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CAN ALGORITHMS CREATE FAIRER AND MORE JUST PRACTICES IN URBAN POLICY-MAKING?

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Can algorithms create fairer and more just practices in urban policy-making?

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1. Algorithms have significant impacts on urban everyday life
2. The impacts of such algorithms on both **urban policy-making** and **participatory democracy** have not been fully examined by practitioners and scholars.
3. Omastadi can showcase the Finnish experience of using and implementing algorithmic decisions to shape urban policy and participatory democracy; this may both enrich and challenge Anglosphere-based understandings of algorithms, which view them as forms of power and control.

What is an algorithm?

In a basic sense, an algorithm can be seen as a codified mathematical formula which prioritises, orders and selects data and information based on certain predefined parameters (such as the number of votes in a particular period of time). Algorithms can rank a pile of citizen proposals on the basis of the number of votes that each proposal receives (which some call 'ranking algorithms'). For example, ranking algorithms can define the first proposal that is shown amongst others as the one which receives the highest number of votes. Ranking algorithms are commonly used in digital platforms such as online forum (reddit) and digital platforms for political participation like Decide Madrid and vTaiwan.

The concept of a Machine Learning (ML) algorithm (despite a lack of consensus on definition) often connotes with the term 'Artificial Intelligence' (AI). This is because ML algorithms are generally seen as being more able to make decisions on complicated issues, which resembles some intelligent elements of human beings. For instance, ML algorithms can select a list of shopping items which is customised for each individual user.

On the wider context: the significant influence of algorithms on urban everyday life

Within academia and in the mass media, discussions about algorithms often focus on how they control the general public and how they make important decisions on various aspects of urban life.

In the UK, algorithms are widely used to influence a variety of life choices: they act to

- determine a person's chance of being checked by the police,
- prioritise which news/ads/information she sees online,
- influence the ways in which she navigates a city
- and inform (to varying degrees) how she selects her date/Uber driver/food delivery courier etc.

Scholars have condemned various decisions made by algorithms as being gendered, racialised and classed; such decisions are seen as disadvantaging various marginalised people/communities (Graham, 2004; Amoores and Piotukh, 2015; Leszczynski, 2016). For instance, in the UK, if you are a white man, you are less likely to be found 'problematic' by algorithms used in policing operations compared to an Asian/African man (Big Brother Watch, 2018, p. 17). If you go to a private school, your 'A' Level (end of high school) grade may be estimated to be higher than another person who studies at a state school (BBC News, 2020).

As the public are generally not aware that algorithms make various forms of crucial decisions affecting their lives, it is important that researchers conduct more study on how algorithms make decisions — and how these decisions have impacted on society. Asking such questions has become a focal point for investigating the impacts of digital technologies — more specifically, platform-based technologies — on cities. However, studying the impacts of algorithms has presented methodological challenges for urban scholars and geographers. In particular, algorithmic decision-making processes are often 'black-boxed': confidential, fast-moving, and often too complicated to be explained and apprehended by human beings (Graham, 2004).

Investigating algorithmic impacts on participatory democracy and urban politics

Activist communities, researchers, and government officials have given significant attention to various open-source digital platforms for facilitating or making decisions on urban development or legislation. The political decision-making processes involved have been variously described as ‘public participation’, ‘participatory democracy’ or ‘political participation’.

Decide Madrid and vTaiwan as examples of digital democracy

Decide Madrid and vTaiwan each present an interesting and high-profile example of digitally-mediated decision-making, which has been termed ‘digital democracy’. Whilst Decide Madrid is designed and deployed by Madrid City Council, vTaiwan is developed by the Taiwanese government which uses Pol.is, a US-made open source software.

The platforms are used to make or facilitate important political decisions, such as on allocating the public budget (up to 100 million Euros annually in Madrid) or deploying various legal-political resources on urban development issues.

Both platforms have received significant international attention: they have been praised as ‘pioneers of digital democracy’ by Nesta, a leading research charity in digital innovation. More than 90 governmental institutions around the world, including in Buenos Aires and Porto Alegre, have deployed Decide Madrid (BBC, 2019). The Labour Party in the UK and the Woman’s March in Canada have used Pol.is (the software which powers vTaiwan) for collecting public opinions. Decide Madrid was repurposed and remodelled by civic hackers into ‘Decidim’, which provides algorithms and source-code for Helsinki’s digital platform for facilitating the participatory budget process with Helsinki’s participatory democracy platform, Omastadi.

Via the use of open-source licenses (AGPL v3) and the influence of open-source culture, the algorithms used by Decide Madrid and vTaiwan are published online (Github) and are available for anyone to reuse, download and revise. This open-source model makes it easier for researchers to access the data and algorithms involved; therefore, they offer a rare opportunity for researchers to examine the effects of algorithms on participatory democracy.

Despite Decide Madrid and vTaiwan-Pol.is have been distributed around the world since 2016, their full impacts are still not known by researchers, practitioners or citizens (Simon et al., 2017).

Algorithms in Omastadi

Taken together, it makes sense to further investigate open-source platforms such as Omastadi. In particular, researchers may like to enquire on such questions as:

1. What are the implications of Omastadi on urban politics and participatory democracy?
2. To what degree does Omastadi create a fairer and more just urban life and improve the democratic quality of public decision-making processes?
3. How does Omastadi (in terms of its algorithms and interface) reshape ‘non-cognitive’ aspects of user behaviour — reflexive, emotional and bodily transformations — when participatory practices are conducted by citizens?

Some hypotheses related to the Finnish context

The mainstream understandings of algorithms as forms of power and control have largely drawn from Anglosphere-based case studies (such as in the USA, UK and Australia) focused on the context of neoliberalisation. Such understandings of algorithms, however, are not always in consistent with what algorithms and big data have been studied in the Finnish welfare context (see Lehtiniemi and Ruckenstein, 2019; Ruckenstein and Maria Turunen, 2020; Ylipulli and Luusua, forthcoming).

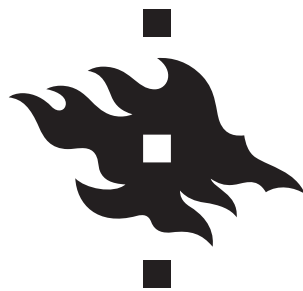
The AI Finland report (The Ministry of Economic Affairs and Employment of Finland, 2019) has strongly articulated that the ways in which the Finnish government and local municipalities design and implement AI should not be seen as the same as the profit-driven US model. Instead, the Finnish model stresses so-called human-centric elements, which rely on a higher level of trust between citizens and the government on the deployment of technologies such as AI (ibid: p 87-88, 103); Finland is generally seen as taking more care of citizens' wellbeing (ibid: p. 43) and advocates a more educational and participatory approach in involving and teaching the public to understand the risks and potential of AI (ibid: p. 102-103).

Considering this unique context, it is intriguing to see how these human-centric elements actually play out in the project of Omastadi. From the perspective of digital geography (Ash, Kitchin and Leszczynski, 2018), it is important to openly explore various experiences of designing and using algorithms in different geographical locations to enrich or challenge the current understanding of algorithms. In this sense, the focus on Omastadi or other relevant projects may present a unique case study as it is situated within a specific Finnish welfare context.



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