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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. Despite growing popularity, a critical reflection on benefits and challenges, as well as about different understandings of design practices in the public sector, are still lacking. Therefore, this paper aims to investigate different ways public organizations engage and introduce design approach. In this paper we present 3 municipalities in Denmark and the way design 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 design is operationalized 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 organizations with no prior experience in design.

1. Introduction

More and more authors are perceiving the growing role of design in the public sector (Hermus, van Buuren, and Bekkers 2020; Lewis, McGann, and Blomkamp 2020; Kimbell and Vesnić-Alujević 2020; van Buuren et al. 2020) Kimbell and Bailey argue, however, 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 understanding of government systems and may be at odds with current organizational cultures and practices (Kimbell and Bailey 2017). Clarke and Craft (2019, 17) claim that design and 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. van Buuren et al. (2020) point to rather uncritical appraisal of design and DT in public administration literature without serious attention directed at understanding its limitations and side effects and other researchers claim that efforts to promote DT in the public policy rarely deal with issues such as the barriers to implementation, political feasibility or the constraints under which decision-making takes place (Howlett 2020).

Therefore, this paper aims to investigate different ways public organizations engage and introduce design. We study 3 municipalities in Denmark and the way design is understood and implemented in organizational work practices. As design in the public sector is still a growing field of research, we performed an exploratory empirical study in which we adopted a qualitative approach to data collection, thereby uncovering how design is practiced (Eisenhardt 1989; Eisenhardt and Grabner 2007).

Our contribution to theory is twofold. First, our research responds to the recent call of different researchers to investigate how DT is operationalized 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 organizations with little or no prior experience in design.

2. Design capability in the public sector

To further understand different design conceptualizations in practice, a concept of design capability has been developed in the literature. 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, de Götzen, and Simeone 2021). In the following section, we focus on the design capability framework developed by Malmberg (2017), that focuses specifically on organizations in the public sector. The concept of design capability will help us frame our empirical research.

Design capability can be defined as *"the knowledge and skills of a designer or the awareness of design in the organization"* (Malmberg 2017, 47–48). By studying the concept more closely, Malmberg proposed an understanding of design capabilities in relation to the design maturity of an organization, more specifically as (1) awareness of design; (2) as design resources; and (3) 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 organization (Malmberg 2017, 53). One of the possible approaches is design thinking (DT), which in recent years has become popular, however different views on DT exist in the literature (Johansson-Sköldberg, Woodilla, and Çetinkaya 2013; Sarooghi et al. 2019) and to keep an overview some authors have proposed different categorisations of how DT is understood and conceptualized. For example, Brenner and colleagues explain 3 different approaches to DT as: (1) mindset, (2) process, and (3) tools (Brenner, Uebernickel,

and Abrell 2016). Recent studies also suggest that, how DT is being understood and implemented in an organization, depends 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 preexisting 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 organization's goals and how they might be improved by the use of 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, 51). These skills can be brought to the organization by trained designers or by training employees in design methods and tools, so therefore varying significantly from one organization to another. DT, for example, can 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). When applied to public policies, design resources may aim at facilitating citizens' engagement and collaboration, or more generally a co-design approach including different stakeholders.

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, 55). Kekez, Howlett, and Ramesh (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 design resources. 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, 51). As Malmberg 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, 56)

Interesting perspective in this area is presented by Mortati (2019, 737), who distinguished strong, weak, and non-design spaces. A 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, 737). In this situation design plays 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. A non-design space is when there is a low presence of design at both institutional and community level (Mortati 2019, 737).

3. Methodology

3.1. Data

Given the limited empirical understanding of design in public organizations, we designed a study based on a qualitative and exploratory approach to data collection, where 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). 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 analyze the different ways in which design has been embedded in organizations.

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

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 toward design and DT in the organization; organization of design competency in the municipality; roles of a designer; challenges connected with DT; benefits of DT; and other topics. 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 toward a theory that closely

Table 1. Details about the organizations and interviewees.

Case	Brief details about the organization	Description of design in the organization	Interviewees
Case A	Size of the municipality: 90,000 citizens, 7,500 employees	• Established as an internal consultancy • Design introduced by in-house • Mix of internal and external designers and design consultants	• Design Chief (former) • Project Manager • External designer • External designer
Case B	Size of the municipality: 55,000 citizens, 5,000 employees	• Design part of a development unit • Design introduced by in-house • Internal designers	• Designer • Project Manager
Case C	Size of the municipality: 41,000 citizens, 3,000 employees	• Design introduced by external consultant • Experimental pilot project (closed after 2 years)	• Leader for IT and digitalisation • Project manager • Project manager • External designer, DT Facilitator

fit the material (Eisenhardt 1989; Edmondson and 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 a similar structure: about design/DT approach; challenges and benefits gained from DT appreciated in the organization and additional themes (focus on the specific case-related theme highlighted in the interviews).

4. Findings – different approaches toward design

4.1. Case A. Design as distributing power

The design approach was introduced in the organization in 2013, when a Design Chief was hired. The Design Chief became a head of a Design Secretariat – a unit that was built like an internal design consultancy: offering training in DT, preparing materials and toolkits, and providing facilitation for different projects in the municipality.

The main topic in this organization has become power and the way introduction of design in the organization has empowered certain groups of employees and threatened some others.

The first group, empowered by design and design thinking, was social workers. As the Design Chief was reflecting, they accepted design and the DT approach "from day one". This is how he talked 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 and design thinking, there were really many of them who accepted it from the day one! (…) there were really many who got such exciting reactions: "That's why I went in!"

At the same time, while DT was inspiring for social workers, it was challenging for the administration, especially for the leaders, who were afraid of loss of power. The Design Chief perceived part of his job as "*disassembling fear of power loss*" amongst managers, as leaders in the organization felt threatened and afraid that part of their decisional power would be transferred to citizens and other groups in the organization. He described it in a following way:

> With managers it required a lot from us, dialogue and compromise. In reality, no one wants to take away the management competence from them. We wanted to show them (leaders) that design is something new: a new possibility to expand the decision basis, or an opportunity to create a more qualified decisions, 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.

One way that the design team was trying to convince managers to accept design, was showing them different benefits that design can bring in their leadership work.

One way was to show the leaders that design "*can produce good arguments*", for example, by using data from qualitative interviews with citizens:

> 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 when a boss says: "You must be good to the citizens!".

Another interesting aspect of the way design was embedded in this organization was anchoring it in existing practices, as the Design Chief expressed it "*DT cannot stand alone*". The team's focus was on mixing different ways of working, tools and methods that belong to different disciplines and professions, and 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 always do what citizens want. But we take the citizens' perspective to see what is possible.

4.2. Case B. Design as producing results quickly

The municipality represented in Case B started working with design in 2019, when 2 designers were hired to work in the organization. Both designers became part of an innovation team that worked for 3 big units in the municipality.

In this case, embedding design was focused on gaining trust toward the designers and showing results of the design approach as quickly as possible. The first designer was shearing experiences from the beginnings, where many employees were surprised and could not understand what a designer can do in a municipality:

> When I was hired there was a lot of people who didn't know what a designer was doing in municipality and they were asking, you don't do clothes, what do you do?

The designer was reflecting that the projects in the municipality were 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 the design approach very quickly. One example was a project ordered by politicians, where within 2 months the design team gathered and analyzed 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, empowering the design team.

Another example was shared around the value of the customer orientation. It was a big project for a group of leaders from the 3 units (around 80 people), where the design team invited each leader to conduct interviews with different citizens. The design team arranged contacts to different groups of individuals to talk to: citizens who were receiving help from the municipality; people from different voluntary organizations, like a knitting club, who are knitting socks for homeless people; or even an owner of a hot-dog stand in the city. As the designer stated: "*Everyone we could think of that might*

have been interesting to talk to in the city". The design team made a short toolkit teaching managers some rules for qualitative research and tried to make the whole project a fun and engaging experience. The introductory package included welcome notes, candy-bars, maps etc. As a designer was reflecting: *"We were trying to teach them to listen what is important for the particular 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 citizens and take a few hours off their calendars; to just meet people, face to face.

The project created a big engagement in the leadership team. Insights gathered during the interviews were used in a big management training, where every team wanted to share their insights, as *"each team felt 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.

4.3. Case C. "Design department? It was a very good idea, but … "—design at a microscale

The Case C presents a municipality in which design approach was introduced by an external consultant in 2018. The municipality took part in a project, where an organization for all municipalities in Denmark offered courses and facilitation of design thinking and service design. Within the project the external designer conducted DT workshops for a selected group of municipality employees. After the initial training, the consultant also helped to facilitate a project with DT and service design tools and methods.

According to the consultant it was difficult to work with the municipality, and the main challenge was to convince employees to change their work practices. The consultant was visiting the municipality every few months, where the participants were given some homework, for example conducting interviews with citizens:

> 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.

Another challenge to change the work practices was related to prototyping. According to the consultant, it was hard to convince the employees to "work with their hands", prototyping 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.

Because the consultant was not present in the organization on everyday basis, she could not offer on-going support, and the new practices were not used. However, short after the project, a funding opportunity was offered to the municipality and an experimental design unit was opened, in which 2 employees were hired *"to work on approaching problems in a non-oblivious way"*. After the external funding ended,

however, the unit was closed. That's how a project manager from the municipality reflected about it:

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

The unit was separated from other employees and lacked support from the management.

The municipality failed to scale the impact of design, however in some places, a design approach was still present. Design approach was not institutionalized, but rather dependent on individuals implementing some of the methods and rules in their work practices. One interviewed Project Manager, who was part of the initial design trainings, shared how she still used some of the knowledge she gained during the design trainings:

> I don't make assumptions anymore; I try to take the whole situation into account and investigate the real issue. That is thanks to the design approach, where I try to test ideas with citizens as often as I can.

She gave an example of a recent project of re-designing municipality website, where she made sure that it was tested with different groups of citizens, improving the design significantly.

5. Discussion

Despite our investigation was based on a limited number of 3 case studies, it allowed us to discover how design can influence practices in public administration in different ways. We distinguished 3 specific approaches (Table 2):

1. Design as managing power relations (by producing good arguments);
2. Design as implementation of agile processes (by showing results quickly);
3. Design as a micro-scale level of organizational improvements (in an organization that is not ready to embrace the full value of design approach yet).

Taking the framework presented by Malmberg (2017) into account, if we look in terms of **awareness** of design, in all the cases design was used in different ways. As a

Table 2. Summary of 3 approaches within the design capability framework.

	3 approaches discovered in the research		
Malmberg's framework:	(1) Design as managing power relations	(2) Design as implementation of agile processes	(3) Design as a micro-scale level of organizational improvements
Awareness of design (Brenner, Uebernickel, and Abrell 2016)	Design as mindset	Design as process	Design as tool
Design resources Structures (Mortati 2019)	Internal / external Strong (design plays an important role, initiating change and leading developmental processes)	Internal Strong (design plays an important role, initiating change and leading developmental processes)	Internal Weak (design is peripheral in the process, often not impacting at higher decisional level)

mindset, changing the power relations in the organization (case A); as a process—to enable citizens' engagement and agile way of working (case B); or as a tool, to enable changing the perspective (case C). In case A, the social workers understood the design approach as a way of reconnecting the organization back to its mission, i.e. serving and empowering the citizens (Brenner, Uebernickel, and Abrell 2016).

In terms of design **resources**, design was embedded differently in all 3 cases. In case A, design was integrated as an internal consultancy; in case B design became part of the development unit; while in case C in form of an experimental pilot unit, which was closed after the trial phase. The organizations also used different approaches to working with designers, engaging them as external or internal specialists, which is in line with previous research on different models of collaboration for public service delivery (Kekez, Howlett, and Ramesh 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, but also because of the missing understanding of the existing organizational design legacies (Junginger 2014).

Exploring the design **space** of the cases through the analysis of their organizational **structures** and adopting the categories presented by Mortati (2019, 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, leading developmental processes. Case C, however, can be perceived as an example of a weak design space, where design is peripheral in the process, working at the *"micro level of communities"* (Mortati 2019, 737), bringing results on the micro-level, but failing to scale its impact. It is in line with research by Lima and Sangiorgi, who started that the engagement of management is critical, as "the conditions created by organizations affect the results design can achieve" (Lima and Sangiorgi 2018, 51). Case C also shows that design cannot be developed directly by adding resources, but "it requires the development of structures, routines, or processes that enable the use of design competence and the assimilation of design practice" (Malmberg 2017, 56).

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, King, and Bennett 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.

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 practices and lack of strong leadership that could support the design approach.

6. Conclusions and future work

This paper aims to investigate different ways public organizations 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 organizational cultures and practices (Kimbell and 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 calls in the literature for a 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 organizations is straightforward and easy (Brown 2009). Only more recent publications identified specific challenges related to applying DT in organizational contexts (Carlgren, Elmquist, et al. 2016; Starostka et al. 2021). By showing challenges faced by organizations implementing design, we hope to direct more attention to understanding limitations of design approach, 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 operationalized 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 organizations 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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