfolds in practice. Direct experience with participatory-related efforts provides useful context to the theoretical aspects behind organizing the process, thereby improving the researcher's understanding of the subject.

The exploratory study is performed to gain insights into the organizing aspects of public engagement initiatives, to understand national participatory policies, and to observe how the process is viewed internally within organizations. Details on specific efforts associated to the exploratory study are presented in Section 2.2.2..

2.1.3. Interviews

Interviews are a flexible qualitative research method to acquire the rich detail that is necessary to address a complex social subject like public participation (Mohammadi et al., 2018). Accordingly, interviews are a valid method to understand and explore interviewees' perspectives and behaviours on public engagement and the participatory process (Kallio et al., 2016). This study employs a semi-structured interview format, as this combines the advantageous qualities of a pre-defined structure, whilst also allowing the interviewer the opportunity to digress from the guiding questions (Boyle et al., 2022; Kallio et al., 2016).

To make sure that the conversation remains focused on the research questions of the study, specific attention is paid to the pre-defined interview questions. This ensures that the interview is thorough and no leading-the-witness questions are included (Gioia et al., 2013). The pre-established questions are therefore primarily open-ended and targeted towards previous experiences, allowing respondents to freely present their perceptions. This pre-determined interview format is outlined in Appendix A.

Interview participants are selected based on working experience, general role in their project organization, and personal characteristics (i.e. gender), to acquire an all-encompassing perspective of the study's subject.

Interview Scope

The scope of the interviews focus specifically on the Dutch infrastructure sector. The Netherlands currently provides a relevant research context, as the new Environment and Planning Act has made public participation an integral component of the decision-making process within the industry (Visser, 2024). As a result, professionals' mindsets regarding public participation have shifted, as they need to consider if engagement efforts are required at earlier stages of the project life-cycle (Eiff et al., 2024). Recent evaluative reports have outlined how working under the new Environment and Planning Act has lead to mixed results. For instance, there are still local authorities that have mainly adopted a pragmatic approach, making minor adjustments so that their working methods resemble how they have always operated. Conversely, there are also local authorities that have taken steps towards policy changes regarding public participation, as the Act has created an incentive for them to consider institutional change (Evaluatiecommissie Omgevingswet, 2026). Accordingly, this incentive that sparks thoughts on the current organizational mindset within the sector provides a valuable opportunity to explore how PEPs can leverage this change to improve participatory processes.

These perspectives are gathered through experiences within the participatory processes of Dutch urban (re)development projects. These projects are particularly interesting for this study, as they are characterized by a complex project environment, with a large number of

affected stakeholders and varied project objectives. Hence, participatory processes associated to these types of projects are highly varied, with expressed needs of participants at this urban level being most complex (de Vries et al., 2025). Therefore, these projects likely yield a more comprehensive and diverse set of perspectives through which the research objectives can be achieved.

To acquire these experiences, perspectives are gathered from PEPs and project managers employed at interim-management bureau and consulting firm *Neuf*. Neuf's professionals often individually work at several initiatives simultaneously, with most projects revolving around urban redevelopment. As a result, Neuf's executives are involved in a wide range of diverse projects that involve many participatory processes. Accordingly, selecting interviewees that are employed at Neuf creates a suitable environment for gathering relevant and wide-ranging perspectives, while also allowing the scope of the study to remain manageable.

2.1.4. Focus Group

Following the assessment of acquired data, the findings of the study are discussed during a focus group with relevant professionals. Focus groups are characterized as a more specific in-depth group interview (Gundumogula, 2020), serving as a useful extension to qualitative research methodologies (Luke & Goodrich, 2019).

The primary objective of a focus group is to gather relevant insights on a pre-determined research topic (Gundumogula, 2020) by enabling participants to assess dispositions, ideas, experiences, and attitudes (Luke & Goodrich, 2019). Consequently, in order to obtain useful data, individuals contributing to the focus group are required to be experienced or knowledgeable about the chosen subject (Gundumogula, 2020). The focus group is organized and lead by a moderator, who decides the topic of discussions and facilitates the interaction. It is therefore important that opening remarks, open-ended questions, practical setting and other materials are prepared by the moderator to make the discussion successful (Gundumogula, 2020).

For this study, the principal researcher organized a focus group with the primary objective of validating the findings of the semi-structured interviews. This ensures for data 'triangulation': "a strategy for improving the validity and reliability of research or evaluation of findings" (Mohammadi et al., 2018). In addition, the focus group is used to evaluate potential strategies that this study aims to find with its main research question.

To maintain alignment with the research scope, invitees of the focus group are restricted to professionals employed at Neuf. This exclusivity enhances the practical value of the research data, as the mutual agreements reached during the focus group increase the probability that the approach fits the organization's specific context (Andringa, 2023).

2.2. Data Acquisition

The following section delves into the sample size of the qualitative data approach. Next, entries regarding the exploratory study are outlined. The section is concluded with specific details on the semi-structured interviews that were conducted to acquire data for this study.

2.2.1. Sample Size and Data Saturation

The semi-structured interviews, as outlined in Section 2.1.3., are the sole method for generating data in this research. For this study, 17 interviews were conducted. All participants were

employed as a Public Engagement Professional or Project Manager at interim-management bureau Neuf at the time of the interview. Details of these interviews are presented in Section 2.2.3.. Interviews were conducted until the acquired data was perceived to not further develop the concept of the study, this is also referred to as 'thematic' or 'theoretical saturation' (Ninan, Clegg, et al., 2024).

2.2.2. Experience through Exploratory Study

Participatory-related events that were attended or organized as a contribution to the exploratory study of this research are outlined in Table 2.1. Initiatives consist of internal sessions at governmental and research institutions, participatory events of infrastructural (re)development projects, public engagement workshops, and off-record interviews with industry professionals.

Date	Entry	Details	Type
15-10-2025	Knowledge session	Collaborative session with practitioners and scholars concerning the impact of the new Environment and Planning Act on public participation.	Physical
28-10-2025	Participation session	Redevelopment project 'Zudo' at Zuidas (Amsterdam).	Physical
30-10-2025	Off-record interview	Conversation with self-employed PEP regarding participatory processes within the Municipality of Amsterdam.	Physical
20-11-2025	Off-record interview	Conversation with researcher about the contrasts between theoretical participatory research and public participation in practice.	Online
24-11-2025	Participation session	Participatory event for infrastructural (re)development project Amstel III (Amsterdam).	Physical
02-12-2025	Off-record interview	Conversation with participation policy employee of the Municipality of Amsterdam on current developments in public participation.	Online
15-12-2025	Knowledge session	Internal session at Water Board 'AGV' about the value of public participation for the organization.	Physical
23-01-2026	Course day	Course day one on how to organize effective participatory processes, facilitated by a public participation expert.	Physical

Date	Entry	Details	Type
29-01-2026	Course day	Course day two on how to organize effective participatory processes, facilitated by a public participation expert.	Physical
06-02-2026	Course day	Course day three on how to organize effective participatory processes, facilitated by a public participation expert.	Physical

Table 2.1: Overview of entries contributing to the exploratory study.

2.2.3. Overview of Conducted Interviews

An overview of all conducted interviews is presented in Table 2.2. Due to the sensitive nature of the discussed topics, transcripts of these interviews are not added to the appendix of this study. Interview transcripts are available upon request in both their original Dutch language, as well as in English.

In total, 17 interviews were conducted with professionals from Neuf. At the time, nine of the interview participants were employed as a Project Manager (PM) and eight as a Public Engagement Professional (PEP). Participants had an average working experience of eight years, with values ranging from three to eighteen years individually. Interviews were either conducted at Neuf's office, located in Utrecht (The Netherlands), or online through Microsoft Teams. Interview recordings generally lasted around 45 minutes, excluding the introduction stated in the consent form (see Appendix B).

Int. #	Ps.-name	Role	Type	Duration	Date
1.	PM1	Project Manager	MS Teams	40 min.	09-12-2025
2.	PM2	Project Manager	Neuf Office	45 min.	09-12-2025
3.	PEP1	Public Engagement Professional	Neuf Office	49 min.	10-12-2025
4.	PM3	Project Manager	Neuf Office	26 min.	10-12-2025
5.	PM4	Project Manager	Neuf Office	41 min.	10-12-2025
6.	PEP2	Public Engagement Professional	Neuf Office	50 min.	12-12-2025
7.	PM5	Project Manager	Neuf Office	50 min.	12-12-2025
8.	PEP3	Public Engagement Professional	MS Teams	39 min.	16-12-2025
9.	PM6	Project Manager	Neuf Office	42 min.	17-12-2025
10.	PM7	Project Manager	Neuf Office	27 min.	17-12-2025
11.	PEP4	Public Engagement Professional	Neuf Office	64 min.	18-12-2025

Int. #	Ps.-name	Role	Type	Duration	Date
12.	PEP5	Public Engagement Professional	Neuf Office	46 min.	19-12-2025
13.	PEP6	Public Engagement Professional	Neuf Office	37 min.	19-12-2025
14.	PM8	Project Manager	Neuf Office	44 min.	19-12-2025
15.	PM9	Project Manager	MS Teams	53 min.	22-12-2025
16.	PEP7	Public Engagement Professional	Neuf Office	48 min.	23-12-2025
17.	PEP8	Public Engagement Professional	MS Teams	42 min.	23-12-2025

Table 2.2: Overview of conducted interviews.

2.2.4. Focus Group

The focus group consisted of six participants, all of whom were employed at Neuf as a PEP at that moment. To mitigate potential biases and foster the generation of new insights, five of these six participants had not previously participated in the semi-structured interviews.

The session took place at Neuf's office, with one PEP attending remotely through Microsoft Teams. The focus group commenced with a presentation of the study, which included the research context, relevant theory, methodology, and main interview findings. Subsequently, the results of the study were evaluated for their relevance, alongside a discussion of potential strategies that could address the identified organizational vulnerabilities in the sector (see Chapter 5). The focus group concluded with a discussion on an effective approach for introducing the research results within the sector. In total, the event lasted approximately two hours.

2.3. Data Categories, Collection Methods and Management

The following section presents the data types and associated collection methods of the main research efforts. For each individual part of the methodological approach, general forms of acquired data are outlined. This is followed by an explanation of where this data is found and how it was subsequently managed. The Data Management Plan (DMP) of this research initiative is presented in Appendix D.

Literature study

- Data forms: Journal articles; Technological reports; Policy documents; Web pages; Books; and Master's Theses.
- Collection method: Journal articles and books were predominantly sourced from major academic databases, such as 'Web of Science' or 'Google Scholar'. Articles where found through key word searches or by checking reference lists of relevant journal articles ('Snowballing'). Technological reports, web pages, and policy documents were either found through online searches, suggested by industry professionals, or mentioned in other literary pieces. Master's theses where sourced from the TU Delft repository or suggested by either scholars or practitioners.

- Data management: Relevant literature pieces were catalogued, analysed, and maintained through Elsevier's reference manager 'Mendeley'. Important content from literature was kept and organized in a Microsoft Word 'Running File'document.

Interviews

- Data forms: Informed consent forms (PDF); Audio recordings (MP3); Original interview transcriptions in Microsoft Word (Dutch language); Psuedonymized interview transcriptions in Microsoft Word (Dutch language); Pseudonymized interview transcriptions in Microsoft Word (English language); Personal information of participants and interview characteristics in Microsoft Excel.
- Collection method: Informed consent forms where printed and signed in person by participants (interview at Neuf's office), or sent and signed online through e-mail (interview through Microsoft Teams). Audio recordings were recorded with a mobile phone (Neuf's office) or recorded through Microsoft Team's recording function (online). Audio recordings were transcribed and translated with specific transcribing and translation software and subsequently edited by the author. Participant data was collected by the author.
- Data management: Before interview recordings took place, participants were asked to sign an informed consent form (see Appendix B). This document described the study background, any relevant details for the interviews, and potential risks. Audio recordings of interviews where first transcribed with the aforementioned transcription software. As interview topics regularly discussed sensitive subjects, transcripts were first pseudonymized, before any other editing took place. Afterwards, transcriptions were edited on grammar, punctuation, and readability where necessary. Transcripts where then translated. The Microsoft Excel-document with participant information and interview characteristics was incrementally updated during the interview phase of the research. All document versions of the interview transcripts, as well as the overview Excel-sheet, were kept on the author's personal TU Delft OneDrive account during the study's runtime. All information, except for the pseudonymized transcripts in both languages, were deleted after the research's publication.

Focus group

- Data forms: Audio recording (MP3); Microsoft PowerPoint presentation; Post-It notes; Report of the focus group in Microsoft Word.
- Collection method: The audio recording was recorded with a mobile phone. Post-It notes were used by participants during the session to write down and explain potential strategies. The Post-Its were collected, processed and evaluated in Microsoft Word after the session.
- Data management: The audio recording of the session was stored on the personal databank of the principal researcher and discarded after processing. Post-It notes were also discarded after processing. A report containing the discussed topics and the Post-It contents was made with Microsoft Word and stored on the personal databank of the principal researcher.

2.4. Data Analysis

After the transcripts of the interviews were pseudonymized and edited, the acquired data was analysed using a qualitative data analysis method. A qualitative data analysis constitutes the range of processes whereby the collected data is reconfigured into a form of explanation, understanding, or interpretation of the investigated subject(s) (Mohammadi et al., 2018). This approach therefore enables the researcher to look for similarities or differences in large amounts of qualitative data, which can subsequently result in overarching themes and the development of relevant data categories (Mohammadi et al., 2018). The specific analysis approach used in this study is explained in further detail in the following subsections.

2.4.1. Preparation of Data

Before analysis efforts commenced, data was first uploaded to software application 'ATLAS.ti'. ATLAS.ti allows for the analysis of large amounts of qualitative data and is used to organize transcripts and other texts, as it enables users to easily code and maintain uploaded files.

2.4.2. Method of Analysis

A thematic analysis was performed to analyse the interview transcripts. Apart from the ability to recognize recurring themes, a thematic analysis is also an effective method for examining the perspectives of various stakeholders. This is essential for identifying similarities and differences between interview results (Nowell et al., 2017). In this study, the Gioia method (Gioia et al., 2013) was used as a form of thematic analysis for qualitative data.

Gioia Method
The Gioia method (Gioia et al., 2013) distinguishes four clear phases of thematic data analysis: a 1st-Order analysis of concepts, a 2nd-Order analysis of themes, grouping themes into 3rd-Order aggregated dimensions, and additional processing into data structures and/or a Grounded Theory Model.

During the 1st-Order analysis, interview data is summarized into concepts, using the language that is found in the data. This enables the researcher to incorporate the interpretations and experiences of interview participants into a first effort of data analysis. Concepts can consist of singular words or short sentences. It is important to capture all relevant data in this first step, as this not only reduces risk of missing relevant conclusions, but also results in data triangulation. Data triangulation is an important step for the analysis, as it allows for data validation through comparisons across different interview results and helps track relationships and emerging themes (Gioia et al., 2013).

In the 2nd-Order analysis phase, 1st-Order concepts are assessed and grouped into themes. These themes describe and explain observed phenomena that are identified in the qualitative data. In practice, this entails reviewing the 1st-Order concepts and aiming to group them into meaningful findings. This phase ends when newly acquired data does not result in new 2nd-Order themes, which is commonly referred to as 'theoretical saturation'(Gioia et al., 2013).

In the third step, the data is aggregated further by grouping the 2nd-Order themes into meaningful data dimensions. These dimensions are used to create a superordinate framework from the summarized research findings. Therefore, these dimensions should be as original as possible, as they should describe the observed phenomenon in a way that no other research efforts have yet done (Gioia et al., 2013).

Finally, the complete process of the 1st-Order concept analysis, 2nd-Order theme analysis, and aggregation of themes into 3rd-Order dimensions is presented into a data structure. This data structure is a visual representation of the relationships between the concepts, themes, and aggregated dimensions (Gioia et al., 2013).

2.4.3. Data Analysis in Practice

All 17 interview transcripts were first uploaded in ATLAS.ti and individually coded. This resulted in 282 unique codes, consisting of 982 quotations. This first analysis was subsequently critically analysed on relevancy and repetition, eventually yielding 158 1st-Order concepts, consisting of 635 quotations.

The final 158 1st-Order codes were analysed further to find reoccurring themes and aggregate dimensions. The results of these second and third order in-depth analyses are outlined in Section 5.1.

3 Literature Review

The following chapter addresses relevant content from literature related to public engagement, the participatory process and the role of the Public Engagement Professional. Through the literature study, research subjects that have yet to be explored are identified. Accordingly, the chapter is concluded with a summary and the description of the literature gap.

An overview and summarized details of all literature that is referenced in this chapter is presented in Appendix E.

3.1. Defining Public Participation in an Infrastructure Context

Understanding the infrastructure sector is essential for establishing a perspective on the characteristics of public participation as a whole. The following section presents various definitions on subjects related to this context.

3.1.1. Infrastructural (Re)development Projects

Infrastructural (re)development projects in the urban context are primarily carried out for public benefit and are therefore distinguishable by the fact that they are undertaken, managed, or monitored by a publicly funded organization (Gasik, 2016). Though, not all project activities are solely directed toward societal goals, as project executives must balance broader public objectives with the interests of local actors (i.e. selecting a more costly design to reduce local nuisance) (Fitton & Moncaster, 2022). These projects are therefore shaped by their complexity, as our social and urbanized environment is increasingly hetero-genic, associated with many different stakeholders, and characterized by a scarcity of available space (Pesch, 2020). Consequently, infrastructural (re)development projects are dependent on place-based knowledge and subjective to local contestations (Legacy et al., 2024).

Actors that are associated to these types of projects are defined as groups or individuals who may, directly or indirectly, affect or may be affected by its activities or outcomes (Liu et al., 2018). These actors are often categorized into internal and external stakeholders. Internal stakeholders, in this study referred to as the 'project organization', are the constellation of

actors involved in delivering an infrastructural project, including the project team and the institutional structures within which they are embedded. External stakeholders refer to non-formal members of the project coalition who are socially or economically affected by a project's actions or outcomes, and are therefore outside of the project contract. Such stakeholders include local residents, (future) users, special interest groups, and NGOs (Lee et al., 2017; Ninan, Clegg, et al., 2024). Even though these parties typically do not have direct decision-making power, they have become more critical in enhancing project viability in recent decades (Lee et al., 2017).

3.1.2. Public Engagement and Local Stakeholders

As outlined in Section 3.1.1., many stakeholders are associated to infrastructural (re)development projects. Consequently, public engagement plays a critical role in successful project delivery (Hertogh et al., 2008), as projects are generally considered a success when they achieve their intended objectives and satisfy (or surpass) associated stakeholders' expectations (T. Williams et al., 2019). Public engagement efforts in public projects are particularly complex, as public project management processes are generally more difficult to manage in comparison to the private sector (Santo et al., 2023), specifically due to the larger number of associated actors and their diverse demands (Gasik, 2016).

Accordingly, the way up-front public engagement is conducted is critical for achieving successful project outcomes (T. Williams et al., 2019). This is well supported in literature, as scholars highlight that effective public engagement can strengthen project credibility (Hertogh et al., 2008), enhance relationships through trust-building (Ninan, Clegg, et al., 2024), and reduce direct operational costs (Ninan, Mahalingam, & Clegg, 2024). Local stakeholders are particularly important, as they are the end-users of the infrastructure, part of the taxpayer base funding it, directly affected by its development, and capable of exercising influence within the decision-making process (i.e. by leveraging the media) (Ninan, Mahalingam, & Clegg, 2024). Moreover, they often hold valuable local knowledge that can improve project design (White & Langenheim, 2021). As such, these stakeholders can arguably be considered the most important external stakeholder group in infrastructural (re)development projects (Gasik, 2016).

Scholars define these place-based stakeholders in varying ways. Boyle et al. (2022) refer to local stakeholders from a community perspective, defining community as "a scale of action within a hierarchy, above individuals and households but below the level of government". Other articles understand community in a more localized context, such as Close and Loosemore (2014), who describe it as "a social unit that shares common values and interest and normally lives in close proximity to each other". Levenda et al. (2020) do not refer to a community, but to 'the public', which they understand as "a group of citizens who are the subjects of engagement processes by industry or government". As this study specifically concerns an analysis of infrastructural (re)development projects, it is important to consider place-based stakeholders that are affected during the design *and* construction phase, as well as the actors that are associated to it after its completion. Therefore, the definition of 'the public' in the work of Levenda et al. (2020) is used to refer to local stakeholders in this study.

3.1.3. What is Public Participation?

When one speaks of 'participation'in an infrastructure context, the majority of scholars define it generally as a collaborative involvement of participants in a project's decision-making process, with them being connected with the preparation of strategies and action plans

(Hrivnák et al., 2021). In that context, participants are often referred to as 'civil society', 'the public', or more specifically as 'local development agents', who do not have authority or direct decision-making power in local developments, but can use their abilities to intervene in local development planning through procedures that are defined as 'participation' (Hrivnák et al., 2021). Rowe and Frewer (2000) refer to 'public participation' specifically, defining it as "a group of procedures designed to consult, involve, and inform the public to allow those affected by a decision to have input into that decision". Here, a clear distinction is made with the word 'input', to differentiate public participation from other communicative strategies (Rowe & Frewer, 2000). Other scholars refer to terms like 'community participation' (White & Langenheim, 2021), 'citizen participation' (Mohammadi et al., 2018), or 'community consultation' (Close & Loosemore, 2014), all describing the procedure in a similar manner.

In the Dutch policy and legislative branch, equivalent definitions are mentioned. The new Environment and Planning Act (Dutch: Omgevingswet) defines public participation as "involving stakeholders (citizens, businesses, civil society organizations, and administrative bodies) at an early stage in the decision-making process for a project or activity" (Rijksoverheid, n.d.). As this research focuses on public participation within Dutch infrastructural (re)development projects, the term 'public participation' will be used in accordance with the definition provided in the Dutch Environment and Planning Act.

3.2. A Brief History of Public Participation

The characteristics and perceived value of public participation have changed significantly in recent decades, with these changes often being associated to society's outlook on its relevance. An analysis of the developments in public participation can provide relevant context on how the process is viewed today. The following paragraphs delve into historic trends of public participation worldwide, as well as within the Netherlands. The section concludes with details regarding the new Dutch Environment and Planning Act.

3.2.1. Developments Worldwide

Recently, the concept of interactive governance has become more popular in welfare states, such as the Netherlands, which puts emphasis on collaborative approaches and public participation in the decision-making process (Kooiman & Bavinck, 2013). The reasons for this interest are diverse, though, human rights, procedural justice, or the risk of conflict, are often mentioned as drivers for an increased interest to undertake participatory initiatives (Rowe & Frewer, 2000).

Nevertheless, this believe was not always acknowledged. Since the 1960s, environmental governance has been a prominent topic of debate in Western developed countries. During its institutionalization, governments and industries led decision-making processes around policy, while the general public largely remained 'outsiders' (Peng, n.d.). Arnstein (1969) was one of the first scholars that enabled citizens to demand genuine levels of public participation through her critical view on the public's influence on public programs in the late 1960s (White & Langenheim, 2021).

Later, in the 1970s, public participation became a more important factor of democratic inclusiveness in planning. Yet, participatory initiatives were often criticised as ineffective and tokenistic (Legacy et al., 2024). This changed in the 1980s, as the contrast between 'hard' sciences of engineering and planning and the 'soft' sciences of psychology and sociology came apparent (Bailey & Grossardt, 2006). In that regard, the first scholars predicted that

greater public involvement was inevitable, underlining the necessity for professionals to be trained to solicit input from non-professionals. Though, this perspective was not widely adopted by project organizations at the time (Bailey & Grossardt, 2006). Nevertheless, scholars continued the course for public participation as a necessary component for effective policy-making towards the 2000s (Visser, 2024). This was met by a first wave of enthusiasm, although simultaneously (and justifiably) critiqued by the sector (Hage et al., 2010). As of recent, these developments have caused a phase in the development planning where participatory approaches have become more institutionalized, with the field moving away from pilot projects and participation becoming more embedded in daily practice (Hage et al., 2010).

Currently, the majority of EU countries have secured public participation as a legislative requirement (Hrivnák et al., 2021). As a result, scholars argue that modern societies are experiencing a 'participatory revolution', with public participation becoming increasingly common (Bobbio, 2019). One could believe that this has resulted in sectoral change, as dialogues on public participation have risen and spread rapidly (Bobbio, 2019). However, it remains to be seen if practice worldwide has become as universal as claimed, as it appears that value-generating public participation designs remain largely dependent on unique local conditions (Bobbio, 2019; Hrivnák et al., 2021). Consequently, specific and widespread guidelines for successful public participation do not yet exist.

3.2.2. Public Participation in the Netherlands

Similarly, public engagement has become a popular topic of discussion in Dutch politics (Gierveld, 2019). For instance, the term *participation* sparked national interest after the Dutch King's 'Speech from the Throne' (Dutch: Troonrede) at Prince's Day (Dutch: Prinsjesdag) in 2013, where the Dutch government advocated for a 'participation society' (Dutch: patici-patiesamenleving), underlining their objective that citizens should take as much responsibility for their own life and environment as they possible can (van Houwelingen et al., 2014). Although this perspective was presented as novel in the media, the call for a shift toward a 'participatory state' (Dutch: participatiestaat) had already been proposed in the early twentieth century (van Houwelingen et al., 2014).

Similarly to the international perspective, the first instances of increased citizen participation were proposed in the 1960s (van Houwelingen et al., 2014). Though, in contrast, this view was initially more centred on improving the influence of the public in the political landscape of the country, not that of infrastructural projects. Later, in the 1970s, the government's focus shifted towards a broader perspective on public participation coined by the aforementioned 'participation society', which was meant to continue in the 1980s and 1990s (van Houwelingen et al., 2014). A critical project that influenced this change revolved around the Amsterdam Metro construction projects, particularly the Nieuwmarkt demolitions and resulting riots, which demonstrated the severe consequences of inadequate stakeholder engagement (Goedgebuure et al., 2019). Nevertheless, the government's proposed view was not necessarily focused on increasing the influence of the public, but rather centred around methods to improve the effectiveness and efficiency of the government (van Houwelingen et al., 2014). Simultaneously, the emancipatory movement of the 1970s quickly changed to a liberal-inspired individualism in the 1980s, where the public became rather effective at standing up for their own interests (van Oenen, 2016).

Afterward, in the early 1990s and 2000s, the government moderated its pretensions of social controllability, or at least said it would do so, and gave "space to the citizen" (van Oenen, 2016). The *Betuweroute* became a landmark case in Dutch infrastructure planning around that

time, specifically because of the intense opposition by environmental groups and affected municipalities. This opposition was primarily related to the project organization treating public participation as a procedural formality (Pestman, 2001). As a result, the *Betuweroute*, alongside other projects, ultimately led to numerous innovations and literary contributions in public engagement. During this period, Dutch scholars such as Teisman (2000) and de Bruijn et al. (2010), published influential work on process management, emphasizing network governance and stakeholder involvement in complex decision-making. Additionally, local and central governments increasingly experienced with interactive decision-making, aiming to enhance the influence of their citizens (Edelenbos & Klijn, 2006).

Later, in 2008, the Elverding committee formalized these earlier developments in public engagement, advocating for process improvement through their analysis on decision-making processes. Their report synthesised existing practical experiences of infrastructural projects, resulting in advise that aimed to improve and support the front-end decision-making process (van Weelden & Elings, 2011). This report eventually led to changes in the Dutch Transport Infrastructure Planning Act (Dutch: Tracéwet) (Gierveld, 2019), specifically by making it compulsory for project executives to indicate if and how participation will be organized in the front-end of an infrastructure project (Rijkswaterstaat, 2011). Moreover, a basic level of public participation in the form of information provision during the policymaking phase was mandatory through the old Spatial Planning Act (Dutch: Wet Ruimtelijke Ordening) (Kamphorst et al., 2008). However, more interactive forms of public participation or engagement in subsequent planning phases were not required in this law (Uittenbroek et al., 2019).

Nevertheless, even with these developments in public participation, Dutch law concerning stakeholder engagement was spread over multiple legislative works that made infrastructural legislation unnecessarily complicated (Verdaas, 2020). As a result, the Dutch government shifted the focus in policy towards increased citizen influence within the local environment (Mensink et al., 2024). This lead to the enforcement of the new Environment and Planning Act (Dutch: 'Omgevingswet') in 2024, harmonizing various laws and further anchoring public participation in the local development planning process (van Oenen, 2016). The Act has resulted in a major change in the Dutch infrastructure sector and will therefore be discussed in more detail in the following paragraph.

3.2.3. The Dutch Environment and Planning Act

The introduction of the new Environment and Planning Act is a logical continuation of advancements in the field of local development planning in the Netherlands, as the act aims to harmonise, consolidate, simplify and clarify several legislations and regulations (van Oenen, 2016). Accordingly, the government's assumption is that broader delegation powers will contribute to faster and better decision-making on projects (Eiff et al., 2024). On the other hand, there is a clear ideological focus on citizenship and participation: "Less regulation, more cooperation" (van Oenen, 2016). In that sense, the government considers it important that the community is involved at an early stage in the preparation of policy and the decision-making process, as it can improve the quality of projects (Eiff et al., 2024). Hence, the Dutch government believes that this too will ultimately lead to faster legal procedures, as it expects that the Act will enhance trust in executives and subsequently decrease the amount and diversity of perspectives and appeals (Eiff et al., 2024; Hobma et al., 2025).

Yet, the Environment and Planning Act does not necessarily make public participation mandatory. The sole requirement is that an organization must state how public participation took place and what happened with the results, only *if* the decision was made to include

the public (Eiff et al., 2024; Gierveld, 2019). Public participation is only required for initiatives regarding a Project Decision (Dutch: Projectbesluit) or in special cases concerning applications for Environmental Permits (Dutch: Omgevingsvergunningen) for an activity outside of the local Environmental Plan (Dutch: Buitenplanse Omgevingsplanactiviteit or 'BOPA') (Procee & Kramer, 2017). Consequently, the limited number of mandatory requirements gives municipalities a lot of freedom in the design of the participatory process, which they handle in varying ways depending on their objectives (Uittenbroek et al., 2019). For instance, the Municipality of Amsterdam and the Municipality of Utrecht have developed their own policy on public participation. This includes special participatory rules, context-specific points systems, theoretical frameworks on participatory arrangements, and even participation-focused aldermen in the town council (Gemeente Amsterdam, 2024; Gemeente Utrecht, 2024).

Some scholars, such as Gierveld (2019), believe this freedom to be a positive aspect, as "genuine, high-quality participation thrives better if the law contains as few rules as possible". However, it also causes directives and policies for public participation to be very context dependent, leading to ambiguity on shared meaning for professionals (i.e. What does involving "at an early stage" mean exactly?) (Hobma et al., 2025). Consequently, project executives often struggle with finding the right momentum to organize public participation: "Too early, and people will not yet know how to respond. Too late, and it will feel like a fait accompli." (Hobma et al., 2025).

Next to that, scholars and professionals have voiced other concerns. For instance, various Dutch municipalities, provinces and water boards (Dutch: Waterschappen) anticipate that the participatory process will likely improve the decision-making process, but simultaneously slow their projects down, as a greater number of perspectives and opinions have to be considered (Eiff et al., 2024). This seems to directly contradict the central government's objective of achieving faster decision-making. Finally, the Act offers citizens little to no possibility to appeal participatory results through legal procedures (Gierveld, 2019). Citizens solely have the possibility to ask an administrative judge to overturn participatory results of a Project Decision, though, scholars believe this will likely be a unique occurrence (Gierveld, 2019).

Nevertheless, the enactment of the Environment and Planning Act has caused professionals' mindset concerning public participation to shift, as they have to consider if public engagement has to be part of their project at earlier stages of the project life-cycle (Visser, 2024). Consequently, according to professionals, public participation has become a more important and mandatory component for projects in the infrastructure sector (Hobma et al., 2025).

3.3. Public Engagement Professionals

Professionals that are responsible for public engagement play an important role in the participatory process of infrastructure projects, as they often form the communicative bridge between the project organization and the external stakeholders associated to the project (van de Grift et al., 2020). These professionals are therefore key in finding a balance between organizational objectives and the needs of local actors. The following sections illustrates how these executives function within the project organization and highlights their role within the participatory process.

3.3.1. Role within the Participatory Process

Literature investigating professionals who are specifically responsible for public engagement is scarce. The works that are available outline that the role exists in different professional fields, yet scholars seem to be indifferent on the exact title of the position. In their research in the biology sector, Clements-Brod et al. (2022) refer to 'Public Engagement Managers', who they see as the responsible actor for communication between stakeholders that are involved in "plans for engagement projects". Migchelbrink and van de Walle (2022) use the broader term 'public manager', which encompasses managers who influence the design of participatory arrangements, decide to what degree public participation input is incorporated in decisions, control administrative resources, and act as the primary informative source for officials.

Research on the role in an infrastructure context has been performed by both van de Grift et al. (2020) and Charland (2024). The studies define the role in a similar manner, but use different tiles. van de Grift et al. (2020) define the position as 'Community Engagement Professionals', who are "responsible for organizing participation related to projects on behalf of a project developer". In contrast, Charland (2024) refers to the 'Public Engagement Professional', describing them as professionals who "design, implement, and/or facilitate participatory initiatives". As this latter term encompasses not only the community, but also a broader range of local stakeholders associated with infrastructure project (i.e. future users), this research adopts the term 'Public Engagement Professional' or its abbreviation 'PEP'.

PEPs are generally responsible for a project's embeddedness within the living environment that it affects, or vice versa. As a result, they play a key role in public engagement and are often involved in stakeholder interactions personally. Accordingly, they are tasked to stand for the project organization's decisions 'on the ground', as well as for representing the local interests within the project's decision-making process. Consequently, they work as intermediaries at the intersection of their own organization and actors within the project environment. Hence, overseeing how the participatory process is organized is an important part of their role (van de Grift et al., 2020). Next to that, depending on contextual factors, PEPs are responsible for acquiring permits, internal project coordination, risk management, and developing communication plans (de Ruiter, n.d.).

3.3.2. Perspectives of the Public Engagement Professional

The attitudes of PEPs toward public engagement have been identified as an important factor for the design and success of participatory efforts (Migchelbrink & van de Walle, 2022). These attitudes refer to the extent to which a PEP favours or opposes citizen involvement in project decision-making (Migchelbrink & van de Walle, 2022).

According to the research of Migchelbrink and van de Walle (2022), PEPs are characterized by two distinct perspectives: the democratic perspective sees public participation as a morally just endeavour that can lead to important benefits. In contrast, the instrumental perspective regards the participatory process solely as a tool for achieving project objectives.

Similarly, van de Grift et al. (2020) identify distinct PEP perspectives, though they further differentiate within the democratic view: PEPs with a democratic perspective either owe this to an intrinsic motivation that local interests should always be prioritized (perspective one), while other PEPs prioritize public participation because they believe it to be a prerequisite for achieving project objectives (perspective two). The third perspective resembles that of the instrumental perspective, where PEPs limit public engagement to fulfilling legal requirements. These professionals mainly focus on technical project delivery and internal coordination,

seeing opposition and conflict as inherent aspects of projects rather than issues that should be mitigated (van de Grift et al., 2020).

Several characteristics and attitudes influence which of these three perspectives PEPs hold towards the participatory process. Migchelbrink and van de Walle (2022) categorized these determinants into four groups: personal characteristics, organizational structure and culture, process characteristics, and contextual features. Consequently, the project organization's mindset and the overarching institutional culture are very impactful on PEP practice. For instance, PEPs that are strong advocates for local stakeholder interests (perspective one) will likely cause friction in a project organization that primarily focuses on internal project objectives. As a result, these PEPs will have to spend significant effort towards organizational alignment and resolving internal issues, which they would rather spent on constructive collaboration with external stakeholders (van de Grift et al., 2020). Therefore, it is possible that the second perspective will lead to better success in practice, as it results in a greater uptake of local knowledge and better organizational coordination by comparison (van de Grift et al., 2020).

3.4. Characteristics of the Participatory Process

As described in Section 3.1.3., even with the definitions of public participation being extensive, it is still considered as a fairly loose term (Bobbio, 2019). Accordingly, participatory initiatives can have diverse characteristics: involved participants can be many or few, highly or poorly empowered, engaged on-site or online, for long or short time-spans, and asked to share their perspective on high- or low-stake issues (Bobbio, 2019). Hence, groups involved in the process can consist of actors with widespread backgrounds, such as local government actors, neighbourhood representatives, future users, business associations, environmental activists and many others (Hrivnák et al., 2021). The following sections illustrates these various forms and characteristics of the participatory process.

3.4.1. Public Participation's Theoretical Frameworks

Scholars often describe characteristics of participatory initiatives through 'levels' of local stakeholder influence. This has resulted in several theoretical frameworks, which aim to define participatory efforts on a hierarchical scale or spectrum.

Sherry Arnstein (1969) was among the first scholars to define general forms of public participation through a normative 'Ladder' approach, where she 'ranks' specific levels of stakeholder influence according to rungs on a ladder. Forms of engagement within her work are depicted hierarchically, with the level of local stakeholder influence gradually increasing from *Manipulation* on the lowest rung to *Citizen Control* on the highest (Arnstein, 1969). Figure 3.1 presents this ladder approach.

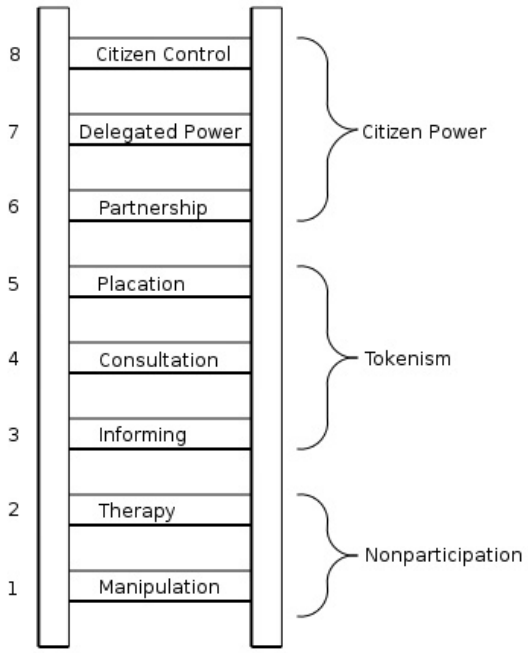

Figure 3.1: Arnstein's (1969) 'Ladder' of participation for decision control in participatory design.

According to Arnstein (1969), participatory efforts based on *Manipulation* are mainly categorized by power-holders 'manipulating' citizens into thinking that hey hold power within the decision-making process, while they are only part of "a public relations vehicle in actuality" (Arnstein, 1969). The rung of *Therapy* is similar in that regard, though power-holders instead try to 'cure' the perspectives of participants to match that of their own interest. Accordingly, Arnstein (1969) categorizes both of these forms as 'non-participation', since power-holders hold no objective to include the local perspective and abuse their power for personal gain.

Informing is considered to be the first 'legitimate' rung in citizen participation. However, participatory processes concerning this rung do not imply that participants actually have influence, as the emphasis is mainly placed on a one-way flow of communication towards the public without a channel for response. As a result, participants have no means to negotiate and are only kept in the loop by occasional unidirectional communication (Arnstein, 1969). In participation forms based on *Consultation*, participants do have the ability to voice their opinion. However, power-holders do not offer any assurance that these concerns and ideas will actually be taken into account (Arnstein, 1969). In participatory processes based on *Placation*, some participants have direct influence on the decision-making process. Nevertheless, these actors are generally greatly outnumbered by other power-holders. Thus, participants are easily outvoted and therefore have little to no say in the actual decision-making process (Arnstein, 1969). All these forms, although more legitimate than non-participation, were categorized by Arnstein (1969) as being 'tokenistic': non-inclusive forms of participation without actual citizen input that ticked the box of "having participated in participation".

Participatory processes on the top rungs of the Ladder are defined as forms that foster *Citizen Power*. *Partnerships* are characterized by a shared control of power, with both organizers and participants having influence on (parts of the) decision-making process (Arnstein, 1969; White

and Langenheim, 2021). This level of influence is increased in forms of *Delegated Power* and *Citizen Control*, with the former giving participants complete control on parts of the process and the latter leaving the decision-making completely up to the participants themselves (Arnstein, 1969; White and Langenheim, 2021).

Arnstein's (1969) framework is widely recognized as a simple and efficient method to qualify various forms of decision control in participatory processes (Bailey & Grossardt, 2025). Still, the framework has received various critiques, with one of the most frequently voiced criticisms being that Arnstein seems to insinuate that public participation is a hierarchical model, implying that the lower rungs are less equitable or ethical than the upper rungs (White & Langenheim, 2021). This approach makes the Ladder ambiguous, as an empirical scale (objective) is fused with a normative level of approval (subjective), which can mean different things for different people (Bailey & Grossardt, 2025). For instance, there may very well be circumstances in which participatory forms "higher up the Ladder" are unachievable (i.e. due to legal constraints) or undesired by all parties involved (Bobbio, 2019; Fung, 2006).

As a result, many alternatives and re-inventions of Arnstein's framework have been developed since (White & Langenheim, 2021). For instance, both Edelenbos et al. (2001) and The International Association for Public Participation (IAP2) (n.d.) reimagined the Ladder as a spectrum of five less value-laden degrees of public participation (see Figure 3.2).

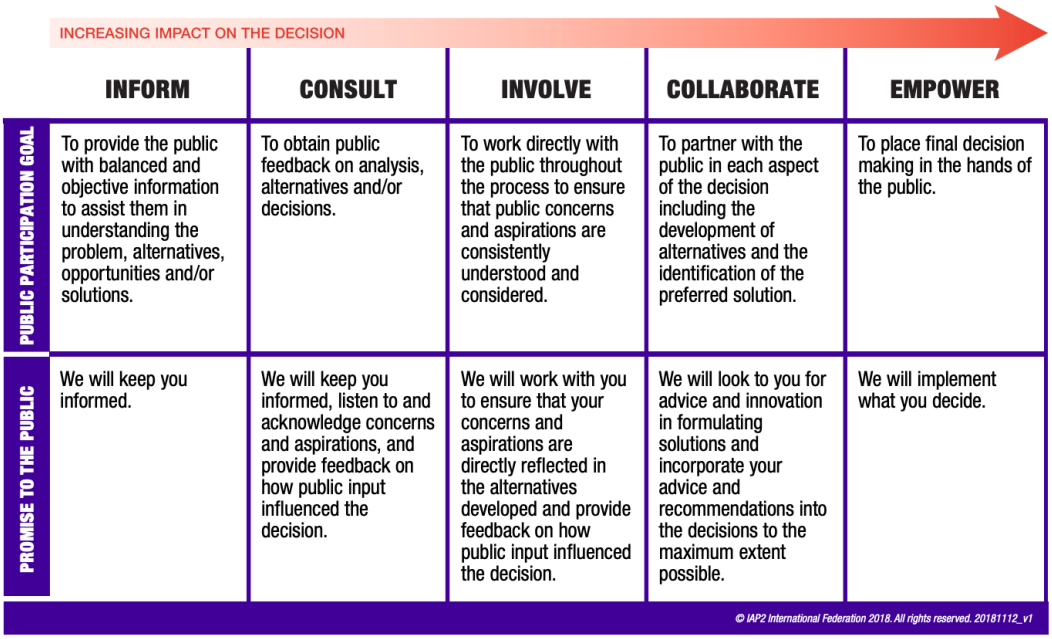

Figure 3.2: The International Association of Public Participation's (IAP2) spectrum of participation (International Association for Public Participation, n.d.)

Additionally, other theoretical frameworks concerning participatory initiatives exist, with an important contribution being the 'Democracy Cube' developed by Fung (2006). This theoretical framework, presented in Figure 3.3, measures participatory mechanisms against the dimensions of who participates, how discussions are linked, and how participants communicate and make decisions together. According to Fung (2006), it is more fruitful to examine the various arranges of public participation through this framework, as it more effectively captures the range of values that the participatory process can advance and the problems that these arrangements aim to address.

Concluding, the various theoretical frameworks on public participation highlight how participatory design choices are manifold, connected and possibly even conflicting (Bobbio, 2019). It is important to keep in mind that successful public participation is highly context dependent, with cultural, political, and historical factors all influencing the quality of the selected method. Accordingly, there is no standard approach for selecting a 'correct' participative arrangement, strategy or tool (Wilker et al., 2016). The theoretical frameworks demonstrate how one could potentially measure or compare participatory strategies, which could be effective in selecting specific arrangements, but they should not be used as a one-size-fits-all approach.

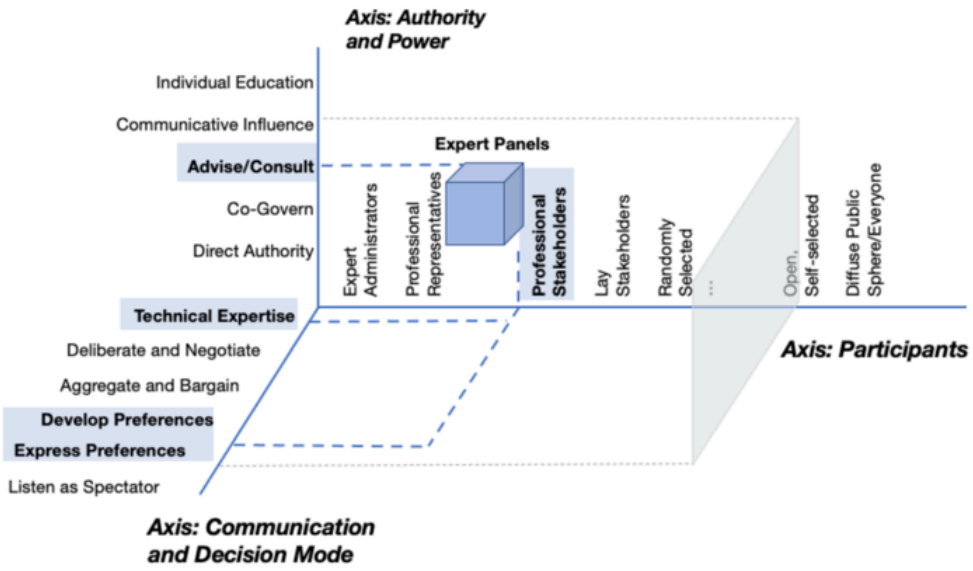

Figure 3.3: The characteristics of the participation mechanism of 'Expert panels' according to Fung's (2006) democracy cube (illustration by (Sehat, 2022)).

3.4.2. Forms and Elements of Participatory Initiatives

Participatory processes in the infrastructure sector centre around the involvement of local actors in the development of the planning, design or delivery of an infrastructural project (Boyle et al., 2022). Hence, the process normally occurs at early phases (during planning and design) (Close & Loosemore, 2014) and revolves around communication between the project organization and the public (Boyle et al., 2022). The project organization is usually a local institution with political power (i.e. a municipality) responsible for the project, occasionally in cooperation with an advisory board (Hrivnák et al., 2021). Accordingly, it is up these actors to identify local needs relevant for the project (Hrivnák et al., 2021).

As highlighted in Section 3.4.1., the design of the participatory process generally revolves around who participates, when and how (Fung, 2006). These three factors refer to the scope of interest, the opportunities for contributing and the level of influence given to participants respectively (Uittenbroek et al., 2019).

Traditionally, decision-making procedures in participatory design were dominated by top-down methods, which were coined as 'Decide-Announce-Defend' (DAD) strategies (van de Grift et al., 2020). These strategies are characterized by their tokenistic nature, as participants

were only informed on (intended) project outcomes. However, research presented that DAD-strategies often lead to risks, such as social conflicts, delays and even project cancellations in severe cases (Komendantova & Battaglini, 2016). Therefore, at present, decision-making in public participation designs have moved away from this traditional DAD-model.

As a result, a wide range of specific participatory arrangements have emerged over time. Though, literature distinguishes four general categories of designs, based on their primary objective: information sharing, knowledge extraction, feedback acquisition, and co-decision-making. Public participation practices that aim to inform citizens can consist of public hearings, information meetings, and online fora. Initiatives based on knowledge extraction include public surveys, interviews, and symposia. Participatory designs undertaken to gain feedback can comprise of workshops, bilateral sessions, and public advisory committees. And finally, methods to promote co-production and co-deciding include joint data management, interactive scenario development, focus groups, and citizen panels (Hage et al., 2010; Rowe and Frewer, 2000; Uittenbroek et al., 2019; Wilker et al., 2016).

These methods all have different arrangements and objectives, and can be combined into various participatory designs and strategies. Participatory planners assess these strategies through theoretical frameworks, such as those illustrated in Section 3.4.1.. For instance, the study by Wilker et al. (2016) employs one such evaluations, examining participatory arrangement according to the IAP2's spectrum of public participation framework (see Figure 3.4).

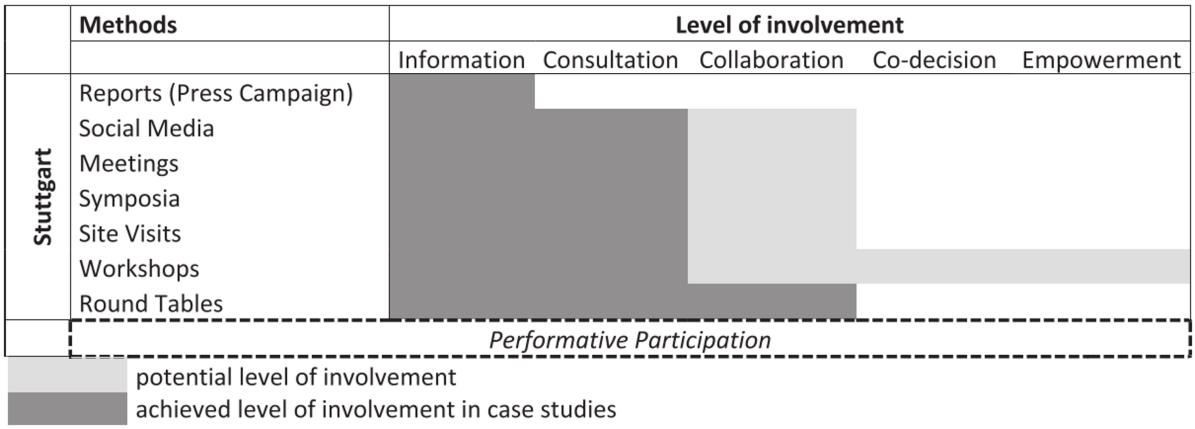

Figure 3.4: Assessment of several participatory arrangements of a case study in Stuttgart through the IAP2's spectrum of public participation framework (Wilker et al., 2016).

3.4.3. Objectives and Benefits

One of the predominant reasons for the widespread characteristics of participatory arrangements are the possible objectives and associated benefits that public participation produces. Consequently, project organizations need to actively reflect on what they intend to achieve, before they decide which strategy fits their needs (Boyle et al., 2022).

Scholars generally identify three primary motivations to engage in participatory processes: legitimacy, empowerment, and learning (Bobbio, 2019). Legitimacy revolves around professionals increasing the social acceptability of their project, addressing equality and fairness, building trust and legitimizing the decision-making process (Boyle et al., 2022; Grossardt and Bailey, 2018; Uittenbroek et al., 2019; White and Langenheim, 2021). Objectives for empowerment are predominantly based on improving the democratic process, building mutual understandings, and developing the community's sense of ownership (van de Grift

et al., 2020; Michels and Graaf, 2017; Poiner and Drake, 2021). Learning is related to both project organizations obtaining local knowledge, and participants engaging in social learning themselves. These objectives therefore primarily consist on instigating dialogues and attaining local knowledge to optimize policies and designs (Gierveld, 2019; Hrivnák et al., 2021). The participatory arrangements presented in Section 3.4.2. all contribute to these main goals of public participation, though none are capable of serving all three motivations simultaneously (Bobbio, 2019).

Glucker et al. (2013) and Uittenbroek et al. (2019) have done additional research on these objectives, developing a conceptual framework with nine specific drivers for public participation that are closely connected to the benefits of public participation (see Figure 3.5). Literature, such as Hjerpe et al. (2018) and de Vries et al. (2025), generally categorize participatory benefits into three forms of added value: normative, substantive, and instrumental. Normative value refers to public participation enhancing democratic legitimacy, as it empowers citizens by increasing their understanding of societal problems (Andringa, 2023; de Vries et al., 2025). Substantive value mainly revolves around the fact that public participation can improve the quality of decisions, as it provides project organizations the local knowledge needed to produce successful projects (Andringa, 2023). Accordingly, this type of value represents the fact that tacit local knowledge is essential to reach richer project plans, as local stakeholders possess important place-based expertise that professionals can not acquire elsewhere (Andringa, 2023; Edelenbos and Klijn, 2006). Finally, institutional value implies that public participation can decrease resistance in later project stages by increasing the social acceptance of an initiative. This is specifically beneficial for the project's schedule and budget (Andringa, 2023).

Objectives for participation		
1. Influencing decisions	4. Empowering and emancipating	7. Testing the robustness of information from other sources
2. Enhancing democratic capacity	5. Harnessing local info and knowledge	8. Generating legitimacy
3. Social learning	6. Incorporating experimental and value-based knowledge	9. Resolving conflict

Figure 3.5: Nine objectives for public participation developed by Uittenbroek et al. (2019) (own illustration)

Although the benefits of participatory processes are manifold, project executives often need to spend considerable effort in convincing project organizations to initiate public engagement efforts. This challenge stems largely from the fact that the added value of the *qualitative* benefits of public participation are difficult to quantify in a monetary value (de Boer et al., 2025). For instance, the 'uptake' of preventing social resistance can generally not be expressed in a number that is easy to grasp. Consequently, the less financially measurable a benefit is, the more difficult it becomes to justify executives to make an investment in it (de Boer et al., 2025).

3.4.4. Negative Impact of Public Engagement

Public participation is often assumed to be universally applicable and inherently beneficial, inevitably leading to more sustainable development outcomes (White & Langenheim, 2021). However, this is not the case in practice, as undertaking public participation can also produce negative effects. Understanding these potential consequences is important, as it helps explain

why some practitioners hold a negative view towards organizing participatory initiatives.

A major drawback that is mentioned often is public participation's burden on available capacity. For instance, organizing participatory arrangements can result in significant financial costs (Hrivnák et al., 2021; Uittenbroek et al., 2019). Furthermore, gathering and categorizing perspectives of the general public is time-consuming, which is consequential for project efficiency (Hrivnák et al., 2021). This issue is specifically problematic within the infrastructure sector, as professionals and projects are already struggling with capacity constraints. In addition, participatory burdens have consequences for participants themselves, as the shift from representative to inclusive democracy reduces the influence of local stakeholders who lack the time, skills or resources required to engage in the process meaningfully (Mensink et al., 2024).

Other consequences are related to the quality of the participatory strategy and the associated decision-making processes. For example, involving a large number of participants with diverse perspectives may dilute the general interest, making it more difficult to reach decisions that reflect a coherent collective goal (Eiff et al., 2024). Moreover, public participation does not automatically enhance the quality of decisions, particularly when key stakeholders are absent (White & Langenheim, 2021). Next to that, adverse effects can stem from dominant self-interested groups, cultural biases, or political interference, thereby undermining the integrity and fairness of the decision-making process (Uittenbroek et al., 2019; White and Langenheim, 2021). The risk of this issue might increase if public participation's position in legislation becomes too strong, as interest groups have more incentives to oppose decisions through legal procedures (Hobma et al., 2025).

Finally, it is worth noting that people who speak up during the participatory process can end up more frustrated if their demands are ignored than if they had never been involved at all (van Oenen, 2016). Similarly, conflicts can escalate in general if initiatives are too burdensome (White & Langenheim, 2021), or whenever voiced expert knowledge heavily opposes the local perspective (Bailey et al., 2011).

3.5. Impact of Substandard Public Participation

The previous section outlined the characteristics, benefits, and implications of organizing public participation. However, substandard participatory processes, or the absence of engagement initiatives altogether, can also produce significant drawbacks. The following section examines the cause of these issues, illustrates the potential consequences that may result, and lists a range of mitigation measures for preventing adverse outcomes.

3.5.1. Organizational Factors

Literature distinguishes various causes for substandard participatory processes. Understanding these underlying causes is essential, as it sheds light on which characteristics could be addressed to reach better process outcomes. The following section highlights organizational factors that contribute to deficiencies in public participation.

Research illustrates that the project organization's characteristics and attitude are intrinsically linked to the quality of public participation. For instance, research by Migchelbrink and van de Walle (2022) illustrates how prior interactions, experiences by colleagues, gender, age, and organizational norms (i.e. a bureaucratic culture) can all affect professionals' mindset concerning public participation.

As a result, project executives' with an adverse perception towards public participation frequently perceive their participatory efforts to be more successful than observed in practice (Mohammadi et al., 2018). This is referred to as 'professional conceit' (Grossardt & Bailey, 2018) and predominantly manifests because of the physical and professional distance between the project organization and participants (Grossardt & Bailey, 2018). Additionally, some professionals view public participation as an endeavour which they can manipulate or as a mere afterthought that requires minimal attention (Close & Loosemore, 2014). In these cases, the participatory process becomes artificial, with project executives using it as a strategic resource (Bailey et al., 2011). These issues can cause a common organizational mindset where public participation is perceived as a meaningless tick-box exercise (Carrick et al., 2023).

Project organization with these attitudes risk organizing tokenistic participatory processes: taking minimal efforts in public participation without genuinely considering potential outcomes (Wilker et al., 2016). For instance, solely organizing public participation to acquire governmental subsidies (Hage et al., 2010; Uittenbroek et al., 2019). Another common cause includes practitioners perceiving their expertise to always be superior over local knowledge (Poiner & Drake, 2021). This is often caused by the fact that professionals hold the perception that the public is not able to contribute to abstract and complex issues effectively, making executives (unjustifiably) sceptic about the value of local knowledge (Andringa, 2023; Migchelbrink and van de Walle, 2022).

Other causes that relate to the organizational mindset include, but are not limited to, practitioners' fear of losing control (Migchelbrink and van de Walle, 2022; Uittenbroek et al., 2019), executives' tendency to promise unrealistic results (Bailey and Grossardt, 2025; Stingl and Geraldi, 2017), and the outright complex task of balancing impartiality with responsibility (van Houwelingen et al., 2014; Mohammadi et al., 2018).

3.5.2. Procedural and Contextual Drivers

Next to organizational factors, procedural and contextual drivers can contribute to substandard participatory processes. The following paragraphs present several of these aspects, categorizing them into causes related to participatory design attributes, participant behaviour, and public participation's inescapable ambivalence.

Attributes of the participatory design
Literature highlights how substandard participatory designs lead to ineffective processes, negative attitudes, or undesired outcomes (Migchelbrink & van de Walle, 2022). These design issues are often revolved around the selection process of the participant group (Michels & Graaf, 2017), the way in which this group receives information (Santo et al., 2023; Migchelbrink and van de Walle, 2022), how participants can contribute during events (Hrivnák et al., 2021), or when these initiatives are planned (Uittenbroek et al., 2019).

It is difficult for project executives to identify who should attend the participatory arrangements, as this is up to interpretation (van de Grift et al., 2020). As a result, participatory processes are regularly overrepresented by civically active and well-educated citizens. Yet, these citizens are generally not considered to be a true representation of the associated community (Michels & Graaf, 2017). Nevertheless, participatory arrangements frequently consist of small groups that are asked to decide on project aspects that affect a larger number of communities than that to which they belong. Whenever this occurs, decisions are made while relevant representative groups are left out of the decision-making process. This both reduces project legitimacy and makes the acquired input prone to misrepresentation issues (Hrivnák et al., 2021).

Additionally, unidirectional information exchange can lead to stakeholder dissatisfaction, as participants are often restricted to providing views based on pre-selected information and a small selection of project options (Bailey and Grossardt, 2006; Santo et al., 2023). This can be exacerbated by a project organization's excessive use of online platforms or smart technologies to communicate to participants, as these seem to be unfit for deliberation and are not as crowded as project executives often believe (Bobbio, 2019; Levenda et al., 2020). Even though these situations are not intentional, participants have less opportunities to be involved in the decision-making process and thus the end-result of the project.

Finally, literature indicates that citizens often have limited time to comprehend project-specific information and the complex decisions associated with it (Uittenbroek et al., 2019). Participatory arrangements constrained by time or scheduled at inconvenient moments (i.e. during major national events) can therefore result in participants lacking the capability to voice legitimate critique and engage in meaningful debate (Carrick et al., 2023).

Participant Behaviour
The behaviour of participants can also lead to issues between local stakeholders and the project organization, and among participants themselves. Drivers that are related to these issues are mainly connected to dominant behaviour, or a lack thereof (Migchelbrink & van de Walle, 2022). For instance, a small non-representative group with heavy self-interested NIMBY ('Not In My BackYard') sentiments can cause general negativity within the participatory process, causing project executives to lose interest in the process (Migchelbrink & van de Walle, 2022). It is therefore important for project executives to understand that, even with significant effort, there is always a possibility that participants themselves cause public participation to not play out as intended.

Inescapable Ambivalence
Previous sections have outlined how participatory processes are intrinsically ambivalent: they give citizens a voice, yet simultaneously use that voice to reinforce organizational legitimacy; they appear open to new solutions, but often compel participants to promote previously determined decisions; and they aim to contribute to policymakers learning from citizens, while also constraining participants within predefined agendas and framed problems. However, it can not be overstated that this ambivalence in participatory processes can never be fully overcome (Bobbio, 2019).

Accordingly, recognizing that project organizations may encounter circumstances in which they are either unable or justifiably unwilling to meet the public's needs is important. In the words of Suchman (1995): "Admittedly, no organization can completely satisfy all audiences". Consequently, every participatory process will likely be accused of having tokenistic characteristics at some point (Bobbio, 2019). This is caused by the fact that it is difficult to find a balance between the inclusion of many voices and subsequently ensuring that these voices are also heard (Carrick et al., 2023). In that regard, project executives face a dilemma: Organizing a long-term participatory process through extensive planning is burdensome for participants, leading to low level engagement and poor interactions. Yet, this leaves organizations with the time to focus on other project objectives. On the contrary, more intensive and well-prepared short-term initiatives often leads to better public participation quality. However, focusing public engagement efforts towards specific near term goals and projects typically results in project executives having to invest more time in the process (Bailey & Grossardt, 2006). And even though they might aspire to, planners generally do not have the resources to host extensive meetings to determine each and every citizen goal, preference and local concern (Bailey et al., 2011).

3.5.3. Risks of Deficiencies

Previous sections have shown that both the infrastructure sector and the legislative branch are taking steps to enhance the quality of public participation. Although these steps have lead to positive results, risks of a substandard participatory process remain severe. It is vital for project organizations to pre-emptively address these issues, as proactive management not only serves as a critical risk mitigation strategy, but also enhances the quality of public participation.

Stakeholder dissatisfaction is a significant consequence of deficient participatory processes, as it can foster growing distrust among the public and increased scepticism toward ongoing project processes. This, in turn, may trigger public opposition through collective actions (Liu et al., 2018), that lead to delays, cost overruns, reputational damage, or even project cancellation in severe cases (Ninan, Clegg, et al., 2024; Locatelli et al., 2025). The public's increased level of education and heightened welfare demands, as well as a recent rise in social awareness and expectations for equality in rights, have further increased the likelihood of such collective actions to develop (Lee et al., 2017; Liu et al., 2018).

Collective actions can be leveraged through media and other channels, as citizens use them to make their voices heard when they, justifiably or unjustifiably, believe that their input is ignored (Uittenbroek et al., 2019). If these collective actions are not properly addressed, conflicts may ultimately escalate, resulting in an adversarial climate with strained relationships and challenges to the project's legitimacy (Close and Loosemore, 2014; Hrivnák et al., 2021). Hence, project executives need to be aware of the potential consequences that these strained relationships have on both the short and long-term, as lingering stakeholder distrust might affect future participatory processes and other organizational activities as well (Grossardt and Bailey, 2018; Uittenbroek et al., 2019).

In addition, substandard participatory processes may result in project organizations failing to acquire sufficient relevant local knowledge. This could undermine project plan stability (T. Williams et al., 2019), lead to unsustainable project decisions (White & Langenheim, 2021), and ultimately to project outcomes that do not fit user needs (Poiner & Drake, 2021).

3.5.4. Improving Public Participation

The risks noted in Section 3.5.3. outline the need for meaningful, well-structured public participation. Accordingly, many studies have since analysed what strategies are effective for organizing high-quality participatory processes. The following section presents these identified measures, categorizing them in strategies and practices related to participatory design and planning, stakeholder representation, transparency and communication, trust-building, and organizational attitude. Though, it should be noted that even though the outlined strategies and practices *can* lead to positive results, their success often remain dependent on contextual factors (Bailey et al., 2011). Measures will therefore *not* be universally applicable for all participatory initiatives.

Participation Design and Engagement Planning
As Section 3.4 presented, the effectiveness of public participation is highly dependent on design and planning choices. A fundamental insight in that regard is that there is no 'one-size-fits-all' approach, as choices must be closely aligned with specific circumstances. It is therefore crucial that the proposed participatory strategy is flexible (Bailey et al., 2011; Boyle et al., 2022).

Hence, establishing a clear strategy during the project's initiation phase is essential. Project organizations that developed a stakeholder strategy at an early stage encountered significantly

fewer problems with their stakeholders than practitioners that dealt with stakeholders on an ad hoc basis (Hertogh et al., 2008). This process can best be started through determining a thought-out problem diagnosis, as that provides the basis for an effective participatory design. Ideally, this design should also be formed through a participatory effort (Mensink et al., 2024).

Regarding the design of the process, phasing and intensity of engagement are of particular importance. Based on the objectives of the participatory process, the planning has to include who is to be engaged in which phase of the project, and how this engagement should be planned (Hrivnák et al., 2021). Furthermore, since local knowledge and project data is often incomplete and susceptible to change, it is more beneficial to organize a continuous decision-making process with multiple participatory events (Carrick et al., 2023). This should also include evaluative sessions with participants after project completion, as they often have a desire to continue the dialogue (Mensink et al., 2024).

In addition, it is essential for project executives to determine the specific arrangements and tools they wish to use (Uittenbroek et al., 2019). These elements have to fit the project characteristics and composition of the local stakeholders (White & Langenheim, 2021). Examples of tools can include visual models, such as BIM-software (Ninan, Clegg, et al., 2024), physical scale models (Uittenbroek et al., 2019), and digital 3D-renders (White & Langenheim, 2021).

Finally, planning an internal evaluation of the participatory process itself is important for improving future participation approaches, particularly in terms of understanding their effects on stakeholders (Wilker et al., 2016). This ensures that lessons learned from one process design are carried over to the next.

Stakeholder Representation
Effective participation requires strategies that can guarantee input that is representative for the local project environment. In that regard, understanding the characteristics of the associated public, such as the overall dynamic, traits, and attitudes, is essential for determining how local stakeholders can best be represented (Boyle et al., 2022). Although the process of creating adequate representativeness is complex and time-consuming, it creates many benefits, including increased citizen empowerment and better project designs (Uittenbroek et al., 2019).

Basing stakeholder representation on prior organizational experiences or other participative efforts is a good starting point (Boyle et al., 2022). Next to that, active involvement through face-to-face community outreach or online surveys are effective, as it acquires more diverse local stakeholder needs and improves awareness (Uittenbroek et al., 2019). Additionally, enhancing legitimacy (i.e. by seeking support from influential local actors) can activate the public in contributing to the participatory process (Ninan, Clegg, et al., 2024; Wilker et al., 2016).

Transparency and Communication
Communication and transparency are important components for high-quality public participation (Santo et al., 2023). Participants should be informed on the topics that will be addressed from the process' outset and whether these subjects are or are not open for consultation (Boyle et al., 2022). Whenever these objectives are explicitly formulated, the likelihood of achieving intended objectives through the participatory process increases (Uittenbroek et al., 2019). In that regard, participant frustration is much more likely to arise when controversial information is withheld rather than clearly explained (Uittenbroek et al., 2019).

In addition, understanding that local stakeholder opinions can change during the process is crucial. Performing regular 'pulse checks', in which participants have opportunities to submit relevant matters and where the latest changes are explained and justified, can aid project executives in preventing potential discontent (Boyle et al., 2022). The result of these checks

should subsequently be communicated through follow-up reports, where the recognition of the public's voiced concerns need to be an integral component (Boyle et al., 2022). Accordingly, if local stakeholder issues are *not* incorporated, transparency on *why* these choices are made is key (Bobbio, 2019; White and Langenheim, 2021).

Though, regardless of the communicative means that are chosen by the organization, consistency in messaging and branding from the project organization remains vital. Both in the interactions with external actors, as well as within internal correspondence (Hertogh et al., 2008; Ninan, Clegg, et al., 2024). Such consistency strengthens relationships by reinforcing the perception of the project organization as a reliable and trustworthy partner (Hertogh et al., 2008).

Trust-Building
Trust is an essential factor for the success of participatory processes, especially within the infrastructure sector where projects generally have longer runtimes (Ninan, Clegg, et al., 2024). Trust aids in reaching mutual agreements, improves cooperation, and is key in dealing with uncertain situations caused by conflicting interests (Ninan, Clegg, et al., 2024).

Building trust is not a passive process, but rests on proactive practices. For instance, by pursuing existing trust capacities through collaborating with locally embraced leaders (Boyle et al., 2022). Additionally, public trust is acquired through progressing on previous experiences, problem solving, establishing shared goals, administrative integrity, reciprocity, communicative consistency, and reasonable behaviour (Boyle et al., 2022; Grossardt and Bailey, 2018; Ninan, Clegg, et al., 2024).

Organizational Attitudes
Finally, the success of public participation is linked to the mindset of the organization that organizes the process. It is therefore important that project organizations adopt the right mindset (Migchelbrink & van de Walle, 2022). Literature on how dismissive organizational mindsets toward public participation can be addressed is limited, though some studies highlight general practices or traits that can resolve mental issues. For instance, Mensink et al. (2024) state that practitioners should focus on their "political expertise", referring to professionals learning through experience, valuing new insights, and attention to the social embeddedness of their work. Other scholars, such as Edelenbos and Klijn (2006), state the importance of an adaptive management style and creativity. In addition, Michels and Graaf (2017) highlight the importance of remaining open to critique and approaching the process with curiosity. They further stress that public participation should also be enjoyable, as enjoyment can serve as a powerful source of energy and motivation. Consequently, project executives should not overlook the value of celebrating successes, as doing so helps sustain momentum and maintain enthusiasm throughout the process (Michels & Graaf, 2017).

3.6. Summary and Concluding Remarks

The literature study illustrates how public participation has become an integral part of the public infrastructure sector, with many scholars investigating its role in reaching project success. Similarly, central governments and infrastructure organizations are increasingly seeing the benefits of public engagement and recognize the potential drawbacks that may result from substandard participatory strategies. These developments have led to legislative reforms aimed at strengthening public engagement, the emergence of the Public Engagement Professional role, and a broader shift in how the participatory process is valued. Though, despite these advancements, participatory initiatives still regularly fail to achieve their intended

objectives. This is unfortunate, as high-quality public participation both mitigates potential risks and makes substantive contributions towards successful project outcomes.

Scholars have extensively investigated how participatory development can be realized across multiple domains, including research related to governance structures and design frameworks (see Section 3.4.2.), participatory objectives and benefits (see Section 3.4.3.), potential participatory risks (see Section 3.4.4. and 3.5.3.), causes of deficient participatory processes (see Section 3.5.1. and 3.5.2.), and best practices for improvement (see Section 3.5.4.). These literary efforts provide a in-depth understanding of what works in participatory design: practitioners know that early engagement, transparent communication, representative stakeholder selection, trust-building, and flexible strategies enhance public participation quality.

Yet, obstacles in public participation persist despite this knowledge and intention to achieve better results. These obstacles include organizational barriers, such as financial burdens and resource constraints, as well as planning and process-related issues (see Section 3.5). This raises an interesting question: *if research and practice provide clear methods to improve participatory processes, why do organizations often still fail to implement practices known to enhance the quality of public participation?* Accordingly, this identified gap between procedural strategies and actual practice suggests that the affect of cognitive barriers (i.e. how project teams value and interpret public participation) on public participation deserves further investigation.

3.6.1. Literature Gap

While existing literature extensively documents how to improve *procedural* elements of public participation and that organizational attitudes matter in public participation, it provides limited insights on *how* these attitudes develop and *why* they persist. Migchelbrink and van de Walle (2022) investigate specific determinants of managerial attitudes, noting that personal characteristics, organizational culture, process features, and contextual factors all influence perspectives. Yet, they mention that "how bounded rationality and cognitive biases affect public managers' attitudes towards public participation" remains understudied. Similarly, literature such as the work of Grossardt and Bailey (2018), lists institutional barriers (i.e. professional conceit), but does not explain how underlying organizational processes influence project organizations' attitudes toward public participation. Furthermore, to the best of the author's knowledge, studies have not yet identified strategies to intervene in these processes to address potential cognitive obstacles.

This study addresses this gap by investigating how organizational processes shape how project organizations assess local stakeholder input in Dutch infrastructural (re)development projects. It does so through Weick's (2005) sensemaking theory by acquiring insights into the processes that influence how project organizations collectively interpret and value public participation. Moreover, the research examines how Public Engagement Professionals (PEPs) can intervene in these processes to address potential institutional shortcomings through their role as boundary-spanning executives (van de Grift et al., 2020).

Figure 3.6 illustrates this literature gap at the intersection of three focus areas: organizational sensemaking theory, public participation in infrastructure, and the PEP role.

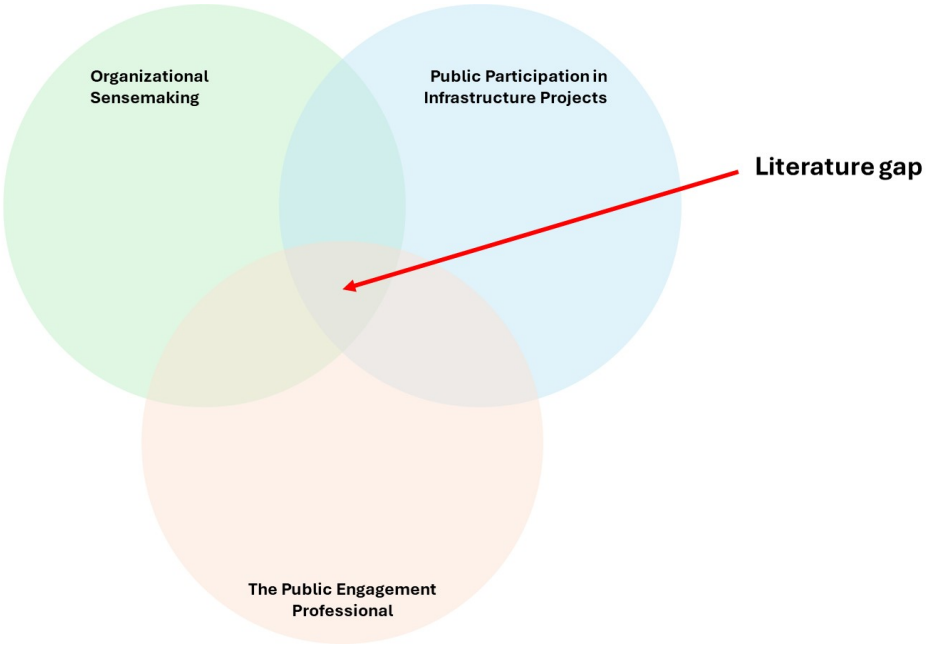

Figure 3.6: Venn diagram illustrating the literature gap that follows from the three main pillars of this research (own illustration).

4 Theoretical Framework

The following chapter describes the theoretical framework through which a deeper understanding of the study's results is acquired. First, the purpose of a theoretical framework is explained. Then, the relevance of social theory is outlined, followed by a description of the theoretical framework used in this research: Weick's (2005) sensemaking theory. The chapter is concluded by a clarification on the relevancy of the theory for this study.

4.1. Purpose of a Theoretical Framework

A theoretical framework is used as the theoretical backbone of a scientific research effort (van der Waldt, 2024). Accordingly, the framework functions as the study's 'blueprint', providing the theoretical foundation through which the researcher can explain or analyse their findings (Adom et al., 2018).

The literature study of Chapter 3 is used as a basis to find a theoretical framework that suits the intended study objectives. Therefore, a relevant theoretical framework should describe and explain theories that substantiate the research problem (van der Waldt, 2024). Next to that, a theoretical framework is useful in promoting a deeper understanding of phenomena, as it offers a systematic way to explore complexity in scientific research through triangulation (van der Waldt, 2024). Finally, since frameworks are based on (usually large quantities) of existing studies, it ensures further anchoring of the research findings by integrating and applying relevant theoretical aspects of previous research efforts (Santo et al., 2023).

4.2. Social Theory

As this study investigates the attitudes within project organizations and overarching institutions, the theoretical framework of this research is grounded in social science theory. Social theories are commonly applied in studies that aim to understand and describe human behaviour, societies, group dynamics, and social phenomena (van der Waldt, 2024). In this context, social theory provides a lens to analyse complex and non-quantifiable social dynamics. Interpreting the research findings through a relevant social theoretical perspective is therefore expected to contribute to knowledge development, potentially resulting in new

insights, stimulating positive societal changes, and improvements in human conditions (van der Waldt, 2024).

4.2.1. Sensemaking Theory

Sensemaking theory provides an appropriate theoretical framework for this research, as this study aims to understand how project organizations attitude toward local stakeholder input is shaped. In other words, sensemaking enables the researcher to understand how project organizations interpret, value, and act upon local stakeholder input, ultimately showcasing how social processes influence how such stakeholder input is integrated into the decision-making process of said projects.

Theory on sensemaking in organizations was first described by Karl Weick. According to Weick et al. (2005), sensemaking "involves the ongoing retrospective development of plausible images that rationalize what people are doing". Hence, it is characterized as the process through which agents interpret what is happening around them by retrospectively giving meaning to events (Vazquez et al., 2022). The theory is central in the way people create meaning in a collective context, essentially describing how individuals and groups comprehend roles, responsibilities, and dynamics of collaborative efforts (Rönndahl et al., 2025). As a result, sensemaking theory is a common theoretical framework in research regarding fields such as leadership, organizational development, and project management (Vazquez et al., 2022).

Efforts of sensemaking tend to occur in individuals or groups when the current state of their world is perceived to be different from its expected state, or during instances when there is no obvious way to interact with their world (Weick et al., 2005). Because of this, people experience a form of intelligibility, and therefore aim to make sense of the new situation by trying to understand the disruption. Agents aim to comprehend this new situations by first looking for methods that will enable them to resume a now interrupted circumstance, these instances are therefore significantly influenced by individuals' known methods (Weick et al., 2005).

These 'methods' are an important aspect of sensemaking, as they constitute the frameworks that influence how people try to make sense of their environment. Many aspects influence these frameworks, including organizational premises, traditions, acceptable justifications, and institutional constraints (Weick et al., 2005). Disrupted circumstances therefore tend to be seen as more acceptable or just when they tap into the existing frameworks that people experience in their environments (Weick et al., 2005). For instance, when people aim to create meaning through communicative action, their judgement is based on a combination of material cues (i.e. the communicative method used) and non-material cues (i.e. the speaker's voice), with the former affecting the validity of the latter (Cristofaro, 2022). In that regard, 'known' cues are often more easily accepted then those unknown.

Subsequently, individuals retain the specific cues or methodologies of the sensemaking process based on their perceived success. Accordingly, methods that individuals have deemed to be successful will be more easily selected in future scenarios. In contrast, unsuccessful methods are more likely to be disregarded in future sensemaking endeavours. In his work, Weick et al. (2005) identified a total of 7 properties that characterise the sensemaking process and that influence how these frameworks establish:

1. **Identity** and identification are central in sensemaking: who people think they are within their environment affects how they enact and the way they interpret events;
2. The opportunity for sensemaking is provided by **Retrospection**: the moment of retro-

spection in time shapes what people notice, hence moments of attention and interruptions that facilitate these retrospective moments are highly relevant in the sensemaking process;

3. People use dialogues and narratives to **Enact** in their environment: communication and settings are an important aspect of sensemaking, as it helps people to understand what they think, organize their experiences, and control and predict situations;
4. Sensemaking is a **Social** process: plausible narratives are maintained, retained or shared within a collective. Sensemaking is therefore an evolving process for not only ourselves, but also through our connection with others;
5. Sensemaking is **Ongoing**: people simultaneously affect and react to their environments. This is a process of feedback, as individuals try to understand their identity from the behaviour of others towards them, but they also try to influence said behaviour;
6. People decide on what information is relevant and what explanations are acceptable by **Extracting Cues**: Extracted cues are used to link ideas to people's larger networks of meaning, as they provide points of reference to familiar structures;
7. **Plausibility** is favoured over accuracy: people prefer explanations that are plausible and workable, not necessarily explanations that are correct.

4.3. Sensemaking's Enactment Theory

The previous sections outline the various processes and properties associated to sensemaking. Weick et al. (2005) synthesized the relationships between these aspects in a sensemaking model, often referred to as *Enactment theory* within organizational studies. This theory proposes that "sensemaking can be treated as reciprocal exchanges between actors (Enactment) and their environments (Ecological Change) that are made meaningful (Selection) and preserved (Retention)" . Though, this process of exchanges will only continue if the retained content is simultaneously believed (positive causal linkage) and scrutinized through doubt (negative causal linkage) in future enacting and selecting processes (Weick et al., 2005). In academic literature, this entire process is formally coined as the 'ESG sequence'.

Figure 4.1 presents Weick's (2005) enactment theory, outlining the relationships in the ESG-sequence and the seven properties of sensemaking.

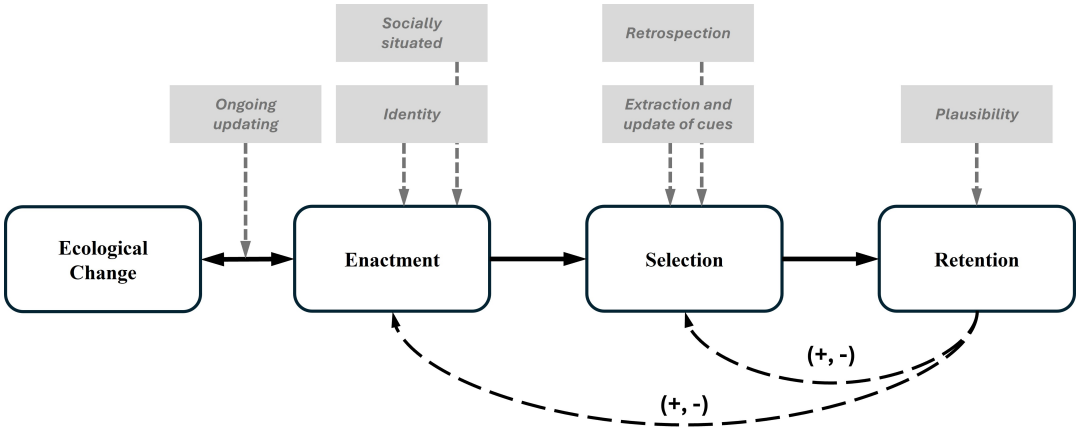

Figure 4.1: Weick's (2005) enactment theory (own illustration; content and visual approach adapted from the works of Weick et al. (2005) and Cristofaro (2022))

4.4. Integrating Social Theory

Sensemaking provides a useful lens for understanding the mindset of project organizations in the participatory process, as the theory can fill important gaps in organizational theory (Weick et al., 2005). Within organizations, "members interpret their environment by interacting with each other, crafting narratives that help them understand the world and coordinate their actions" (Annosi et al., 2024). In this way, the reality faced within organizations is enacted and shaped by its members, while these members are simultaneously influenced by their organization's internal culture (Cristofaro, 2022). As a result, this dynamic causes much of organizational practices to become routine (Weick et al., 2005), reducing the likelihood that established methods or cultures are second guessed. Consequently, ingrained routines might undermine the success of public participation, without being directly questioned in the process.

Furthermore, emotions within project organizations can shape collective attitudes and influence individual's motivation to act, often without members being consciously aware (Cristofaro, 2022). Consequently, emotions related to public participation, formed through the lived experiences of specific individuals, can spread through the project organizations via 'emotional contagion' . As a result, both positive or negative biases held by some team members may affect colleagues who have not yet been involved in participatory initiatives (Cristofaro, 2022).

Other influential factors include individuals' cultural values and the identity of the industry in which they operate. This 'sensegiving-sensemaking' process is particularly exemplified if the sensegiving actor holds a leading role in the organization (Cristofaro, 2022). This hierarchical dynamic also explains why employees might accept a new situation that they initially found implausible, as soon as it is framed and validated by managers (Weick et al., 2005).

Concluding, sensemaking theory allows researchers to understand how project actors make sense of their environment, interpret information, and collectively decide on uncertainties within a collaborative setting. This is specifically relevant for decision-making in participatory processes, as these involve extensive collective sensemaking instances regarding new situations within a complex social dynamic that is characterized by the infrastructural sector's multifaceted challenges (Rönndahl et al., 2025). Therefore, employing sensemaking as a theoretical framework is highly relevant for analysing the results of this study.

5 Findings

The following chapter outlines the results of the semi-structured interviews. First, the process of analysing the interviews through the Gioia method (Gioia et al., 2013) is explained in further detail. Then, essential findings that followed from this analysis are presented according to four 'aggregated dimensions' that emerged from the final step of the analysis method. Readers interested in a summary of these findings are referred to Section 3.6.

5.1. Gioia Method Analysis

As outlined in Section 2.4.3., a thorough review of the interviews through the Gioia method (Gioia et al., 2013) yielded 158 unique 1st-Order concepts. These concepts present an instance within an interview that captures a singular insight of the research topic. An example of one such instances is 1st-Order concept number 99:

> ***Concept 99:*** *Project executives are reluctant in communicating to participants out of fear to break promises in the future.*

To preserve the underlying context, all 1st-Order concepts are kept in the same language in which they are found. This ensures that key aspects of interviewees' sensemaking are not missed, as the subsequent data analysis refrains from imposing personal bias on another's experience wherever possible (Gioia et al., 2013). An example of one such instance: interviewees often use the terms 'Inside' and 'Outside' to refer to the internal organization and external stakeholders of their project respectively. One such instance, stated by [PEP4]:

> *"That's the art of the trade: understanding the impact of your project on the outside, but also knowing what's happening on the outside and what's needed for the future to properly embed that on the inside." - PEP4*

2nd-Order Theme Analysis
As outlined in Section 2.4.2., the 158 1st-Order concepts were analysed further on reoccurring subjects. Accordingly, the 1st-Order concepts were grouped into 13 distinct 2nd-Order themes:

Theme 1: Adjusting to changes and complexity;

Theme 2: External boundaries on team agency;

Theme 3: Governmental governance and capacity strain;

Theme 4: Participation decoupled from core project processes;

Theme 5: Individual attitudes and perspectives;

Theme 6: Disconnect from the local perspective;

Theme 7: Institutionalized risk-aversion and rule-following;

Theme 8: Negative experience fueling participatory resistance;

Theme 9: Inconsistent methods for handling input;

Theme 10: Epistemological differences over meaning;

Theme 11: Explaining participatory value through collective sessions;

Theme 12: PEPs: internal advocates of the environment;

Theme 13: Professional versatility of the PEP.

The findings associated to each theme are outlined in Section 5.2 through Section 5.5, where each 3rd-Order aggregated dimension to which the themes associate to is explained in further detail.

3rd-Order Dimension Analysis
After this step, the 13 2nd-Order themes were aggregated into four meaningful 3rd-Order data dimensions. Each of the dimensions therefore consists of multiple themes, capturing a singular novel phenomenon that is associated to the research subject. The four 3rd-Order dimensions and associated 2nd-Order themes are aggregated as follows:

Dimension 1: Sectoral Barriers and Organizational Governance.

- Theme 1: Adjusting to Changes and Complexity;
- Theme 2: External Boundaries on Team Agency;
- Theme 3: Governmental Governance and Capacity Strain;
- Theme 4: Participation decoupled from Core Project Processes.

Dimension 2: Individual and Collective Mindsets on Participation.

- Theme 5: Individual Attitudes and Perspectives;
- Theme 6: Disconnect from the Local Perspective;
- Theme 7: Institutionalized Risk-Aversion and Rule-Following;
- Theme 8: Negative Experience fueling Participatory Resistance.

Dimension 3: Operational Challenges in Participation Management.

- Theme 9: Inconsistent Methods for Handling Input;
- Theme 10: Epistemological differences over Meaning.

Dimension 4: Capacity Building and the PEP Role.

- Theme 11: Explaining Participatory Value through Collective Sessions;
- Theme 12: PEPs: Internal Advocates of the Environment;
- Theme 13: Professional Versatility of the PEP.

Data Structure

Following the analysis process, the three steps of the Gioia method were visualized in a data structure. This data structure outlines the underlying relationships between the 1st-Order concepts, 2nd-Order themes, and 3rd-Order aggregated dimensions. The data structure for dimension 1 is presented in Figure 5.1. Data structures of the other dimensions and an overview outlining the interrelatedness of the complete dataset is presented in Appendix F.

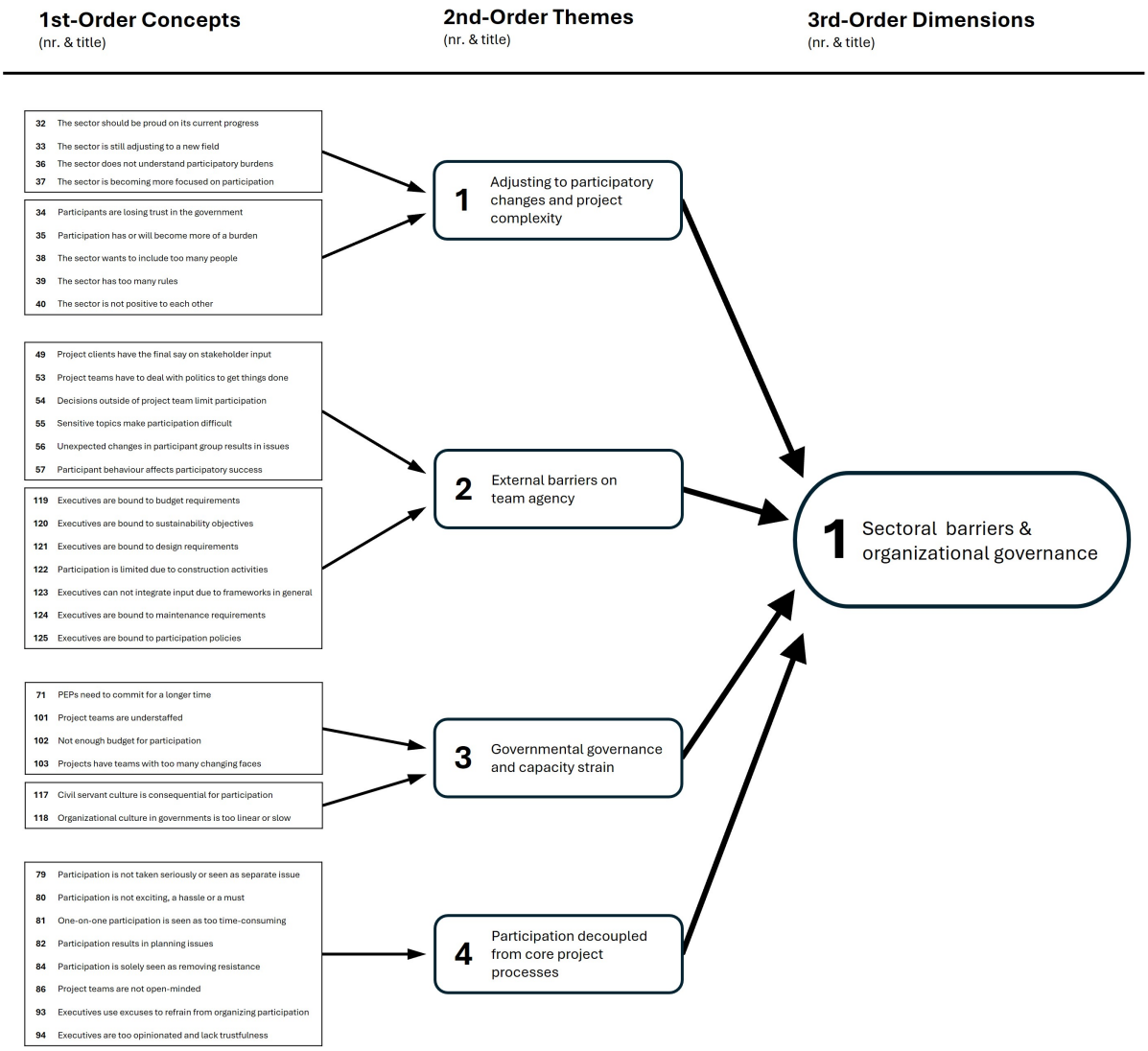

Figure 5.1: Data structure for dimension 1, according to the Gioia method (own illustration)

The following sections discuss the content and relevancy of each individual aggregated data dimension and their associated themes in more detail.

5.2. Sectoral Barriers and Organizational Governance

Interview results indicate that systemic barriers in the infrastructure sector often limit effective participation. For instance, because of insufficient capacity, constraining top-down governance structures, and participation's marginalized status within project priorities. The following paragraphs outline the themes and associated findings that are associated to this first dimension.

5.2.1. Adjusting to Changes and Complexity

According to interviewees, public participation is increasingly considered as a necessary component of an infrastructural project's life cycle, with significant developments made through legislative reforms and professionalization of PEP roles in recent years. However, the sector is still adjusting to refinements, as effectively integrating public engagement processes into organizational routines remains difficult. New legislation, such as the Environment and Planning Act, partly exacerbates this effect, as project organizations need to adjust to a novel way of working. As [PM2] puts it:

> *"The steps we are taking in combination with a new Environmental Planning Act, that that simply causes a lot of hassle at the start, seems evident to me. You simply cannot oversee many things." - PM2*

This search for consistency, coupled with project organizations' resulting question on how to value public engagement, is often evident in project executives not yet fully comprehending what the participatory process entails. Contrastingly, other interviewees note that some project executives are instead so eager in their objective to integrate local perspectives into project cycles that they tend to over-prioritize public engagement processes, ultimately leading to more project complexity. In the words of [PM8]:

> *"Sometimes we go too far. We want to hear everyone's opinions through five or six different channels, while people indicate they're not interested or that they're perfectly fine with [a project decision]. At some point, you have to stop participating." - PM8*

Though, project organizations' struggle in finding effective standards in a continuously adjusting infrastructural sector can not solely be attributed to the come-up of public engagement. As outlined in the introduction of this study, project environments are generally becoming more complex, with an increasing number of rules and regulations that organizations have to adhere to. As a result, project teams need to consider many simultaneous (and often contrasting) objectives, while the workable space to reach these goals is decreasing. Neuf's professionals state that they struggle with this challenge, fearing that this issue will likely worsen if the amount of regulations is not properly addressed. To quote [PM3]:

> *"What I think we are really struggling with in the Dutch public space is that we want too much. There are simply many more wishes than we can realize. That is not a participation problem. We just set very strict requirements." - PM3*

Concluding, it is important to consider that teething problems are part of this process of adjusting to new routines. Hence, interviewees consider it unfair to solely address mistakes and issues that currently revolve around public engagement. Neuf's professionals outline that the sector should not forget to be proud of its current achievements, while simultaneously considering where it can improve the process even further. [PM2] captures this well:

> *"... I think we can be quite proud of what we manage to achieve with participation. And, well, as is often the case, there are a few negative stories that manage to drown out a lot. ... But nine out of ten times, when the project is finally there, the majority of the participants ... are genuinely very happy with the result." - PM2*

5.2.2. External Barriers on Team Agency

Regardless of individual sentiments toward public participation, project teams are frequently limited in organizing the participatory process as they see fit due to events outside of their control. For instance, infrastructure projects that revolve around politically sensitive issues often involve participant dissatisfaction or negative media attention that is difficult to overcome. Additionally, interviewees note that they often have to deal with consequential stakeholder behaviour, such as participants' lingering distrust against governmental institutions or sudden changes in stakeholder representatives. As [PM3] describes:

> *"... there are simply a number of stakeholders ... who come [to participation events] with a very big prejudice. They believe that the government does everything wrong. At [urban area development project] too, we had a lot of problems, because things were not going well with the waste service there. That waste service was not even in our project. There wasn't even a waste container in our system." - PM3*

Other limitations are associated to project teams being undermined by decisions of external parties. Interviewees often mention that political agendas of aldermen or other politicians can result in project outcomes that the project organization neither approves, nor stands behind. Additionally, project team decisions are frequently disregarded or denied by other departments in the internal organization, such as maintenance teams. As [PM1] articulates:

> *"We had a project where it was decided that student housing is allowed in a building somewhere for 5 years. Then an alderman comes along who says that it suddenly has to be 10 years. [Before this decision by the aldermen], a lot of discussions had taken place [where the project team decided that 5 years] is simply the most logical [decision], because ultimately a different function was desired in that building. But no, now [the alderman decides that] it has to be 10 years, and suddenly that is possible." - PM1*

Finally, most of the interviewees state that established project frameworks limit project organizations' flexibility to organize the participatory process in accordance with their needs, such as sustainability objectives, design requirements, and maintenance regulations. As [PEP4] puts it:

> *"We've taken a direction where everything is rigidly bound by rules and frameworks. I'm getting tired of that, and I think that's why resistance to participation is growing, both in the community and within the [project] team. All the rules leave almost no room for freedom, which is why we end up with that discussion about [participants only being able to decide on] the playground equipment. Every time something goes wrong, another rule is added. But you can't participate properly if everything is already fixed in rules." - PEP4*

Furthermore, several of Neuf's executives are critical on current public engagement policies, stating that they often feel like a mandatory requirement, with policymakers having many different and sometimes contrasting opinions, ultimately making the process confusing. To quote [PM6]:

> *"The municipality, with the best intentions, set up such a [mandatory participation policy] process, requiring you to visit an expert panel for advice on your participation plan before it can be approved. But honestly, it just feels like an unnecessary formality to me. ... At a certain point, it felt like I was just making changes to please the participation policy." - PM6*

5.2.3. Governmental Governance and Capacity Strain

Neuf's professionals indicate that governmental institutions regularly do not have the required capacity to organize participation effectively. This stems from (sometimes unavoidable) budgetary constraints, as well as the relatively short commitment of executives to projects. Accordingly, interviewees mention that project teams have too frequent turnover, which project organizations find difficult to manage. This instability subsequently affects the success of public participation, as participants lose track of their point of contact or become dissatisfied due to information loss. [PEP8] and [PM8] note:

> *"I'm hired for a certain number of hours, and they think I should be able to do the work within that time. But this work is often unplanned; you never know what will come your way. Sometimes you need a much more intensive participatory process than anticipated." - PEP8*

> *"The constant turnover of officials is a major frustration for stakeholders. You often hear, 'There's another new one, he'll probably be gone in a year and a half.' This fuels people's sour attitudes. As a new public engagement professional, there's little you can do about it, but the stakeholders are often right. Even at agencies like Neuf, you rarely see someone stay on the same project as a Public Engagement Professional for five years." - PM8*

Other interviewees highlight that the governance structure of governmental institutions can be consequential for organizing successful participatory processes. The top-down hierarchies that are often present within institutions allow executives with limited expertise on public engagement to make decisions that affect the quality of the participatory process. According

to Neuf's professionals, this issue can be exacerbated when governmental institutions are too slow in their decision-making, as the infrastructure sector requires more agility in adjusting policies.

Despite these capacity challenges, interviewees note that recent developments have resulted in positive momentum. The emphasis on early involvement in the Environment and Planning Act has prompted institutions to enhance their focus on public participation and further embed PEP positions into the organization. While capacity constraints remain evident, this increased focus suggests gradual improvement.

5.2.4. Participation Decoupled from Core Project Processes

Neuf's professionals regularly mention that public engagement is seldom viewed as a core project activity, as it is not held to the same standards as other project disciplines, such as technical management, project management or urban planning. This is for instance evident through discrepancies in capacity or urgency. As [PM8] and [PEP8] describe:

> *"When a public engagement professional leaves, quick replacement is often given less priority than with a project manager or a technical designer. People often think a project can't be done without a designer because it requires signing, while public engagement is sometimes seen as something we can just 'do on the side.'" - PM8*

> *"Sometimes the old idea still prevails: 'We'll just add public engagement on top.' It's seen as a checkbox that needs to be checked, rather than something integral to the project outcome. People don't want that 'checkbox' to delay the schedule." - PEP8*

Furthermore, Neuf's PEPs perceive a professional imbalance, noting that their expertise is met with more scepticism in comparison to other project disciplines. For instance, project managers seem to be more opinionated on public engagement than quantitative-based project roles, such as technical management. [PEP6] explains:

> *"While a technical manager has a lot of autonomy — after all, a project manager isn't going to check whether the calculations for a bridge's load-bearing capacity are correct — a project manager often wants to get involved in public engagement. Everyone has an opinion about participation, and everyone can read a participation plan and form an opinion about it. That sometimes means you don't feel fully trusted ... which is frustrating." - PEP6*

In addition, interviewees believe that participatory processes are occasionally sidelined in favour of other project objectives because public participation is seen as a hassle or a planning risk. According to interviewees, this stems from a perception among executives that the process is too time-consuming relative to its impact, a fear of negative public reactions, or the sentiment that the participatory process is just outright boring. Such attitudes lead to executives making excuses to avoid participation, team members viewing engagement solely as a tool to mitigate resistance, or a general lack of receptiveness to new ideas.

5.3. Individual and Collective Mindsets on Participation

Results indicate that personal characteristics, past experiences with the public participation, institutional culture are the main elements that shape practitioners' attitudes toward public participation. The following subsections outline the themes and findings associated to this second aggregated dimension.

5.3.1. Individual Attitudes and Perspectives

Many interviewees strongly believe that all project executives act with the good intention of delivering successful projects, with growing recognition that meaningful stakeholder engagement contributes to project success. However, the methods these professionals use to achieve success, and the subsequent role they believe public participation should play in that process, appears to vary significantly among practitioners. In the words of [PEP7]:

> *"... everyone is working towards the same goal: making the city liveable, safe, and pleasant. But there's only one public space, and choices have to be made. Because not all interests fit within that limited space, you have to ensure that the wishes of the local community are properly represented and that the right people support those choices." - PEP7*

Accordingly, Neuf's professionals indicate that individual characteristics and personal traits influence how project executives value public participation. This is evident in generational differences, as older executives generally place less value on public engagement than their younger counterparts. This may be due to older executives' past negative experiences, a perceived naivety in younger generations, or simply as a result of older generations being used to old routines. To quote [PM9]:

> *"I notice that the older generation often sees participation as something for the end: 'Now we've decided everything, and now we have to communicate it.' It's essentially just a matter of ticking the box. ... I think these days, there's much more thought given to: 'What does the community think about this, and how can we improve the project by involving them early on?' So whether you consider the social component upfront, or just tick a box at the end to proceed; that really makes a world of difference." - PM9*

While Neuf's professionals do not believe that specific roles inherently undervalue public participation, they do note that project executives who are more risk-averse tend to assign less value to local input. Accordingly, the perception on public participation is influenced by its impact on one's objectives. This explains why urban planners and designers might view public participation less favourably, as it is seen as an obstacle to their creative process. Similarly, interviewees note that conservative project managers struggle with public participation, as the process generally conflicts with the structured style of traditional project management. As explained by [PEP5]:

> *"... participation inherently goes against the waterfall method of traditional project management. Project management is all about structure, simplification, and working towards a fixed end result. However, participation often leads to scope creep: you push the boundaries of your scope to see if there's room for improvement. This makes a project more unpredictable in the early stages." - PEP5*

5.3.2. Disconnect from the Local Perspective

Several interviewees point out instances where organizations underestimate stakeholders' ability to contribute to a project meaningfully. This primarily happens whenever practitioners have insufficient knowledge of the project environment and the associated local perspective. For instance, project executives are often unaware of engagement initiatives conducted for other projects within the same area. To quote [PM7]:

> *"... the zoning plan change for [PM7's urban redevelopment project] had already been amended in 2010. However, I have no idea how the public participation process went in 2010; I imagine it barely happened. ... Now I can only say [to local residents]: 'The zoning plan has already been changed; you should have indicated that at the time.'" - PM7*

According to interviewees, this limited understanding of the project environment is also related to the assumption that stakeholder dynamics remain unchanged over time. As a result, executives with this attitude might believe that outcomes from participatory efforts conducted several years ago are still applicable today. Other Neuf professionals attribute this disconnect from the local perspective to the strong departmental focus within project organizations, where executives concentrate primarily on their own responsibilities and pay limited attention to the activities and insights of other disciplines. As [PM5] describes:

> *"I sometimes say, 'We need to build 4,000 homes at [highly urbanized project location],' but I should really just spend a night in one of those 18-story towers for a week in one of those student rooms, just to see what life is like. ... I could say all I want about that now, but I don't know what it's like at all. ... it's quite interesting that we [professionals] always think we know it all. We gather information, interview people, and so on, but in reality, we don't know it all. I think that's a real shortcoming in our professional field." - PM5*

Nevertheless, an in-depth understanding of the project environment is important according to professionals, as it emphasizes the importance of local needs and gives professionals better insights into when and when not to organize public participation. In the words of [PEP4]:

> *"Talking to people on-site is seriously undervalued; it's almost never a standard practice. I don't understand that, because that's precisely where the people who are there every day are. ... They're often not the people who come to a large information session. So if you really want to know what's going on, you have to be there and talk to those people." - PEP4*

5.3.3. Institutionalized Risk-Aversion and Rule-Following

The vast majority of interviewees emphasize that established frameworks, such as project guidelines, regulations and other policy requirements, frequently form an obstacle for effective public engagement. Interviewees highlight that most project organizations tend to be risk-averse, leading to project frameworks becoming an (unnecessary) obstacle for organizing flexible participatory processes. This strict compliance to rules seems to stem from executives' fear that deviating from established regulations will lead to negative consequences on the long-term. [PEP7] notes:

> *"... people aren't always open to a more creative approach. There's often a lot of resistance: 'Yes, but this isn't possible, yes, but the policy, yes, but the mobility plan.' I understand those frameworks, but let's see what's possible within them instead of immediately defining them." - PEP7*

Consequently, interviewees suggest that the sector would benefit for a more courageous approach to exploring the 'gray areas' within established frameworks, as rigid adherence hurts a participatory strategy's required flexibility.

In addition, interviewees note that project executives are often reluctant in changing their routine or project approach. This is most often manifested as a form of 'expertism' , where executives overestimate the complexity of their project, undervalue stakeholders' ability to contribute, or perceive their own professional knowledge as inherently superior to that of local stakeholders. This resistance to change harms organizing effective public participation, as the process necessitates an adaptive approach. [PM2] explains:

> *"In the infrastructure or construction sector, you have many [professionals] who have been building things [in the same way] for 30 years. And then suddenly had to organize public participation. That was new. That naturally didn't work at all. ... And now [those professionals] keep plotting their experiences on the thought: 'This makes no sense at all, we shouldn't ask for input from the neighbourhood on this, because people have no idea.'" - PM2*

5.3.4. Negative Experience fueling Participatory Resistance

Interview participants note that professionals' opinion on public participation's value is influenced by past experiences. They suggest that negative experiences through the participatory process affect how eager project executives are to engage in future participatory efforts and the extent to which they believe these efforts will be of added value to the project.

Neuf's professionals identify several specific negative associations. Some of these relate to participant behaviour, where project executives find the participatory process unrewarding due to poor turnout, excessive repetition (i.e. make dozens of minor adjustments to a singular design), or overwhelming media presence. In the words of [PM2]:

> *"When you have already researched the same thing five times, and you get the same point again the next time, you become a little discouraged. You want to do meaningful things in your work week. And if you are researching the same things every time after such a participation moment, or copying the same piece of text again, then [public participation] starts to feel useless." - PM2*

Other negative sentiments are linked to executives' own behaviour at past processes. For instance, some interviewees admitted to causing stakeholder dissatisfaction by making promises that they couldn't keep. As a result, these individuals now seem more hesitant to share information with participants out of fear of potential backlash. [PM1] and [PM6] note:

> *"... from what I have noticed so far, there is simply a tremendous culture of fear. [Civil servants] are simply afraid that people will have an opinion about [highly urbanized redevelopment project] and that there will be trouble again. Then I think: yes, that does ensure that you have a less open attitude towards new ideas. As a result, [ideas do not arise] that, in my opinion, can make projects better." - PM1*

> *"One lesson I've learned is that I've become cautious about presenting concepts. On the one hand, you want to be transparent, but it's difficult to 'take away' something people feel they already have." - PM6*

Interviewees indicate that this fear of backlash appears to be at the root of many of the negative attitudes toward public participation. This fear does not solely stem from expecting complaints, but can also occur in fearing participant hostility during participatory events. Executives from Neuf that have experienced a form of hostility in the past note that this has significantly impacted their and other colleagues' attitude toward public participation.

Importantly, interviewees also describe positive participatory experiences that have transformed sceptical executives into participatory advocates. Several professionals reflect on instances where meaningful stakeholder input significantly improved project outcomes. To quote [PM1]:

> *"My mindset was also 'Jeez, [public participation], what a hassle' at the beginning, because I only thought that it causes delay and extra steps. ... I now notice that it is really crucial to do participation for a ground-level area that you are going to construct for residents who look at it every day." - PM1*

These positive experiences appear equally influential in shaping attitudes. However, organizations seem to lack systematic mechanisms for capturing and sharing positive experiences across projects, meaning negative stories circulate more prominently than success stories.

5.4. Operational Challenges in Participation Management

Neuf's professionals outline several operational challenges that can influence the quality of public participation, including inconsistencies in assessment and conceptual ambiguity about public participation's definition. The following subsections capture this third dimension.

5.4.1. Inconsistent Methods for Handling Input

Interviewees state that acquired stakeholder input is predominantly discussed during collective team meetings. Though, the collection methods and filtering approach of this input varies significantly across the sector and even within singular organizations. Some teams utilize a predetermined software application. In other projects, PEPs are responsible for an initial filtering of input. Interviewees note that this first stage of filtering is often done intuitively, making the process prone to individual biases. Generally, Neuf's executives observe that the method for processing acquired input is rarely established during the project's initiation phase. To quote [PEP5]:

> *"You often make an initial selection [on acquired stakeholder input] based on instinct. ... Experience often tells you whether a proposal is feasible. Sometimes something is a good idea, like planting more vibrant greenery or flower bulbs in a flowerbed, but you know it will fall through with the municipality's maintenance team. ... as a public engagement professional, you often already know that certain things won't work out. So you don't pursue them further." - PEP5*

Following the processing stage, the acquired perspectives are collectively discussed in project team meetings. Interestingly, interviewees highlight that organizations generally lack a pre-established method for evaluating the value or relevancy of acquired input. Various approaches are mentioned, such as assessing input based on its potential in reducing project risk, its impact on project capacity, or its contribution to broader project objectives. While some projects use a predetermined requirements list, such a structured approach appears to be rare. Some interviewees believe that the absence of a clear framework results in project teams making arbitrary decisions. [PM6] notes:

> *"To be completely honest, I feel like everyone is just winging it. Sometimes more weight is attached to [an aspect of stakeholder input] than other times, and sometimes they simply look at what's most convenient. This is because there isn't a very clear framework for considering the value of certain interests." - PM6*

Some of Neuf's executives mention that project executives seem to take advantage of the absence of these frameworks, as they use the opportunity to overemphasize the value of singular perspectives that happen to align with their personal priorities. Consequently, Neuf's professionals argue that this poses a risk for effective public participation, as these intuitive approaches may result in the process being steered by personal preferences rather than objective project considerations. In the words of [PM6]:

> *"[Decisions on stakeholder input are also based on] whether it happens to be convenient. For example, if there are already doubts about finances or management, and stakeholders say you should or shouldn't do something, that's sometimes used as confirmation: 'We were already hesitant, and now people are saying the same, so we're not doing it.' I don't think there's a very clear line of reasoning there." - PM6*

Despite these inconsistencies, several interviewees describe emerging solutions. Some organizations have developed standardized evaluation frameworks for assessing stakeholder input against predetermined criteria. Others utilize digital platforms to categorize and track input, such as a Customer Requirements Specification (Dutch: Klanteisenspecificatie or 'KES'), which reduces a team's reliance on individual judgment. While these approaches are not yet considered as the norm, their development signals a growing recognition that standardized input frameworks can enhance the quality of the participatory process.

5.4.2. Epistemological Differences over Meaning

The interviews and exploratory research reveal that while the term 'participation' is widely used throughout the sector, its definition remains notably ambiguous. PEPs often argue that Arnstein's (1969) participatory stage of *Informing* should not be considered as genuine public participation. Conversely, others view informing as the very foundation of the participatory process. For instance, [PEP1] and [PEP5] share varying ideas on what public participation means to them:

> *"... in policy informing is also participating. I completely disagree with that, because you're informing something, you're sharing something. In that case, I don't think there's anything to participate about." - PEP1*

> *"I think [public participation] is any form of conversation between citizen parties and the government." - PEP5*

This ambiguity often results in a professional mismatch regarding the intended goals of public participation. Accordingly, executives note that the term 'participation' may not accurately describe what it tries to define: 'participation' inherently implies a collaborative effort, which is neither a given nor should it be an ever-present objective in every participatory event that practitioners aim to organize. [PEP3] articulates this well:

> *"Sometimes participation means opening all doors to everyone and providing input is always welcome. The only question is whether you can actually do anything with that input. And perhaps that's my point: Is it called participation then? Engaging in conversation is different from actually doing what people want; sometimes that's simply not possible." - PEP3*

5.5. Capacity Building and the PEP Role

When asked about the role of PEPs in fostering participatory development, interviewees emphasize that PEPs can drive positive change through their role as a boundary-spanning executive. Their efforts, accompanied by participatory tools and training, can enable project organizations to fully comprehend and appreciate the significance of the participatory process. The fourth and final dimension explores these associated themes in more detail.

5.5.1. Explaining Participatory Value through Collective Sessions

Interviewees agree that collective sessions on the value of public participation can effectively convey the necessity of the process. In particular, it can highlight the potential benefits of organizing participatory initiatives, while also illustrating the risks it may help to mitigate. Though, Neuf's executives specify that such sessions would likely only be of use if project executives truly grasp the perspectives of other actors. Hence, it should address the significance of public participation by showing the perspectives of both internal and external actors. This approach improves executives' understanding of the project environment and clarifies the objectives of their colleagues in other departments. To quote [PEP4]:

> *"People are easier to persuade if they understand why something is necessary. Such a tool can help make participation 'smaller' and less daunting. [Public participation] shouldn't be something that's solely the responsibility of the public engagement professional. The public engagement professional brings participation into the project ... but ensuring that the input is actually integrated in the project is the responsibility of the entire team. That realization is crucial." - PEP4*

According to interviewees, fostering this understanding is best achieved by showing the impact of decisions. Consequently, contents of the sessions should aim for realism, focusing on the actual scope of the team's current project. For instance, through realistic role-playing. Additionally, Neuf's professionals highlight that any interactive session must align with the project schedule so that it is not perceived as a burden. Integrating it in this manner fosters a greater sense of ownership, helping public participation to be perceived as a team-wide responsibility.

Opinions among interviewees vary on when such a session would make the most impact. Some note that it would be useful at the Project Start Up (PSU) to get their colleagues on the same page. Others believe that it would be more effective for training purposes, preparing executives for the participatory events that are scheduled during later project phases.

5.5.2. PEPs: Internal Advocates of the Environment

PEPs are primarily responsible for the communication between the project organization and local stakeholders. Their objective mainly revolves around integrating local needs into the project's decision-making, effectively acting as the communicative bridge between the internal project organization (referred to as *inside* in professional jargon) and external actors (*outside*).

According to interviewees, the intrinsic motivation driving PEPs to act in this role generally differs per individual. Most frequently, interviewees note that this is a result of PEPs wanting to be advocates of the local perspective, aiming to integrate stakeholder needs as comprehensively as possible. Others suggest that this commitment stems from a pragmatic focus on achieving project objectives, recognizing that public engagement is essential in reaching those goals. This aligns with findings by van de Grift et al. (2020).

As public engagement is often relegated to a lower priority than other project aspects, a significant responsibility of the PEP is to actively lobby within the organization to put the local perspective on the project agenda. To do this effectively, PEPs need to be knowledgeable about the project team, the organization in which they work, and the project environment itself, leveraging this knowledge to their advantage. As [PEP1] and [PEP7] explain:

> *"[As a PEP] you always have to get a feel for the people in your project organization. What's their personality? And how can I best handle that? If you get it wrong from the start, you can forget [a good collaboration]." - PEP1*

> *"My approach isn't so much about convincing people, but about getting them involved. I try to keep people involved in the plans and ask them for feedback. ... It helps if team members know what you're working on and the challenges you face, so that public engagement truly becomes a team effort." - PEP7*

5.5.3. Professional Versatility of the PEP

According to Neuf's executives, PEPs need a multifaceted skill-set to effectively bridge project objectives with local stakeholder needs. They often emphasize that PEPs require high communicative competence, as they need to convince other project disciplines of the value of local perspectives. This requires a deep understanding of engineering constraints, project management objectives, and organizational decision-making processes. Additionally, analytical competence, empathy, and strategic flexibility are essential to reframe public participation as valuable rather than burdensome.

Next to that, professionals highlight the importance of assertiveness, as PEPs should be able to stand their ground to defend stakeholder interests during internal team meetings. To quote [PM9]:

> *"[PEPs should not] be too compliant with the project's parameters. It's okay to be a bit edgy. If you're too compliant, you'll remain stuck in the classic, standard thinking within a project. Those parameters are often created by someone who created the work plans based on their usual routines. ... it certainly helps if you, as a public engagement professional, are assertive." - PM9*

Though, this assertiveness has its limits. Interviewees warn that PEPs should be cautious in over-representing stakeholder interests to the detriment of project feasibility. It is crucial that PEPs remain prepared to tell local actors the truth, even when this might lead to backlash. [PEP4] notes:

> *"As a public engagement professional, you have the responsibility to tell the honest, and often also the bitter, story. Whether it's a design where you have to say, 'We looked at it, but this dumpster is just going to be in front of your door,' then you have to have a good and honest story. You have to be very knowledgeable about what is possible and what is not." - PEP4*

5.6. Summary of Findings

The findings of the research illustrate how various sectoral, organizational, and individual trends and elements collectively shape project organizations' attitude toward public participation, revealing both significant challenges and promising opportunities for improvement.

The study's results (see Section 5.2) highlight that participatory processes in the infrastructure sector are rapidly evolving, which is driven by the new Environment and Planning Act and increasing recognition of participation's value. Though, navigating the complexities of these developments remains difficult. Project organizations currently face challenges in fully embedding participatory objectives into standardized project cycles, as several external elements (i.e. the political landscape and resource constraints) limit the 'manoeuvring room' of project organizations. Though, these challenges can also be used to spark the development of more flexible and resilient forms of participatory governance.

An analysis of the organizational mindsets toward public participation (see Section 5.3) reveals that traditional routines are being challenged by shifting generational perspectives and a continuous search for professional purpose. Though, results highlight how rigid adherence to established standards and a lack of knowledge on the local project environment can limit receptiveness to change. When unaddressed, this can lead to the 'decoupling' of public participation from other project disciplines, such as technical management. However, interviewees highlight how current sectoral developments (i.e. changing legislation) have lead to mindset shifts that can serve as opportunities to realign public participation as a core project activity.

Furthermore, the study's results highlight a current lack of standardized stakeholder input assessment approaches, which is partly attributed to the ambiguity surrounding the definitions of public participation (see Section 5.4). According to interviewees, introducing consistent processing and evaluative methods can make institutions move away from intuitive procedures toward more transparent frameworks driven by organizational vision.

Ultimately, the results of the research outline an important role for Public Engagement Professionals (see Section 5.5), as they can address identified institutional barriers in public participation. As boundary-spanning executives with a multifaceted skill-set, PEPs are uniquely equipped to bridge the gap between technical disciplines and local perspectives. Consequently, the findings suggest that PEPs can leverage collective participatory sessions and strategic intervening strategies to reshape organizational mindsets toward more meaningful and effective participatory processes.

In conclusion, the interview results outline that institutional vulnerabilities can negatively influence the quality of public participation. Though, these vulnerabilities should be understood as points for improvement rather than inevitable obstacles. The new Environment and Planning Act highlights how the sector shows a clear positive trajectory, creating favourable environments for organizations to improve the quality of public participation. However, the findings highlight that success requires attention to both procedural elements *and mental* factors to drive participatory development.

6 Discussion

The findings outlined in Chapter 5 highlight various factors that impact how individuals and project organizations approach public participation. The following sections delve into the theoretical integration of these findings by linking them to sensemaking theory (see Chapter 4). Accordingly, the analysis follows the specific dimensions and themes identified in Section 5.1.

All of the figures included in this chapter are provided in enlarged format in Appendix G to I of this report.

6.1. Organizational Sensemaking and Public Participation

The theoretical foundation outlined in Chapter 4 notes how Weick's (2005) organizational sensemaking theory follows the sensemaking processes of *Enactment*, *Selection*, and *Retention*. In summary, the sensemaking process is initiated by an external trigger (*Ecological Change*) (Rönndahl et al., 2025). These triggers activate individual and organizational identities through *Enactment*, enabling affected agents to understand their new environment (Weick et al., 2005). The enactment process is followed by *Selection*, where each agent's ingrained routines shape how it constructs meaning. Finally, the agent retains the resulting outcomes, whether positive or negative, which affects future sensemaking processes (*Retention*) (Weick et al., 2005).

The literature study and interview results illustrate that project organizations' efforts in organizing a participatory initiative follows this same sensemaking process. The *Process* model, presented in Figure 6.1, outlines this insight through a theoretical framework.

The framework highlights how the organizational process of a participatory initiative is initiated whenever project organizations consider to engage the public with their project, regardless of the underlying reason. This process both shapes and is influenced by the ongoing organizational context of the project organization *(A)*, which consists of three operational levels: the supra-organizational culture (i.e. sectoral norms and political landscape), the organizational culture (i.e. institutional practices and values), and the established individual/team mindsets (i.e. professionals' attitudes and experiences).

These levels interact both hierarchically *(B_1)* and reciprocally *(B_2)*, meaning that a single professional's proactive mindset can eventually reshape organizational culture, just as dismissive institutional trends can discourage individual practitioners.

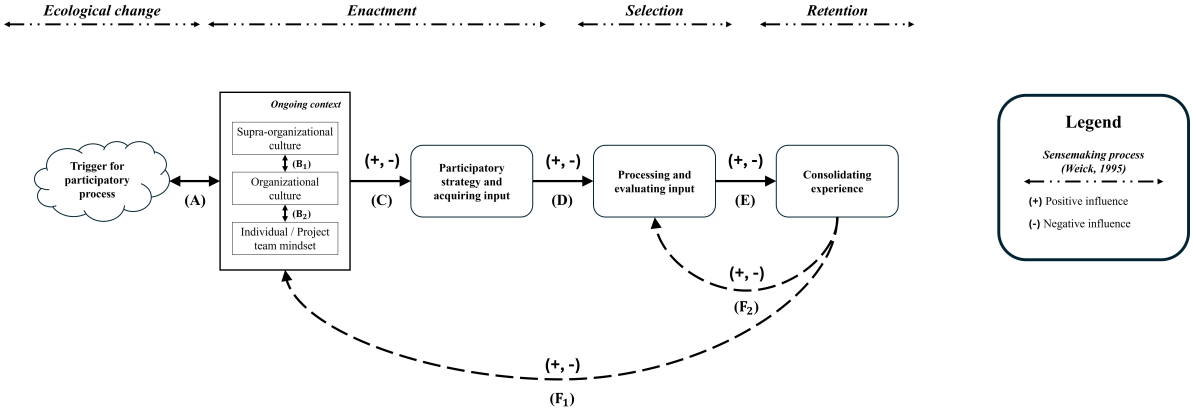

Figure 6.1: The *Process* model, outlining the organizational process of participatory initiatives, adapted through Weick's (2005) enactment theory (own illustration).

Within this ongoing context, project organizations develop a participatory strategy, and subsequently acquire local input through public engagement efforts *(C)*. The established ongoing context plays a decisive role in this strategy, as findings highlight how prevailing mindsets and institutional culture dictate the quality of the participatory process. Project teams then process and evaluate acquired stakeholder input. The chosen approach for these assessment processes are shaped by the participatory strategy (or lack thereof) and the characteristics of gathered input *(D)*. The organizational cycle concludes as individuals and organizations retain the experiences that the process has yielded *(E)*, which subsequently influences the enactment *(F_1)* and selection *(F_2)* stages of future processes.

6.1.1. Practical Relevancy

So, what does this model discover and how is this relevant for the sector? The *Process* model reveals an intriguing dynamic between the quality of the participatory process and the elements that shape project organizations' attitudes toward public participation. Most importantly, the *Process* model reveals a critical insight for practitioners: public participation's quality is a product of both procedural *and cognitive* factors.

Procedurally, public participation quality depends on the project organization's available flexibility. For instance, established frameworks, legislation, and governance structures all influence project organizations' scope and manoeuvring room in deciding on a participatory strategy. The new Environment and Planning Act (Dutch: Omgevingswet) is an example that aims to target deficiencies in these procedural elements by making public participation more prominent in infrastructure project's initiation phases. Next to that, the *Process* model highlights that methods for assessing stakeholder input also play an important role, as consistency in these assessment approaches is an important prerequisite for high-quality participatory processes.

Additionally, the *Process* model outlines that cognitive factors are equally influential. For instance, collective attitudes, organizational culture, and past experiences significantly shape how project organizations design participatory strategies and value stakeholder input. Accordingly, results seem to indicate that organizations with supportive cultures and clear

visions on public participation more easily achieve consistent and positive participatory outcomes. Conversely, negative past experiences, even when justified, create defensive attitudes that produce poor future results. Ultimately, establishing a self-fulfilling cycle.

The key takeaway: Policy reforms, such as the Environment and Planning Act, address what organizations must do *procedurally*, but cannot transform how organizations *think* about public participation. Without addressing these cognitive barriers, such as defensive mindsets or epistemic dominance, procedural improvements might be insufficient in achieving participatory development. Yet, the sector currently seems to focus almost exclusively on the effect of these procedural elements.

The following subsection introduces the *Vulnerability* model, which analyses where these cognitive barriers emerge within the organizational process of participatory initiatives and outlines why they persist despite professionals' good intentions.

6.2. Vulnerabilities in the Organizational Process

The *Process* model and research findings (see Chapter 5) highlight that both procedural and cognitive elements shape the organizational processes of participatory initiatives. These processes can produce positive outcomes that further embed public participation into future project cycles. However, this research focuses particularly on identifying obstacles that can disrupt the organizational process, as understanding these obstacles might provide insights that support participatory development.

Accordingly, the *Vulnerability* model, presented in Figure 6.2, extends the *Process* model by identifying where these vulnerabilities *can* undermine participatory quality. Importantly, the *Vulnerability* model does not claim that all infrastructure organizations exhibit each of the identified vulnerabilities, rather it maps potential failure points for institutions' self-assessment. Accordingly, it is up to the reader to determine which vulnerabilities might be relevant for their own organization.

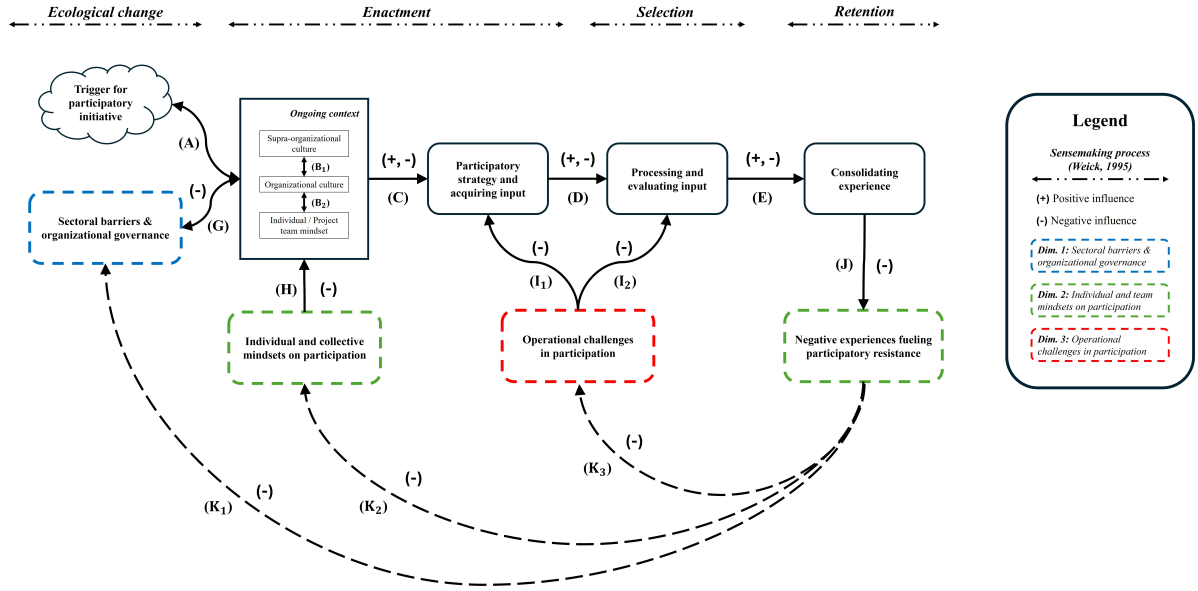

Figure 6.2: The *Vulnerability* model, outlining the procedural and cognitive elements that affect the organizational process of participatory initiatives (own illustration).

The findings of this study illustrate how sectoral barriers and organizational governance (see Section 5.2) can constrain participatory efforts before they begin. These external elements reduce project organizations' flexibility in the participatory process, influencing the *boundaries* of the ongoing context *(G)*. For instance, capacity constraints or changes in the political landscape might reduce the number of available participatory strategies.

Additionally, established negative mindsets concerning public participation (see Section 5.3) shape *how* project organizations enact within the ongoing context (*H*). These attitudes towards the participatory process are shaped by mental factors, such as professionals' tendency to avoid risks or a lack of place-based knowledge. Several studies validate the presence of these types of obstacles, such as Grossardt and Bailey (2018) and Poiner and Drake (2021), who state that professional conceit and epistemic dominance result in negative prejudices toward public participation.

Next to that, the study's results present how a lack of institutional standardization results in operational challenges (see Section 5.4) that can negatively impact the participatory strategy and acquisition of stakeholder input *(I_1)*, as well as the processing and evaluative approaches that follow *(I_2)*. Findings outline that without standardized assessment frameworks, stakeholder input is likely processed inconsistently and prone to personal bias or cherry-picking. As a result, high-quality stakeholder input may be more easily dismissed or ignored.

Finally, the model outlines how negative experiences from participatory processes can become ingrained in practitioners' memory in the retention stage *(J)*. These experiences make professionals more reluctant to engage in public participation meaningfully in future processes, which can subsequently contribute to the persistence of the identified organizational vulnerabilities. Thus, the *Vulnerability* model reveals three important self-reinforcing feedback loops:

- *(K_1)*: Sectoral barriers and restrictive governance create conditions that generate negative participatory experiences, which practitioners then use to validate or reinforce those initial constraints;
- *(K_2)*: Unfavourable individual mindsets lead to substandard participatory processes, generating stakeholder dissatisfaction that professionals retain as confirmation that public participation is ineffective, resulting in the persistence of these initial negative attitudes;
- *(K_3)*: Intuitive input assessment methods lead to inconsistent decisions, creating frustration among both stakeholders and practitioners, making organizations unwilling to invest in standardized frameworks, fortifying said inconsistency.

An interesting insight is that the institutional vulnerabilities outlined in the *Vulnerability* model are consistent with prior research by Migchelbrink and van de Walle (2022). Their study notes that public managers' attitudes on public participation are influenced by "personal characteristics, process characteristics, organizational structures and cultures, and contextual features". While Migchelbrink and van de Walle (2022) comprehensively catalogued these cognitive drivers, they note that "how bounded rationality and cognitive biases affect public managers' attitudes towards public participation" remains understudied. The *Vulnerability* model addresses this gap by revealing the cognitive and procedural processes through which manager attitudes form and persist. Accordingly, understanding the development and interrelatedness of these vulnerabilities offers the insight needed to address issues within the process of organizing public participation.

6.2.1. Practical Relevancy

What should the infrastructure sector take away from this model? Most importantly, the self-reinforcing feedback loops outlined in the *Vulnerability* model show that without interventions that address these recursive cycles, identified vulnerabilities will likely persist within organizations. Accordingly, the model helps explain why policy attention and increased resources alone might not be sufficient for achieving participatory development.

Furthermore, the model serves as an assessment framework, enabling professionals to identify *which* institutional vulnerabilities can disrupt participatory processes, *where* in the organizational process they occur, and *why* they produce negative outcomes.

The following paragraphs highlight additional insights acquired through the *Vulnerability* model, which can serve as inspiration for PEPs and other professionals to identify shortcomings within their own organization.

The Inevitable Influence of External Elements
The *Vulnerability* model reinforces the argument that organizing high-quality public participation is genuinely difficult. Sectoral barriers, such as political interference, capacity constraints, and complex project frameworks, create real obstacles that are often beyond individual project control. Though, realizing how these external elements influence the participatory process is important to understand which factors can be controlled by project organizations' individual efforts. Accordingly, it is just for practitioners to note that external constraints are real, but they should not excuse dismissing public participation entirely. For instance, interview results reveal that project frameworks are sometimes used to justify inaction instead of stimulating creative problem-solving within existing boundaries. Addressing these barriers requires continuous effort, yet remains essential for participatory development.

The Influence of (Justified) Negative Mindsets
The *Vulnerability* model highlights that established mindsets matter and have a significant influence on how public participation is organized. Defensive attitudes toward public participation frequently stem from legitimate negative experiences, such as hostile stakeholders, project delays, and unworkable processes, not from ignorance or malpractice. Yet, the sector should be aware of the effect that these attitudes have on the quality of the participatory process. Practitioners understandably fall back on known approaches, prioritize technical expertise, and remain within disciplinary boundaries. The problem: these justified reactions create self-reinforcing cycles, where defensive approaches produce substandard participatory initiatives that result in additional poor experiences. Breaking these cycles requires acknowledging that negative lived experiences are justified, while also recognizing that they should not determine future participatory outcomes. However, interview results note that organizations generally do not have systems in place to address these cognitive issues. Accordingly, organizations must develop standardized approaches to process negative experiences constructively, thereby preventing justified past frustrations from determining future participatory processes.

The Search for Consistency
The *Vulnerability* model outlines how effective public participation requires an intricate balance: Successful participatory strategies require a project-specific and adaptable approach, while simultaneously relying on standardization in assessment methods. This is difficult to achieve: intuitive methods create inconsistent outcomes, yet overly rigid frameworks reduce public participation's needed flexibility. Though, consistency in these assessment approaches remain an essential part of organizing public participation successfully. Previous studies,

such as the work of Eriksson et al. (2022), outline how organizational routines and culture shape the assessment of stakeholder input. Whenever institutions lack a common language and predetermined approaches, the value of input remains dependent on the perspective and judgement of individual practitioners, making the outcomes prone to personal bias (Eriksson et al., 2022). Accordingly, it is important that organizations lacking consistent approaches establish shared definitions, clear processes, and transparent criteria while preserving freedom to adapt participatory strategies to local circumstances.

6.3. Strategies and Practices for Instigating Change

The *Vulnerability* model illustrates where and why participatory processes face disruption due to organizational obstacles. However, identifying these vulnerabilities is only the first step, as addressing them requires concrete actions.

Accordingly, intervening strategies were developed in collaboration with Neuf's professionals. First, a co-creative session was organized with a public participation expert, in which the findings of the study where iteratively analysed to identify effective strategies. The results of this session were subsequently discussed, validated and refined during the focus group session with practitioners (see Section 2.1.4.). A report outlining the details of this focus group is presented in Appendix C.

The identified strategies are categorized into four *strategy clusters*, with each cluster directly corresponding to the distinct organizational vulnerabilities presented in the *Vulnerability* model. The *Strategy* model, outlined in Figure 6.3, maps where in the organizational process these strategies can make impact. Accordingly, the following strategy clusters are developed:

1. *Organizational Foundations & Culture* addressing the limiting boundaries of project organizations' ongoing context *(L)*;
2. *Team Aligment & Intregrated Strategy* focusing on dismissive individual and collective mindsets *(M)*;
3. *Input Processing & Evaluation Methods* targeting operational challenges (*(N_1)* and *(N_2)*);
4. *Reflection & Continuous Learning* aiming to counteract the retention of negative experiences (*(O_1)*, *(O_2)* and *(O_3)*).

The following sections include information on the identified intervening strategies. First, an overview and comparison of all strategies is presented. Then, the practical relevancy of the model and associated strategies is discussed. The section is concluded with in-depth details associated to each individual strategy cluster.

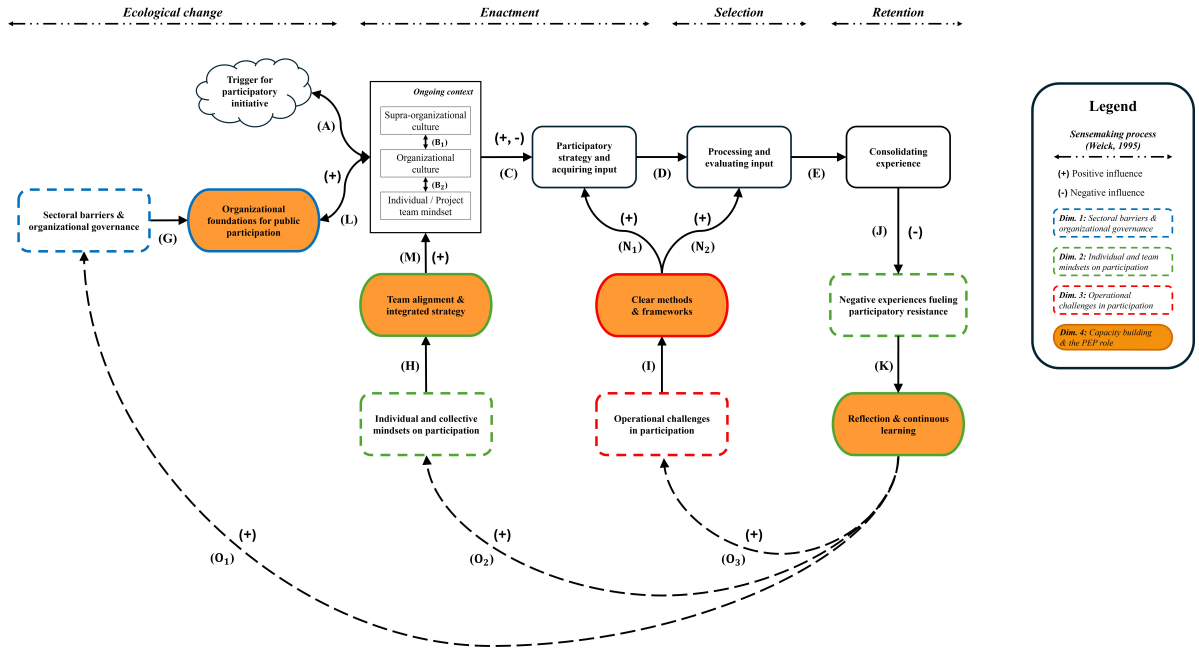

Figure 6.3: The *Strategy* model, outlining how strategy clusters address vulnerabilities in the organizational process of participatory initiatives (own illustration).

6.3.1. Overview of Intervening Strategies

In total, twenty intervening strategies were identified during the co-creative expert sessions. This subsection provides an overview of these identified strategies by organizing each individual entry according to two dimensions:

1. The organizational level (horizontal axis) indicates whether a strategy targets individual practitioners, project teams, entire organizations, or the sector as a whole. This dimension represents implementation feasibility: individual PEPs can deploy individual-level strategies immediately, while sector-level strategies generally require increased coalition-building and institutional authority.
2. The strategic impact (vertical axis) reflects on a strategy's resource requirements and timeline expectations. Accordingly, quick-win interventions require modest effort, while high-effort developments demand continuous long-term commitment.

Together, these axis define four distinct strategy categories:

1. *Establish credibility*: Relatively low-effort strategies that affect a limited number of professionals. Useful for quick-wins, but generally do not produce long-lasting impact;
2. *Seize momentum*: Comparatively low-effort strategies that affect entire organizations or the sector as a whole. Can be significant for sparking participatory development, though strategies in this category are generally rare;
3. *Build foundations*: Relatively high-effort strategies that affect a limited number of professionals. Important for effective project preparation and improving skills of PEPs, though impact is mostly limited to singular projects;
4. *Drive transformation*: Comparatively high-effort strategies that affect entire organizations or the sector as a whole. Most important for instigating sectoral development, though difficult to achieve, especially for individual PEPs.

The resulting 2D-grid is presented in Figure 6.4. Specific details on individual strategies are provided in Section 6.3.3. to 6.3.6..

Additionally, each strategy is characterized by their underlying orientation. Strategies are either meaning-oriented, as they shape how practitioners perceive and value participation; structure-oriented, as they address, create or improve formal roles, systems, and frameworks; or practice-oriented, as they focus on execution and learning through action.

The intervening strategies are analytically positioned based on the principal researcher's judgement rather than them being exact empirical measurements. Accordingly, the visualization is not meant to prioritize individual strategies over others, as all provide distinct value. Professionals are encouraged to prioritize strategies that suit their own specific institutional context.

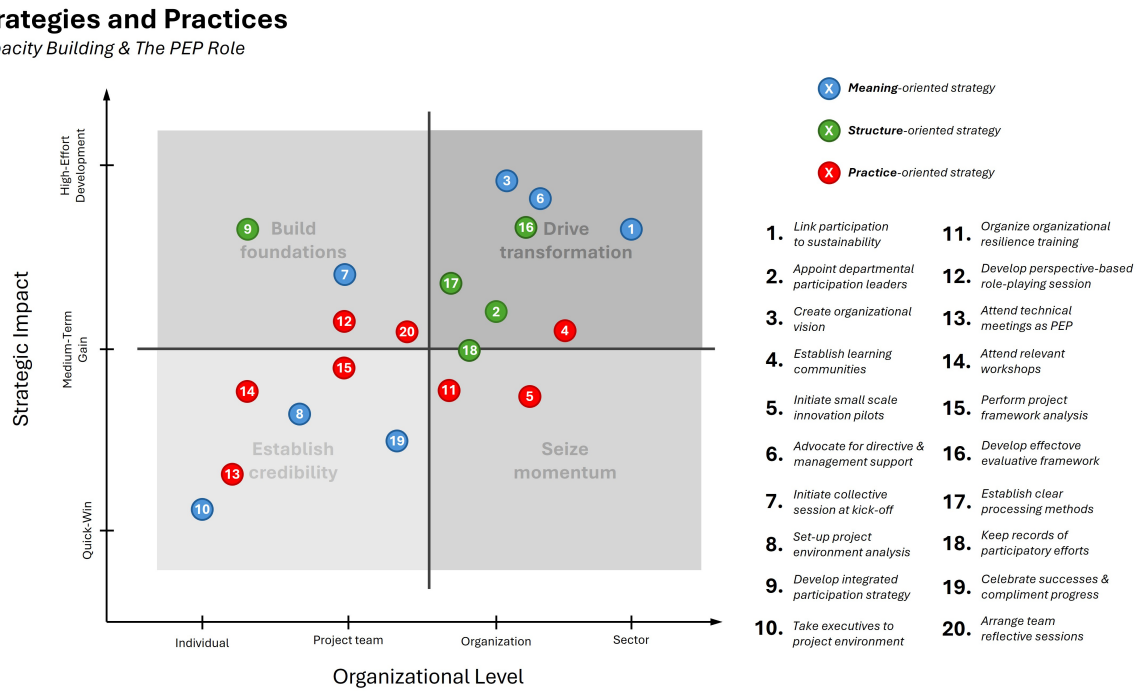

Figure 6.4: Overview of all categorized strategies according to their strategic impact and the organizational level to which they contribute (own illustration).

6.3.2. Practical Relevancy

While the *Vulnerability* model reveals how institutional obstacles might *disrupt* participatory initiatives, the *Strategy* model provides actionable *solutions*. It does so by introducing relevant intervening strategies that target the identified vulnerabilities in individual stages of the organizational process.

PEPs and other professionals can use the *Strategy* model according to the following steps:

1. Match strategies to organizational vulnerabilities: The four strategy clusters correspond to distinct sensemaking stages. Accordingly, an assessment of the *Vulnerability* model reveals which strategy cluster practitioners should target (i.e. in case issues stem from negative team attitudes, professionals should prioritize *Team Alignment* strategies).

2. Consider viability and impact: Strategies vary by organizational level and strategic impact. The visual grid (see Figure 6.4) enables practitioners to prioritize strategies based on available resources, organizational authority, and other contextual elements.
3. Select strategies that align with preferences: Practitioners can order the remaining strategies according to the orientation (meaning-, structure-, or practice-oriented) that aligns with their personal approach.

The following subsections detail each strategy cluster with specific implementation guidance. These interventions are intended as inspiration, meaning practitioners should adapt them to their own organizational context rather than apply them rigidly. As the strategies are designed to support PEPs and other individual practitioners, they are written from an imperative perspective.

6.3.3. Organizational Foundations for Public Participation

The first strategy cluster addresses the influence of sectoral barriers and restrictive governance structures by establishing organizational foundations regarding public participation. Accordingly, these strategies are mainly targeted at making lasting long-term impact. The following strategies are identified:

1. **Link public participation to sustainability**
   Build sectoral awareness by outlining the similarities between public participation's development and the proven trajectory of sustainability within the sector. Demonstrating these parallels further legitimises the participatory process and encourages pioneers that experience institutional resistance. This strategy is explained in further detail in Section 6.4.

   Main purpose: Improve legitimacy of public participation through sector-wide framing.

2. **Appoint departmental participatory leaders**
   Encourage the appointment of departmental leaders within institutions to safeguard public participation's organizational vision and long-term commitment. These leaders see to ensuring that the participatory process remains appropriately prioritized within the organization beyond individual projects.

   Main purpose: Create accountability and maintain institutional focus.

3. **Create organizational vision**
   Aim to establish a vision that defines public participation, highlights its added value to projects, and notes how the institution expects it to be organized. This vision aims to reduce ambiguity and aligns expectations. Ideally, the content is developed and spread by directors or senior management, given the top-down governance structure of most organizations. According to Annosi et al. (2024), middle managers can also have an important role in that regard, as they are "well-positioned to facilitate, amalgamate, and synthesize emerging interpretations" within sensemaking processes.

   Main purpose: Set expectations and align organizational understanding.

4. **Establish learning communities**
   Set up (preferably) sector-wide learning communities that share lessons-learned, success stories, and other developments within the industry. These communities can be intertwined with the aforementioned departmental leaders to reduce information loss.

   Main purpose: Encourage learning by sharing experiences.

5. **Initiate small-scale innovation pilots**
   Incite organizations to test participatory innovations through small-scale and low-risk pilot projects. These can be useful for, but are not limited to, showcasing the necessity of project frameworks or exploring new participatory strategies.

   Main purpose: Identify new possibilities in established project frameworks.

6. **Advocate for directive & senior management support**
   Actively advocate for the necessity of public participation by demonstrating its added value to senior management. Higher management can best be convinced if participatory benefits are quantified (i.e. on average public participation leads to X% less delays) (de Boer et al., 2025). This advocacy encourages capacity increases and stimulates institutional change at higher governance levels, as actors with a leading role generally exemplify change in the sensemaking process (Cristofaro, 2022).

   Main purpose: Build awareness and stimulate capacity increase.

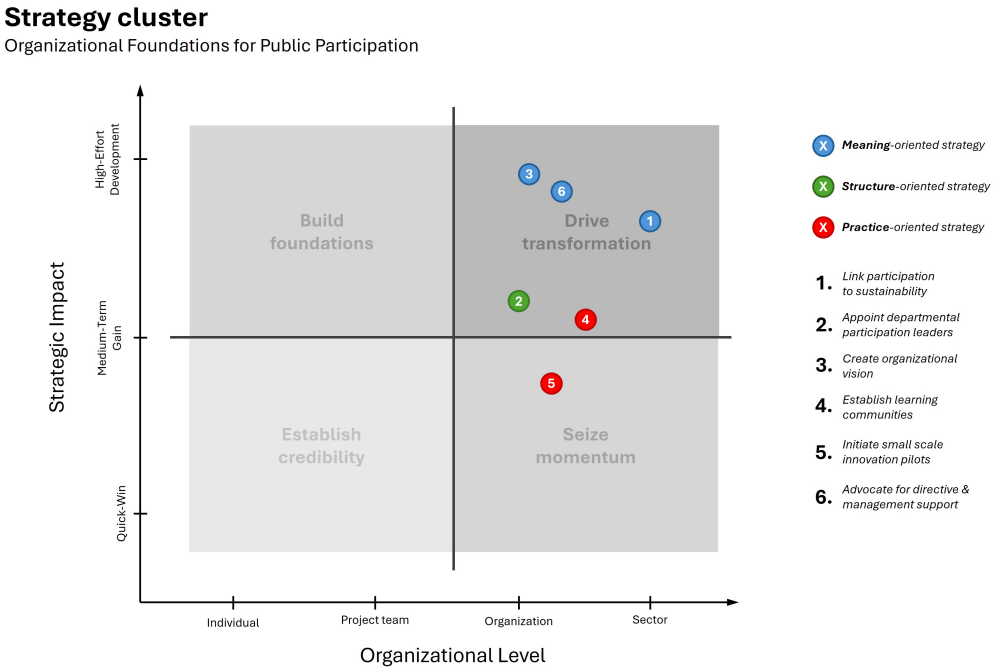

Figure 6.5: Comparison of individual strategies in strategy cluster 1: *Organizational Foundations for Public Participation* (own illustration).

6.3.4. Team Alignment and Integrated Strategy

The second strategy cluster focuses on aligning expectations and building awareness of the importance of public participation by directly addressing project team mindset and organizational culture. The following strategies are recognized:

7. **Organize participatory session at project kick-off**
   Conduct a collective preparatory session at project kick-off to address the expectations and importance of public participation. These sessions aim to frame public participation as a team responsibility by building awareness of the need for flexibility, outlining risks of substandard public engagement, and emphasizing the process' benefits.

   Main purpose: Establish shared responsibilities and set expectations.

8. **Organize project environment analysis**
   Facilitate a team session on analysing the project environment by identifying (important) actors, anticipating needs, understanding environmental context, and mapping previous participatory efforts. This fosters a better understanding of the project environment for all involved. Ideally, the project client and other external decision-makers are included in this session to mitigate risks of limiting external decisions.

   Main purpose: Enhance awareness of the local environment.

9. **Develop integrated participation strategy**
   Develop a comprehensive participatory strategy, including communication methods, benefits for other disciplines, and safety arrangements. The strategy should account for public participation's need for flexibility. Ultimately, the content provides the necessary elements to link stakeholder needs with objectives of other project departments to keep the local perspective on the project agenda.

   Main purpose: Prepare for participatory process and integrate public engagement as a core project activity.

10. **Take executives to the project environment**
    Bring individual executives with a dismissive attitude toward public participation to the project environment to show them the local perspective. This improves relationships, reduces fear for potential backlash, and highlights why public participation is valuable.

    Main purpose: Build awareness of the value of public participation.

11. **Organize organizational resilience training**
    Encourage institutions to provide organization-wide resilience trainings that focus on handling difficult situations in participatory processes. This reduces the impact of negative experiences that induce fear for future engagement efforts.

    Main purpose: Reduce process-related fears.

12. **Organize perspective-based role-playing session**
    Organize a team session that includes a role-playing element to show executives the perspectives of local stakeholders and colleagues from other departments. This fosters mutual understandings and builds awareness of the objectives of other disciplines. Furthermore, the meeting can serve as a training session to prepare for upcoming participatory initiatives.

    Main purpose: Create mutual understanding on public engagement and prepare for participatory efforts.

13. **Attend technical meetings as PEP**
    Participate in technical meetings to ensure that the local perspective remains represented during technical decision-making, as these decisions often constrain the available space for integrating stakeholder input. Being present ensures that the risk of participatory opportunities being eliminated is further mitigated.

    Main purpose: Safeguard integration of local perspective.

14. **Attend relevant workshops**
    PEPs and other executives should actively seek and attend relevant workshops that enhance their skills. Workshops can include training for developing successful participatory strategies or initiatives that discuss developments in communication methods.

    Main purpose: Enhance participatory skills.

15. **Perform project framework analysis**
    Analyse which project frameworks are of particular importance for a project, identify framework owners, and discover potential manoeuvring room (finding 'gray areas'). This potentially creates the needed flexibility within established regulations.

    Main purpose: Find greater participatory flexibility in established frameworks.

Figure 6.6: Comparison of individual strategies in strategy cluster 2: *Team Alignment and Integrated Strategy* (own illustration).

6.3.5. Clear Methods and Frameworks

The third strategy cluster includes strategies that focus on mitigating risks of intuitive assessment procedures by creating procedural clarity and collective evaluation standards. This stimulates that stakeholder input receives consistent consideration. The following strategies are defined:

16. **Develop effective evaluative framework**
    Encourage the development of an organizational framework the clearly defines standardized requirements for evaluating acquired stakeholder input. These requirements can, for instance, include impact on budget, project planning, and intended outcomes. In any case, they need to be pre-established, verifiable, and defensible.

    Main purpose: Establish clarity in procedures and mitigate risk of intuitive methods.

17. **Establish clear processing methods**
    Be an advocate for institutionalized processing methods that establish how acquired stakeholder input is filtered before it is collectively evaluated. This reduces arbitrary filtering and inconsistency.

    Main purpose: Establish clarity in procedures and mitigate risk of intuitive methods.

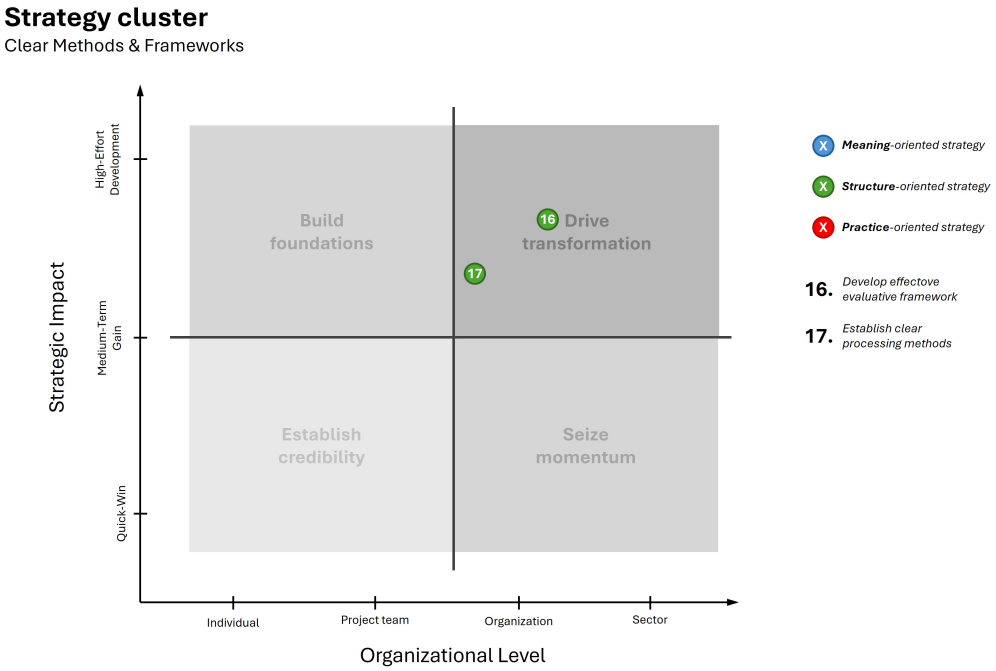

Figure 6.7: Comparison of individual strategies in strategy cluster 3: *Clear Methods and Frameworks* (own illustration).

6.3.6. Reflection and Continuous Learning

Finally, the fourth strategy cluster consists of strategies aimed at reducing the impact of negative experiences and facilitating collective learning, fostering continuous improvement of participatory initiatives. The following strategies are put forward:

18. **Keep records of participatory efforts**
    Instigate efforts to maintain organizational records of participatory initiatives or demonstrate where this information can be accessed if this platform is already established. Such a form of systematic documentation reduces information loss and builds institutional memory for future participatory processes.

    Main purpose: Reduce information loss and build on past experience.

19. **Celebrate successes & compliment progress**
    Actively celebrate successes and compliment colleagues for good conduct, as it can reduce negative sentiments toward public participation. As a result, this recognition reinforces positive mindsets and builds confidence for future endeavours. Research by Michels and Graaf (2017) validates this perspective, highlighting that positive encouragement can help sustain momentum and maintain enthusiasm throughout the process.

    Main purpose: Counter negative biases in pubic participation.

20. **Arrange team reflective sessions**
    Organize reflective sessions at the end of participatory efforts to collectively discuss lessons learned, share successes, and address general outcomes of an event. This uncovers potential negative experiences that can subsequently be resolved, reducing the risk of executives carrying them into future projects (Wilker et al., 2016).

    Main purpose: Address the development and influence of negative experiences.

Figure 6.8: Comparison of individual strategies in strategy cluster 4: *Reflection and Continuous Learning* (own illustration).

6.4. The Potential Future of Public Participation

To conclude, the findings of the study highlight a compelling parallel between public participation's trajectory within the Dutch infrastructure sector and the development of sustainability over recent decades. Both domains have experienced relatively similar development paths regarding their integration and perceived importance within the field, though sustainability is currently more deeply integrated in project cycles. Analysing this mirrored development is interesting, as it offers insight into the potential future maturation of participatory practices. These varying evolutionary stages of public participation are synthesized in the *Maturity* model outlined in Figure 6.9.

The *Maturity* model depicts distinct integrative phases that represent a specific degree of maturity that public participation can hold within singular institutions and the infrastructure sector as a whole, ranging from the process being excluded from project cycles to fully optimized as a standard practice. For each individual phase, the model notes how public participation is methodologically conducted (*Process*), who is accountable for the process' quality (*Governance*), whether and to what degree input influences decisions (*Integration*), and the underlying motivation for institutions to organize public participation (*Strategy*).

These phases represent analytical lenses and should therefore not be seen as chronological steps. For instance, organizations may occupy different maturity stages simultaneously across different projects, and can 'regress' as a result of contextual factors.

In total, five degrees of maturity are outlined based on the findings of this study:

- **Stage 1: Excluded**
  Public participation is not included in projects. Historically, infrastructure followed expert-driven governance structures where stakeholder input was not generally considered. Similar to sustainability in previous decades, public participation was excluded from institutional decision-making processes.

- **Stage 2: Obligated**
  External requirements makes institutions include public participation as a mandatory objective. Similar to environmental impact assessments moving sustainability into a compliance objective (Thomé et al., 2016), Dutch legislative reforms like the Environment and Planning Act (Omgevingswet (2024)) have established baseline requirements for public participation. In this phase, institutions act on legal requirements, but still regularly view the participatory process as a burden that induces project risk rather than an activity that adds value.

- **Stage 3: Managed**
  This stage present a perspective where public participation is recognized as something of potential value, but the sector lacks integrated systems to consistently organize participatory efforts effectively. Sustainability mainly experienced this in the early 2000's, with standardized methods and research on the topic growing exponentially (Thomé et al., 2016). Public participation currently occupies this stage within many institutions: organizations further professionalize through dedicated PEP roles and acknowledge public participation's benefits, yet methods remain largely inconsistent and dependent on contextual factors.

- **Stage 4: Integrated**
  Public participation in this stage has become consistently embedded in project cycles. Sustainability reached this stage in the 2010s, with environmental objectives regularly influencing project decisions and the development of international arrangements such as the Paris agreement (Neosfer, 2023). According to Neuf's executives, some progressive organizations have started this transition for public engagement, developing innovative policies and treating the participatory process as an integral project component.

- **Stage 5: Optimized**
  The final stage is characterized by learning and sector-wide knowledge sharing. Recent years in sustainability outline a focus on this subject, such as the in 2023 introduced Sustainability Reporting Standards (ESRS) of the EU (Neosfer, 2023). For public participation, this stage might be reached in the future, with organizations treating public engagement as a non-negotiable project element and consistently sharing experiences.

In general, the results indicate that the Dutch infrastructure sector seems to be situated around Stage 3 (Managed). Though, the field shows significant organizational variation, as progressive institutions are transitioning towards Stage 4 (Integrated) and other more conservative organizations lag behind at Stage 2 (Obligated).

Figure 6.9: The *Maturity* model, outlining the (potential) integrative stages of public participation's maturity in the sector (own illustration, visual approach adapted from (MNP, 2021)).

6.4.1. Practical Relevancy

The parallels between public participation and sustainability offer practitioners a compelling persuasion tool and roadmap for sparking sectoral development.

Sustainability's trajectory presents an intriguing insight: what was once dismissed as a disruptive process has now become a core component of the organizational identity in many institutions (Neosfer, 2023). PEPs regularly face resistance, as Neuf's professionals note having to spend considerable time convincing colleagues of public participation's value. During these moments of doubt, outlining the parallel with sustainability can provide concrete evidence to sceptical practitioners that today's disruption might eventually give way to tomorrow's standard practice.

Furthermore, the lessons learned and success stories from sustainability can serve as a valuable source of inspiration to further develop the sector, while also motivating industry pioneers who may feel discouraged by the uncertainty of where their efforts will lead to in the future.

Accordingly, intrigued PEPs and other professionals can use the *Maturity* model as follows:

- Leverage the model to diagnose the organization's current maturity stage;
- Identify next steps toward evolved stages based on the model's content and sustainability's proven trajectory;
- Focus on previous success stories within the sector when advocating for more participatory resources and institutional commitment.

7 Conclusion

This study investigates the influence of mental and organizational factors on the quality of public participation by answering the following main research question: *How do organizational sensemaking processes shape how project organizations assess local stakeholder input in infrastructural (re)development projects, and how can Public Engagement Professionals intervene in these processes?*

Drawing on Weick's (2005) sensemaking theory, the research develops a framework that outlines the organizational process of participatory initiatives. This framework reveals how institutional and mental vulnerabilities can disrupt this process and highlights where intervening strategies can resolve participatory issues by addressing these challenges. The analysis draws on a thorough literature study and 17 semi-structured interviews with industry professionals employed at Neuf & Associates B.V..

The main research question is incrementally answered through four sub-questions. The following sections present key findings for each sub-question and outline this study's contributions to theory and practice.

7.1. Sub-Question 1: Incorporating Input through Participation

> How are participatory processes in infrastructural (re)development projects structured, and which factors influence the extent to which stakeholder input is incorporated?

Participatory processes in infrastructural (re)development projects involve local actors in the planning, design, and realisation phases of projects, with coordination of these initiatives predominantly being led by governmental institutions (Boyle et al., 2022; Close and Loosemore, 2014; Hrivnák et al., 2021). In recent decades, public participation has received growing attention within the sector, developing from traditional Decide-Announce-Defend (DAD) models toward more collaborative approaches (Green and Sergeeva, 2019; van de Grift et al., 2020). Recent developments in public engagement, such as the new Dutch Environment and Planning Act (Dutch: Omgevingswet (2024)), have led to positive results and increased

formalization of public participation within the sector (Evaluatiecommissie Omgevingswet, 2026; Hobma et al., 2025). Accordingly, organizations are increasingly embedding public engagement within project cycles. As a result, current participatory efforts encompass diverse arrangements across wide-ranging contexts, with designs generally categorized into four main objectives: information sharing, knowledge extraction, feedback acquisition, and co-decision-making (Uittenbroek et al., 2019).

The literature highlights how procedural design choices, such as communicative approaches, planning considerations, and decisions on representation, affect the quality of these participatory processes and the extent to which stakeholder input is incorporated into projects (Santo et al., 2023; Hrivnák et al., 2021). Apart from these procedural elements, this study reveals that cognitive and organizational factors also notably shape whether stakeholder input actually influences project decisions.

The study identifies three main institutional and mental factors that can both positively and negatively contribute to the success of a participatory process. First, external conditions define a project organization's "room to manoeuvrer" within public participation by either expanding or constraining available participatory strategies. Second, collective mindsets and organizational culture influence the extent to which an institution values public engagement. Third, the degree of standardization in assessment approaches determines the consistency of participatory outcomes, shaping how stakeholder input is judged within project organizations.

These findings challenge the infrastructure sector's primary focus on *procedural* improvements in public participation by demonstrating that *mental and organizational* factors also have a significant influence on participatory quality.

7.2. Sub-Question 2: The Role of PEPs

> What role do Public Engagement Professionals play in shaping participatory processes, and which organizational factors constrain or enable their influence?

Public Engagement Professionals (PEPs) (Dutch: Omgevingsmanagers) are responsible for designing, implementing, and facilitating participatory initiatives and the overarching engagement strategy. Within this role, they have to justify the project organization's decisions to local stakeholders, as well as stand up for the local perspective during the internal decision-making process. This unique position enables them to resolve institutional and mental barriers through their expert knowledge of both the project environment and the internal organization (Charland, 2024; van de Grift et al., 2020).

Previous research indicates that a PEP's professional orientation (proactive, project-focused, or technocratic) directly dictates the participatory strategy. As a result, personal preferences and attitudes of PEPs significantly impact the quality and outcomes of public participation (van de Grift et al., 2020; Migchelbrink and van de Walle, 2022).

The study highlights that various procedural factors, such as project complexity, management support, and organizational capacity, affect PEPs' ability to achieve their objectives. Furthermore, several mental elements within the organization can considerably limit or enhance a PEP's capabilities. For instance, in environments where technical expertise is favoured over localized knowledge, PEPs face internal friction that limits their impact. Conversely, institu-

tional cultures that specifically address public engagement in the organization's values (i.e. by introducing mandatory participatory objectives at Project Start-Up) create environments that enable PEPs to organize high-quality of participatory initiatives.

7.3. Sub-Question 3: Sensemaking in the Participatory Process

How do organizational sensemaking processes shape attitudes toward public participation in infrastructural (re)development projects, and which factors can disrupt these processes?

The organizational process of participatory initiatives is analysed using Weick's (2005) *Enactment* theory. This study translates this theory into a *Process* model, highlighting how project organizations' attitudes toward public participation are shaped through its three interdependent, chronological stages of organizational sensemaking:

- In the *Enactment* stage, project organizations determine which public participation strategy they deem fitting for the context of their infrastructure project. This stage is highly influenced by sectoral trends, institutional culture, and established team attitudes, as they shape how project organizations approach and value public participation. Accordingly, contextual factors and mental elements are important drivers of participatory quality.
- In the *Selection* stage, project organizations process and evaluate their acquired stakeholder input. The outcome of this process is largely determined by the chosen assessment methods, in which institutional standardization (or the lack thereof) plays an important role in reaching consistent outcomes that satisfy stakeholders.
- In the *Retention* stage, the outcome of a participatory initiative is stored in the practitioner's memory. This result is an important factor for future participatory initiatives: a positive experience reinforces the importance of public engagement, whereas a negative outcome can solidify a dismissive organizational attitude. Accordingly, the organizational process of participatory initiatives can be seen as a cycle in which the outcomes of past processes can both positively and negatively shape future processes.

The research findings identify several factors that can create disruptive mental and organizational challenges at each of the three stages of the organizational process of public participation:

- During the *Enactment* stage, sectoral barriers, such as restrictive project frameworks and resource constraints, can limit project organizations' *flexibility* in organizing public participation. This reduces the number of participatory strategies and arrangements that are available to practitioners. Furthermore, the study's results reveal that dismissive attitudes and unsupportive institutional cultures can negatively influence how project organizations *perceive* public participation. This may result in institutions approaching the participatory process more defensively, limiting meaningful engagement before stakeholder input is acquired.
- During the *Selection* stage, institutions without standardized input assessment methods risk relying on intuitive approaches, which are vulnerable to personal biases. This may lead to cherry-picking results and other inconsistencies in outcomes. These issues can be exacerbated if institutions lack a mutually agreed-upon organizational vision, especially

if professionals have different opinions on what should and should not be considered as "effective engagement".

- Through the *Retention* stage, negative participatory experiences pose a specific risk by creating self-reinforcing feedback loops: The aforementioned challenges (limiting external factors, negative mindsets and operational shortcomings) often result in sub-standard participatory processes, which in turn causes dissatisfaction among stakeholders, thereby generating negative associations toward public participation among professionals. Professionals then interpret these experiences as confirmation that public participation does not add sufficient value to projects. However, this resulting attitude actually leads to these existing challenges not being resolved.

The *Vulnerability* model shows that established mindsets matter and influence how public participation is organized, with the identified recursive feedback cycles showing how institutional vulnerabilities are likely to persist within organizations if left unaddressed. The key insight is that policy reforms, such as the Environment and Planning Act, address what organizations must do *procedurally* but cannot reshape how organizations *think* about public participation. Consequently, if these organizational and mental barriers remain unaddressed, procedural improvements alone might be insufficient to achieve participatory development in the infrastructure sector.

Furthermore, the model serves as an assessment framework, enabling professionals to identify *which* challenges they recognise within their organisation, *where* in the participatory process these may arise, and *why* they can lead to negative consequences.

7.4. Sub-Question 4: Strategies for Participatory Development

> What strategies can Public Engagement Professionals employ to address organizational sensemaking obstacles and enhance the incorporation of local stakeholder input into project decision-making?

The findings of this study reveal a critical gap in the literature: PEPs and other practitioners know how to design public participation, yet strategies to address dismissive mindsets and unsupportive organizational cultures toward public participation remain understudied.

The research shows how Public Engagement Professionals can overcome mental barriers in participatory processes by drawing on their expertise in the value and necessity of public engagement, and by empathizing with other project disciplines through their organizational knowledge.

In co-creative expert sessions with Neuf professionals, this study identified several strategies to address these barriers. The developed strategies are categorized into four *strategy clusters*, with each cluster targeting specific vulnerabilities in each stage of the organizational process (see Section 7.3):

- Strategies emphasizing *Organizational Foundations & Culture* address the influence of sectoral barriers and governance structures that limit project organizations' 'manoeuvring room' in public participation. Accordingly, these practices aim to strengthen legitimacy, build awareness, and improve available capacity;
- Strategies aimed at *Team Alignment & Integrated Strategy* influence project organizations' mindsets and institutional cultures by emphasizing the value of local perspectives and

addressing negative biases;

- Strategies targeting *Clear Methods & Frameworks* aim to reduce the impact of intuitive approaches and target ambiguity in shared meaning;
- Finally, strategies regarding *Reflection & Continuous Learning* aim to disrupt negative feedback loops by addressing the formation of negative experiences.

The study's findings outline how PEPs and other professionals have different preferences in addressing these mental barriers. Accordingly, the study categorizes strategies as meaning-oriented (shaping perception), structure-oriented (creating systems), or practice-oriented (learning through action), enabling practitioners to select approaches matching their institutional context and personal style.

PEPs and other professionals can use these strategies as guidance to intervene in their institutions' participatory processes by prioritizing practices that fit their particular organizational context.

7.5. Main research question

How do organizational sensemaking processes shape how project organizations assess local stakeholder input in infrastructural (re)development projects, and how can Public Engagement Professionals intervene in these processes?

Organizational processes shape how project organizations assess participatory input through the three interdependent sensemaking stages of *Enactment*, *Selection*, and *Retention*. These processes are outlined in a theoretical framework, termed the *Process* model. This model highlights how external conditions and cognitive factors shape the way project organizations approach and value public participation. As a result, these elements significantly influence the chosen participatory strategy and methods through which acquired stakeholder input is assessed. The *Process* model outlines an important characteristic of this organizational process: the outcomes of previous participatory initiatives influence how public participation is organized in the future, as lived participatory experiences continuously shape practitioners' attitudes and organizational culture.

Accordingly, positive results and effective process interventions can further embed public participation into the organizational cycle of infrastructure projects. The new Dutch Environment and Planning Act is an example of how such an intervention can positively influence this organizational process, as it reshapes the importance of public participation through *procedural* improvements. However, this study demonstrates that *mental* elements are also essential for enhancing participatory quality. Yet, research on the influence of these factors is currently not given comparable priority within the sector.

Consequently, this study identifies several mental and organizational barriers that lead to disruptions within the organizational process of participatory initiatives. This research's *Vulnerability* model outlines where and how these barriers can affect each of the three sensemaking stages (see Section 7.3).

Public Engagement Professionals can help restore disrupted organizational processes by using targeted strategies that address these identified challenges. Through co-creative expert sessions, 20 intervening strategies are identified across four focus areas: establishing institu-

tional foundations; aligning project teams and developing integrated participatory strategies; creating standardized methods; and supporting reflection and learning.

In conclusion, the research results indicate that participatory development requires more than addressing procedural issues alone; it also involves tackling mental barriers across different organizational levels. Through insights and guidance for transforming dismissive attitudes and unsupportive institutional cultures, this study supports practitioners in ensuring that public participation is not just perceived as a legal requirement but is instead seen as an essential driver of project success.

8 Recommendations & limitations

The final chapter of this study outlines recommendations and research limitations. First, recommendations for future research are presented, which is followed by recommendations for practitioners. The chapter is concluded with several limitations of the study.

8.1. Recommendations for Future Research

Considering the methodological approach and findings of this study, several recommendations for future research can be made:

- The results of this study are solely based on existing literature and a limited dataset. Accordingly, this data risks being too homogenous and might lack appropriate sample size, therefore making it prone to not fully representing the infrastructure sector. Hence, future research on the subject could aim to acquire a larger and more diverse dataset, which can both validate the results of this research and gain deeper insights into associated, but different contextual factors.
- This research focuses exclusively on Dutch infrastructural (re)development projects, which are developed within unique regulatory, cultural, and governance contexts. Future research efforts should focus on alternative international context and involve other projects types where participation is structured differently, validating if this study's findings are universal or context-dependent.
- This study specifically addresses public participation's objective of incorporating stakeholder input in project decision-making, but neglects other goals of the participatory process, such as stakeholder learning or developing social capital. Future research should address the effect of organizational sensemaking on these broader participatory objectives.
- The research's findings are based on organizational sensemaking processes during a singular snapshot in time, with data being dependent on practitioners' memory. Yet, sensemaking is a continuously evolving process and memories are prone to retrospective bias. Thus, future research should track how organizational attitudes toward public participation evolve across multiple project cycles, which enables direct observations on

the impact of institutional vulnerabilities and the effectiveness of intervening strategies over time.

- Finally, this study predominantly identifies obstacles rather than positive developments. These observations either reflect the commonness of problematic attitudes within institutions or interviewees' tendency to emphasize negative experience over positive ones. Future research should intentionally centre on a positive approach, focusing on studying success stories and high-quality participatory processes to understand what contextual factors, practices, and organizational cultures enable *constructive* organizational processes.

8.2. Recommendations for the Sector

The following recommendations can be made for the infrastructure sector:

- Sparking participatory development starts with building awareness of the value of public participation by simply opening the conversation. Several strategies developed in this study serve as this conversation-starter. PEPs and other practitioners could use these strategies to address the negative attitudes toward public participation within their organizations. This serves as a means to instigate institutional change, while subsequently validating the effectiveness of the proposed strategies over time.
- The research findings outline how professionals in all parts of the sector can be very busy with their own objectives and are as a result often not able to relate to other colleagues or the local perspective. It would be beneficial if professionals aim to learn more about public participation and other project disciplines through sector-wide learning. As a first step, this could involve having a cup of coffee with a colleague from another department, taking a walk through the project area at night to better understand the environment, or asking other professionals about the lessons they learned from previous participatory processes.
- Finally, public participation's parallels with the development of sustainability outline how sectoral change will take time. Accordingly, individual PEPs cannot singlehandedly shift institutional culture, as change demands interventions across several organizational levels. Participatory pioneers should therefore remain patient and persistent in the face of setbacks.

8.3. Research Limitations

Several limitations have been identified in this research:

- The underlying data of the research is based on a limited number of perspectives from professionals in similar roles, working at the same institution (Neuf & Associates B.V.). Even though these practitioners work on interim basis, therefore working for widespread clients on different projects, perspectives might be too homogenous. Accordingly, findings risk not reflecting the full infrastructure sector. In addition, these perspectives are reflections of lived experiences, making them susceptible to recent events and interviewees' tendency to overemphasize negative experiences.
- While the developed sensemaking models investigate patterns and feedback loops, the study did not directly analyse how attitudes evolve over multiple project cycles. Therefore, considering that sensemaking is a continuously evolving process, measurements at

other snapshots in time or over a continued period might generate varied results.

- The scope of this study is limited to specific contextual factors, as the data is solely based on infrastructural (re)development projects in the Netherlands. Accordingly, research concerning other countries or project types might yield other results.
- Finally, the findings of the study are fully produced through qualitative data methodologies, which remain prone to personal biases of the researcher. Additionally, this approach does not allow for measuring results according to their commonness, giving rise to the perspective that all findings are equally important. In practice, however, this is not necessarily the case.

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A

Appendix A: Interview script

The following appendix contains the questions that were used as a script for the semi-structured interviews. Questions were based on the content and research questions of this study.

Introduction

1. Could you introduce yourself briefly?

2. What role do you play in the infrastructure projects to which you contribute?

   - How does this relate to the participation process? Are you involved in this? If so, in what capacity?

The participatory process

3. How is the participation process generally organized in the (re)development projects in which you are (or have been) involved?

4. When do you think public participation has made a valuable contribution to a project? And in which situations has this not been the case?

5. What role do PEPs play in the organization and content of these participation processes?

6. How are decisions made within the project team about which stakeholder input is adopted, modified or ignored? To what extent is that dependent on the project characteristics?

7. Can you describe a situation in which stakeholder input was not (fully) integrated into the project design? What were the reasons for that decision?

   - Do you also know of examples where the input has been mainly integrated? Why was that? (If examples are given for both situations) And how do these two situations differ from each other?

Organizational dynamics

8. How do project team members (i.e. project managers, engineers, designers, etc.) generally respond to the organization of the participatory process and the input that is gathered as a result?

9. In what way do you think the characteristics of the organizing party (e.g. attitude, composition, dominance of specific team members, etc.) contribute to the quality of the participation input and the extent to which this input is integrated into the project?

- Can you think of any examples of characteristics within the project team that increase the quality of the participation input and the degree to which it is integrated? Have you also had experiences where characteristics have had a negative effect?

Future developments

10. What forms of communication, coordination or leadership can PEPs within the organization use to increase the value of local stakeholder input in the decision-making process?

- Can you give specific examples of these strategies or behaviors that you have experienced in projects?
- Are there also examples of strategies or behaviours that have not worked?

11. How could the internal organization or culture of project teams change to increase the valuation of local stakeholder interests in the decision-making process?

- What strategies or behaviours could PEPs apply to achieve such a change?

12. Suppose there is an interactive tool (e.g. workshop, serious game, online environment, etc.) that PEPs can use to guide project teams in translating stakeholder interests into the project design. What should such a tool look like?

- In which part of the project life cycle would such a tool be valuable?

B

Appendix B: Informed consent forms

The following appendix contains the informed consent form that interview participants were asked to sign before an interview was conducted. Signed consent forms in the possession of the author and available upon request.

Dear reader,

You are being invited to participate in a research study titled 'From input to insight: A Public Engagement Professional's directive to improve the assessment of stakeholder input'. This study is being carried out by Jip Kuiper from the Delft University of Technology, in collaboration with Neuf & Associates B.V.

The purpose of this research study is to gain a perspective on the participatory process of Dutch infrastructural (re)development projects. The study will ultimately aim to develop actionable practices and strategies that can shape organizational dynamics to improve the interpretation and valuation of stakeholder input. To reach this objective, data will be acquired through interviews with industry professionals. During our conversation, we will be asking you to inform us on your experiences within participatory process that you are (or have been) involved in. Topics that will be addressed include the role of Public Engagement Professionals within public participation, the influence of project team's on the participatory process result, and your thoughts on effective strategies. The interview will take approximately 60 minutes to complete.

The interview will take place online or in person and will be recorded. This recording will subsequently be used to create an interview transcript. Together with the interview data from other respondents, a combined overview will be formed of opinions, roles, governance processes, useful statements and additional information to find similarities between different respondents and literature, to ultimately find an answer to the research question. During the interview, you can therefore expect questions that will give the researcher a better picture of the aforementioned components. Furthermore, if relevant, there will be room to elaborate on topics that may be of value to the research, beyond the scope of the questions.

Ultimately, only anonymised data will be published. This means that the results from the interview will be edited in such a way that they cannot be re-identified in any way. When using quotes from the interview in the publication, no statements will be used that could lead to the deterioration of existing relationships, re-identification, or the identification of other parties involved.

Your participation in this study is entirely voluntary, and you can withdraw at any time. You are free to omit any questions.

As mentioned earlier, all non-anonymised personal data will be deleted after publication. Finally, you will be asked to answer the questions below for confirmation and to sign this document.

If you have any questions, please contact:

Jip Kuiper
Principal Researcher
TU Delft / Neuf
E: [redacted]
E: [redacted]
T: [redacted]

Johan Ninan
Supervising Researcher
TU Delft
E: [redacted]

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
A: GENERAL AGREEMENT – RESEARCH GOALS, PARTICPANT TASKS AND VOLUNTARY PARTICIPATION		
1. I have read and understood the study information dated [DD / MM / YYYY], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	☐	☐
2. I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions, and I can withdraw from the study at any time, without having to give a reason.	☐	☐
3. I understand that taking part in the study involves: • That relevant information on public participation is collected by the principal researcher through a semi-structured interview. During this interview, the interviewer will ask you specific questions on the public participation process and how this is affected by the organizational dynamic. Additionally, you will have the opportunity to elaborate on topics that exceed the scope of the predetermined interview questions. • That the semi-structured interview I will be partaking in will be either in person or online via Microsoft Teams and will be recorded. • That the semi-structured interview I will be partaking in will be transcribed afterwards. Any personal details will be pseudonymized in these transcripts, after which the audio recording (recorded in person or online through MS Teams) will be deleted.	☐	☐
4. I understand that the study will approximately end around March 15th, 2026.	☐	☐
B: POTENTIAL RISKS OF PARTICIPATING (INCLUDING DATA PROTECTION)		
5. I understand that my participation means that personally identifiable information and research data will be collected, with the risk that I could be identified from this. This could have consequences for the future of the project that I am (or have been) associated to and my (professional) reputation.	☐	☐
6. I understand that the following steps will be taken to minimise the threat of a data breach, and protect my identity in the event of such a breach: • The interview transcript will be pseudonymized. Although complete anonymisation is not possible due to references to opinions, professional context, quotes, etc., the risk of identification is minimised. • At the end of the study, the interview recording, transcript and other personal data will be deleted: only aggregated data will be used in the publication itself. • All data will be stored on a secure university server. • Only the principal researcher will have access to your personal data.	☐	☐

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
7. I understand that personal information collected about me that can identify me, such as my name, contact details or employer, will not be shared beyond the study team.	☐	☐
8. I understand that the personal data I provide will be destroyed on March 15th 2026 or when the research process has been completed.	☐	☐
C: RESEARCH PUBLICATION, DISSEMINATION AND APPLICATION		
9. I understand that after the interview, the pseudonymized information will be used to form an overview of opinions, roles, governance processes, useful statements and additional information from all stakeholders involved to find similarities between different respondents and literature. This overview will thus contribute to answering the research questions.	☐	☐
10. I agree that my responses, views or other input can be quoted pseudonymously in research outputs.	☐	☐
D: (LONGTERM) DATA STORAGE, ACCESS AND REUSE		
11. I give permission for the pseudonymized data (pseudonymized interview transcript and the overview with relevant aggregated interview results) that I provide to be archived in the TU Delft repository so it can be used for future research and learning.	☐	☐
12. I understand that access to this repository is open.	☐	☐

Handtekeningen

_____	_____	_____
Naam deelnemer	Handtekening	Datum

Ik, **de onderzoeker**, verklaar dat ik de informatie en het instemmingsformulier correct aan de potentiële deelnemer heb voorgelezen en, naar het beste van mijn vermogen, heb verzekerd dat de deelnemer begrijpt waar hij/zij vrijwillig mee instemt.

_____	_____	_____
Naam onderzoeker	Handtekening	Datum

Contactgegevens van de onderzoeker voor verdere informatie:

Naam: Jip Kuiper
Tel.: [redacted]
E-mail: [redacted]

C

Appendix C: Focus Group Report

The following appendix contains a report of the focus group that was organized to validate and discuss the results of this research.

Details

- Location: Neuf Office (Utrecht, The Netherlands)
- Date: 13-02-2026
- Start time: 12:45
- Duration: 2 hours

Attendees

- Three professionals employed by Neuf, primarily hired as PEPs
- Two professionals employed by Neuf, both hired as a PEP and a PM
- A Public participation expert, also hired as a PEP
- Host and principal researcher (Jip Kuiper)

Course of the focus group session
First, an introductory presentation was given by the host. This introduction included details on the research initiative, such as a literary background, objectives, methodology, and theoretical foundation. This part primarily functioned to set the scene of the brainstorm session.

Then, three separate brainstorm sessions were held, all targeting a specific component of the study's result. Accordingly, the three vulnerability dimensions that followed from the data analysis (the Gioia method), functioned as the starting point for each brainstorm session. During the brainstorms, attendees were individually asked to write down anything that came to mind on Post-It notes in a time period of five minutes. Subsequently, all input was discussed within the group, with all Post-Its gathered on a large sheet of paper for each dimension.

The focus group session was concluded with a discussion on how the results of the study and the brainstorms could be shared within the infrastructure sector. This included both a discussion on ideas that were already developed by the host, as well as new suggestions.

Summary of the brainstorming session
The brainstorming sessions focused primarily on the question: how can the identified weaknesses within the organisation regarding participation be addressed in order to encourage concrete improvements?

The following main 'issues' were discussed:

- A key point in the discussion is that participation is often organized formally, but that the internal processing of the outcomes remains unclear. There is a lack of consistency in how input is filtered and weighted;
- Who determines what is 'valuable'? Based on what criteria? Here it becomes clear that organizational culture has a direct influence on what is ultimately taken into account in decision-making;
- It is also noted that bias is often present. Professionals may dismiss input as unrealistic or unfeasible in advance, even before other disciplines have examined it. This undermines transparency and can reduce participation to a 'tick-the-box' project component;
- Furthermore, there is a difference in the interpretation of participation. In theory, providing information also falls under participation, but in practice it is often associated with contributing ideas or joint decision-making. This leads to divergent expectations between the organization and the wider community.

During the various brainstorming sessions, several potential solutions were put forward. The key message is that participation will only become more effective if:

- The organization clarifies more explicitly what participation entails and how input is assessed; ideally, this should be supported by senior management or the board;
- The impact and necessity of participation are emphasized more strongly from the PSU level upwards, and biases are openly discussed;
- Participation is driven by an intrinsic motivation to genuinely value the views of the wider community, regardless of whether this influences decision-making. It must also be clear who bears responsibility;
- There is scope for experimentation, collaborative learning and sharing successes;
- It is clearer what is possible within the rules, frameworks and policy guidelines of clients.

The discussion makes it clear that cultural change is complex and cannot be resolved with a checklist, but that raising awareness is a necessary first step.

Conclusions from each brainstorming session

Solutions and strategies identified in relation to dimension 1 - Sectoral Barriers and Organizational Governance:

- Highlight best practices within your team or organization
- Make the added value of participation clear to all disciplines
- Focus on what participation is, what it delivers and why it is necessary
- Tips and tricks on how to keep participants 'engaged': you can participate in far more than your team might initially think
- Continue to articulate and emphasize the importance of participation
- Build management support (starting at board level)
- Ensure shared ownership of participation within your project team
- Make the objective, remit and various roles relating to participation clear to the entire project team
- Emphasize the significance that participation can have for participants
- Participation is everyone's responsibility: make it a team responsibility and make it clear that it should not rest solely with one person

- Focus on sharing knowledge about the benefits of participation: make the urgency clear
- Ensure a clear method of archiving and working with participation results
- Make clear to those higher up in the political hierarchy the consequences of choices and of not participating
- Make it clear within the project team that participation in a project should not be a default assumption (precisely to prevent excessive participation)
- Develop a basic course on how to handle participation and how to work with it

Figure C.1: Post-It notes that were introduced as an intervening strategy for vulnerabilities identified in dimension 1: *Sectoral Barriers and Organizational Governance*.

Solutions and strategies identified in relation to dimension 2 - Individual and Team Mindsets in Participation:

- Make it clear to civil servants that you are carrying out projects in the public environment to improve society, not for personal gain
- Take your project team (members) out into the neighbourhood to give greater weight to the local perspective: get people away from their desks!
- Organize or promote workshops on effective participation
- Make it clear who is responsible for participation
- Project frameworks are sometimes too narrow for participation
- Look beyond the boundaries of your own project; what else is happening in the wider area? Other local authorities, other projects, the past, etc.
- Emphasize the importance and success that can be achieved through participation at the start of the project
- Use innovative communication tools (dialogue)

- Learn how to engage with participants through a workshop: 'influence training'
- Discuss project frameworks: what can we do with these frameworks? What can't we do? Who manages them? Etc.
- At the start of the project, clearly discuss everyone's expectations regarding participation
- Be aware of your role: 'If I don't do it, nobody will' discuss participation with other disciplines
- Be aware of opinions vs. facts; aren't they equally valuable in certain matters?
- Clarify the value of stakeholder interests through a role-play

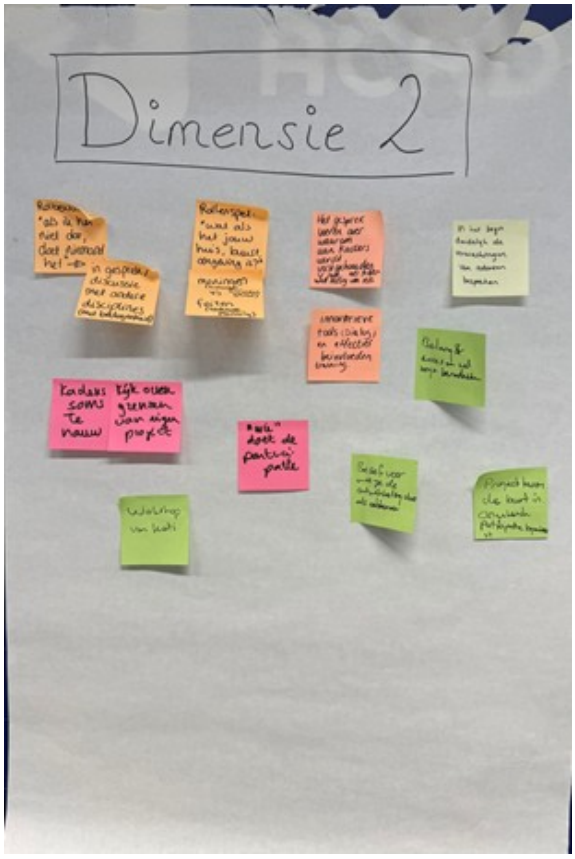

Figure C.2: Post-It notes that were introduced as an intervening strategy for vulnerabilities identified in dimension 2: *Individual and Team Mindsets in Participation*.

Solutions and strategies relating to dimension 3 - Operational Challenges in Participation:

- Not everything needs to fall under the heading of participation: make it clear to the team and participants in advance what can and cannot be subject to participation
- Communicate clearly: make expectations clear
- Draw up an organizational glossary on participation, in which everything is presented clearly and concisely
- Apply the 4, 6, and 8-eyes principle
- Make it clear in advance who decides on the outcomes of participation
- Communicate the project frameworks and the follow-up after the participation process; be transparent!
- Make the negotiating position clear in advance: what is possible and what is not?

- In participation, there is often a need for something that falls outside the scope; consider in advance what you can and cannot facilitate in such a case
- Create a Project Start-Up moment with the neighborhood: neighborhood councils as the first point of contact
- Emphasize and arrange proper follow-up of participation during and after the process

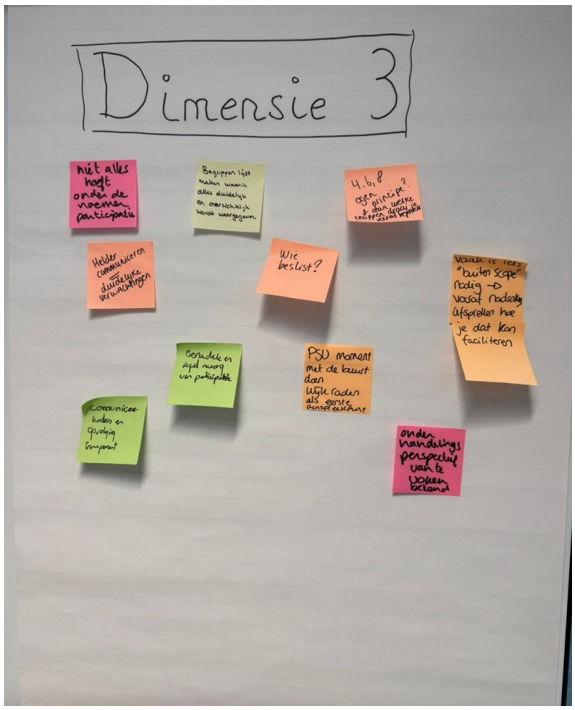

Figure C.3: Post-It notes that were introduced as an intervening strategy for vulnerabilities identified in dimension 3: *Operational Challenges in Participation*.

Appendix D: Data Management Plan

The following appendix contains the Data Management Plan (DMP) that was mandatory to have obtained prior to acquiring data for the study.

Plan Overview

A Data Management Plan created using DMPonline

Title: Addressing the Arnstein Gap in public participation

Creator: Jip Kuiper

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2025)

Project abstract:

Public infrastructure projects are becoming increasingly complex, with a growing number of stakeholders involved. The success of these projects depends on effective communication between the project organization and external stakeholders, especially local communities, which are arguably the most important stakeholders. In the Netherlands, the new Environment and Planning Act has made public participation an integral component of the decision-making process. However, the act lacks clear requirements for how participation initiatives should be set up. This can result in participation initiatives not achieving the necessary results, for example because of instances of tokenism. Tokenism is defined as a superficial effort where the community is allowed to be heard but lacks the power to influence the outcome. This can, among other causes, be a result of intentional strategies of the project team, or accidental consquences of the organizational dynamic. Consequently, the difference between local stakeholders' desired and perceived influence (In literature defined as 'The Arnstein Gap') can increase, which can potentially lead to severe consequences. Consequences include project delays, reputational damage for project organizations and even project cancellation. Stakeholder managers in the Netherlands are in a key position to address the Arnstein Gap, as they serve as a bridge between the project team and the community. Yet, there is a lack of a clear directive with strategies that these managers can adopt to reduce it. This thesis aims to address this research gap by developing a framework with effective practices for stakeholder managers to guide project teams in addressing the Arnstein Gap in Dutch public infrastructure projects.

ID: 186104

Start date: 11-09-2025

End date: 28-02-2026

Last modified: 31-10-2025

Addressing the Arnstein Gap in public participation

0. Administrative questions

1. Provide the name of the data management support staff consulted during the preparation of this plan and the date of consultation. Please also mention if you consulted any other support staff.

Xinyan Fan, Data Steward at the Faculty of Civil Engineering and Geosciences, has reviewed this DMP on 29-10-2025.

2. Is TU Delft the lead institution for this project?

- Yes, leading the collaboration – please provide details of the type of collaboration and the involved parties below

In this project, TU Delft is leading the research. Neuf, an interim-management company based in Utrecht, is sharing data of relevant case study projects and provides contact information for interviewees. Additional information is provided in the table of question 3.

I. Data/code description and collection or re-use

3. Provide a general description of the types of data/code you will be working with, including any re-used data/code.

Type of data/code	**File format(s)**	**How will data/code be collected/generated?** *For re-used data/code: what are the sources and terms of use?*	**Purpose of processing**	**Storage location**	**Who will have access to the data/code?**
Case study information	Microsoft Word-document (.docx) PDF document (.docx) Microsoft Excel (.xlsx)	Internal project data and documents from selected case studies. Data is provided by the collaborating company, Neuf. These document can be of confidential nature. The Terms of use for these documents are governed by the mutal graduation agreement between Neuf, the TU Delft and me.	Several case studies are needed to acquire a valuable perspective on the materialization of public participation in the Netherlands and characteristics of the Arnstein Gap, as this information is currently lacking in literature.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper) and the company supervisor of Neuf (Kati Dijk).

Stakeholder information	PDF document (.docx) Microsoft Excel (.xlsx)	Collected both through known stakeholder information handed by the company, Neuf, and through additional personal communication with additional stakeholders, if needed. The information is stored in an Excel-document. Contact information of interviewees will also be kept in this document and therefore not be included in any other documentation.	The information is necessary to gain an easy overview of all relevant stakeholders. This overview will contain contact information (names e-mail adress, associated organization), and their role respective to the case study.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper) and the company supervisor of Neuf (Kati Dijk).
Interviews					
Interview recordings - Research question 1 and 2	Audio File (.mp3) Video File (.mp4)	Interviews will predominantly be done in person (.mp3), and online via Microsoft Teams, if necessary (.mp4). Interviews will be of a non- or semi-structured nature, as it is solely meant to get a perspective on the set-up of the participation process in Dutch public infrastructure projects. *More information presented in section IV question 7.*	Provides the opportunity to revisit interview through a live recording. Furthermore, gives the possibility to create better interview transcripts, which is valuable for processing data.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper)
Interview transcripts - Research question 1 and 2	Word-document (.docx)	Data collected through semi-structured interviews with case stakeholders. Carried out online through automated transcripts in Microsoft Teams or the automated transcript software of Microsoft Word-online (recording of in-person interviews). Transcipts will be corrected using their respective recordings. *More information presented in section IV question 7.*	Gather additional insights in relevant research concepts that were either missed in literature or that could be emphasised using interview transcripts.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper)

Interview recordings - Research question 3 and 4	Audio File (.mp3) Video File (.mp4)	Interviews will be done in person (.mp3), and online via Microsoft Teams (.mp4). Interviews will be of a semi-structured nature, to gain insights into cases of tokenism and potential effective preventive measures. *More information presented in section IV question 7.*	Provides the opportunity to revisit interview through a live recording. Furthermore, gives the possibility to create better interview transcripts, which is valuable for processing data.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper)
Interview transcripts - Research question 3 and 4	Audio File (.mp3) Video File (.mp4)	Data collected through semi-structured interviews with case stakeholders. Carried out online through automated transcripts in Microsoft Teams or the automated transcript software of Microsoft Word-online (recording of in-person interviews). Transcipts will be corrected using their respective recordings. *More information presented in section IV question 7.*	Gather additional insights in relevant research concepts that were either missed in literature or that could be emphasised using interview transcripts.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper)
Aggregated case study and stakeholder perspectives information	Microsoft Word-document (.docx) or Microsoft Excel-document (.xlsx).	Relevant information from 'Project information', 'Interview transcripts - RQ 1 and 2' and 'Interview transcripts - RQ 3 and 4' will be gathered in one singular document to create an effective overview of valuable context and information. Information includes opinions, perspectives, quotes, stakeholders, project roles, etc. *This can be senstive data and will therefore be anonymized so far this is possible. See section IV, question 9 for more information.*	This overview is necessary to answer the second, third and fourth research question, which is essential to acquire an understanding on the main research question.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper) and Responsible Researcher (Johan Ninan)

Informed consent forms	PDF	Will be signed in person or online, based on interview location. Consent forms will be signed for both of the interview phases.	To obtain and document informed consent.	Microsoft OneDrive connected to personal TU Delft account.	The principal investigator (Jip Kuiper) and the TUD supervisor (Marcel Hertogh)

II. Storage and backup during the research process

4. How much data/code storage will you require during the project lifetime?

- < 250 GB

5. Where will the data/code be stored and backed-up during the project lifetime? (Select all that apply.)

- TU Delft OneDrive

I do not possess any hardware from the collaborating company and will therefore not have access to internal company storage.

III. Data/code documentation

6. What documentation will accompany data/code? (Select all that apply.)

- Data – Codebook describing the contents, structure, layout, and variable definitions of the data
- Data – Methodology of data collection

IV. Legal and ethical requirements, code of conducts

7. Does your research involve human subjects or third-party datasets collected from human participants?

If you are working with a human subject(s), you will need to obtain the HREC approval for your research project.

- Yes – please provide details in the additional information box below

I will be conducting (non- and semi-structured) interviews with industry professionals, public participation participants, members of the case studies' project organization, and representatives from governmental institutions to gain a perspective on the participation process of Dutch public infrastructure projects. This information is needed to analyse how the Arnstein Gap establishes through potential instances of (intentional and unintentional) tokenism, which allows the researcher to understand how the gap can be reduced. The information will be of a qualitative nature and specifically address opinions and perspectives on public participation throughout the life-cycle of the selected case studies.

Interviews will be done in two cycles:

- The first interviews will only be done with industry professionals (project and stakeholder managers) from the collaborative company Neuf. The interviews are intended to gain an understanding on the Dutch public participation process.
- The second interviews will be held with all the aforementioned stakeholder roles. These interviews are conducted to gain insight into the causes and materiliazation of the Arnstein Gap and to understand what causes exist to identify potentially effective countermeasures.

Industry professionals: Stakeholder and project managers from the collaborating company, Neuf & Associates.

Public participation participants: Members of the local community (residents, future users, company representatives, etc.) that have contributed to the community consultation processes of the selected case studies.

Members of the case studies' project organization: Project and design team members that are responsible for project execution. As Neuf works on projects in an interim setting, project and design team member **are not** part of the collaborative company (Neuf).

Representatives of governmental institutions: Representatives that have acted from the client perspective in the selected case studies.

I intend to apply for ethical approval from the Human Research Ethics Committee, but have not yet done so.

8. Will you work with personal data? (This is information about an identified or identifiable natural person, either for research or project administration purposes.)

- Yes

See section I, Q3.

9. Will you work with any other types of confidential or classified data or code as listed below? (Select all that apply and provide additional details below.)

If you are not sure which option to select, ask your Faculty Data Steward for advice.

- Yes, politically-sensitive data (such as research commissioned by public authorities, research in social issues)
- Yes, data which could lead to reputation/brand damage (for example, animal research, climate change)

If the semi-structured interviews point out that instances of tokenism have occurred in public infrastructure projects that are not yet publicy known, this could be sensitive data, especially if this was intentionally caused. Interview perspectives and opinions from the client and project organization side of the selected case studies could therefore be politcally sensitive or lead to reputational damage if leaked.

10. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your Faculty Contract Manager when answering this question.

The intellectual property rights are framed by a graduation agreement between Delft University of Technology, myself and Neuf.

11. Which personal data or data from human participants do you work with? (Select all that apply.)

- Names and/or geolocation information as part of research data
- Proof of consent (such as signed consent materials which contain name and signature)
- Audio recordings
- Video materials
- Job title and/or employer
- Telephone number, email addresses and/or other addresses as contact details for administrative purposes
- Names as contact details for administrative purposes

The data from video materials and audio recordings will be processed into interview transcripts. These transcripts will be sent to recipients to check whether they comply with their answers. Transcripts will ultimately be thematically coded to study commonalities between interviews and the studied literature. This data, which eventually will also be summarized into 'Aggregated case study and stakeholder perspectives information' (see section I) will include personal data relevant to the case context and its processes like opinions, roles, stances, (professional) background and other context shaping factors.

12. Please list the categories of data subjects and their geographical location.

Interviews will be conducted with industry professionals (project and environmental managers), public participation participants, members of the case studies' project organization, and representatives from governmental institutions. All projects are, or have been, executed in the Netherlands, most likely in and around the Municipality of Amsterdam. Participants and interviews will therefore all be located in the Netherlands.

13. Will you be receiving personal data from or transferring personal data to third parties (groups of individuals or organisations)?

- No

16. What are the legal grounds for personal data processing?

- Informed consent

17. Please describe the informed consent procedure you will follow below.

The researcher will inform the potential participants about the goals and procedures of the research project. The researcher will also inform them about the personal data that are being processed and for what purpose. Prior to the interviews each participant will receive a short description of the study background, objective and how their responses will contribute to answering the final research question. This information will be emailed to each respective participant before making final agreements for the interview, or if necessary made clear in person before an interview commences face-to-face. Finally, all participants will be asked for their consent for taking part in the study and for data processing by signing a digital informed consent form before the start of the interview/experiment.
As stated in Section IV, Question 7; two rounds of interviews will be done. Interviewees will receive a different informed consent form in each round.

18. Where will you store the physical/digital signed consent forms or other types of proof of consent (such as recording of verbal consent)?

Microsoft OneDrive connected to my personal TU Delft account.

19. Does the processing of the personal data result in a high risk to the data subjects? (Select all that apply.)

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a Data Protection Impact Assessment (DPIA). In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data in your research project.

If any category applies, please provide additional information in the box below. Likewise, if you collect other type of potentially sensitive data, or if you have any additional comments, include these in the box below.

If one or more options listed below apply, your project might need a DPIA. Please get in touch with the Privacy team (privacy-tud@tudelft.nl) to get advice as to whether DPIA is

necessary.

- None of the above apply

23. What will happen with the personal data used in the research after the end of the research project?

- Anonymised or aggregated data will be shared with others

24. For how long will personal research data (including pseudonymised data) be stored?

- Personal data will be deleted at the end of the research project

25. How will your study participants be asked for their consent for data sharing?

- In the informed consent form: participants are informed that their personal data will be anonymised and that the anonymised dataset is shared publicly

In the thesis the personal data will only be presented in an aggregated anonymised manner. Only this will be publicised in the final document. All links between the personal data from video recordings and transcript will be deleted and after the research has concluded all personal data at large will be deleted.

V. Data sharing and long term preservation

27. Apart from personal data mentioned in question 23, will any other data be publicly shared?

Please provide a list of data/code you are going to share under 'Additional Information'.

- Other – please explain below

The final thesis will present the following non-personal information:

- Non-confidential project information received from the collaborative company Neuf;
- Aggregated anonymised information in appendices that can therefore be labelled as non-personal.

29. How will you share research data/code, including those mentioned in question 23?
Select all that apply and provide additional details below.

- I am a Bachelor's/Master's student at TU Delft and I will share the data/code in the body and/or appendices of my thesis/report in the TU Delft Repository

30. How much of your data/code will be shared in a research data repository?

- Not applicable - No data/code will be shared in a repository

31. When will the data/code be shared?

- As soon as corresponding results (papers, theses, reports) are published

32. Under what licence(s) will the data/code be released?

- Other – please explain below

Copyrighted thesis: Addressing the Arnstein Gap in public infrastructure projects.

VI. Data management responsibilities and resources

33. If you leave TU Delft (or are unavailable), who is going to be responsible for the data/code resulting from this project?

The supervisors associated to the thesis:

- Marcel Hertogh, Professor at the department Integral Design & Management at the faculty of Civil Engineering and Geosciences of the TU Delft. E-mail: M.J.C.M.Hertogh@tudelft.nl
- Kati Dijk, 'Omgevingsmanager en Participatiestrateeg' at Neuf. E-mail: kdijk@neuf.nl

34. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

Not applicable.

35. Which faculty do you belong to?

- Faculty of Civil Engineering and Geosciences (CEG)

E

Appendix E: Overview of Literature

The following appendix presents an overview of the literature that is referenced in this study's literature review.

Nr.	Article name	Authors	Year	(General) Subject
1	Tokenism in Territorial Development: Enabling Factors and Mitigation Measures	Di Santo et al.	2023	An overview of relevant literature on tokenism, the various definitions of tokenism, its causes and general countermeasures.
2	A Ladder of Citizen Participation	Arnstein	1969	The different levels of citizen participation
3	Social participation in urban planning as a human right	Knebel et al.	2023	Policies in urban planning regarding social participation
4	The illusion of participation: Are participatory indicators truly effective in neighbourhood sustainability assessment tools	Dawodu et el.	2021	Understanding the quality of NSATs
5	The good process or the great illusion? A spatial perspective on public participation in Danish municipal wind turbine planning	Clausen et al.	2021	Analysis of the participation process within three Danish wind energy projects
6	Beyond tokenistic participation: Using representational artefacts to enable meaningful public participation in health service design	Morrison & Dearden	2013	Analysis of tokenism in the participation process of public health initiatives
7	How to make sense of citizen expertise in participatory projects?	Meriluoto & Kuokkanen	2022	The value of citizen experts in public participation and when and when not to use them
8	Social conflict management framework for project viability: Case studies from Korean megaprojects	Lee et al.	2017	Understanding the consequences of social conflict through participation and developing a framework for conflict management
9	Why do individuals engage in collective actions against major construction projects? —An empirical analysis based on Chinese data	Liu et al.	2018	How do collective actions by the public develop in construction projects?
10	Making sense of the self: an integrative framework for moral agency	Pesch	2020	Sense of the self through an individual and social perspective
11	Breaking down the site hoardings: attitudes and approaches to community consultation during construction	Close & Loosemore	2014	Analysing causes for an often lacking participation process for projects in the construction phase
12	Taming the 'trolls': Major public projects in the making	Klakegg et al.	2016	Understanding the latest governance policies of large infrastructure projects.
13	Are Public Projects Different than Projects in other Sectors? Preliminary Results of Empirical Research	Gasik	2016	Understanding the differences between public projects and projects in other sectors
14	Value creation in projects: Towards a narrative perspective	Green & Sergeeva	2019	How value is created in projects and how this has development from hard to soft value management. Both approaches are analysed from a narrative perspective
15	CLEAR: Understanding Citizen Participation in Local Government – and How to Make it Work Better	Lowndes & Pratchett	2006	A tool that underpins five factors that contribute to unequal response to participation
16	Public Participation in Action	Visser	2024	Analysis on how new legislation has influenced the public participation process in NL. Presents methods how participation can be more effective.
17	Exploring how the public's voice can be more effectively incorporated in the front-end of a project: The Museumpark case	Frangu	2024	Understanding how participation can be done more effectively in the front-end of public projects
18	Lessons from the field for community engagement and accountability	Berland	2019	What measures to take from a leadership perspective to improve community engagement in public healthcare

Nr.	Article name	Authors	Year	(General) Subject
19	The co-creation of social value: what matters for public participation in corporate social responsibility campaigns	Lee et al.	2020	How should the relation between an organization and the public be, and what situational factors need to be present, to let the public participate in an organization's CSR campaign.
20	The design of public participation: who participates, when and how? Insights in climate adaptation planning from the Netherlands	Uittenbroek et al.	2019	Analysis of the participation process of three Dutch climate change project case studies. Case studies are analysed through a conceptual framework with success factors and general objectives for an effective participation process.
21	Infrastructural gaslighting and the crisis of participatory planning	Legacy et al.	2024	Understanding how project proponents use strategic gaslighting in public participation initiatives to minimise public scrutiny, through the analysis of a large infrastructure project in Australia.
22	Transformative or Tokenistic?	Poiner & Drake	2021	Analysing the differences between transformative and participatory design processes through the case study of an Australian kindergarten design project.
23	Tokenism and Its Long-Term Consequences: Evidence from the Literary Field	Childress et al.	2024	Analysing how tokenism is not solely experienced on an individual level, but also in larger parts of society (meso- and macro-level). Research is done through the analysis of other literature pieces.
24	Designing the Participation on Local Development Planning: From Literature Review to Adaptive Framework for Practice	Hrivnák et al.	2021	Understanding the positive and negative effects of various forms of participatory planning through various case studies in previous literature. Several tables present different methods, barriers within the participation process, (in)direct costs of participation initiatives and effective communication tools
25	Flexibility & structure: Community engagement on climate action & large infrastructure delivery	Boyle et al.	2022	Analysing the definition and development of community engagement initiatives through the lens of climate change projects in Ireland. Workshops are used to analyse barriers and effective measures for designing the community engagement process.
26	Opening the black box of participatory planning: a study of how planners handle citizens' input	Eriksson et al.	2022	Analysing various methods for handling citizen input after participation processes. The different positives and negatives of two distinct sorting methods are illustrated.
27	Power and Strategies in the External Stakeholder Management of Megaprojects: A Circuitry Framework	Ninan et al.	2024	Understanding the three dimensions of power, what strategies are used to establish or maintain this power, and how these dimensions are related. All through a case study of an Indian rail project.
28	Governance Through Trust: Community Engagement in an Australian City Rebuilding Precinct	Ninan et al.	2024	Understanding how trust can be increased for external stakeholders of a megaproject in Australia. Three main strategies are found, which are in turn compared to the theory associated to power.
29	Managing Large Infrastructure Projects	Hertogh et al.	2008	Tips on successful stakeholder management through a large infrastructure project perspective
30	Managing Stakeholder Involvement in Decision Making: A Comparative Analysis of Six Interactive Processes in the Netherlands	Edelenbos & Klein	2006	Characteristics and positive effects of interactive decision-making processes. Three distinct factors are analysed and compared through 6 Dutch case studies.
31	A ladder-truss of citizen participation: re-imagining Arnstein's ladder to bridge between the community and sustainable urban design outcomes	White & Langenheim	2021	Reimagining all rungs of Arnstein's ladder by suggesting a less-hierarchical and horizontal participation measurement method, wherein all trusses are deemed to be necessary for successful participation. All trusses are highlighted, including measures that can make each truss a success.
32	Addressing the Arnstein Gap: Improving Public Confidence in Transportation Planning and Design through Structured Public Involvement (SPI)	Bailey & Grossardt	2006	Defining and addressing the Arnstein Gap through polling in various case studies in the USA. Several designing methods are presented as solutions to address the Arnstein Gap.

Nr.	Article name	Authors	Year	(General) Subject
33	The Arnstein Gap: Twenty Years On, What has Changed?	Bailey & Grossardt	2025	Reevaluating their research on the Arnstein Gap 20 years later by presenting a high number of data points of previous research on the topic. Article also explains the reasons of the Arnstein Gap values, and notes potential future research initiatives.
34	Managing Legitimacy: Strategic and Institutional Approaches	Suchman	1995	An analysis of the various forms and characteristics of legitimacy → Legitimacy theory
35	Legitimacy Theory	Schiopoiu & Popa	2013	Small article on the definition and characteristics of legitimacy theory
36	Three concepts of power: Foucault, Bourdieu, and Habermas	Christensen	2024	Summary of three concepts of power (Foucault, Bourdieu and Habermas). Subsequently, the three concepts are analysed on their differences.
37	Habermas and information systems research: New directions	Ross & Chiasson	2011	Analysis and rework of the characteristics and requirements of Habermas' communicative action theory.
38	From sovereign to subject: Applying Foucault's conceptualization of power to leading and studying power within leadership	Ladkin & Probert	2021	Understanding how Foucault's power theory affects power in leadership.
39	Justice and the Arnstein Gap	Grossardt & Bailey	2018	Analysis of the Arnstein Gap: What is it? How is it established? And how can it be reduced? This is further explained through the social theory of justice.
40	Planning, Technology, and Legitimacy: Structured Public Involvement in Integrated Transportation and Land-Use Planning in the United States	Bailey et al.	2011	Understanding the Arnstein Gap through a case study of transport planning. A geovisual framework is developed to reduce the Arnstein Gap called 'Structured Public Involvement' (SPI).
41	Improving Participation in Green Infrastructure Planning	Wilker et al.	2016	Evaluating the participation processes of six case studies in Green Infrastructure Planning to analyse their effectiveness and to come up with general strategies to make participation initiatives in this sector more effective/efficient.
42	Community engagement professionals and their influence on project outcomes: a contractor's perspective	Huisman	2023	Analysis on how Community Engagement Professionals (CEPs) contribute towards the project outcome from a contractor's perspective.
43	Praktijkervaringen met de Omgevingswet bij provincies, waterschappen en gemeenten	Eiff et al.	2024	Analysis on the impact of the new Dutch Environment and Planning Act in practice.
44	Public Participation Methods: A Framework for Evaluation	Rowe & Frewer	2000	Analysis and comparison of the various design possibilities in participation processes and how these designs affect the result.
45	Rethinking public participation in the smart city	Levenda et al.	2020	Defining what 'the public' is and how they can be effectively selected and involved in the participation process through smart city projects. Subsequently, a theoretical framework is made as an axis to evaluate the affect of certain participation designs.
46	Participatie in en onder de Omgevingswet	Gierveld	2019	Critical essay on the changes in the new Dutch Environment and Planning Act
47	Town planning in the Netherlands since 1800	Wagenaar	2016	Analysis on the changes in Dutch town planning since the 1800.
48	Designing effective public participation	Bobbio	2019	Review and comparison of the different participatory arrangements of participation, including their positive and negative influence on the participation design process.
49	Teargas, taboo and transformation: A neo-institutional study of community resistance and the struggle to legitimize subway projects in Amsterdam 1960–2018	Van den Ende & van Marrewijk	2019	Analysis of community resistance in two Dutch railway projects to understand how institutionalization and project management approaches affect large infrastructure projects. The legitimacy of such projects are analyzed through the neo-institutional lens of legitimacy theory.

Nr.	Article name	Authors	Year	(General) Subject
50	Stakeholder participation in environmental knowledge production	Hage et al.	2010	Analysis and recent developments of participatory approaches in environmental knowledge production through the lens of the Netherlands (PBL). A table with advantages and disadvantages of general participation options is given.
51	Burgermacht op eigen kracht?	Van Houwelingen et al.	2014	How public participation has developed in the Netherlands in recent decades
52	Examining citizen participation: local participatory policymaking and democracy revisited	Michels & de Graaf	2017	Revisit of an older article on an effective framework for participation. This framework has since been tested on several case studies in NL.
53	Stakeholder engagement: Learning from Arnstein's ladder and the IAP2 spectrum	Bammer	2022	Explanation of the Arnstein ladder and IAP2 participation spectrum
54	Co-creation, control or compliance? How Dutch community engagement professionals view their work	Van de Grift et al.	2020	Analysis and explanation of the Community Engagement Professional (CEP) role and the various forms that these functions can have in practice.
55	Omgevingswet, participatie en democratische vermoeidheid	Van Oenen	2016	Essay on the development of participation in the Netherlands and the New Environment and Planning Act
56	Principles and practical criteria for effective participatory environmental planning and decision-making	Carrick et al.	2023	Very interesting research on the characteristics of participation from a procedural justice and deliberative democracy perspective, while looking through an environmental planning lens. Practical criteria for successful participation are given from four important theoretical ideals.
57	Conflicting perceptions on participation between citizens and members of local government	Mohammadi et al.	2018	Analysis of the effects of conflict that are caused by inadequate participation processes.
58	A systematic review of the literature on determinants of public managers' attitudes toward public participation	Migchelbrink & van de Walle	2022	Analysis of the influence of project characteristics and public manager attitudes on the result and success of local public participation.
59	Participatie onder de Omgevingswet: worstelingen in de praktijk	Hobma, van Ravensteijn & Boeve	2025	Thematic discussion on the effects of the Omgevingswet in practice, specifically by its influence on the legislative aspects of public participation.

F

Appendix F: Data structures

The following appendix contains the data structures of the four aggregated dimensions that resulted from the Gioia analysis. First, the complete data structure is presented, which is followed by a data structure of each dimension individually.

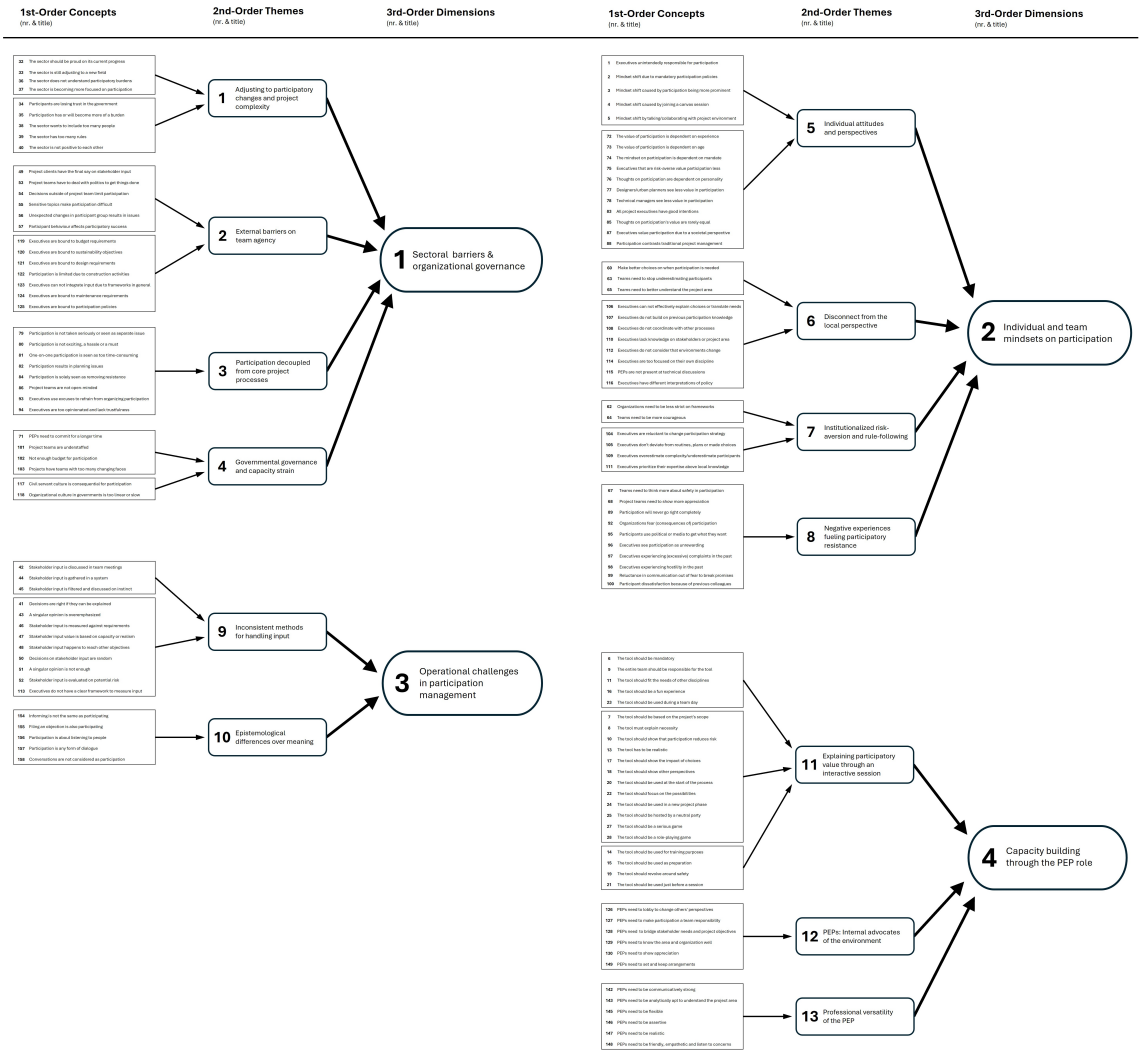

Figure F.1: Data structure of the complete dataset (own illustration).

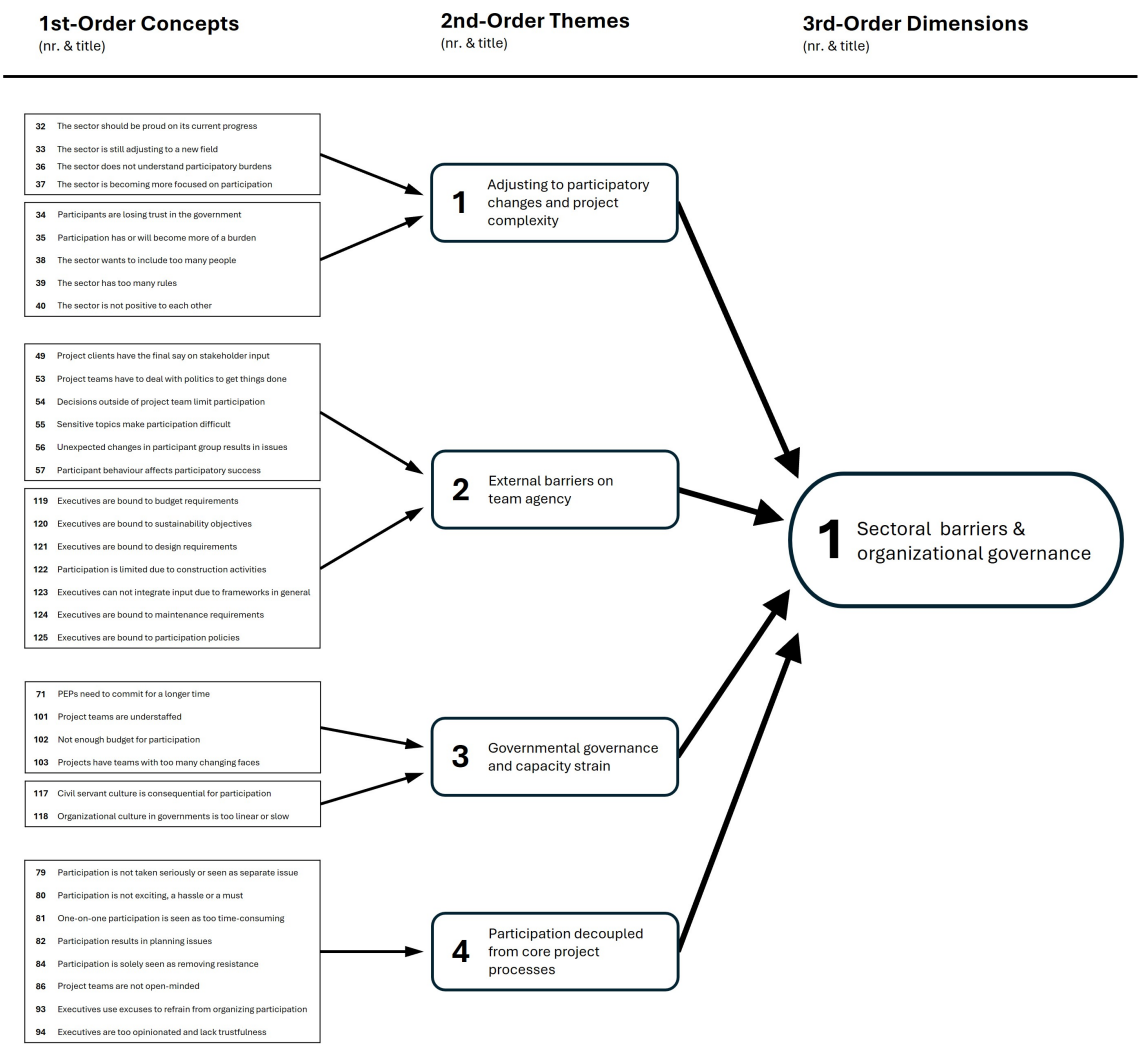

Figure F.2: Data structure of aggregated dimension 1 (own illustration).

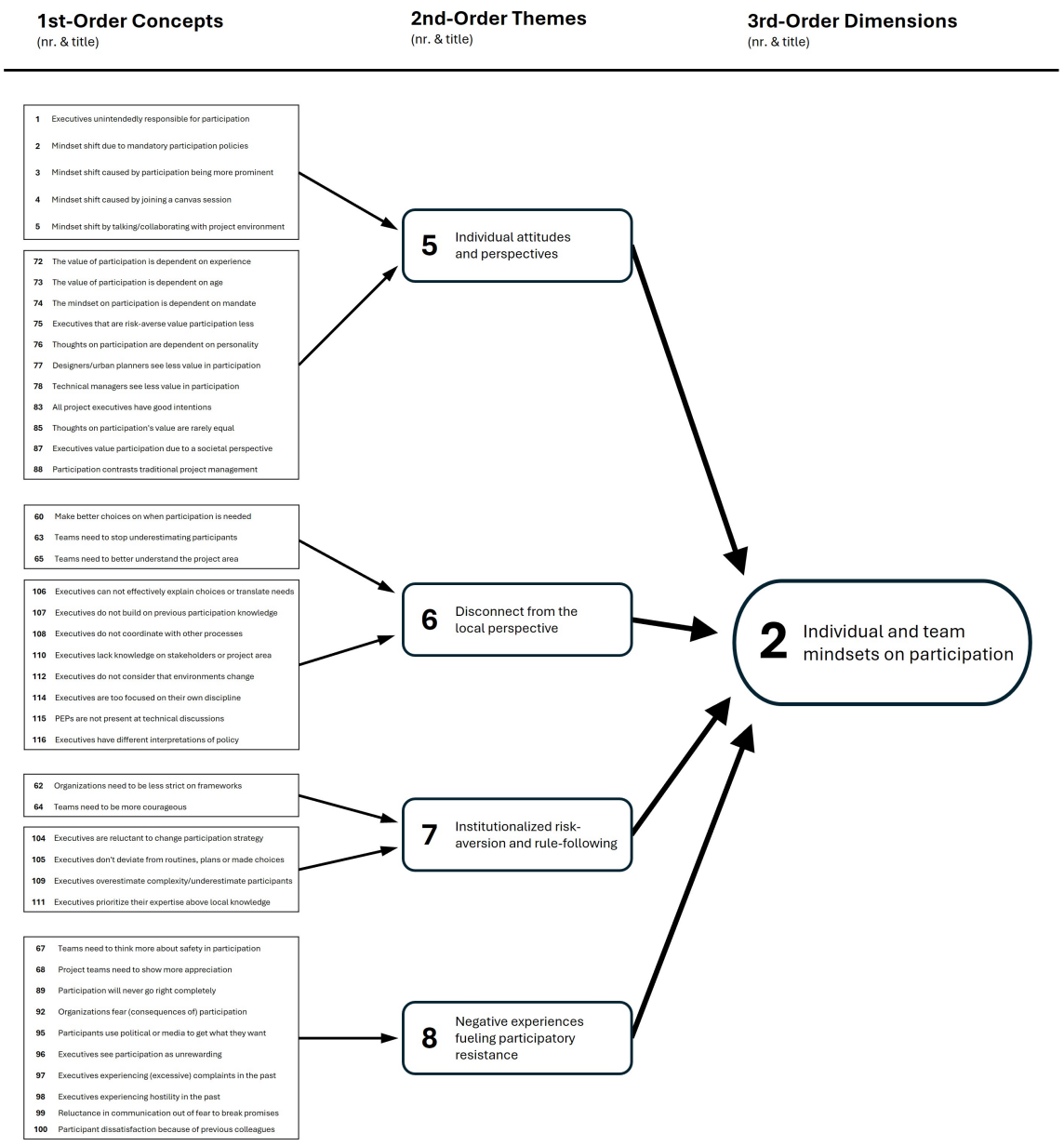

Figure F.3: Data structure of aggregated dimension 2 (own illustration).

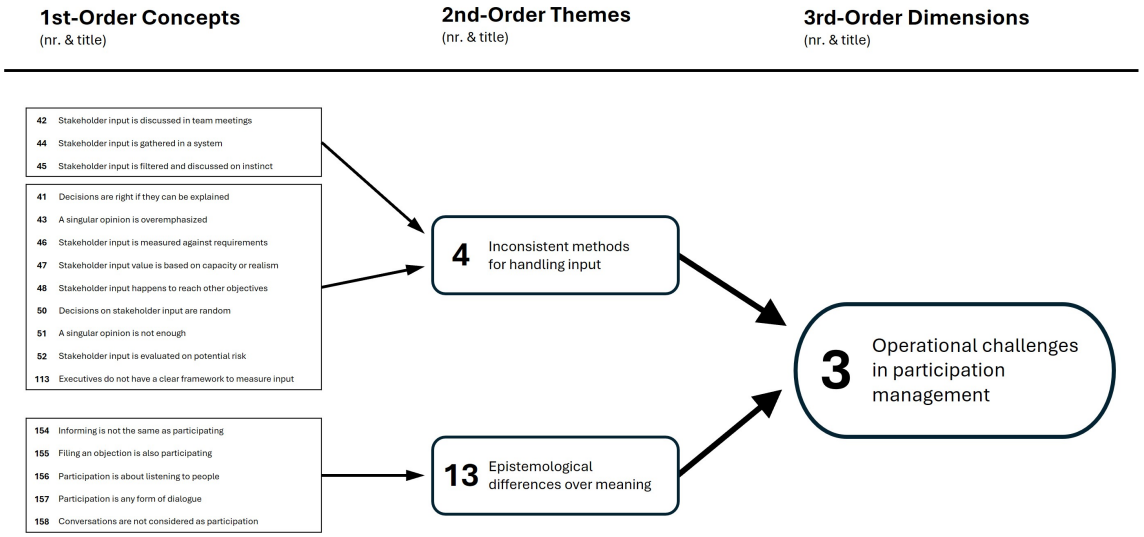

Figure F.4: Data structure of aggregated dimension 3 (own illustration).

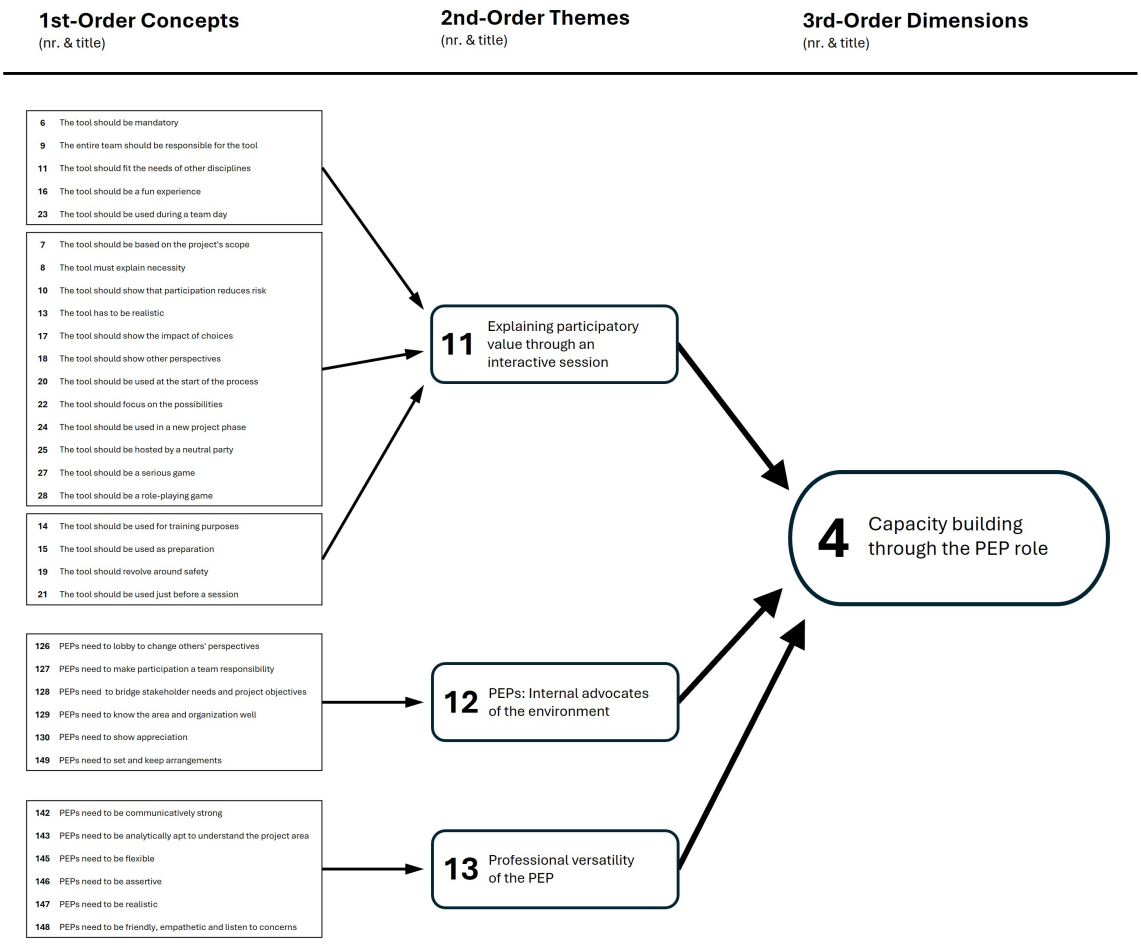

Figure F.5: Data structure of aggregated dimension 4 (own illustration).

Appendix G: Sensemaking Models

The following appendix contains the sensemaking models, including Weick's (2005 enactment theory, the *Process* model, the *Vulnerability* model, and the *Strategy* model.

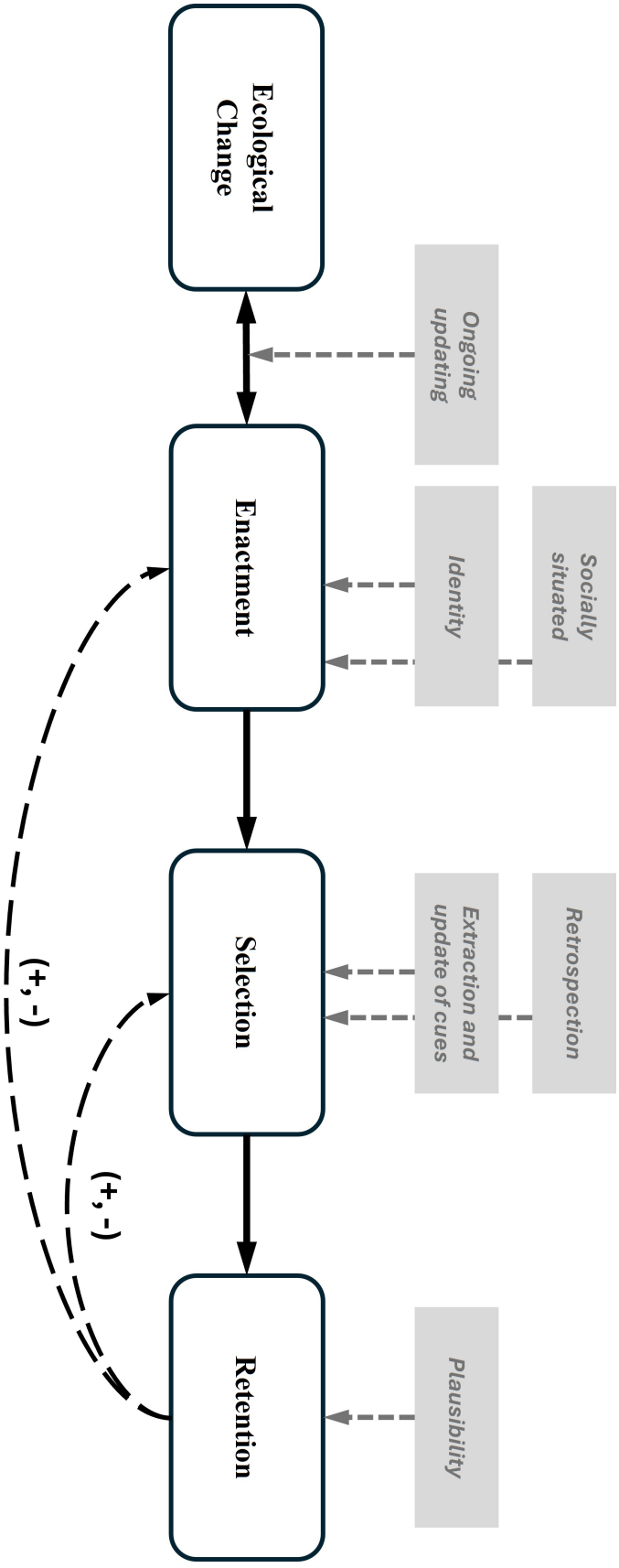

Figure G.1: Weick's (2005) enactment theory (own illustration; content and visual approach adapted from the works of Weick et al. (2005) and Cristofaro (2022)).

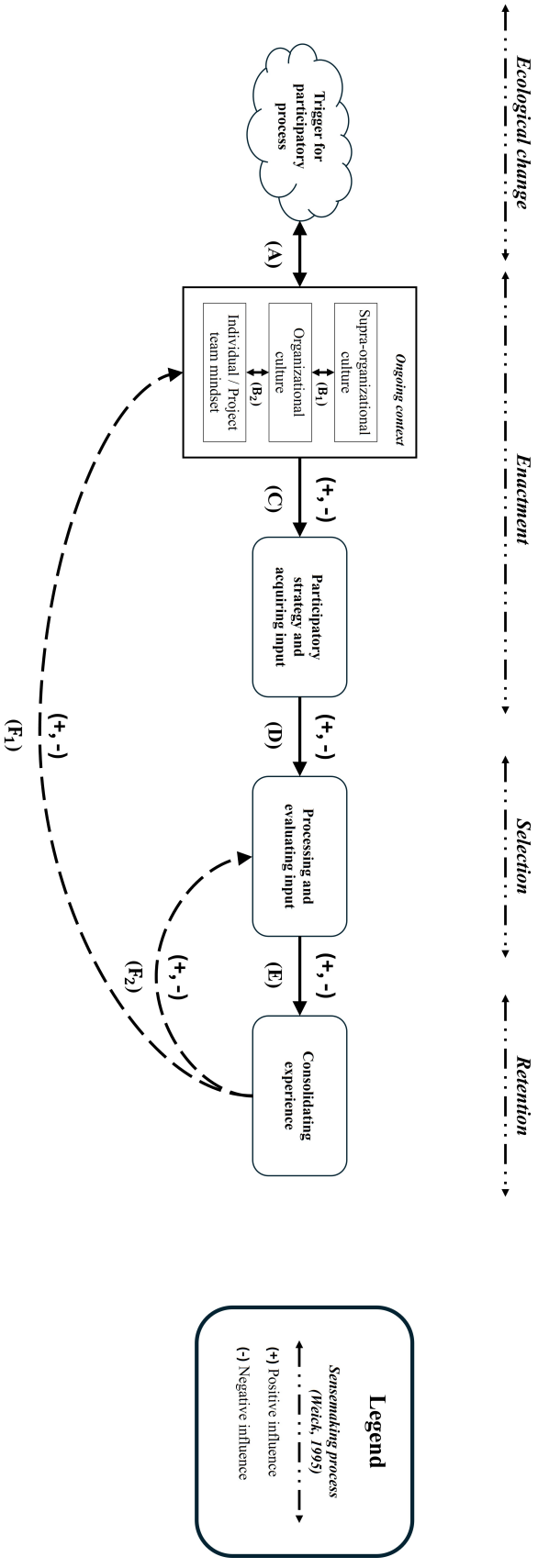

Figure G.2: The *Process* model (own illustration).

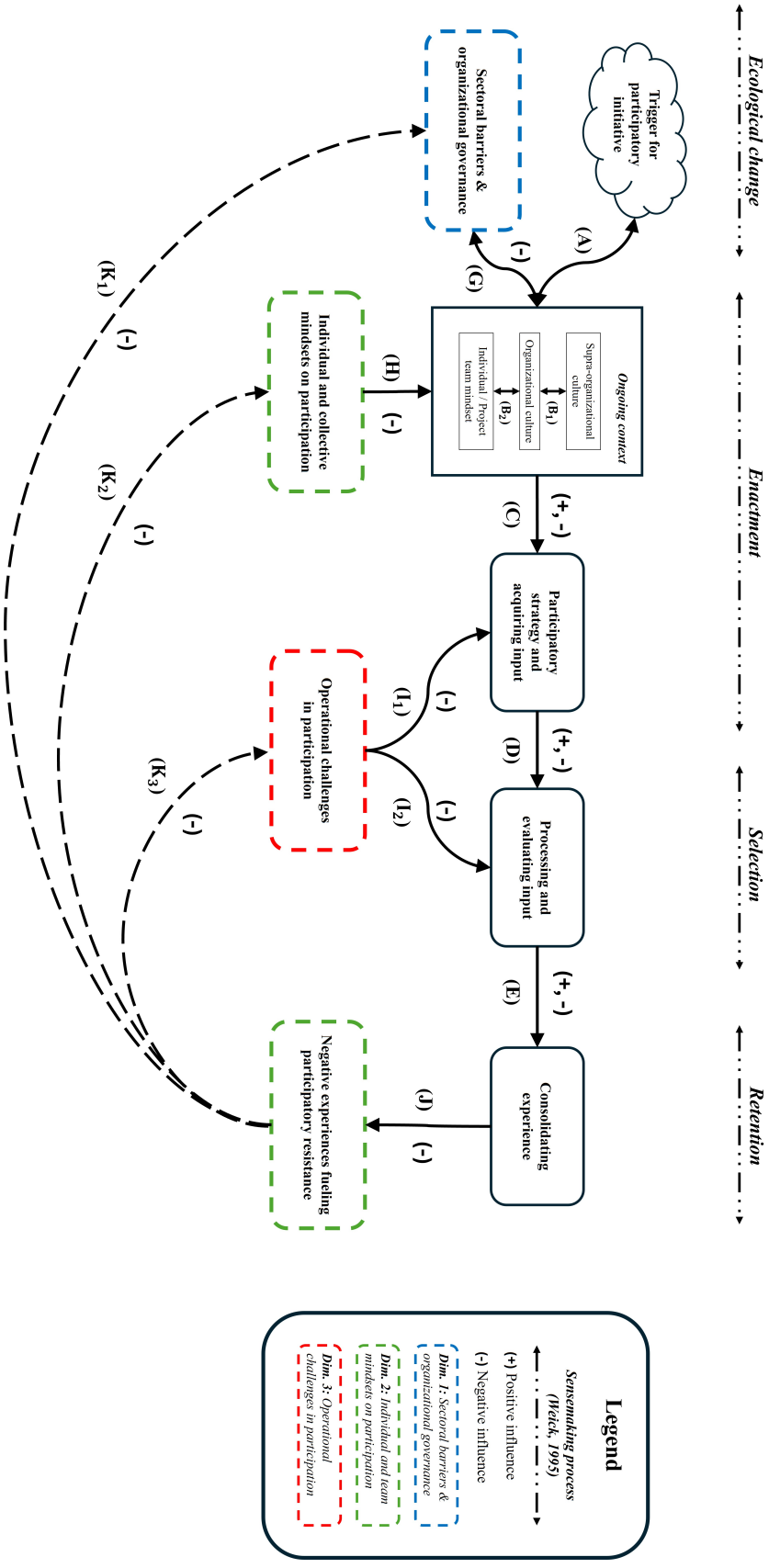

Figure G.3: The *Vulnerability* model (own illustration).

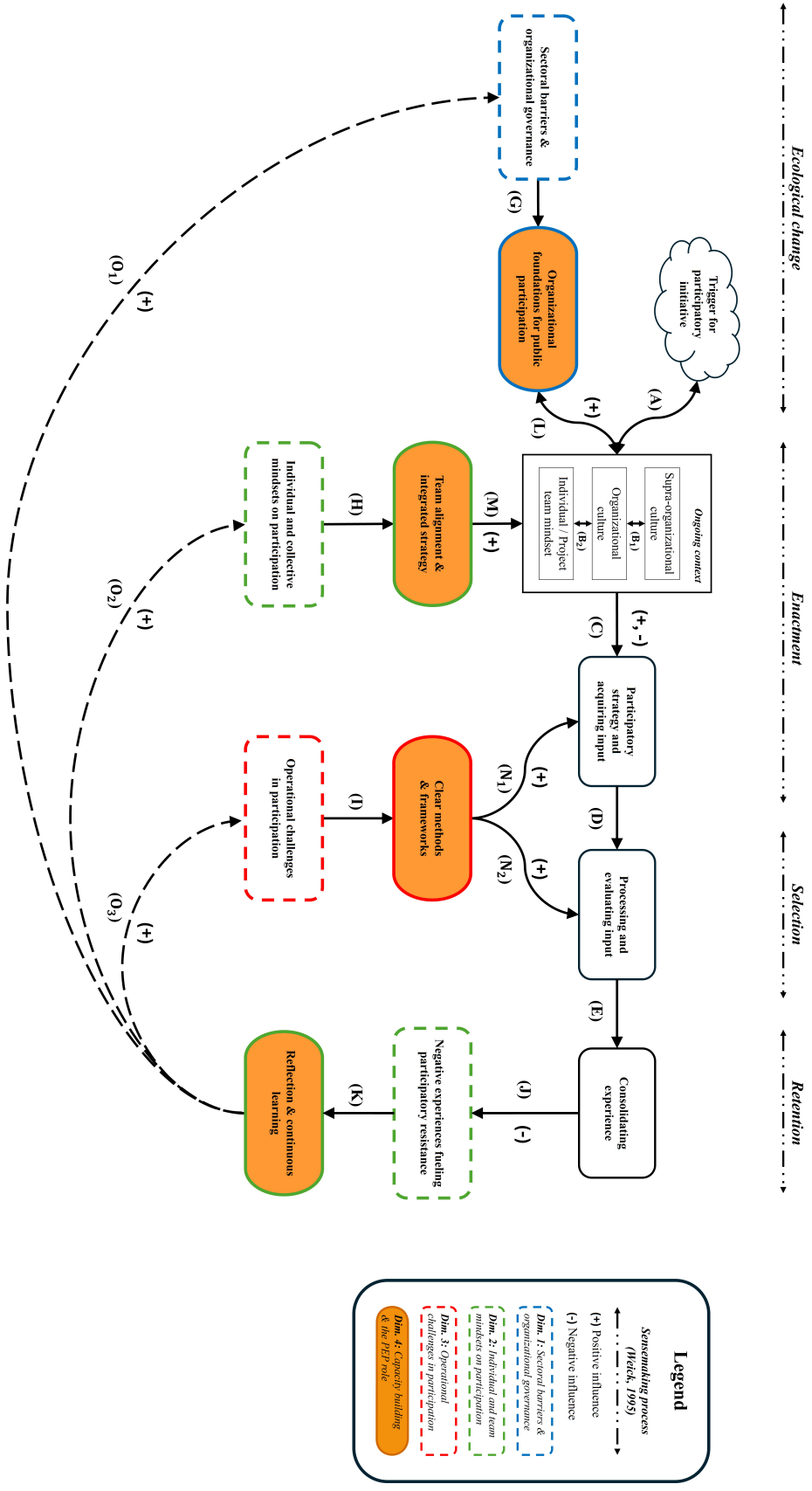

Figure G.4: The *Strategy* model (own illustration).

H

Appendix H: Intervening Strategies

The following appendix contains the comparisons of the four intervening strategy clusters. All four strategy clusters are first individually presented. Then, an overview of all twenty strategies is outlined.

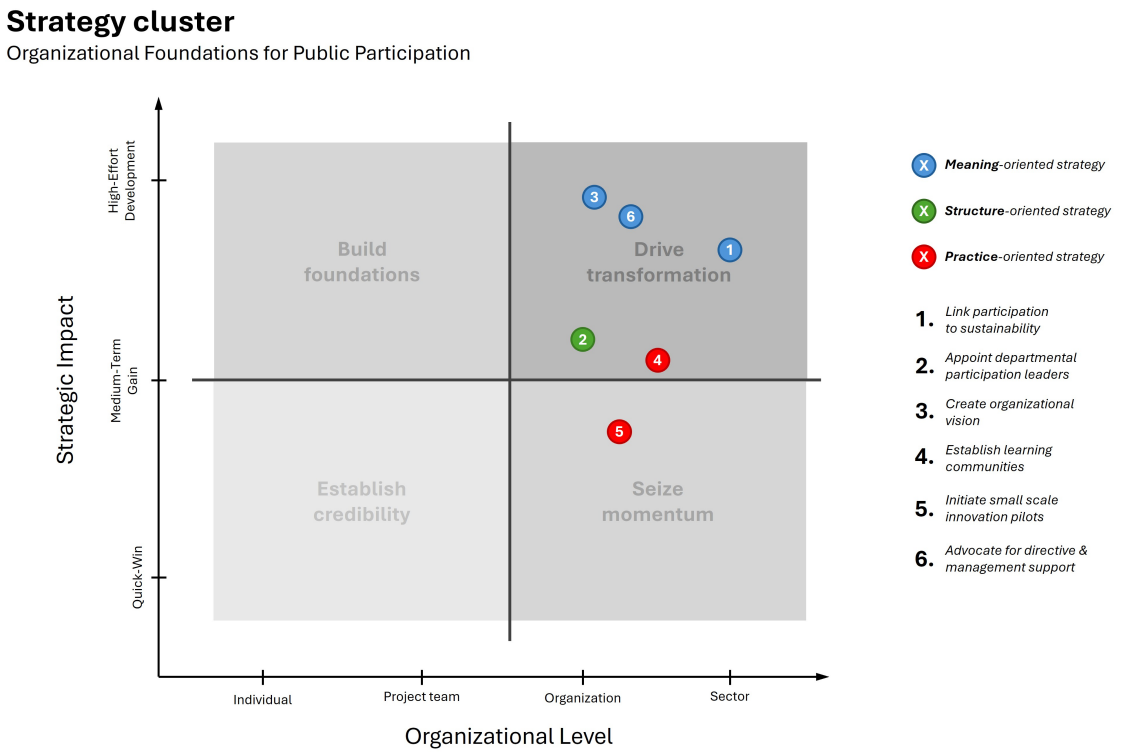

Figure H.1: Strategy cluster 1: Organizational Foundations for Public Participation (own illustration).

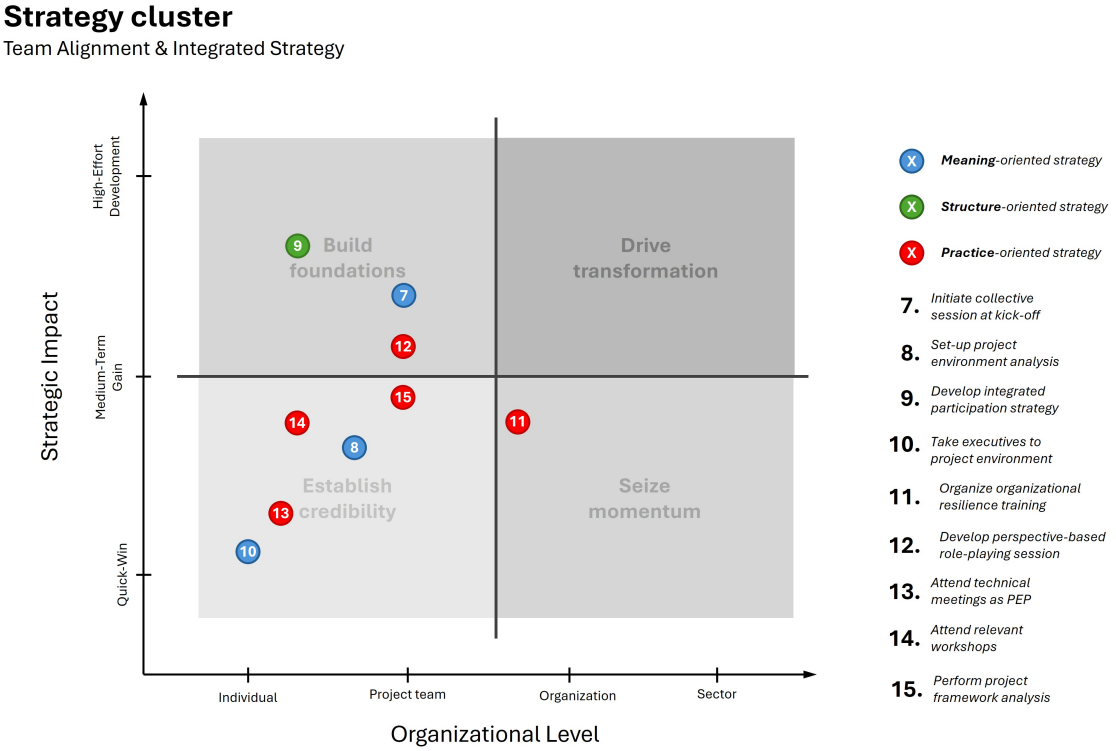

Figure H.2: Strategy cluster 2: Team Alignment & Integrated Strategy (own illustration).

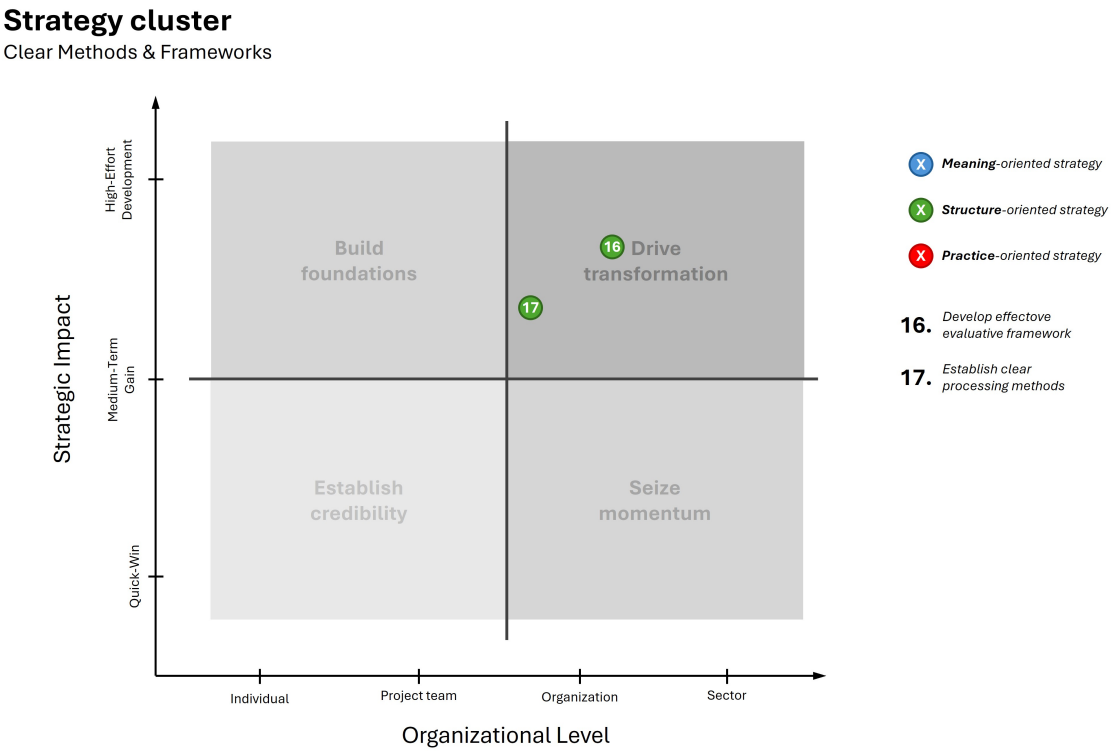

Figure H.3: Strategy cluster 3: Clear Methods & Frameworks (own illustration).

Figure H.4: Strategy cluster 4: Reflection & Continuous Learning (own illustration).

Figure H.5: Overview of strategies (own illustration).

I

Appendix I: Maturity Model

The following appendix contains the public participation's maturity model.

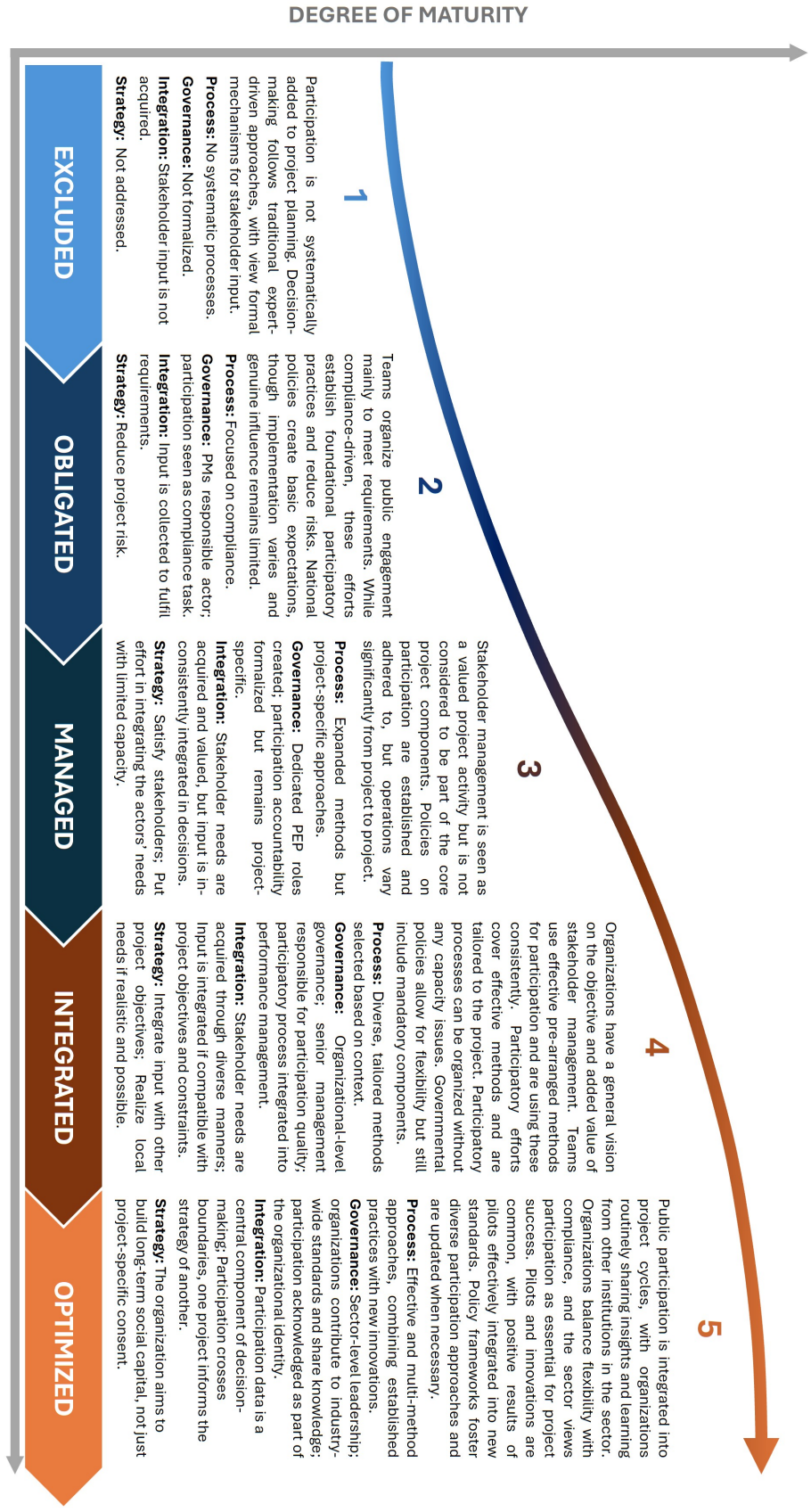

Figure I.1: The maturity model of public participation (own illustration, visual approach adapted from (MNP, 2021)).