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Design studio performance in complex spatial projects: lessons from The Netherlands

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ABSTRACT

The Netherlands has a strong design tradition in planning for the built environment. After a period of neglect, attention for the role of design studios has resurged, particularly for addressing complex spatial projects. These area-based projects have impacts that cut across local to regional scales, so setting up a design process that addresses these scales and engages a wide range of relevant parties proves helpful for formulating design briefs and identifying potential spatial outcomes. This paper discusses the role of the design studio in the Dutch practice, exploring to what extent it helps in identifying the integrated outcomes desired.

Introduction: the imaginative and strategic potential of design

Cities around the world are entering a new phase of spatial development. The challenges of the energy transition, adaptation to the changing climate but also challenges in the field of health and social cohesion call for more integrated approaches to planning and design. The task of making cities liveable is becoming increasingly complex, with more disciplines and parties involved than before. However, how do we work towards desirable futures in this complex context as professionals? How can visions of a future be created to which all those involved want to commit themselves? In recent decades, the concept of 'design thinking' has helped us address such questions, identifying the methods and culture of the designer as a strategic tool (Brown 2008). Especially research by design – a research strategy authors such as Nijhuis, Xiong, and Cannatella (2020) describe as 'research through design' – is put forward to explore links between the issues, knowledge and technological possibilities around a spatial problem. The presumption is that through design explorations, research questions can be answered related to the possible shape of urban landscapes, as well as how changes in the built environment can be designed or guided while employing social or ecological processes (Nijhuis and De Vries 2019). In the context of urban planning, this means that design has the potential to outline possible futures based on new forms of collaboration between ambitious public, private and third sector professionals, as well as on the expertise from broader professional and civic networks. In the past decade, 'techniques of futuring' have therefore been employed more than ever: practices aimed at creating shared fictional expectations (Hajer 2017). The design studio is a common technique for futuring, a structured but informal process in which various rounds of co-creation are gone through

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by the participants. This method of working differs from a charette in the sense that it is not centred around community engagement, but rather around different expert meetings that may – and usually do – involve local community members. The intent here is to get planning agencies, property developers and parties from other sectors like energy supply companies or transport authorities engaged in the process. A design studio works with a programmatic series of meetings or workshops that, over a period of several months, tries to solve a problem by means of design and integrate the results into a broader planning and policy making process. The free or informal space that is created, independent of everyday hierarchies, fits in well with the social and political conditions that have been developing in many planning and design practices over the last decades.

In the Netherlands, the history of the Dutch planning system can be used to illustrate how a breeding ground for alternative planning tools like design studios emerged. From the 1920s onwards, the Netherlands became one of the pioneers of government-driven planning. This took on a larger scale in the post-World War II reconstruction period, when governmental planning agencies worked with a centralized and standardized system, aiming to link physical planning to social and economic development. This system, however, often paid little attention to the 'genius loci': neighbourhoods were created without any relation to site-specific contexts (de Jonge 2009; Carmona 2018). In the 1980s, fierce criticism of and opposition towards this functionalist approach arose. It became clear that the views from the government were faltering, and 'the time when a small group of sensible gentlemen could take decisions by mutual agreement' was definitely over (Hajer, Sijmons, and Feddes 2006, 14). Once centralized powers became fragmented, and society changed into a more open, network-driven system, planning processes shifted character from rational to relational (Boelens 2010) in which, as Van Dijk (2021) states, collaboration became the only way to produce effective action.

By the 1990s, different horizontal governance networks and coalitions in the Netherlands started challenging the existing policy frameworks, and began to outline the possible futures for the country that were so desperately needed. The 'design studio' came into existence and has been widely used ever since: bringing together designers, governmental and non-governmental agencies, property developers, knowledge institutes and residents, and using research by design to develop future visions for an area's spatial layout. In a design studio, the knowledge of all those involved is brought into a co-creation process in an early stage, with the aim to produce common perspectives.

The recently published Dutch National Strategy on Spatial Planning and the Environment (known as NOVI, 2020) recommends design studios and the associated co-creative working methods. It therefore seems that, in addition to different policy instruments described by Carmona (2018) as key to spatial quality, the design studio can play an important role in setting goals for future spatial developments. But despite the Dutch cultural context, which acknowledges design in general and spatial design studios in particular as a serious occupation with serious results, the question remains how these results relate to formal long-term visions developed by central government. When, or under what conditions, do design studios produce authoritative results? Or more generally: what are the key principles of design studio performance?

This paper looks at the implementation of design studios in complex spatial projects. The aim is to contribute to the existing literature by compiling a conceptual understanding of the strategic potential of design studios in the governance and planning process around complex spatial projects, and how this potential can be (more) effectively pursued. This is done by

identifying and evaluating guiding principles that help to improve the potential effectiveness of design studio results. The principles found in literature are confronted with the performance of design studios in three Dutch cases: design studios deployed by government bodies in the problem definition stage of so-called integrated area development projects. These spatial projects are considered particularly complex because of the multiple goals and interests at stake, with issues cutting across different sectors and levels of scale.

The paper is organized as follows. The next section describes the theoretical concepts that were found to be helpful in developing the definition of design studio performance. After that, the empirical research executed in three cases and the results is being laid out. The last section concludes with possibilities to manage the performance of these complex processes.

Understanding design studio performance

Design studios in urban planning are a contemporary means of achieving what George (2007) calls 'second-order design': design that creates strategic frameworks for decision making instead of final images, and that can adapt to changing circumstances. Gibbons et al. (1994) describe knowledge that is created in a transdisciplinary context as 'Mode 2 knowledge'. This research aims to explain how second-order design and Mode 2 knowledge can be developed and integrated into area development. The following three components described in the literature can help to define the scope: the *plan development process* is the route that offers clarity and guidance to all those involved. The targeted deployment of *research by design* aims at developing useful knowledge of a development process. *Involving the relevant parties* enables both ownership and political-administrative backing.

Plan development

The literature describes various models and concepts, and how research by design can help to focus plans and create conditions that make a plan survive despite the changing context. For this research, the Nijhuis model (Nijhuis, Xiong, and Cannatella 2020), which describes the various stages of a planning process, is used:

- *Collecting information*: The initiation and start-up phase, determining which information is being used in the further process ('joint fact-finding').
- *Gaining understanding* about the area and the local challenges: This is the phase in which priorities, questions and problems are defined that arise from the area and its context.
- *Plan development*: Drawing and testing, diverging and converging, entry and exit of participants and ideas and the gradual emergence of relationships between them, joint narratives and visions.
- The emergence of an *action perspective* and synthesis of results for policy and practice, solidification of the shared vision.
- In this research, a fifth phase is added, the *implementation of the results in practice and policy*, viewed over a more extended period of time.

Research by design

Designing is a systematic search for possible solutions to a spatial problem, 'an activity that aims to visualize an innovative solution to a problem that does not yet exist in the mind of the designer' (Boekholt 1984). It is also the base for the representation of solutions that were not previously visible. Rather than a straightforward process, the design is iterative and runs through various cycles of idea formation, drawing up representations and testing visualized ideas. Research by design can be distinguished from other design activities by the fact that through the act of designing, knowledge is generated. This resonates with the definition provided by de Jong and Van Der Voordt (2002), who see research by design as 'generating knowledge and understanding by studying the effects of systematically varying both design solutions and their context'. Designing is, therefore, a process of synthesizing a wide variety of facts and ideas related to a complex issue – e.g. spatial, social, economic, environmentally political, and others – that helps to create practical insights and different action perspectives. According to Glanville (2015), this practically productive 'knowledge for' is to be distinguished from the scientific 'knowledge of', and is a crucial factor for spatial planning. Nillesen (2019) also describes the need for specific context-related (or: tacit) knowledge to flow into the design process in order to make the design outcomes relevant and grounded.

The research group Future Urban Regions has developed a model that illustrates the 'Design Thinking Process' and shows how research by design connects environmental factors and participants through time (Van den Boomen et al., 2017; and see Figure 1). In successive phases, ideas for possible solutions diverge and converge into decision moments, at which outcomes are consolidated and specified for the next phase. As a result, the plan becomes more and more concrete and feasible, and the support increases. Also, Van Dijk (2021) describes the importance to generate a new repertoire of options and ideas for spatial development by looking at an area's full potential and involving unexpected participants in a rich and fanning out ideation phase, after which plans converge towards a preferred option.

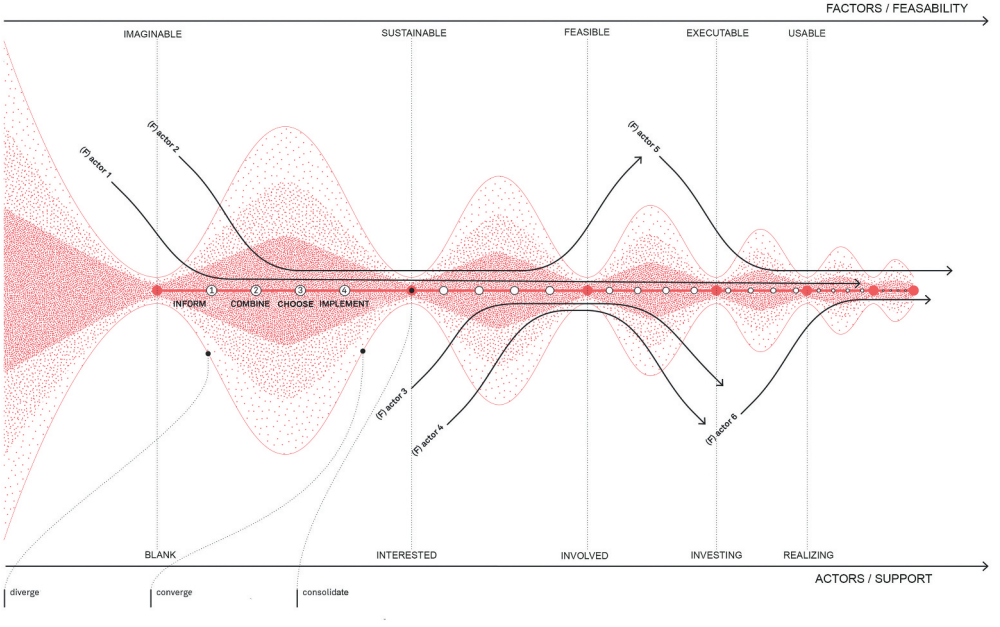

Figure 1. Design thinking process-diagram (Van den Boomen et al. 2017, 128), edited by authors.

Involving the relevant parties

Hajer (2005) introduces the following concepts that help to understand effective vision and policy development processes in which different government and industry parties and their interests are involved. First, 'scripting' – the creation of a setting by determining the participants and the rules for interaction. Second, 'staging' – the organization of interaction. Third, 'setting' – the physical situation in which the interaction takes place. Forth, 'performance' – how the interaction itself produces an understanding of the problems at hand, knowledge, and new power relationships. The first three concepts are being interpreted as process management tools that enlarge the performance and the strategic potential of design studios and refer to this act of setting up and executing a work process as *managing the performance*.

The scripting, staging and creation of the right setting is the basis of successful *co-creation*: the act of drawing up of spatial visions and policy frameworks for future area developments, making use of the specific knowledge of civic and administrative institutions (Nillesen 2019). It also is the key for connecting parties who are not necessarily used to working together in daily practice. In the course of their interaction, they develop new *relations* and a mutual understanding of each other's viewpoints, which can lead to new forms of collaboration (Van den Boomen et al. 2017). In this paper a distinction between area-based parties involved who contribute to the development of a spatial vision based on their interests, and the local government that defines the framework of area development is being made. Both are needed for a successful process, and ultimately vision.

Daamen and Verheul (2014) introduce the concept of the *discourse coalition*, the collaboration of different participants around a dominant story, emerging if the scripting, staging and setting are right. In discourse coalitions despite divergent interests, parties arrive at a 'master narrative' in which the core values of an area development are anchored. Also Adams and Tiesdell (2012) describe the importance of dominant stories in the decision-making process, while Van Dijk (2011) points out the softer values of shared stories, that comment, criticize, explain and promote specific ideas.

Hajer, Sijmons, and Feddes (2006) describe the importance of the staging, of creating 'free spaces' in which participants can think from the perspective of their expertise instead of their position in the hierarchy. Koppenjan and Klijn (2004) refer to this type of practice as 'governance networks', where visions and policy can emerge that 'are results of interaction rather than stacked ambitions of the various parties' (Poorter and Versteeg 2006, 53).

Over the past decades, power and control have gradually shifted to governance networks, which in temporary constellations perform planning tasks and connect policy objectives to processes of implementation (Healey 1997). In the Netherlands, Sijmons (2006) confirms this view in arguing a shift of a 'governmental planning primacy' towards 'occasional coalitions' with a strategic interest in making good plans for specific areas or territories. Allmendinger and Haughton (2007) and Hajer (2017) describe these informal spaces of interaction and decision-making as 'soft spaces': environments that trigger informal cooperation and exchange across geographical and institutional boundaries. They position themselves between and alongside formal institutions but also try to transfer findings from the informal domain to the administrative and political context in which the decisions are made. The soft space is, therefore, a place where vision development and democratic legitimacy can be interwoven (Hajer 2017).

Organizing design studios can be seen as deliberate attempts to create soft spaces. However, this is not always easy to achieve. They suffer from 'institutional ambiguity', a common weakness because soft spaces lack an exact position in the arenas of established institutions and administrative structures (Poorter and Versteeg 2006). According to Sijmons (2006), involving what he calls, the '*powerscape*' can change this. Sijmons pleads to use design as a 'boundary object' between the spatial and the political domain. This requires knowledge of current policy and interests. According to Daamen and Van der Linden (2019) and Balz et al. (2006), however, an appropriate distance from the political issues of the day is also necessary. Finding a balance between the free space of a design studio and the realm of existing policy trajectories, is an important and delicate task. The literature describes various roles that can make this connection between soft space and formal politics: The 'policy entrepreneur' (Kingdon 1995) who leads the lobby towards critical players, the 'planning entrepreneur' (Daamen and Verheul 2014) who takes care of the adaptation of visions, or the 'bricoleur' of cultural anthropologist Lévi-Strauss (1966), who, like a handyman, makes creative combinations with resources that are available. More recently, de Jong, Hajer, and Hoffman (2019) point to 'in-betweeners' as professionals who move and mediate between soft and institutionalized problem spaces. In this paper, the linking pin between different domains, but also between the process and the performance of a design studio, is referred to as '*ambassadorship*'.

Research method

The literature review shows that the effective performance of a design studio has six characteristics, or in other words, has six principles: performance management; co-creation; powerscape involvement; actor relations; discourse coalitions and ambassadorship. These principles were used as focal points in a comparative, explanatory and also evaluating case study that followed the methods described by Yin (2009). The research followed the triangulation method and analysed three cases in their specific context. The cases chosen were completed design studios executed between 2003 and 2012. Empirical publications and planning documents were assessed and 15 semi-structured in-depth interviews with key persons were held – five per case. Data were collected to evaluate the impact of each principle on the process as well as the outcome of the design studios. The key persons interviewed had different roles in the process, such as initiator, studio master, designer, and client, or they were involved in the dissemination of the studio's results. In order to be able to assign statements made to specific principles, the interviews were transcribed and then coded. Subsequently, an analysis showing a relative valuation of each principle per case and project-phase, as well as a cross-case analysis, were made. The validity of the results was enhanced by discussing results with the interviewees and with peers at Delft University of Technology.

What was striking about the results was that both the practitioners and academic peers acknowledged that there is a conceptual overlap between some of the principles, particularly those that are more process-oriented. Respondents affirmed 'performance management' as an overarching principle, encompassing the management of actor relations and of the co-creation process. Communication-oriented principles (powerscape, ambassadorship, and discourse coalitions) are usually not part of the primary setup of a design studio, and were thus less recognized and therefore harder to validate. In the description of the three cases, performance management insights are therefore highlighted.

Evaluating the performance of design studios: three Dutch cases

The cases chosen for the empirical part of this research, carried out in 2019, were public-private partnerships initiated by experts and organized in networks. Those involved wanted to try out faster, more integrated and more 'bottom-up' forms of making spatial visions. The aim was to speed up area development projects while informing more extensive governmental policy-making processes.

The inquiry focused mainly on the strategic role of the design studio, i.e. how and to what extent it contributed to the actual implementation of an integrated area development project. The three design studios that were selected applied a co-creation process in a multi-actor setting, and aimed to develop a shared vision for the future development of a defined geographical area. At the time of the research, all three projects had already been completed for some years, which made it possible to assess the impact. The test cases addressed both a regional and a local scale: regional issues such as an inter-urban network (Atelier Zuidvleugel), infrastructural links between cities (Atelier IJmeer) or the strengthening of the Dutch coastline (Atelier Kustkwaliteit) were looked at next to local issues such as spatial perspectives for railway station areas (Atelier Zuidvleugel), housing production (Atelier IJmeer) and the spatial development of a specific coastal strip (Atelier Kustkwaliteit). This local component, that led to concrete development objectives for a specific urban location, was a precondition for the case selection.

Designing the scale-up of a newtown: case study Atelier IJmeer (2003–2006)

In the Nota Ruimte (Spatial Planning Memorandum, 2004), the Dutch central government designated the newtown Almere as the largest housing location to be in the Northern Randstad, the region around Amsterdam. The idea was that Almere would more than double to a city of 400,000 inhabitants by 2030. This meant that consideration had to be given to the accessibility of the city, which is surrounded on three sides by the lakes IJmeer and Markermeer.

In 2003, on the initiative of the alderman for urban development of the Municipality of Almere, the idea arose to look into possibilities to link housing development to a new public transit connection through the IJmeer to Amsterdam. He commissioned a team of urban designers to make an artist's impression of the urban expansion and bridge connection and create a visualization that could be used in negotiations with the municipalities, province and central government. The urban designers embraced the assignment. Within a few months, they organized a design studio that went far beyond the design of the commissioned artist impression. In a penthouse overlooking the IJmeer in the centre of Amsterdam, they built three large walkable models showing different scales – from national to local, initially depicting the existing status quo (Figure 2). In working sessions with experts and politicians, they worked on future visions. In three years, more than 500 personally invited experts from all relevant disciplines and administrative layers got involved and contributed to the design process. The City of Amsterdam, initially a follower from the side-lines, joined the process.

In 2006, the framework for a) the step-by-step development of new housing in Almere and b) the bridge connection through the IJmeer that was regarded necessary for the

Figure 2. Working with the large models developed during the atelier sessions. The models were used to try out different scenarios of how to add new urban districts to Almere in combination with a new public transport link to Amsterdam. Source: Koolhaas and Marcusse (2004), Portfolio Atelier IJmeer, photographs by Hans Werlemann.

accessibility of the new districts, was completed and published in the book Atelier IJmeer 2030+ (Koolhaas, Marcusse, and Staal 2006). The results showed possible futures for the development of the newtown of Almere, creating a range of ideas for the development of new urban districts that could thrive due to the new bridge connecting it directly to the Dutch capital Amsterdam (Figure 3). The designs had no formal status, but found their way into planning documents and urbanist plans.

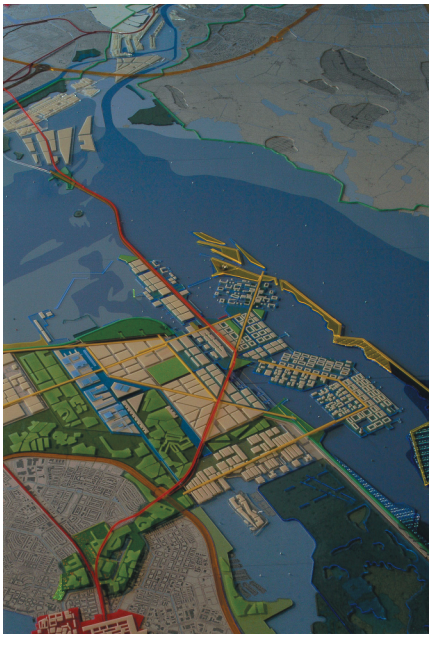

Figure 3. Final model showing the new urban districts along the shoreline and on reclaimed islands in the IJmeer, connected to Amsterdam by new bridge. Source: Atelier IJmeer (2006), photograph by Hans Werlemann.

Strategic effects

The various partners in the area worked together on the so-called Randstad-besluiten (Randstad Urgent 2009), a formal planning procedure that resulted in a joint vision for the region. Because the expansion of Almere was of national importance, in the next phase, the central government took the lead. It drew up a Structuurvisie (National Spatial Planning Act), which became the Rijksstructuurvisie Amsterdam-Almere-Markermeer (Ministry of Infrastructure and the Environment 2013): an adaptive document that laid out process steps and linked the construction of the IJmeer connection to the realization of housing numbers in Almere. To date, the bridge has not been realized, but the housing development in Almere is progressing. In February 2020, the new connection has been a topic of debate in Dutch parliament. In 2019, the interviewees also noted that 'it is not a question of whether the IJmeer connection will be realized, but when and in what form'.

Managing the performance

Atelier IJmeer shows a meticulously elaborated form of design studio performance management. The designers worked with personal invitations to a range of politicians from both local and national government, experts and representatives from civic institutions and involved them in more than 400 consecutive working sessions. For every design step that was taken, the appropriate expert was called in. The workshops were staged in a space with views of the study area, using large, walkable models that represented the area on different levels of scale. Around these models, intimate discussions between the designers and the invited experts took place. This way, knowledge about the area and the context was built up, and the design vision unfolded step by step. The exclusive attention that every expert invited received, and their personal contribution to the results, made those involved an owner of them. Some participants became 'ambassadors', which helped to create more comprehensive support for the developed ideas in lasting discourse coalitions.

Pioneering for a network city: case study Atelier Zuidvleugel, subproject Stedenbaan (2005–2007)

Atelier Zuidvleugel (Atelier South Wing) was started in 2005. It was to last 1000 days and was commissioned by the Director of Space and Mobility of the Province of Zuid-Holland. The idea was to investigate the significance of the concept of the 'network city' for the polycentric and very densely populated urban area between Dordrecht, The Hague, Rotterdam and Leiden called the South Wing (Figure 4). The questions posed were: Could this urban agglomeration function as a network city, a continuous daily urban system? What was needed to make this happen and which parties would have to work together?

Figure 4. The 47 stations in the Zuidvleugel: a regional network projected to accommodate a growth in housing, offices and other facilities, making transit oriented development a feasible option. Source: Balz et al. (2006).

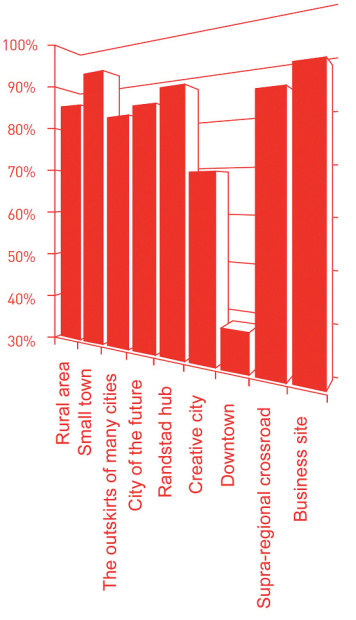

Figure 5. For each station, the potentialities for spatial development were laid out based on its position in the network and local strengths. This analysis identified opportunities for the formation of a new downtown and locations for creative hotspot recreational landscape accessibility, including opportunities for coordination and collaboration within the network city. Source: Balz et al. (2006), edited by authors.

The studio was headed by an urban designer, who with his team in the subproject 'Stedenbaan' ('City Line') investigated whether urbanization around railway stations could lead to an increase of passenger numbers. The question was posed by the Bestuurlijk Platform Zuidvleugel (South Wing Administrative Platform), a regional collaboration negotiating with the Dutch Railways about the construction of the 'Stedenbaan', a high-frequency metro-like system that would connect the South Wing municipalities. From the start, the studio had to coordinate its work closely with local political domains. The studio's independent position and role was to question local spatial plans and policies, which sometimes led to clashes with local political lines. The studio's proposals were not always appreciated, particularly those that advised to build around the stations. At the time, many cities in the region worked on peripheral housing locations.

Nonetheless, the studio aimed to prove that the construction of 25,000–40,000 dwellings and one million sqm of office space around the stations could provide the passenger growth that would legitimize a high-frequency rail connection between the individual stations in the regional 'network city'.

The studio team organized a series of seminars, workshops and consultations with experts, urban planners, directors and council members of the municipalities of the 47 stations. A scientific advisory team was set up to incorporate knowledge about Transit-Oriented

Development (TOD). At the end of 2006, the studio drew the conclusions and demonstrated that the requested housing assignment could easily be realized around the stations, and that passenger numbers would legitimate a higher train frequency. Next to the quantitative results, qualitative aspects were highlighted. By showing the strengths of each station's local qualities, recommendations for its future development could be made (Figure 5).

The results of the design studio were bundled in the publication Ruimte en Lijn (Balz et al. 2006), which presented a straightforward assessment framework for the Stedenbaan municipalities, and provided the South Wing Administrative Platform with the right arguments to start negotiations with the Dutch Railways – and make a deal.

Strategic effects

At the end of the studio, the Stedenbaan-concept was solidly anchored in various National Spatial Planning Acts and memorandums and became, therefore, part of long-term policy. In addition, thinking about TOD received an enormous boost. The municipalities who jointly lobbied for high-frequency rail closed an implementation agreement with the Dutch Railways; from 2024 trains would run more often in parts of the South Wing. On the local level, the design ideas regarding TOD did not have much effect. Recently, a new coalition of municipalities that promotes inner-city densification along existing public infrastructure was formed in the South Wing.

Managing the performance

In this studio, performance management emerged along the way. The Stedenbaan study was Atelier Zuidvleugel's first project, and the process still had to be planned and scripted. First of all, those involved needed to find out how cooperation could be organized. 'Everything was gradually invented', said an interviewee. The process consisted of various efforts to bring the municipalities together in joint work-sessions, but started to succeed only when the South Wing Administrative Platform started negotiations with Dutch Railways. Understanding the value of the design visions for the region's case was the base for collaboration. From that point on, the parties involvement could successfully be staged in workshops, expert meetings, debates and consultations. In this project, the performance management focussed on the interaction with the powerscape, that due to the parallel negotiations concerning the high-frequency rail connection, was strong and close. As a side-effect from the joint attempts from both the studio and the administrative platform to get the 'Stedenbaan' on the agenda, strong actor relations and a lasting discourse coalition emerged.

The emergence of a coastal community: case study Atelier Kustkwaliteit, subproject 'The city by the sea and the future of the sea barrier' (2011–2012)

The launch of the national Deltaprogramma (Delta Programme) in 2010 was followed by large-scale debate and research initiatives about flood protection in the Netherlands. The Coast sub-programme was commissioned to develop a National Vision for the future of the Dutch coastal areas. While this vision was being drawn up, the spatial quality consultants of the provinces of Zuid-Holland

and Noord-Holland took the initiative for Atelier Kustkwaliteit (Atelier for Coastal Quality). They commissioned the studio together with a broad-based initiative group consisting of provinces, municipalities, the Delta Programme, the Delft University of Technology, the Netherlands Architecture Fund and several engineering firms. The studio aimed to conduct research by design to find out how the technical aspects of coastal reinforcement could be combined with enhancing the spatial qualities of coastal zones. The studio positioned itself at a conscious distance from the political domain and tried to operate from an independent position. The research area of Atelier Kustkwaliteit included the entire Dutch coast; the time horizon was 2100. In various site-specific studios, visions were created in which technique and spatial quality had to reinforce each other. The second objective was to integrate the design visions into the Nationale Visie Kust (National Coastal Vison), a policy document linking safety tasking and spatial ambitions for an attractive and economically strong coast. The National Vision Coast to this day forms the basis for the annual Delta Programme, in which the state of affairs regarding coastal development is monitored and action lines are elaborated.

The subproject 'The city by the sea' in Scheveningen was chosen for this research because of the emphasis on the combination of coastal reinforcement and urban development: the seaside of Scheveningen had to be densified with housing and other functions. The studio worked with a multidisciplinary office team that coordinated and organized all subprojects under the direction of a landscape architect and experienced design studio master. This team had close ties to the initiative group and hired the designers who carried out the local studios. For 'The City by the Sea' an urban planner was commissioned to carry out a series of studio sessions with a wide range of participants – from the province to the association of beach club owners –, sketching out the future of the Scheveningen seaside resort. In every step the designers took, the coastal engineers were involved: with visionary, feasible plans as a result. The results showed three scenarios of possible development of the coastline (Figures 6, 7 and 8).

Strategic effects

The collaboration between civil engineers and designers proved to be of great added value in the follow-up phases of the studio in which various projects were implemented. In addition the participants founded a coastal community that was heard of again several years later when a discussion arose about the plans of the Dutch government to allow building activities in the coastal nature zones. The coastal community prevented this by drawing up a Coastal Pact (2017) that guarantees nature protection and coordinated development. The pact was signed by the Ministry of Infrastructure and Water Management and almost 60 parties including the coastal provinces, municipalities, nature and environmental organizations but also tourism boards and -entrepreneurs. Lessons learned from the studio were included in the National Vison Coast (2013), in which the link between safety and spatial quality was firmly embedded. However, the influence of the studio on the National Spatial Planning Act was minimal. According to the interviewees, this was due to a lack of ambassadorship in the implementation phase.

Figure 6. Scenario 'City in the sea', in which the urban fabric slowly grows seawards around a perpendicular dam where sedimentation takes place and building land emerges. Source: Atelier Kustkwaliteit (2011), Werkboek #1, edited by authors.

Figure 7. (left): Scenario 'Hard seaward' projects the water barrier on the edge of land and sea, which makes it possible to build new urban fabric behind it. Source: Atelier Kustkwaliteit (2011), Werkboek #1.

Figure 8. (right): Scenario 'Soft seaward' works with a new stretch of dunes that creates a natural environment for a more nature-sensitive form of development. Source: Atelier Kustkwaliteit (2011), Werkboek #1.

Managing the performance

Atelier Kustkwaliteit is the design studio in which the strongest steering on performance management occurred. The experienced studio master had a clear idea about whom he wanted to participate and on which terms. One of the interviewees described the studio as a 'factory' where work sessions were programmed according to a fixed format: The studio-setup was scripted in advance and rolled out over several local cases along the coastline. By adhering to a clear structure, in each coastal test case, a 'chapter' of a larger narrative about the safe, experienceable and economically feasible future of the Dutch coast could be created. Process-directing in this studio practically meant scripting every step to be taken and involving experts and local parties in a straightforward process. Atelier Kustkwaliteit succeeded in creating supported visions and excellent actor relations. The parties involved in this project continued their collaborations after the end of the studio.

Conclusion: principles of managing effective design studios

Integrated visions for complex spatial projects can evolve through the interplay of directing the design process, the effective use of the design studio, and the deliberate involvement of partners. The cases show that this interplay does not come about by itself. It is the result of design studio performance management that is strongly linked to the knowledge, commitment, perseverance, adaptivity and enthusiasm of the people in charge.

The evaluation of the interviews in the case studies shows that the respondents gave precise and well-founded answers to questions about the guiding principles that were close to their expertise and practice. For example, the initiators, studio masters and the respondents involved in the dissemination provided the clearest explanations of the strategic aspects of the design studios, the interaction with the powerscape and the ambassadorship. The designers, on the other hand, had the best insight into the co-creation and the interaction between the participants, because they were closer to these processes in the workshop sessions. The various clients, who continued to work on the relevant area developments after the end of the design studios, helped to understand the impact of the discourse coalitions. All interviewees responded to lines of questions that addressed the performance management, as each of them at some point in the process got involved in the programmatic setup of the design studios. Performance management was almost unanimously recognized as an 'umbrella' under which other guiding principles function.

In Dutch practice, performance management proves to be a driving force for results that make an impact on area development practice. One of the reasons is commissioning, or putting the right people in the right positions. The studio master has a significant role in directing the process, connecting the studio with the political realm, positioning the studio process in its larger context and coordinating the workflow – a notion which is being underlined by the cases examined. The lead designer, who in two of the cases (Atelier Zuidvleugel and Atelier Kustkwaliteit) was appointed by the studio master, directs the co-creation process that involves the local parties and generates design visions. The third case, Atelier IJmeer, had a different organization: here the studio masters also successfully worked as lead designers. All other guiding principles had no designated

person responsible throughout the studio process – they depended on someone taking on the task at hand.

In the three cases that were analysed in this research, performance management emerged in different ways. In Atelier IJmeer, the designers took the lead and set up a process in which, together with invited experts, a design vision was developed step by step. Around this scripted working method, there was space for debate, interaction and collaboration with other projects and initiatives. In Atelier Zuidvleugel/Stedenbaan it took the studio master a while to develop a workable process. The political domain that held the lobby for the high-frequency railway connection Stedenbaan had to be carefully linked to the studio before the design research could successfully start. At Atelier Kustkwaliteit, the process was laid out in advance: one framework was fit for all the different local studios, issues and parties involved. Where in Atelier IJmeer and Atelier Kustkwaliteit the process was the hub around which the content emerged, in Atelier Zuidvleugel the process developed in an adaptive manner around the needs of the parallel political trajectory. In the three cases, performance management had an external and an internal appearance: the framing and positioning of the studio, which ensured that parallel initiatives or administrative processes could relate well to it can be referred to as the external appearance. The internal aspects are the organization and outlining of process steps connecting all those involved, giving clarity about what can be expected and what is the aim of the trajectory.

In all three studios, the 'performance managers' or studio masters were designers. This shows that 'design thinking' can help to set the agenda, connect internal and external processes and coordinate creative studio-processes. This is in line with the findings of Berkers, De Boer, and Hinterleitner (2019), who define the role of the designer in complex urban projects as 'that of co-producer, synthesizer or even activist, who redefines and puts items on the agenda and (re)directs the approach to challenges'. What can be learned from this is that designers can make valuable contributions in all phases of a design studio, provided they – in addition to the power of imagination – have an affinity with strategic thinking and acting in a political context.

The other guiding principles that have been tested in this research form important sub-aspects in different phases of a design studio. They ensure that local participants can provide input, that coalitions are formed, that shared narratives emerge, and that the (interim) results are noticed in parallel administrative and strategic processes. What is necessary then, is that the guiding principles become part of the setup of a design studio and that those responsible for putting them into practice are deliberately appointed.

The results of this research contribute to a better understanding of the functioning of design studios in complex spatial projects. The insights are surely incomplete due to the limited number of cases studied in the specific context of the Netherlands. Follow-up research should look at a wider range of cases, but also examine in greater depth how visions developed in a design studio affect the agendas of all those involved over a longer period of time.

From imaginative power to strategic power

Design studios can be a useful strategic instrument in spatial planning and development because they can help to organize complex issues, activate partners and create integrated

views on the future of an area at an early stage. They can help build bridges between typically more horizontal networks and more formal political-administrative hierarchies. In this respect, the guiding principles assessed in this research – identifying performance management as an overarching concept – are essential: the conscious and deliberate use of these principles and their integration in the process increases the creative and strategic potential of a design studio and the impact of the generated results.

Literature and case studies alike show that taking results of design studios further is, just like the spatial projects to which they are linked, a long-term exercise. It takes deliberate attempts to anchor and implement results and visions in policies, plans as well as concrete projects. This requires perseverance and patience, and parties who continue to communicate and promote the design visions within the various arenas. Dealing with emergent developments like administrative changes, financial setbacks or societal changes, is also essential. The case studies show that policy windows, moments in which design ideas suddenly get a chance or are swept off the table, can have a significant influence. An example that illustrates this is the Stedenbaan-project, where the negotiations between the South Wing Administrative Platform and the Dutch Railways opened a policy window, that could be supported by the design visions produced by the studio, illustrating the case of the platform.

The results of this research show how the performance of management techniques in design studios not only reduce dependency on policy windows, but also help to generate a higher impact of the results on spatial policy agendas. Next to the performance management, it is the early involvement of design as a tool to draw in expertise, define targets early, openly share values and ambitions, and create visions of possible futures that can hold together a variety of parties over a long period of time. This is what will lead to better urbanism.

For the time being, it is expected that research by design as a strategic instrument for complex spatial projects will remain part of the repertoire from which spatial professionals and government bodies can choose. It is therefore important for both urban and spatial planning professionals and academic researchers to continue reflecting on this working method, to learn from the design phase of completed successful projects, and to keep improving design studio working methods in different practices and contexts. The professional community can benefit greatly from this in the future.

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