

Making Data Accessible for Non-Data Savvy Individuals

Contributors: Pearl Li Ng, Chris Williams, Gaya Gounder Peter Runcie, Goran Babusku, Ashlee Gardner and Aditi Phansalkar

Part 2: Enhancing Data Accessibility and Usability

Abstract: Part 2 of this series focuses on enhancing data accessibility and usability, ensuring that data is comprehensible and actionable for everyone, regardless of technical expertise. It explores current trends such as data democratisation, open data initiatives, and the importance of accessibility for people with additional needs. Through a case study on Christchurch City Council's innovative interactive budget tool, the article highlights how simplified, visualised data can foster transparency and engagement. Future challenges like technological barriers, personalised data delivery, and citizen-generated data are discussed, alongside opportunities to create a more inclusive, data-driven society.

As we continue to explore the evolving landscape of data literacy, one critical challenge we face is making data not only accessible but truly usable for everyone—especially those without extensive data expertise. In the previous installment of this series, we discussed the importance of building data literacy across a spectrum of skills. Now, we focus on enhancing data accessibility and usability, ensuring that data can be understood, acted upon, and leveraged by a diverse range of individuals, regardless of their technical proficiency.

Current Trends Shaping Data Accessibility and Usability

Data Democratisation: One of the most exciting trends in the data space is data democratisation—the idea that data should be accessible to all, not just data experts. This shift has been made possible by the increasing availability of open data, which is publicly accessible and free to use. Governments and organisations are embracing open data platforms, enabling citizens to explore, analyse, and make decisions based on information that was once locked behind technical barriers.

Open Data and Open Government: Governments worldwide are adopting open data policies, which make public sector data available for everyone. This transparency helps to develop a more informed society and drives greater accountability. Open data initiatives are also empowering citizens to participate in decision-making processes, enhancing the inclusivity of governance and enabling more effective public policies.

Accessibility for People with Additional Needs: Making data accessible goes beyond just making it available. For those with additional needs, such as visual or cognitive impairments, data must be presented in formats that they can easily interpret. Accessible data visualisations, for example, allow individuals to engage with data through simplified representations, such as charts, graphs, and maps that are easy to read and understand. Tools like screen readers, voice commands, and alternative text for images are helping to bridge the gap, making data usable for a broader audience.

E-Participation and Citizen Science: The rise of e-participation platforms allows citizens to engage with government processes and decision-making, giving them a direct voice in the creation of policies or the development of public services. Citizen science initiatives also invite the public to contribute to data collection, whether it's through environmental monitoring or crowd-sourced health data. These participatory methods are not only enriching the data landscape but also cultivating greater civic engagement.

Case Study: Christchurch City Council's Budget Document Simplification

The City of Christchurch, New Zealand, sought to make its budgeting process more accessible and engaging. Traditionally, the Christchurch City Council (CCC) presented budget data in complex spreadsheets, limiting public involvement. To address this, the CCC developed an interactive online tool that transformed budget data into colourful, user-friendly visualisations. The tool allowed residents to explore projects by location or type and provided a feedback feature for direct input on proposed projects. This innovation led to a 52% increase in users and a 101% rise in views compared to previous years. It also fostered greater transparency, accountability, and trust between the government and the community, setting a new standard for citizen engagement in local government budgeting.

Future Challenges and Opportunities

Technological Barriers and Access Issues: Despite progress, significant technological barriers remain. High-speed internet access, for example, is still not universally available, and many individuals do not have access to the tools or skills needed to engage with digital platforms. As we move toward a more data-driven world, these

inequalities could leave some people behind. Addressing these issues through targeted infrastructure investment and digital literacy programs is key to ensuring that no one is excluded from the benefits of data accessibility.

Personalised Delivery of Data/Information: As data becomes more ubiquitous, the challenge is not just delivering more data, but delivering the right data to the right people. Personalisation is becoming a key aspect of data delivery, where information is tailored to meet the specific needs, preferences, and capabilities of individuals. For instance, personalised dashboards in health apps can show patients data related to their own medical history, while government portals can highlight services relevant to individual users. Ensuring the seamless personalisation of data delivery is a growing opportunity, but it also presents the challenge of balancing relevance and privacy.

One Data Source for Multiple Users with Distinct Needs: Another key challenge is how to design a single data source that can serve multiple users with distinct needs. Different stakeholders—whether they are government officials, citizens, businesses, or community organisations—may need different types of data from the same source. The challenge is to present this information in ways that meet the unique requirements of each audience. This requires sophisticated systems and tools capable of adapting data to various contexts, ensuring that every user can extract meaningful insights.

Personalised Multi-Channel Delivery: In an increasingly digital world, data delivery must be available across multiple channels. Whether it's via smartphones, websites, or even voice-activated assistants, the ability to access data should be flexible and convenient for users. Personalising this multi-channel delivery ensures that individuals can interact with data in the way that suits them best, whether that's through a mobile app, email alerts, or in-person interfaces.

Citizen-Generated Data as a New Source: In addition to traditional data collection methods, citizen-generated data is becoming an increasingly important resource. With the rise of smartphones and IoT (Internet of Things) devices, people are now able to contribute valuable data in real-time. This new source of data can provide insights into everything from local environmental conditions to traffic patterns or public health trends. Harnessing this data for public benefit presents both opportunities and challenges in terms of data governance, quality control, and privacy.

Avoiding Information Overload: As the volume of data continues to grow exponentially, one of the biggest risks is information overload. While more data offers more insights, it also raises the risk of drowning in irrelevant or excessive information. The challenge, then, is ensuring that the right information reaches the right people at the right time. Effective data curation and filtering systems will be essential in preventing overload and ensuring that data remains actionable.

Looking Ahead

As we move forward, the importance of data accessibility and usability cannot be overstated. By embracing these trends and addressing the challenges ahead, we can create a more inclusive, data-driven society. This means not only providing the tools and technologies to access data but also ensuring that individuals have the skills and understanding to interpret and act on it. In the final part of this series, we will delve into the role of data ethics and governance in ensuring that data is used responsibly and equitably. Stay tuned as we continue to explore the evolving landscape of data literacy and its transformative potential for individuals and communities alike.