International Journal of Community Well-Being (2020) 3:437–441
https://doi.org/10.1007/s42413-020-00100-8

INVITED ESSAY

# Artificial Intelligence's Role in Community Engagement within the Democratic Process

Marek Havrda[1]

Accepted: 22 October 2020 / Published online: 18 November 2020


## Abstract
This invited essay to the special issue, Intersections of Artificial Intelligence and Community Well-being, discusses the potential of Artificial Intelligence (AI) for community decision-making with the aim to improve public debate leading to better outcomes in terms of community well-being. This AI-supported approach would also allow for greater citizen participation in community decision-making regarding the main decisions impacting well-being of communities by making fact-based public debate more accessible to the lay public.

**Keywords** Artificial intelligence · Well-being · Community well-being · Citizens' assemblies · Community engagement · Public deliberation

Today, communities and their political leaders have previously unimaginable access to data, science-based facts, and scientific advice, as well as to insights generated by decades of research into community well-being. However, communities and those who represent communities make decisions that rarely take sufficient account of data, facts, advice, and insights. Moreover, political leaders of communities often make decisions that are not preceded by community engagement and well-informed public debate about the future implications on a community's well-being. There is immense potential in Artificial Intelligence (AI) to help remedy the situation. To date the positive contribution of AI in the public sector has been rather limited despite its transformative potential (Misuraca and van Noordt 2020; Reis et al. 2019; Engstrom et al. 2020). For example, in the European Union, most of the AI used in the public sector is aimed to improve the performance of public services (Misuraca and van Noordt 2020). Although there is ongoing experimentation with the deployment of AI in many federal agencies in the United States and elsewhere, a lot of effort is needed to take advantage of AI

✉ Marek Havrda
marek.havrda@goodai.com

[1] GoodAI, Prague, Czech Republic

(Engstrom et al. 2020). Moreover, it will be also necessary to tackle accountability challenges which the deployment of AI brings about (Engstrom et al. 2020).

Tech-utopians call for decision-making to be much more entrusted to AI with a vision of what is called *robogov* (van der Wal and Yan 2018).[1] The principal claim in favor of *robogov* is that AI would be less irrational, better able to capture real-world complexity, and be more predictable than our human leaders. Despite the possibility that *robogov* may be able to take into account community well-being in a more holistic way, I assert this is not a feasible option. Even with very strong AI, there will always remain many uncertainties regarding both the physical world as well as human behavior. Precisely these uncertainties should not be dealt with by automated decisions but need to be subject to human decision making, and in democratic societies also subject to public debate. Moreover, various solutions could bring about trade-offs between various facets of community well-being such as trade-offs between environmental and economic aspects, and the trade-offs related to the distribution of costs and benefits in the community. There could also be trade-offs between generations. AI may aid to surface these uncertainties and trade-offs, and support the informed debate in the community, but cannot replace human decision-making.

## AI Supported Community Engagement

Although AI has been used to support decision-making processes in the public sector (Valle-Cruz and Sandoval-Almazan 2018; Reis et al. 2019) it mainly supports top-down decision-making processes such as decision-making on public budgeting (Valle-Cruz et al. 2020) whereby policymakers are making decisions without engaging communities in the process, and not being used to support public debate in the community. Below I propose how AI could be effectively put in use by communities to improve community engagement in the democratic process, in particular in terms of decision-making on issues impacting community well-being through public debate. Well-informed public debate requires an understanding of the inherently uncertain future impacts of proposed solutions on the well-being of communities. I posit that AI has a significant potential to tackle this issue by producing community well-being impact assessments and making them accessible to members of the community. Existing community well-being frameworks and tools addressing both objective and subjective metrics, and capturing the three aspects of happiness including feelings, eudaimonia, and satisfaction with life and the conditions of life (Musikanski et al. 2019), can serve as a starting point for AI-powered well-being assessments. I suggest that a framework of citizens' assemblies may provide a conducive setting at the community level to take advantage of AI-powered well-being impact assessments.

Citizens' assemblies are one mode of community engagement in the democratic process and can contribute to policymaking which is more inclusive and driven by citizens (Devaney et al. 2020). Citizens' assemblies do not (and should not) replace decision making by elected representatives but to complement it. Citizen's assemblies provide a structure for deliberation among citizens. In this structure, people are

[1] Robogov is the concept of AI fulfilling the role of political or administrative governmental leadership and decision-making.

assembled in a physical or online space and means are provided to allow them to engage in decision making and deliberate in a democratic way. Deliberation involves discussion based on arguments leading to a formulation of a collective opinion or decision. Citizens' assemblies are gaining increasing interest and have been experimented with at least in Chile, Canada, Ireland, France, and the UK (The Economist 2020).

Citizens' assemblies are usually formed by a group of approximately 100 members of a community, who are randomly selected from a given population in a way to reflect its composition in terms of its socio-demographic characteristics such as gender, age, or socioeconomic status. They are usually assembled to provide opinions or recommendations to politicians on decisions facing the community. They usually meet for several weeks or months to deliberate.

In order for citizens' assemblies to be effective, certain conditions need to be fulfilled (The Economist 2020). A clearly defined issue or question to be deliberated on must be formulated. Community members need to be informed in a factual manner such as through a hearing of experts.

In my view, ex-ante well-being impact assessments can serve to inform public debate by providing data and facts about the implications on community well-being of a decision. AI can aid in the production of well-being impact assessments, which could provide insights about the impacts on community well-being to the members of a citizens' assembly.

The production of an ex-ante well-being impact assessment supported by AI could start with the definition of several options of how to solve a problem in question. For example, several alternatives on how to organize local mobility systems or various options for spatial planning of new public infrastructure would be defined. Next, these options would be assessed by an AI using objective and subjective well-being indicators by operationalizing and deploying relevant well-being performance metrics in the AI model. As AI can consider a large number of variables, it could help produce well-being impact assessments based on evidence and capture the systemic properties of many complex problems faced by communities. In this way, AI-powered well-being impact assessments could build on and potentially augment existing community well-being frameworks.

Summaries of the well-being impact assessment, including an overview of key impacts regarding the community and its members, would be provided by the AI to the members of citizens' assemblies. Producing holistic factual impact assessments of various options is one way that AI may support community decision making. In the future, AI could enable the production of immersive visual material such as simulations in virtual reality (VR), video clips, or short movies which would visualize the dry results of the well-being impact assessment. There are related examples of movies such as *An Inconvenient Truth* (Guggenheim 2006) or *Why We Should Ban Lethal Autonomous Weapons* (Future of Life Institute 2019), but AI could go further than these. Advanced AI would enable decision-makers, community members, and others engaged in a debate to be virtually placed in the given community setting and virtually experience the implications of decisions.

Deliberation within the citizens' assembly, which would be based on an ex-ante well-being assessment and immersive virtual experience, could potentially allow for the identification of aspects that are not currently known or recognized, and thus improve

the AI model. In addition, making the impacts comprehensible for community members could allow for higher inclusion and participation in community-based decision making.

## Call to Action

Most national AI strategies prioritize a few sectors (OECD AI Policy Observatory Portal 2020; Misuraca and van Noordt 2020). Many of these sectors are directly related to community well-being (Musikanski et al. 2019). The sectors include mobility (including transportation efficiency and traffic management, road safety, and carbon emissions reduction), energy (clean energy production, grid optimization), health (including early health problem detection, prevention, and addressing aging population), and public sector services. In order to deploy AI to address challenges in these sectors, a number of AI models will need to be developed. They will notably need to address the complexity and systemic nature of the underlying issues. In turn, they may form a sound basis for modeling and to support decision making related to community well-being.

I propose that different stakeholders can start and contribute in different ways:

- Governments - invest in AI research on the societal issues at the national and community level, and research into how to use AI to improve community engagement in the democratic process.
- Well-being researchers - work on frameworks and tools that could be adopted in AI models to capture well-being impact assessment in a holistic way, addressing the many facets identified as key for community well-being by well-being research.
- AI developers - develop AI-based tools that would allow for the operationalization of the well-being measurement frameworks providing decision-making support tools to political leaders and members of the community.
- Communication experts - help design means of communicating the results of complex modeling so results can be utilized by members of a community.
- Video game developers - cooperate to create engines that would reduce the costs of translating dry technical descriptions of impacts on community well-being into visual forms and provide visual experiences of these impacts on community well-being.
- Practitioners, local decision-makers - demand the development of AI that helps in understanding and assessing community well-being and the use of such AI in community engagement for decisions impacting community well-being.
- Local activists - call for decisions to be based on facts considering the impacts on the well-being of all members of the community, and related uncertainties to be explicitly deliberated by the community.

When using AI to improve community engagement in the democratic process there are a number of important issues to be taken into account. There will always be important limitations in terms of how much attention citizens can devote to various challenges to the well-being of their community. Using a community well-being lens, AI can help the community to prioritize. It may also be possible to establish several citizens' assemblies

in a community, each of them specializing in different areas. There are many technical hurdles to be dealt with in order to put my proposals into practice - not limited to the quality of input data, quality of underlying assumptions and priors, and quality of modeling relations in the AI model. Nevertheless, it seems crucial to discuss how institutions could adapt to maximize the positive impact of the groundbreaking technology of AI and its potential for community well-being before it is too late for communities and for the planet. Because technology usually develops at a much faster pace than institutions change, action is needed today.

## References


Devaney, L., Torney, D., Brereton, P., & Coleman, M. (2020). Ireland's citizens' assembly on climate change: Lessons for deliberative public engagement and communication. *Environmental Communication, 14*(2), 141–146. https://doi.org/10.1080/17524032.2019.1708429.

Engstrom, D., Ho, D., Sharkey, C., & Cuéllar, M. (2020). Government by algorithm: artificial intelligence in federal administrative agencies. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3551505.

Guggenheim, D. (2006). *An Inconvenient Truth [DVD]*. United States: Lawrence Bender Productions & Participant Productions.

Misuraca, G., & van Noordt, C. (2020). *Overview of the use and impact of AI in public services in the EU*. Luxembourg: Publications Office of the European Union Retrieved from https://publications.jrc.ec.europa.eu/repository/bitstream/JRC120399/jrc120399_misuraca-ai-watch_public-services_30062020_def.pdf.

Musikanski, L., Phillips, R., & Crowder, J. (2019). *The happiness policy handbook, how to make happiness and well-being the purpose of your government*. Gabriola Island, BC: New Society Publishers.

OECD. (2020). *OECD AI Policy Observatory Portal*. Retrieved 12 October 2020, from https://oecd.ai/policy-areas.

Reis, J., Espírito Santo, P., & Melão, N. (2019). Impacts of artificial intelligence on public administration: a systematic literature review. In *14Th Iberian Conference On Information Systems And Technologies (CISTI)*. Retrieved from https://core.ac.uk/download/pdf/226770041.pdf.

The Economist. (2020). *Citizens' assemblies are increasingly popular*. Retrieved 12 October 2020, from https://www.economist.com/international/2020/09/19/citizens-assemblies-are-increasingly-popular.

The Future of Life Institute. (2019). *Why We Should Ban Lethal Autonomous Weapons [Video]*. Retrieved 12 October 2020, from https://youtu.be/LVwD-IZosJE.

Valle-Cruz, D., Ramon Gil-Garcia, J.R., Fernandez-Cortez, V. (2020). Towards smarter public budgeting? Understanding the potential of artificial intelligence techniques to support decision making in government. *The 21st Annual International Conference on Digital Government Research (dg.o '20)*. Retrieved from https://doi.org/10.1145/3396956.3396995.

Valle-Cruz, D., & Sandoval-Almazan, R. (2018). Towards an understanding of artificial intelligence in government. *Proceedings of The 19Th Annual International Conference On Digital Government Research: Governance In The Data Age*, *Article No.: 102*, 1-2. Retrieved from. https://doi.org/10.1145/3209281.3209397.

van der Wal, Z., & Yan, Y. (2018). *Could robots do better than our current leaders?*. Retrieved 12 October 2020, from https://www.weforum.org/agenda/2018/10/could-robot-government-lead-better-current-politicians-ai/.