

Engaging civil society in designing public sector AI: What participatory methods can we use?

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ABSTRACT

The 21st-century public sector faces unique challenges in designing and developing digital services while adhering to different principles and values. At the same time, the introduction of AI in this sector poses new risks. In this position paper, we highlight the importance of involving civil society in the design process from the earliest stages to ensure that the services developed are inclusive, equitable, and ethical. We then present a methodology for participatory design and engagement that can be used to involve citizens and stakeholders at various stages of the service lifecycle. The methodology includes participatory research and data collection, access design, participatory systems mapping, stakeholder mapping, and concept creation. We argue that involving civil society in the development of AI-enabled services is crucial for building strong communities and creating communication channels between governments and civil society.

CCS CONCEPTS

• **Human-centered computing** → **Interaction design process and methods**; • **Computing methodologies** → **Artificial intelligence**.

KEYWORDS

service design, civic engagement, public sector, artificial intelligence

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1 CIVIC ENGAGEMENT IN PUBLIC SECTOR AI

The 21st-century public sector, compared to other sectors, must contend with distinct conditions and challenges for the development

and design of digital services while adhering to different principles and values [16]. With looming economic recessions, hyperpolarization, urgent environmental crises, unemployment and increasing digital parties, governments and public services need new approaches to problem-solving. One such approach, crucial for a democratic society, is civic engagement. If addressed adequately, it can empower civil society both by enhancing their skills and giving them an opportunity to influence services that will impact them in the future [11]. It can also support building strong communities and communication between government and civil society.

At the same time, when we talk about digital public services nowadays, we also need to consider the new trend of algorithmic decision-making and big data systems being implemented in the public sector. A recent report documented 686 use cases of AI-based services in the public sectors among all EU Member States and several other European countries [16]. Specifically in Finland, where the authors of this paper are located, there are 34 recorded cases [16]. Furthermore, the AI register of the City of Helsinki lists 9 AI-enabled services. The services typically listed in both outlets are, for example, chatbots and virtual assistants, classification and search of documents, anomalies detection.

In our experience, we noticed multiple challenges for civic engagement in AI-enabled services development in the public sector. For example, in a case study exploring AI-based educational services with the City of Helsinki [2], the main service concepts emerged solely from technical experts. The potentially impacted group was only engaged at the late prototyping stage. Furthermore, in our interview study [3], we learnt about the existence of two cultures that hinder civic engagement: 1) risk-aversion which is “the practice of avoiding sharing information about new or planned services because of reputational fears and losing the trust of citizens” and 2) expert thinking models which emphasizes “the expertise of the AI practitioners in contrast to people impacted by the use of AI-enabled services”. Lastly, Simonofski et al. [15] mentioned lack of capacity, resources and methodology as the main obstacles to civic engagement in creating e-government services.

In this position paper, we argue for including civil society since the earliest stages of AI-enabled service development and present an approach that could be used for that purpose.

2 PARTICIPATORY METHODS FOR DESIGNING PUBLIC SERVICES

In the following section, we go through some relevant participatory approaches and methods for engaging civil society and stakeholders at various stages of a service lifecycle. Although there are many more, we have chosen these few methods as the ones fitting the

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best in the realm of the public sector and AI development in our experience.

2.1 Participatory Research and Data Collection

Traditional qualitative research methods such as one-to-one interviews and focus groups during the exploratory phase of design are often reported as a common method for the data collection process [6]. However, the term data collection suggests that the researcher is the expert and the 'subject' is being studied, supporting the existing expert-thinking cultures and therefore, removing agency from the interviewee. This issue is most apparent in the cases of structured and semi-structured interviews where the research determines the structure, driving a researcher-led research design. To promote a more participatory research design, we would propose a participant-led interview structure. *Narrative inquiry*, *critical incident techniques*, and *story interviews* are all examples of how narrative-based approaches to interviews can allow the participant to guide the researcher to ask the right follow-up questions according to the stories they are sharing [10].

Next, for effective collaboration that is respectful and mindful of citizens' and users' contexts, we propose continuing with *access design* [1]. This method can be viewed as an initial teaser which gives a sense of what the collaboration feels like. It offers small joint exercises that help in defining targets for design engagement and motivation. Research shows that the method is useful to maintain expectations and also set a space to see whether or not everyone wants to take part in the effort, outlining civic agency and participation [1].

2.2 Data Synthesis and Analysis

To facilitate collective and participatory sensemaking, we suggest the use of *participative systems mapping* [14]. This method helps in bringing in a plurality of perspectives and exploring causes for trends from multiple perspectives, identifying leverage points and uncovering unintended consequences. It is particularly useful in socio-technical contexts, where it exposes participants' mental models to reveal systemic insights and examines connections between problems.

Furthermore, *participatory systems mapping* can serve as a process of engagement and facilitate in creating shared language and comprehension [7]. When co-created with communities through a bottom-up, design-led democratic process, these maps can help us to understand the structures of power by shedding light on previously overlooked actors. Making these maps tangible objects of discussion can help turn community members into decision-makers, promote awareness, and enable agency [12].

Lastly, while *stakeholder mapping* is a popular method, we propose extending its use beyond representational artifacts and deriving value from them as actionable and conversational tools to open dialogue about roles, power and participation [4]. By embarking on this activity iteratively with civic participation we can gain insights into how the public perceives the stakeholders involved, identify potential partners for collaboration, and minimize the likelihood of incorporating inherent biases into AI systems.

2.3 Concept Creation

Concept creation is typically owned by designers and researchers. Here, we argue for broadening the scope of ownership so the public can be invited to actively collaborate in the generation of new service ideas. This can be made possible by employing a *service design-oriented mindset* [17]. By opening this process up to other actors, new concepts can be generated in a participative manner [8].

We suggest not only co-designing the service but also the way the public sector communicates about this service development. For that, we suggest using the *create a shared vision for a future* method [9], where all the stakeholders, therein civil society representatives, are included in creating communication about the service under development. This would enable public deliberation on projects under development and address the risk-averse culture of the public sector.

2.4 Design in Use/Situ

In any digital service, especially the AI-based one, it is important to accommodate its iterative lifecycle. Each iteration should be evaluated - and we believe that the indicators for evaluation should also be co-defined by all stakeholders. For this, we suggest the *define shared indicators* method [9]. The shared indicators would also guide the data collection methods for the evaluation process.

Finally, deploying a *co-realisation approach* can effectively help us understand the implications of new digital systems not just by studying how they work as it is now, but by observing the system's subsequent uses in a participatory manner over time [5, 18].

2.5 Challenges for Participatory Research

Conducting participatory research in the context of public services poses many challenges. Participatory research methods often involve mobilizing extensive resources over several months or longer. It requires a time commitment and interest from both the researchers and participants to transform the implications of qualitative research to design outcomes. In our proposal, we primarily address methodological challenges but do not address the issue of insufficient resources and capacity.

Second, these participatory design approaches are often situated in conditions of conflict and contestation, requiring an analysis of the values and dispositions of different stakeholders. These can exist as *Socio-Cultural*, *Power*, *Constructed*, and *Value-based Ecologies*. Such contestations should be explicitly recognised and it requires the researcher(s) to be *critically engaged* throughout the participatory design process [13].

Finally, we reflect on the challenges of civic engagement, especially since there will always be a group of people left out of the participatory activities. To minimize this, we suggest the *stakeholders mapping* activity, where all relevant stakeholders would be acknowledged and engaged in future actions. Moreover, mixed-method research should be employed to incorporate quantitative methods such as large-scale surveys, experimental measures, and usage logs to complement qualitative insights. Such approaches may support wider reach, enhance inclusivity, and allow for generalizability of research outcomes to represent a broader consensus among participants in civil society.

3 CONCLUSION

In this position paper, we argue that good design of AI public services is one that engages multiple stakeholders from the beginning and throughout the design process of public sector services. We present the selection of participatory methods from different sources that can promote inclusivity and empowerment when designing and developing AI-enabled public services.

Participatory design approaches are inherently complex, and when it comes to public services, they become even more challenging due to the diverse range of stakeholders involved, and the dynamic ambiguity of the domain itself. However, despite these challenges, the design of effective public services necessitates a participatory approach that incorporates relevant mixed-method research.

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