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“What does a designer do in a municipality?”

Different approaches towards design in three Danish municipalities

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Abstract: In recent years, design in the public sector has gained popularity amongst policymakers as well as among scholars. Design is perceived as a promising way to create more successful policies and public services. Out of many different approaches, design thinking (DT) has become significantly popular, as it promises to deal with wicked problems in a new way. Despite growing popularity, however, a critical reflection on benefits and challenges, as well as about different understandings of DT practices in public sector, are still lacking. Therefore, this paper aims to investigate different ways public organisations engage and introduce DT. In this paper we present 3 different municipalities in Denmark and the way design and DT is understood and implemented in organizational work practices. Our contribution to theory is twofold. First, our research responds to the recent call of different researchers to investigate how DT is operationalised and drawn upon in practice by different organizations in the public sector. Second, our research contributes to the design field, by showing barriers of implementations, different benefits and challenges connected with design in organisations with no prior experience in design.

Keywords: design, design thinking, design science, co-creation, public policy, public administration

1. Introduction

More and more authors are perceiving growing role of design capability in public sector (Hermus et al., 2020; Lewis et al., 2020, p. 117). Focusing on how design is being understood in public administration, van Buuren et al. (van Buuren et al., 2020, p. 11) proposed categorization of 3 different approaches towards design; design as optimization; design as co-creation; and design as exploration, so design can be introduced in public administration with different aims and to address different challenges. There is no surprise then, when Kimbell and Bailey argue that the adoption of design practices into policy settings has received mixed assessments. On one hand, designerly methodologies are seen as having the potential to improve public policymaking. On the other hand, design’s traditional focus on



experiences and serendipitous creativity neglects deep understanding of government systems and may be at odds with prevailing organisational cultures and practices (Kimbell & Bailey, 2017). Van Buuren et al (2020) also point to rather uncritical appraisal of design and DT in public administration literature without serious attention directed at understanding its limitations and side effects. Clarke and Craft (2019, p. 17) claim that design thinking (DT) advocates offer a fresh perspective, but their propositions are in some cases naïve and ill-informed, as often they do not appreciate the existing body of empirical and theoretical work that preceded the application of DT to public sector. Simultaneously, other researchers claim that efforts to promote DT in the public policy realm focus on policy innovation and rarely deal with issues such as the barriers to implementation, political feasibility or the constraints under which decision-making takes place (Howlett, 2020). To conclude, design approach in public sector seems like an exciting area of study. On one hand we see growing interest in design both from scholars and practitioners. On the other hand, however, more critical voices are rising, pointing to certain challenges connected with this approach.

Therefore, this paper aims to investigate different ways public organisations engage and introduce DT. In this paper we present different municipalities in Denmark and the way design and DT is understood and implemented in organizational work practices. Our contribution to theory is twofold. First, our research responds to the recent call of different researchers to investigate how DT is operationalised and drawn upon in practice by different organizations in the public sector. Second, our research contributes to the design field, by showing barriers of implementations, different benefits and challenges connected with design in organisations with little or no prior experience in design.

2. Design in the public sector

(Kimbell & Vesnić-Alujević, 2020) noted core concepts of design in public administration as: focusing on people's experiences; emphasizing materiality and esthetics; involving diverse participants in designing; iterative learning by trying out partial solutions; exploratory and generative ways of exploring uncertainties. Van Buuren et al. (van Buuren et al., 2020, p. 11) proposed categorization of 3 different approaches towards design; design as optimization (design can be considered as a method to find the best solution); design as co-creation (design is a matter of mobilizing all relevant stakeholders to jointly create solutions to problems); and design as exploration (design is to enhance creativity, learning and experimentation).

2.1. Design capability

Design capability is defined in many ways, especially as the term can be found with different synonyms such as design competence, skill, capabilities, or capacity (Acklin, 2013) and in specific design fields (Morelli et al., 2021). In the most general way design capability can be defined as "the knowledge and skills of a designer or the awareness of design in the organization" (Malmberg, 2017, pp. 47–48). By studying the concept closer, Malmberg proposed an understanding of design capabilities in relation to the design maturity of an

organization, more specifically as awareness of design; as design resources; and as structures that enable the use of design (Malmberg, 2017).

In the area of the awareness of design, design capability is about the perception and understanding of design and design's potential contributions in the organisation (Malmberg, 2017, p.53). Different views on DT exist in the literature (Johansson-Sköldberg et al., 2013; Sarooghi et al., 2019) and to keep an overview some authors have proposed different categorisations of how DT is understood and conceptualised. For example, Brenner and colleagues explain 3 different approaches to DT as: (1) mindset, (2) process, and (3) tools (Brenner et al., 2016); different approaches bring different mindsets, tools, and work processes. Recent studies also suggest that, how DT is being understood and implemented in an organization, depends greatly on a DT facilitator, his/her understanding of DT and facilitation styles (Starostka et al., 2021). Additionally, awareness of design is not only understood as the perception of the company about the role and value of design and designers practice, but also as the designers' understanding of the pre-existing design principles, methods, and practices in companies, that Junginger (2014) calls organizational design legacies. That assimilation of existing practices, products, and services helps the designer to understand the organisation's goals and how they might be improved using design (Junginger, 2014).

Design capability as design resources, instead, is related to the design competency, skills, or activities brought by trained designers or the use of a design methodology (Malmberg, 2017, p.51). These skills can be brought to the organization by trained designers or by training employees in design thinking methods and tools, so therefore varying significantly from one organisation to another. DT can also be understood as a process that allows non- designers to use design methodologies to achieve organizational goals, typically associated with business innovation (e.g. Elsbach and Stigliani 2018).

Finally, design capability as structures that enable the use of design, is an area focusing on the organizations' ability to make use of the design practice by creating the right setting for it (Malmberg, 2017, p.55). (Kekez et al., 2018) present different models of alternative arrangements for public service delivery: consultative in-house service delivery; contracting-out; commissioning; co-management; co-production; and third-party certification, showing how differently an organization can employ resources, including design. This aspect has gained interest from the management field as it is interpreted as the way that managers support and deploy the design resources. According to Lima and Sangiorgi, the engagement of management is critical, as "the conditions created by organizations affect the results design can achieve" (Lima and Sangiorgi, 2018, p.51). As Malmberg also stated:

"Design capability cannot be developed directly by adding resources but requires the development of structures, routines, or processes that enable the use of design competence and the assimilation of design practice" (Malmberg, 2017, p.56).

Interesting perspective in this area is presented by Mortati (2019, p. 737), who distinguished strong, weak and non-design spaces. Strong design space is when design is institutionalized

and supports policymakers to engage with real situations and “designers constitute publics, propose scenarios and prototype possible futures, use visualization to aid policy choices” (Mortati, 2019, p. 737). In this situation design pays an important role, initiating change and leading developmental processes. A weak design space is when design is peripheral in the process, often not impacting at higher decisional level or when design works at the “micro level of communities” and lacking upscale proposals. Non-design space is when there is a low presence of design at both institutional and community level (Mortati, 2019, p. 737).

2.2. The need of more realistic approach to DT in public administration

More and more authors are perceiving growing role of design capability in public sector (Hermus et al., 2020; Lewis et al., 2020, p. 117). Taking a closer look at how design is being understood in public administration, van Buuren et al. (van Buuren et al., 2020, p. 11) proposed categorization of 3 different approaches towards design; design as optimization (design can be considered as a method to find the best solution); design as co-creation (design is a matter of mobilizing all relevant stakeholders to jointly create solutions to problems); and design as exploration (design is to enhance creativity, learning and experimentation). It can be argued that design can be introduced in public administration with different aims and to address different challenges.

There is no surprise then, when Kimbell and Bailey argue that the adoption of design practices into policy settings has received mixed assessments. On one hand, designerly methodologies are seen as having the potential to improve public policymaking. On the other hand, design’s traditional focus on experiences and creativity neglects deep understanding of government systems, and may be at odds with prevailing organisational cultures and practices (Kimbell & Bailey, 2017). Van Buuren et al (2020) also point to rather uncritical appraisal of design and DT in public administration literature without serious attention directed at understanding its limitations and side effects. Clarke and Craft (2019, p. 17) claim that DT advocates offer a fresh perspective, but their propositions are in some cases naïve and ill-informed, as often they do not appreciate the existing body of empirical and theoretical work that preceded the application of DT to public sector. Simultaneously, Howlett claims that efforts to promote DT in the public policy realm focus on policy innovation and rarely deal with issues such as the barriers to implementation, political feasibility or the constraints under which decision-making takes place (Howlett, 2020).

To conclude, design approach and DT in public sector seems like an exciting area of study. On one hand we see growing interest in design both from scholars and practitioners from public administration. On the other hand, however, more critical voices are also rising, pointing to certain challenges connected with DT.

3. Methodology

3.1 Data

Given the limited empirical understanding of DT and how it is practically translated and understood in public organisations, we designed a study based on a qualitative, exploratory approach to data collection (Bryman & Bell, 2007).

This paper is a part of a bigger study of design practices in Danish municipalities, and for the scope of this article we focus on 3 different municipalities. The choice of the cases was purposeful, we selected municipalities that were similar in size (middle cities in Denmark), that worked with design, but in different ways. Purposeful sampling is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest (Patton 2002) and in our case it helped us to analyse the different ways in which DT has been embedded in organisations.

For this purpose, 10 in-depth interviews were conducted (see detailed list in table 1). We interviewed people involved in different projects: designers, facilitators, project managers from municipalities and other public organisations closely connected to DT projects within the public sector.

Table 1. List of interviews

Case	Brief details about the organization	Interviewees
Case A	Size of the municipality: 90.000 citizens, 7.500 employees	Design Chief (former)
		Project Manager
		External designer
		External designer
Case B	Size of the municipality: 55.000 citizens, 5.000 employees	Designer
		Project Manager
Case C	Size of the municipality: 41.000 citizens, 3.000 employees	Leader for IT and digitalisation
		Project manager
		Project manager
		External designer, DT Facilitator

The interviews were conducted from March 2019 to November 2021 and lasted from 40 up to 120 minutes. The interviews were recorded and transcribed. A brief interview manual was used comprising different areas of interest: approach towards design and DT in the organization; organisation of design competency in the municipality; roles of a designer; challenges connected with DT; benefits of DT; and others. The content of the specific topics varied from respondent to respondent. Details of respondents other than roles and institutional affiliations are omitted and anonymized due to confidentiality issues.

3.2 Data analysis

The first step in our analysis consisted of coding the material, identifying statements and other sources linked to descriptions of DT. The research approach was iterative. We continuously compared theory and material, iterating towards a theory that closely fit the material (Eisenhardt, 1989; Edmondson & McManus, 2007). As we began to conduct interviews and code our data, we compiled a preliminary list of first-order codes. Using NVivo software, we used short text fragments to summarize different aspects of the DT work and their different approaches to it. Our empirical work and insights from the literature helped us identify overlapping areas and fine-tune different approaches. In the next section we describe each case using similar structure: about design/DT approach; challenges and benefits gained from DT appreciated in the organisation and additional themes (focus on the specific case-related theme highlighted in the interviews).

4. Findings: Three different approaches towards design

4.1 Case A: Design as distributing power

Out of all 3 cases, Case A municipality has been working with DT the longest. The design capacity of that municipality started to grow in 2013, when a person was employed as a Design Chief to introduce the design approach in the organisation. The Design Chief became a head of a Design Secretariat – a unit that was built like an internal design consultancy: offering trainings in DT, preparing materials and toolkits, and providing project facilitation for different units in the whole municipality.

Main topics covered in this case are:

- Citizen orientation
- Design producing good arguments
- Low fidelity prototyping
- Threat to power
- DT cannot stand alone

Citizens Orientation. Social workers accepted the DT approach “from day one” because of its focus on citizens’ needs. This is how the Design Chief was reflecting about it:

“if you think about a municipality, there are 80% of the employees that are people who have trained to help others as a teacher or as a nurse, as a home helper (...), so when we introduced design thinking, there were really many of them who accepted it from the day one! (...) there were really many who got such resuscitation reactions: ‘That's why I went in!’”

Good arguments. Another interesting benefit was that design helped to produce “good arguments” in different situations, where scripts or screenshots from users' interviews could be used in discussions:

"What a speech bubble does not do on a PowerPoint! It's wildly manipulative (...) the image where you have 2 real citizens talking: ‘I do not feel seen in the system. I feel

the system makes me a number'. It is totally crazy how good it works! Then there are 25 people sitting and watching this: 'Shit. It was not so good'. It is a hundred times stronger than a boss says: 'You must be good to the citizens!'."

The interviewees also highlighted the value of low fidelity prototyping by referring to a study of a tool they were developing for chronically ill people. The development team wanted to create a more "fancy" version, but the user research showed that citizens, who were the recipients of the designed solution, preferred much more plain and simpler version.

Threat to power. At the same time, while DT was exciting for social workers, it was challenging for the administration, especially for the leaders, who were afraid of a power loss. The design chief perceived part of his job at the beginning as "*disassembling fear of power loss*" amongst managers. In his opinion power was the main topic, as leaders in the organisation felt threatened and afraid that part of their decisional power is being transferred to the citizens. He described it in a following way:

"It required a lot from us, benevolence and dialogue and compromise. In reality, no one wants to take away the management competence. We wanted to show them (leaders) that it is something new: a possibility to expand the decision basis; create more qualified decision basis, not a threat to their power."

The fear of power loss was especially evident amongst younger leaders, as "*they were still building up their careers and had more to lose*" than the older, more established leaders in the organization.

DT cannot stand alone. The Design Chief was very clear from the beginning that DT becomes an important, but not the only approach. The team's focus was on mixing different ways of working, tools and methods that belongs to different disciplines and professions, that have already been in use in the organization:

"That was one of the things that I often said in the team, that we recognize these 3 types of languages equally: the visual, the verbal and the numbers. (...) So, design does not stand alone, (...) and it is not the same as that the citizens get what they want. DT is not the same as saying that we do always what citizens want. But we take the citizens' perspective to see what is possible."

4.2 Case B. "What does a designer do in a municipality? You don't do clothes, what do you do?"

The second case presented here is a municipality that recently restructured and during this process in 2019 a first designer was hired, six months after another one. Both designers are part of an innovation team that works for 3 big units in the municipality.

Main topics covered in this case are:

- Agile approach
- Citizen orientation
- Lack of experience with working with designers
- Bureaucratic structure.
- Designing through non-designers

Agile approach. The main benefit from using DT in this municipality was the agility of the design process, much shorter time frame of the projects. The designer was reflecting that the projects in the municipality are long and planned together with yearly budgets. Steering committees are meeting every 2-3 months, where *“not much is happening in between”*. That challenge was a chance for the design team to show the value of DT approach. The designer was giving an example of one of the projects ordered by politicians, where within 2 months they gathered and analysed insights from citizens and managed to prototype 4 quick solutions for further tests with citizens. That impressed people engaged in that project and showed a real value design approach can bring.

Citizen orientation. The second main benefit was the citizen orientation. Here the designer shared an example of a project they did for the whole team of leaders from the unit (around 80 people). All managers were invited to conduct interviews with different citizens. The design team arranged contacts to different groups of people to talk to: citizens who were receiving help from the municipality in their daily lives; people from different voluntary organizations, like a knitting club, who are knitting socks for homeless people, or even people from the hot-dogs stands in the city. *“Everyone we could think of that might have been interesting to talk to”*. The design team made an experience out of this exercise: they prepared an introductory package with a toolkit, few candy-bars, welcome notes, etc. The design team made a short toolkit teaching managers some rules for qualitative research. One of the rules was, for example, that when they are conducting interviews, they are not managers, but a “a regular” person, being curious in another’s person’s point of view: *“hearing what is important for the citizen, before trying to fix the problem at hand”*. This is how the designer was reflecting about it:

“It went great! (...) some of them were nervous, but the response we heard was all good and they thought it was very interesting and exciting to get to talk to those people, citizens, and take few hours of their calendars. To just meet people, face to face”.

The project created a big engagement. Insights gathered during the interviews were used in a big management training, where every team wanted to share their insights, as *“they felt so strongly that they discovered something important”*. That project created a wide acceptance and understanding among managers about the value of design in bringing the citizens’ perspective.

Lack of experience with working with designers. The first challenge that was brought up in the interviews was the lack of knowledge and experience when working with designers. This is how the first designer was reflecting about the beginnings in the municipality:

“When I was hired, there were a lot of people who didn’t know what a designer was doing in a municipality and they were asking: ‘you don’t do clothes, what do you do?’ (...) After I started, it changed for those that met me several times (...), but I still meet a lot of people that doesn’t know what a designer should do in a municipality”.

The interviewee added also that a lot of employees are still seeing the designer as someone that is making things “*look good*”.

Bureaucratic structure. When asked about challenges, the designer mentioned the bureaucratic structure, the long time required to push things through and the design approach acceptance being very dependent on the manager of a specific unit:

“Because she is so much for design, she is very much that everyone in this department, designers, or not, should use this way approaching assignments, no matter what it is. (...) I think the managers under her that were part of it they know that this is what she likes, and wants more of, so if it had been in a different place in the municipality, they maybe would have been more resistant”.

Designing through non-designers. The designer also shared a reflection about the difference in approaching DT between people that are or aren’t trained in design:

“I am not saying that is bad that people who are not designers are using the design approach, I think it’s good, but there is a difference (...) as designers we have been trained that the process is never a structured way of doing things and the model is more like a circle, because there are no phases, so I guess it’s one of the things that is different.”.

The municipality developed a toolkit, that was much more structured and more like a step-by-step manual, that people with no design background can use:

“I think also somehow DT is maybe sometimes used as a fancy way of doing a project, instead of actually exploring the core of the problem”

4.3 Case C. “Design department? It was a very good idea, but...”

The third municipality in this study is a municipality where design approach was introduced by a third-party organization. In this case the municipality took part in a project, where an organisation for all municipalities in Denmark offered courses and facilitation of design and service design for the municipalities that have not worked with that approach before. Within the project an external DT expert, with a designer background, was offering DT workshops for the municipality employees. After the initial training, the organization also helped facilitating a project with DT and service design tools and methods.

Main topics covered in this case are:

- Citizen involvement
- Difficulties with changing the work practices
- Lack of leadership power - failed to scale

Citizen involvement. One of the main benefits mentioned by the project manager was citizen involvement and learnings that came from interviewing and testing ideas with citizens. In this cooperation, the most important insight from DT approach was testing the assumptions in a real world:

“We don’t make assumptions; we have to take the whole situation into account and investigate the real issue”

Within the project citizens were actively engaged; interviewed and involved in different phases of the project, which was a new approach in the organization. The design project was offered only for a selected employees in the municipality, which creates tensions. The Project Manager, that was part of the design project, shared how she recently was working on a new website and how they tested the accessibility of the webpage with blind people. Some people in the municipality wanted to test it only with the experts, but it was her that pushed and made it happen that 2 blind people were involved in the tests and brought up very interesting insights for the whole development team.

Difficulties with changing the work practices. According to the external DT expert that worked with this municipality, the main challenge was to convince employees to change their work practices. The first challenge was to make them to talk with citizens. It was out of the comfort zone for the employees:

“They were spending so much time talking about doing the interviews, and not actually doing them. They were finding so many excuses about it (...) It was difficult to get them started but if they did one interview, they were often surprised about the outcome, and that citizens had other perspectives than what they expected. “

The second challenge was related to prototyping: it was also hard to get the municipality employees to ‘work with their hands’, getting ideas and expressing them visually. This is how the external consultant was reflecting about it:

“I helped them to set up a process with the whole double diamond, but they were not used to using pen and paper, and expressing their ideas was the most difficult”.

Lack of leadership power - failed to scale. The last thing was, that it is crucial to have the team leader, or a person who makes decisions, on board:

“We will use time and resources for exploratory workshops (that do not guarantee results), so there must be someone decisional there. (...) it's hard for the decision-maker to take people out of their daily jobs when it is not known what will come out of it”.

After that success, the municipality opened a pilot, experimental DT unit of 2 people that were “*supposed to work on approaching problems in a non-oblivious way*”. After 2 years, however, the unit was closed:

“It was a very good idea, but it lacked the management support and decision-making power”

The municipality failed to scale the impact of design, however in some places, design approach was still used. It is not institutionalised, but rather dependent on individuals implementing some of the methods and rules in their work practices.

To summarise the differences in all 3 approaches we presented different aspects in table 2.

Table 2. Summary of case studies

	Case A	Case B	Case C
Design department	Established as an internal consultancy	Design part of a development unit	Established for 2 years as an experimental pilot project, closed after that time
Designer/s	External	Internal	None
Design consultants	Internal	Internal	External
Benefits	<ul style="list-style-type: none"> - Citizen orientation - Design producing good arguments - Low fidelity prototyping 	<ul style="list-style-type: none"> - Agile approach - Citizen orientation 	<ul style="list-style-type: none"> - Citizen involvement
Challenges	<ul style="list-style-type: none"> - Threat to power - DT cannot stand alone 	<ul style="list-style-type: none"> - Lack of experience with working with designers - Bureaucratic structure - Designing through non-designers 	<ul style="list-style-type: none"> - Difficulties with changing the work practices - Lack of leadership power - failed to scale

5. Discussion and contributions

Our research showed that one of the benefits of the design approach that was mentioned in all 3 cases was the citizen orientation. That is in line with previous research, as this aspect is widely mentioned in the literature (Carlgren, Elmquist, et al., 2016; Carlgren, Rauth, et al., 2016; Kimbell, 2012; Liedtka et al., 2013). However, we could also observe how different implementation practices, lead to different results. In case A, Design Chief focus on power relations helped to change organizational practises, in case B, well-prepared project led to excitement among employees about talking to citizens, while in case C, employees resisted direct engagement with citizens, which in result ended up in a failed pilot project.

Taking the framework presented by Malmberg (2017) into account, if we look at the cases in terms of awareness of design, in all the cases design was mainly used as a tool - to either produce prototypes (case A) or as a process - to enable citizens' engagement (case B) or to enable a more agile way of working (cases B and C). Only partly in case A we can say that design was embraced as a mindset – by the social workers, who felt that the design approach was connecting the organisation back to its mission, i.e., serving and connecting with citizens (Brenner et al., 2016).

In terms of Design Resources, we can say that design capabilities and competencies were used in all the three cases. In the comparison we can see how 3 municipalities approached implementing design in different ways: as an internal consultancy (case A), as part of development unit (case B) and as an experimental pilot project (case C). The organisations also used different approaches to working with designers/design consultants, engaging them as external or internal specialists, which is in line with previous research on different models of collaboration for public service delivery (Kekez et al., 2018). Case A, worked with mixing external and internal experts, case B used internal sources only, while C used only external

design consultants. In case C the design department failed, partly because the external consultants didn't manage to strengthen the employees in using the design tools and methods, partly also because of the missing understanding of the existing organizational design legacies, which is necessary according to previous research (Junginger, 2014).

Exploring the design space of the cases through the analysis of their organizational structures and adopting the categories presented by Mortati (2019, p. 737), we can say that in cases A and B, municipalities managed to build strong design places. In both cases, design was institutionalized and supported by policymakers. In both cases design played an important role, initiating change and leading developmental processes. Case C, however, is an example of a weak design space, where design was peripheral in the process, not impacting decisions at higher level, working at the "*micro level of communities*" (Mortati, 2019, p. 737), bringing results on the micro-level, but failing to scale its impact.

We could also observe how different organizations struggled with different challenges connected with the design approach. Challenges in DT projects are well described in the literature (Carlgren, Elmquist, et al., 2016), however our research showed how different implementation practices, lead to specific challenges. In case A, the issue was the internal struggle with power relations, and fear of losing power by managers. In case B, challenges were bureaucratic practices and lack of experience with working with designers. In case C, main difficulties turned out to be changing existing work practises and lack of strong leadership that could support design approach.

Despite our investigation was based on a limited number of 3 case studies, it allowed us to reflect on how design may influence practices in public administration in 3 distinctive ways: (1) design can help to manage power relations, by producing good arguments; (2) design can help implement agile processes by showing results quickly, and (3) design can also work on a micro-scale level, in an organization that is not ready to embrace the full value of design approach yet.

6. Conclusions and future work

This paper aims to investigate different ways public organisations engage and introduce DT. On one hand, designerly methodologies are seen as having the potential to improve public policymaking. On the other hand, design's traditional focus on experiences and serendipitous creativity neglects deep understanding of government systems and may be at odds with prevailing organisational cultures and practices (Kimbell & Bailey, 2017). By presenting different municipalities in Denmark, we can reflect upon different ways design and DT is understood and implemented in organizational work practices.

Our research responds to recent call in the literature for more realistic approach to design methodologies in the public sector (Clarke and Craft 2019; Howlett 2020; Van Buuren et al. 2020). At the beginning of its popularity, DT literature was suggesting that applying DT in organisations is straightforward and easy (Brown, 2009). Only more recent publications

identified specific challenges related to applying DT in organisational contexts. (Carlgren et al., 2016; Starostka et al., 2021). By showing challenges faced by organisations when implementing design, we hope to direct more serious attention at understanding its limitations and side effects of DT, especially in the public sector.

Our contribution to theory is twofold. First, our research responds to the recent call of different researchers to investigate how DT is operationalised and drawn upon in practice by different organizations in the public sector. Second, our research contributes to the design field, by showing barriers of implementations, different benefits and challenges connected with design in organisations with little or no prior experience in design. We see it as an exciting study for further research, bringing more empirical evidence and local nuances.

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