Policy briefing

Innovating with data in Scotland; multi-sector and multi-disciplinary approaches to support social equality, wellbeing and participation

The **aim** of this policy briefing paper is to consider new ways of innovating with data for social and economic wellbeing in inclusive, progressive, and trusted ways. It addresses the aim through the following **objectives**: (1) assessment of current challenges in using data and (2) identifying new ways to innovate with data. The policy briefing paper is based on a workshop on 27 October 2021[1] which brought together a group of experts from public, private and third sectors; social and data sciences; and community and citizen organisations.

Challenge and background

The rise of born-digital data and developments in AI, machine learning and intelligent systems are seen to support the use of data. Attention has largely been on increasing efficiency in production and services and less on wellbeing. To a large extent the potential of data has not been fully realised; the tools and the data are available but how best to use those and for what purposes is still not clear. It is therefore important to develop new ways to think about how data analytics can be used to support wellbeing, and what processes, skills, innovations, and partnerships are needed to utilise data analytics in socially progressive ways.

Assessment of current challenges

Many of the current challenges are well-known. They include: protecting privacy; enabling transparency and explainability; accessing data; and the limits of capability and capacities to compute data of organisations outside of the major global platforms. These need to be kept in focus. There are, however, several other challenges. in developing the use of data to support social equality, wellbeing, and participation**.**

1. It is important to recognise the limits of data-centric approaches. They are limited because what they produce is reliant on the levels of completeness of the data and its quality (for example, its accuracy, relevance, consistency, timeliness, and absence of distorting bias). What is missing in data is important because machines will compute the data inputs and will not access any gaps in the data.
   Key points are:
   a) Precise knowledge is needed of the data that is being gathered for analysis.
   b) The issue of missing data and how that impacts on analysis and findings.
   c) Lack of interdisciplinary, multi sector, and social perspectives in the use and governance of the data and its analysis.

2. To develop the use of data analytics, an essential pre-requisite is the development of open and trusted data ecosystems.
   Key points are:
   a) Need social-value driven innovation and ecosystems rather than data-driven.
   b) Need to develop shared norms in how to use data for what types of social impacts.
   c) Practical barriers include lack of standards in developing ecosystems.

3. There are several challenges in data ethics and in how to embed ethics into data science practice.
   Key points are:
   a) The distinctions between the ethical management of aggregate and individual level data.
   b) How to ensure the ethical use of algorithms.
   c) The need to embed ethics in the processes of data collection, analysis and use.

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[1] Details available at https://policyscotland.gla.ac.uk/shape-of-data-seminar-policy-briefing

4. There is a need to recognise that data analytical tools undertake calculations, and they are not intelligent in terms of human and social interpretation and intelligence.
   Key points are:
   a) Need to manage expectations about what data, analytics and AI can provide.
   b) There is a requirement for inputs from social sciences and humanities in developing socially beneficial and socially-driven AI as opposed to data-driven AI.
   c) AI serves to support calculation, however the analysis and interpretation requires human and social knowledge.

Identifying new ways to innovate with data

The term 'innovate' refers to finding new ways to do things that are significantly different to previous ways of doing things. Innovation is not necessarily equivalent to notions of progress or ideas of socially progressive change. There therefore needs to be a model of innovation for social and economic wellbeing. This is needed because data is socially produced and used, in many ways it is a 'commons'. To develop creative ways to innovate with data requires the development of a shared vision of how we might want to use data and data-analytics for wellbeing. The process of innovation with data needs to be reflexive and adapted to contexts. To develop a shared vision the following points are important:

a) Develop an inclusive and diverse stakeholder group in the process of identifying a shared vision based on values.
b) Understand data-ethics within a framework of the ethics of care and service for all stakeholders in the data-analytics process.
c) Adopt a 'do no harm' approach.
d) Address the data processes and use across individual, household, organisation, and community units of analysis.
e) Develop participatory community innovation or innovation forums and network integrators.
f) Develop interdisciplinary data-analytics teams.
g) In terms of innovation, understand how to fail well.
h) Manage community expectations in applied innovation scenarios.
i) Operationalise reflexive data analytics and innovation through an iterative learning process.
j) Develop diverse learning communities that underpin innovation.

Conclusion

There is a lack of a clear social vision and a value statement that can guide future developments in data innovation in Scotland. In part this is due to poor understanding of data and data processes, limitations in imagining data futures, and a lack of multi-sector and multi-disciplinary partnerships. There are some emerging practices that are considering how to use data in socially progressive ways.

One vision of this is to see data processes as 'data gardening' through which individuals and communities are cognisant of and involved in the generation, circulation and usage of data. This idea is particularly useful within specific communities, often in developing countries. However, there are also examples of how this idea is being developed in advanced urban mass economies. These include data-sharing pools, data co-operatives, public data trusts and personal data sovereignty. However, these do not necessarily tie into innovations that can support social and economic wellbeing. Given this, research is needed into what types of learning communities need to be developed that can harness the use of data in ethical and informed ways in developing services, resources and activities that will support wellbeing. The key message from the discussion is data processes are thought about in a standalone way and attention has been on making those processes more transparent and explainable. This is important but data is produced and used socially, therefore attention is needed in how to harness the potential of data for social as well as economic wellbeing. This will require creative approaches to thinking about innovation that is community-led: informed by community values, data knowledge and developed and sustained in an ethics of community care and service. It points to an interdisciplinary and multi-sector approach that works with communities in developing wellbeing that is informed by robust data analytics and social and human intelligence. Learning communities therefore need to be socially literate and data literate.

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