

## The Potential of Digital Footprint Data for Health & Wellbeing Research

Read more about novel data linkages for health and wellbeing at: [turing.ac.uk/research](https://turing.ac.uk/research)

Created and produced by the Novel Data Linkages for Health and Wellbeing Turing Interest Group. Contributors: University of Bristol (Dr Romana Burgess, Dr Neo Poon, Dr Victoria Sivill); University of Leeds (Dr Victoria Jenneson, Dr Francesca Pontin); University of Nottingham (Elizabeth Dolan). This submission and Interest Group is led by Dr Anya Skatova (University of Bristol) & Prof Michelle Morris (University of Leeds). Contact Dr Anya Skatova for any enquiries regarding this submission on [anya.skatova@bristol.ac.uk](mailto:anya.skatova@bristol.ac.uk).

**Digital Footprint data (or Smart Data) is the information created as we go about our daily lives online, leaving digital traces of our activities. This includes details about our preferences in online entertainment from streaming services, what we buy from supermarket loyalty card records, and even how much we move from devices like fitness trackers. When these data are combined with other information, like health records, it becomes helpful in understanding the health and well-being of the entire population.**

### Policy recommendations

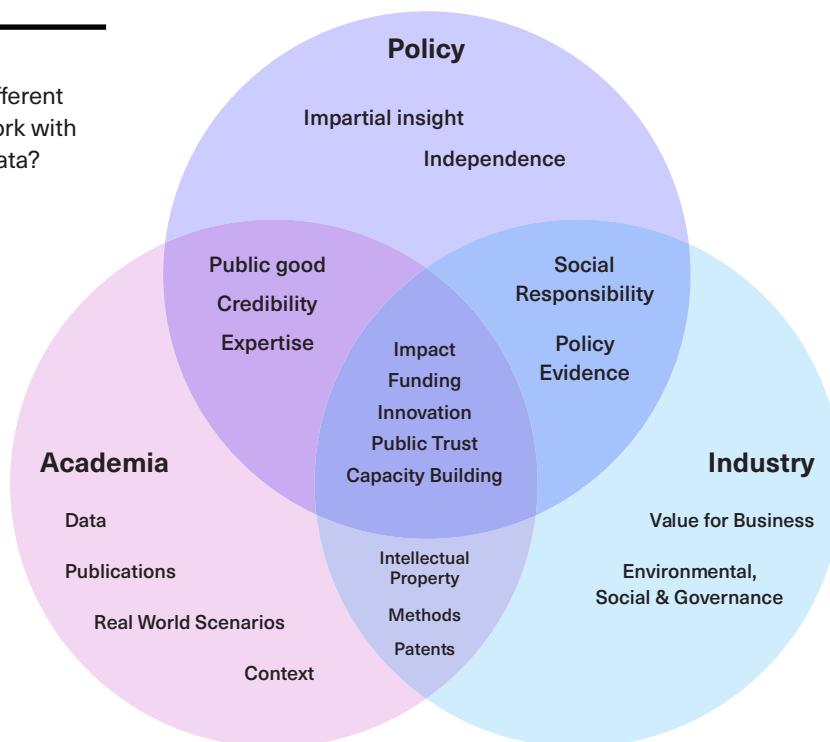
- **Convene stakeholders** – industry, policymakers, government departments, healthcare sector, academics – **to accelerate Digital Footprints research for social impact.** This includes funding for secondments of academics into industry or policy-making environments and vice versa; appropriate training to support technical proficiency and secure data handling helping to address data providers apprehension towards sharing data with research teams.
- **Increase awareness** of the potential of Digital Footprints research by supporting ongoing initiatives: conferences, workshops, publications – and fostering community growth through resources for networking, mentorship, and knowledge exchange.
- **Establish incentives** for academic researchers, industry, and policymakers to actively engage in public communication to enhance acceptability and understanding of Digital Footprint research.
- **Develop streamlined processes in cross-sector data sharing** and ensure transparent accounting of data-sharing agreements. Enable sharing expertise in data provenance and governance challenges (e.g., GDPR, Intellectual Property).
- **Foster multidisciplinary** in [Digital Footprints] research, advocating for funding models that encourage collaborative and diverse research initiatives. Investment in Early Career Researchers is key for capacity building in this eminent and rapidly growing field.
- **Unify frameworks and language**, defining a glossary of terms will promote consistent language and inclusivity across domains. Existing ethical frameworks (e.g., NHS) must be extended to better align with novel Digital Footprint data.

## About the research

The Turing Novel Data Linkages Interest Group brings together multi-disciplinary researchers and multi-sector communities to discuss opportunities for linking Digital Footprint data to health and wellbeing outcomes. Culminating from talks, panels and group discussions during group events in 2022/23, we addressed the incentives and barriers to working with universities from an industry and policy perspective, as well as identified several key themes necessary to drive future success in this field. Collaborative efforts highlight the distinct motivations of each stakeholder group (see Figure 1). Prioritising the mutually advantageous elements of such collaborations will help to foster harmonious, fruitful, and impactful partnerships.

**Figure 1.**

What motivates different stakeholders to work with Digital Footprint data?



The outputs from these events so far have been documented in the Digital Footprints 2023 Conference Proceedings<sup>1</sup>, and a Viewpoint paper published by the Interest Group<sup>2</sup>.

### Cross-sector opportunities

Impactful research in this field relies on active collaboration between academic, industry, and government stakeholders. Fostering cohesive efforts among these groups brings unique challenges.

- Policy representatives acknowledge that academics can offer impartial insights, by providing an unbiased and independent evaluation of the effectiveness of interventions and their beneficiaries.
- Improved support and alignment of bottom-up and top-down research would help to bridge the gap between local and national policies.
- Industry collaborators would like to work with Digital Footprint data but require alignment between business priorities and academic insights, streamlined processes for data sharing, and a proactive approach to address challenges in commercial sensitivity.

<sup>1</sup><https://ijpds.org/issue/view/29>

<sup>2</sup><https://osf.io/9jgn2>