

Platformization of the public sector: Assessing the space of possibility for participation

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ABSTRACT

Digitalization processes are emerging as a promising avenue to elicit participation in large-scale platforms. In the public sector, platformization efforts call for deeper insight into how they shape the space of possibility for citizen involvement through decision linkages. Based on an ongoing exploratory study of the early-stage development of a digital platform at a Norwegian municipality, we identify three core challenges to participation in platformization processes: the municipality experts' views on participation, the cultivation of the installed base on the governance and technical level, and opportunities for scaling up the platform. We analyze how these core challenges impact the space of possibility for participation.

CCS CONCEPTS

• **Human-centered computing** → Participatory Design.

KEYWORDS

Platformization, scaling up, citizen participation

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1 INTRODUCTION

The participatory design (PD) tradition has been going through changes alongside digitalization trends [3, 4, 11]. Recently, platforms are emerging as tools to foster service innovation by eliciting the participation of external stakeholders such as users and app developers to innovate on top of a set of shared resources [20]. Given the success of this paradigm, *platformization* is increasingly used to describe the emergence of the platform model over time at the organizational and technical level [16].

Many digital platforms are typically owned by large private IT companies with subsidiaries creating applications or add-ons that adhere to certain specifications set by the platform owners [20]. Interestingly, platformization processes are increasingly prevalent

in the public sector as well. As a result, public organizations are becoming not only consumers, but also designers and providers of digital platforms that emerge as common goods offering a variety of services to citizens [23]. In the public sector, the existing technical and governance infrastructure, delineated here as the *installed base* [1], poses both possibilities and challenges for change. In other words, large-scale systems such as digital platforms are embedded and interact with existing infrastructures comprising of governance structures, existing systems and practices, and user categories. The installed base, however, tends to remain invisible in design processes and “taken for granted, and its crucial role is often only realized when disturbances occur, e.g. when a digitalization project is initiated” [[1]:26].

Platformization processes in the public sector have particular characteristics due to the regulations and structures that public organizations must adhere to. However, it is common for parts of the public sector to incorporate platform services created by large private companies such as Google or Facebook [16, 22]. These processes impact citizen inclusion and civic participation in ways that deserve to be further explored because they shape how citizens can engage with democratic processes of decision making [17].

The creation of choices while facilitating the participation of citizens in the design phase of systems is central to the PD agenda [2, 7]. The choices that are opened during design connect in decision linkages expressing the interrelationship between decisions [3]. As such, decisions cannot be seen as separate. Decisions made in the design phase predetermine the space of possibility for subsequent participation in decision making, and thereby which design activities are pertinent. Here we consider participation by exploring the decision linkages that are created through the opening and closing of choices “that users participate in as co-producers of design ideas and as ‘evaluators’” [[3]:427]. PD has been explicit about the possibility for engaging citizens as end users [8, 12, 19], but has been criticized for taking a narrow perspective on the scope of participation [10, 14, 15, 18].

Platformization as an emerging form of citizen involvement calls for a broader perspective that embraces the varying social, technical, and temporal scales of participation [10]. Based on the results of an exploratory case study of a digitalization process in a Norwegian municipality, we ask the following question: *What are the implications of early-stage platformization processes on citizen participation in the public sector?*

We describe an early-stage platformization process in a specific branch of the public sector, municipalities, contending with the tension between an array of citizen needs as end users and strict governance and funding structures. Specifically, we consider how platformization and the installed base impact the space of possibility

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for citizen participation in digitalization projects in a municipality in Norway.

2 THEORETICAL FRAMEWORK

In the PD literature there have been several attempts at defining and dissecting participation, resulting in a call for expanding PD in accordance with the corporate interests that permeate the public sphere and in turn creates a concern for participation [5]. One call for action is that PD must examine larger scales [5, 18].

The exceptions pinpointed are efforts of scaling PD in the municipality sector [5, 6]. Unfortunately, findings from these studies generate new questions due to the tension municipalities face and the focus on technical improvement, similar to commercial efforts [5]. Therefore, researching the scaling of participatory design in a Norwegian municipality considered to be leading in digitalization initiatives aids in answering some of these questions.

The problem of scale is still an open challenge to the sustainability of PD interventions [11, 13, 18]. In principle, scale in PD has been discussed in terms of the distribution of heterogeneous settings, developers, users, and uses of (software) products over time [18]. However, successful PD interventions have so far mostly been done in small-scale and local technological development. Larger-scale interventions for the private sector and at a regional level have been largely unsuccessful. Oostveen & van Den Besselaar [14] present a case study endeavoring to include citizens and administrative users in designing a prototype for a large-scale system at municipality level. Combining PD and other approaches, the authors identified several tensions related to the context variety. Among the challenges that they identify, is a tension between openness to future user categories and clear definitions of end users in the design phase. Moreover, technical standards sometimes directly conflicted with emerging citizens interest. Other issues that occurred during the project were time constraints and miscommunication due to interdisciplinary and asymmetric relationships between citizens, municipalities, researchers, and designers.

Taking the installed base into careful consideration is a fundamental yet often overlooked phase in the design of large-scale systems, particularly in the public sector. The metaphor of ‘cultivation’, drawn from information infrastructure literature [1], is a useful one in this sense. It promotes incremental and organic expansion of new systems that consider the installed base as the foundation for the design of additions. Over time, cultivation practices allow for frictions to emerge, requiring changes to the existing practices, technologies, and regulatory frameworks [9].

A prominent approach of facilitating the scalability of technological solutions via cultivation strategies, is the digital platform [18, 20]. In digitalization processes, reusable and generic functions are bundled within the platform core, while tailored services are developed as complementary to target specific needs, often called apps, that connect to the core by means of standardized interfaces such as application program interfaces (APIs). As Roland et al. points out, “platform architectures may allow PD practitioners to address the age-old challenge of catering for new users that were not part of early design process and allow them to adapt software in unforeseen ways” [[18]:8]. Platformization processes have therefore the potential to scale up participation.

As we will demonstrate in our empirical study, it is through decision-making processes along platformization new spaces of possibility are opened or prohibited. This happens through decision linkages in the platformization processes.

3 EMPIRICAL CASE AND RESEARCH METHODS

Our study is based on an ongoing longitudinal case study [24] of a digitalization process carried out in a municipality in Norway. Municipalities in Norway are made up of units, each of which focuses on the provision of different services for citizens. Though connected to systems at the state level, the organizational and funding structure in the Norwegian municipalities enables a high level of distributed governance. This means that in large part, municipalities are in charge of initiating their own digitalization projects or whether to be a part of intermunicipal projects.

The municipality we have studied corresponds to one of the largest Norwegian cities and is seen as leading within digitalization initiatives. We conducted 7 interviews with officials who are decision-makers within different units working on digitalization projects, 4 observations of project meetings as passive observers, and attended 3 seminars for public officials about digitalization and innovation. Informants were recruited through a snowballing strategy and were briefed during interviews that citizen participation in public digitalization projects was the central focus of our research. All data collection sessions were either recorded or detailed notes were taken when voice recording was not appropriate. The qualitative data were analyzed through an iterative inductive-deductive approach [21] in order to identify the emerging implications of early-stage platformization processes for the shaping of citizen participation.

In the next section, we illustrate the early-stage findings of our analysis with three vignettes pertinent to the research question. Citations have been translated from Norwegian.

4 EARLY FINDINGS

When talking with municipality officials, a general interest and enthusiasm for citizen participation was expressed both in isolated design activities and in the creation of platforms but there was a lack of systematic follow-through. With these vignettes, we show what those working for the municipality view as contemporary challenges for participation. The first vignette shows the municipality’s views on citizen participation, the second gives insight in the impact of the installed based at the governance and technical level, and the third highlights emerging scalability challenges. In the vignettes, informants often refer to citizens as users of designed systems due to the outlined premise of our study. They do not refer to themselves or their colleagues as users.

4.1 Vignette 1 – Citizen participation in platformization

Our research objective is to investigate how the stipulated Norwegian municipality relates to citizen participation in digitalization projects both their rhetoric and in practice. Our findings point to a lack of systematization of participatory mechanisms throughout all stages of decision making in digitalization processes. Overall, our

informants agree that citizen participation is important but that it is ill-defined and is sporadic.

David, a designer and general IT specialist in the municipality, highlighted the contemporary concerns of experts when developing digital artefacts. David concedes that citizen participation in his work is mainly seen from his perspective as an IT expert:

“I feel kind of guilty about how often we involve the user. We use too little time on it, though it is better than before.”

He states that even though there has been a shift the past five years that has led to more citizen participation and a rise in the quality of collaboration between different experts in design processes, he still only conducts design activities with citizen participation once a year.

Leo is a service designer who has worked both in academia and in different branches of the public sector, now mainly with health informatics. He has the same concern as David:

“There is so much happening, but we haven’t really gotten good enough user participation in my opinion. So far, there is a lot in the initial stages of projects. (. . .) We haven’t worked proactively enough, simply put.”

Even though there are real attempts at nurturing citizen participation and understanding its value, those in the municipality acting as experts do not feel like there are enough resources allocated to citizen engagement.

4.2 Vignette 2 – Platformization as cultivation of the installed base

Despite the challenge presented in the first vignette, we observe that when participation is achieved, it is by gradual integration of participation throughout the installed base. In this vignette we look at the installed base as the sociotechnical foundation into which digitalization projects are integrated. There are two mechanisms included in this segment: the political organization of the municipality and the technical architecture. Such integration happens through cultivation, due to the particular financial and governance constraints in the municipality sector.

David sees the organization of the public sector in Norway as having a large impact on digitalization projects in the municipality. Norwegian municipalities are decentralized and self-directed in terms of prioritizing digitalization. While encouraging broad local participation, this becomes an issue when aiming at creating civic platforms. The lack of central backing and creating standardized systems that link systems beyond the municipality becomes problematic. Moreover, there is a difference in the amount of funding available for digitalization initiatives for each unit. The units paying the bills during the initial stage are not always the ones that will benefit from the initiative. This reality creates a tension between who owns the digital artefact and who is in charge of maintaining it. In discussing the implementation of new systems, David remarks that the opportunity for innovation is limited.

“We can’t change too much at the same time. (. . .) I think that we don’t have to innovate everything. We can be early adapters of some things, but I think that most things will come from the outside and that we rather adjust them.”

Clara is a high-level official working in a faction of the municipality that consults officials on how to conduct digitalization projects

while providing funding. Clara points to the difficulty of creating new IT services because they are required to build on top of older computer systems. This also creates challenges, as it is difficult to create new services if you are required to use what is available in the installed base.

“There are no new IT projects that have started without thinking about the whole lifecycle of the function, or the service that is being provided, and that it starts with the citizens. Now everything begins with the citizens. But it wasn’t like that at one point in time. There are also many of the data systems we have today that are so old that we didn’t have that (i.e. citizen participation). And if you try to build it on top afterward, then you don’t have the same consistently good functionality as if you are thinking about it (i.e. participation) from the design stage.”

Decisions made at least a decade earlier impact the way citizens and officials can contribute in design decisions currently. Here the installed base reveals itself in terms of the way development is required to fit into the existing base. The change or innovation cannot be achieved through overhauling but by iterative curation of the installed base.

4.3 Vignette 3 – Scalability challenges

In this vignette, we illustrate the effects of platformization on digitalization projects in terms of creating reusable, generic digital solutions, and how citizens can participate in design activities. For the majority of Norwegian municipalities, scalability happens largely by reselling digital platforms. However, this effort leads to challenges in the form of vendor lock mechanisms and heavy reliance on large, private platforms owners such as Google.

Anna is a municipality official working for the physical therapy unit. By her own admission, she does not have much experience with digitalization projects. She is nevertheless in charge of a small but interdepartmental digitalization project in the municipality. Her team plans to buy an existing website for recreational activities that has been developed by another municipality. The plan is to adapt it by partially re-designing the website with citizen participation. There are plans to repurpose the website for other municipalities too.

Though, there are consequences to scaling up through reselling. Firstly, there is the vendor lock issue mentioned by David. He has been involved in a few IT acquisition projects, and relays concerns related to the issue of vendor lock.

“Many solutions have a vendor lock so that you bind yourself to just that provider because they are the only ones that provide that functionality, software or solution. They do it this way because they are going to sell it to another municipality and then it will influence the whole solution if you want any changes”.

Secondly, there is an overreliance on the platform owner. As illustrated in the previous vignette, at the state level there is often a greater possibility for creating internal and customized solutions. For the most part, municipalities have to settle for purchasing private solutions and adjusting them in-house. As in the model of decision linkages, the acquisition process, where municipalities purchase solutions, has implications for what choices are open for participation. When solutions are standardized and resold, even though they may have a foundation in participatory design, the

question remains; what are the remnants of citizen participation in the end product?

5 DISCUSSION AND CONCLUSION

In this paper we have illustrated three challenges that characterize municipality digitalization projects and their influence on participation. In terms of assessing the possibility of participation in platformization, these are: 1) the experts' views on citizen participation at the municipality level; 2) the role of the installed base; and 3) opportunities for scaling up.

1) In terms of decision linkages, how participation is understood and enabled shapes the quality of how participation is performed in practice.

As we show in vignette 1, the foundational view of those working with municipal digitalization predetermines the level of participation in design activities. In terms of decision linkages [3], their view constitutes an important mechanism for opening or closing citizens space for decision making.

Platformization has further implications for the way in which choices are opened to the influence of both the officials in the public sector and the citizens. These processes are shaping the space of possibility for participation. For example, those who are involved with setting up this participatory process, such as municipality employees, struggle to find tools and frameworks to implement it. As a result, despite the benefits, as Clara in vignette 2 asserts, the space of possibility for participation is limited by existing tools and systems. Platformization as cultivation creates a tension between design and tangible implementations.

2) Vendor lock mechanisms constrain the spaces of possibility for participation.

The lock-in mechanisms mean that municipalities are required to bind themselves to the vendor that can provide a certain functionality or software [16]. As shown in vignette 2, this is especially true if the vendor has plans of scaling up the solution so they can sell it to other municipalities. Provided that municipalities lock themselves to a particular private provider, this is a vital choice in the decision linkages related to participation. The acquisition of a platform resulting in a vendor lock shapes the platformization process and has major implications by constituting a large part of the installed base. As innovation in the installed base can only be achieved through careful cultivation [1], such a decision impacts all subsequent design choices.

3) Scaling processes make participation embedded in decision linkages difficult to trace.

Platformization has been suggested as a useful way to scale up systems and possibly also participation [18], but by locking oneself to a certain provider it also shapes the forms and quantity of design choices available. Thus, scale has implications for participation. Assessing the design choices participants are contributing in is difficult to follow, especially when contending with a large platform owner, or when systems are resold. It is difficult to predict repercussions and decision linkages become opaque.

To conclude, the impeding factors for participation in platformization processes in the public sector are the municipality experts' views on participation, the constraints set by the installed base, and factors related to the scaling of systems. There is a need

for an analytical framework to follow decision linkages in the public sector in terms of participation, especially while assessing the impact of the installed base, i.e. governmental constraints, technical limitations, and issues raised by the relationship between private global platform owners and local public clients. The findings in this early-stage study provide a valuable foundation for subsequent research when connecting with a broader range of public officials. In our future research, we will continue following digitalization and platformization processes in the mentioned Norwegian municipality.

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