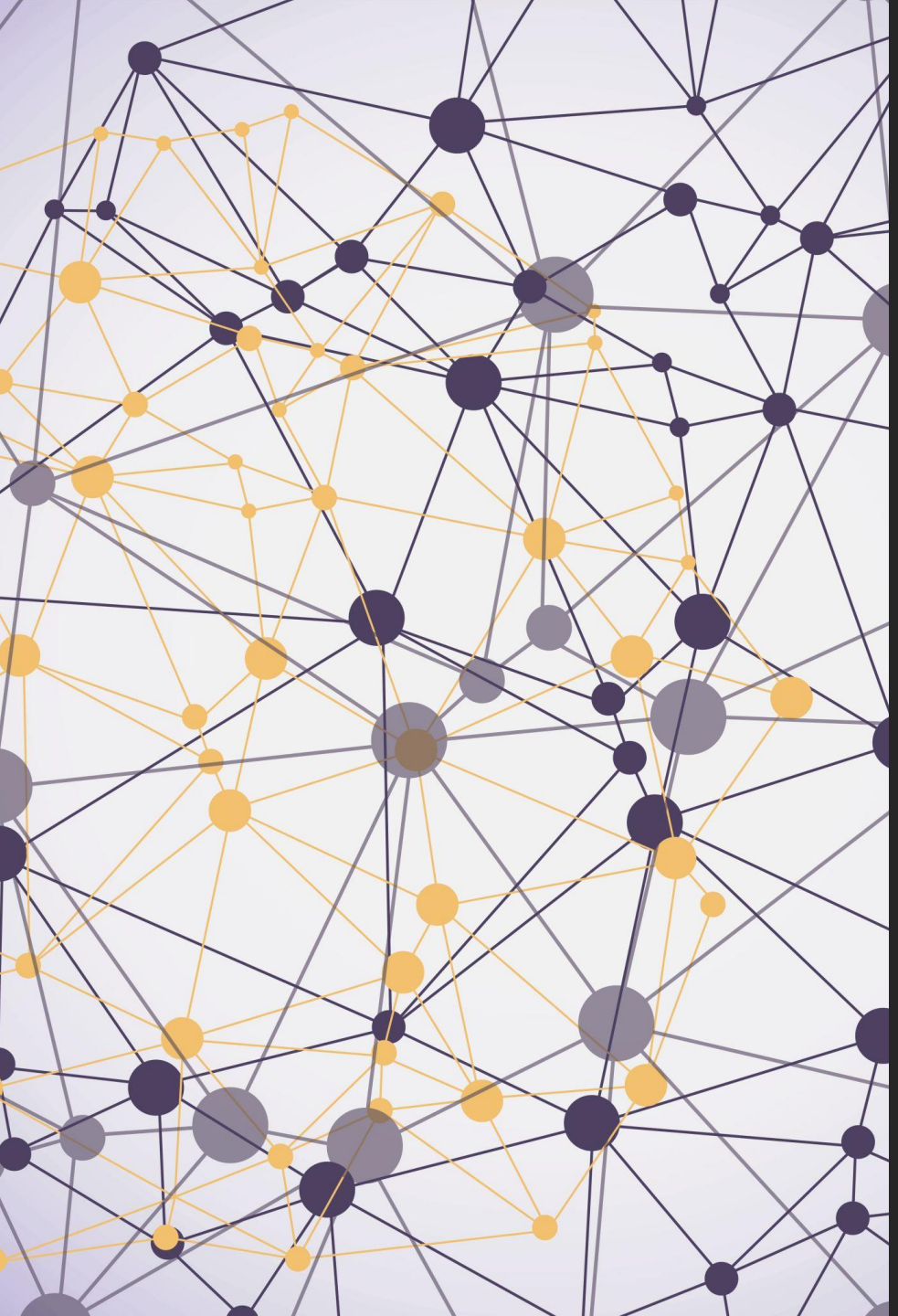

Considerations of Government Policies in Technology and Data Management

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We Are Digitalizing (Almost) Everything in Government

Hundreds of vendors sell products and services in the government technology market provide digital tech for a very wide range of government activities.

Hardware/software/security; national and international; large and small; narrow and broad.

Solutions may be on cloud-based or on-premises computers. They may be commercial off the shelf (COTS) software; in-house or contractor developed, or customizable COTS. Or freshly developed for a specific need.

Investors in the govtech business are consolidating: companies are acquiring companies with complimentary solutions to provide a one-stop shopping in different lines of businesses. Aka, portfolio or platform solutions.

This trend has not only technology management implications for agencies, but public policy ones as well. We will be talking about the policy issues.

The Digitalization of (Almost) Everything…

- …has broad policy implications in state and local government
- Some of these are:
  - Efficiency, digitalization, and cost
  - Government transparency
  - Climate and energy
  - Trust and ethics of tech use (e.g., privacy and surveillance) and engagement of the public
  - ???
  - Connectivity and the *Digital Divide*
  - Cybersecurity
  - People with disabilities

Let's dig deep into these policy issues…

Government Technology and Social Good

How Does Technology Affect Public Policy?

- "The impact of digital transformation in the private sector has not been mirrored by equally significant changes to how policy is designed, implemented and evaluated or how governments interact with their citizens."*

*From OECD: Using Digital Technologies to Improve the Design and Enforcement of Public Policies

Government Tech and Social Good – 10 Trends

1. Increased digital privacy rights battles in the local, national, and global stage
2. Digital security becomes politically important
3. Increased focus on online responsibility
4. Critical look at civic engagement and power building in the “Digital Age.”
5. Greater transparency and accountability of government procurement of private sector technologies

From a Ford Foundation Report

Government Tech and Social Good – the other 5 of 10 Trends

6. Heightened focus on data ownership and governance over automation and prediction systems (aka, AI)
7. An alternative, decentralized, and collaborative Internet
8. Biometric technologies are mainstreamed and normalized
9. Academia tackles question of AI for social good
10. Impact of technology on the labor market and the Future of Work (e.g., Amazon and robotics, chat bots)

But These Present Challenges:

- Public-private partnerships can generate digital security vulnerabilities and concerns over individual privacy
- The need to strike the right balance between the broader public benefits of enhanced sharing of data, and individuals' and organizations' legitimate concerns about the protection of privacy
- Questions of interoperability of data systems within and across different areas
- The availability of more data usually helps to improve policies, it is not a panacea and comes with risks that will need to be tackled over the next decade
- A bottleneck: Insufficient public infrastructure to link disparate sources of data is a key bottleneck

What and how much to collect; open access vs. privacy issues

DATA POLICY AND PRIVACY

Implications of Government and Open Data

- Public data and open data
  - Public: When government is required to make data available
  - Open: when it's good government to make data accessible
- Privacy and data *stewardship*
  - If you have data, you must understand and manage it
  - Agency needs rules that are consistent with state and federal law about how they disclose and make data public
  - Builds trust and community support
  - Smart governments will work on modifying their policies. Privacy Principles for Mobility Data has a good set of policies to start with.

Click the image to see this report on open data in NJ

What Drives Open Data – Trust

Empowerment

Transparency

Citizen Engagement

Current Technology

Sustainability

What can go wrong with data?

- **Totalitarianism:** government that controls all aspects of its people's public and private lives and is often described by scholars as the opposite of democracy.
- **Camera's everywhere (panopticonism):** system of control where people don't know when they are being watched, and thus act as though they are being watched at all times.
- **Discrimination -** when a person is unable to enjoy their human rights on an equal basis with others because of an unjustified distinction made in policy, law, or treatment based on their individual attributes.
- **Privatization** - the transfer of a public commodity or service to private ownership and control.
- **"Solutionism" -** the phenomenon of trying to reframe political, moral, and irresolvable problems as solvable by quantifying, tracking, or gamifying behavior with technology
  - (also known as having "tech goggles" – see free online book, Smart Enough City)

Can We Prevent What Can Go Wrong?

- Understand if what you want to measure is a reliable indicator and that data can be reliably collected.
  - Are any assumptions being made clear and deficiencies, collection issues, and other risks understood?
- Is the data limited to only what you need?
  - Does it include extraneous or unnecessary data that can be used for other purposes that could compromise personal privacy?
- Does your collection tool measure what you want measured?
  - Do the sensors, analysis of previously collected data, online or in person surveys, etc. make the point, or if used as a surrogate, correlation has been or can be proven.
- Can the data be successfully anonymized and re-anonymization prevented?

Understanding Data and its Sources

- Does it accurately represent the group and purposes it is intended to reflect?
  - If the data is about people, does it represent the breadth of demographics and conditions necessary to reach sound conclusions? That can include differences in race, sex/gender, age, mobility, and other relevant characteristics of those affected by the data.
- How was the data sourced? Did it cover an appropriate geographic area?
  - Was it limited by the time frame, which also includes days and time of day? Was the source population representative of the universe of affected individuals or indicator.
- If requiring input from individuals directly, was it clear for people of different educational levels and languages? Was it complete or are there gaps (and what do they represent)?

And….

- Is the analysis sound?
  - Did the analysis consider any collection deficiencies?
  - Were the conclusions clear or not as significant as may have been hypothesized?
  - Do they accurately represent the different demographics (age, race, etc.) or collection circumstances (time of day, locations, etc.)?
- Are the results clearly explained?
  - Does messaging (reports, websites, presentations) consider how the data relates to the affected groups and how the messaging and findings may be perceived by them?
- These issues have a significant impact artificial intelligence. Agencies using these tools need to address these issues in that context.

What's a Data Steward?

- Data stewards are **managers and administrators within an organization who are responsible for implementing data governance policies and standards and maintaining data quality and security**.
- While many organizations do not have that title, there are people scattered around who take responsibilities for data management. In some cases, it's inherent with a job.
- Responsibilities of the data steward function (or person) vary between different organizations and institutions.

https://en.wikipedia.org/wiki/Data_steward

A Data Steward Ensures That Each Assigned Data Element:

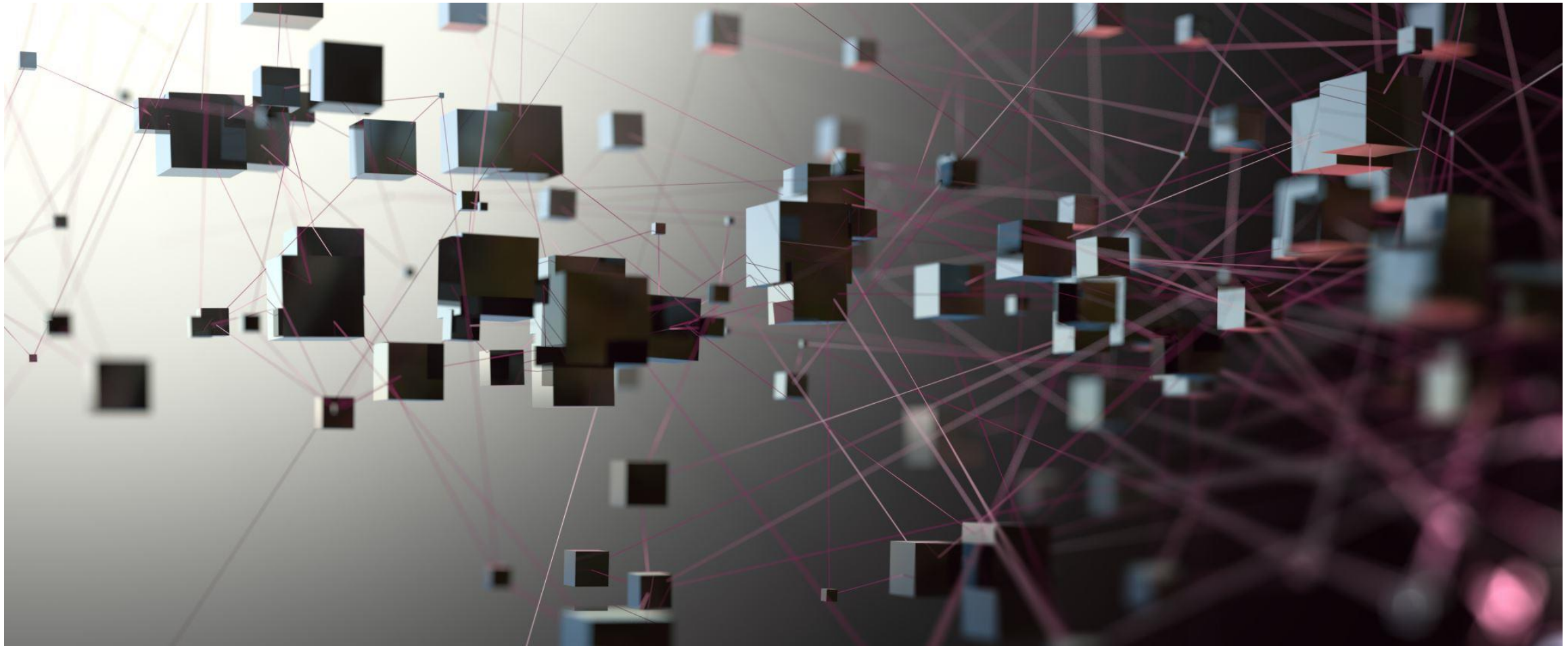
1. Has clear and unambiguous data element definition
2. Does not conflict with other data elements in the metadata registry (removes duplicates, overlap etc.)
3. Has clear enumerated value definitions if it is of type code
4. Is still being used (remove unused data elements)
5. Is being used consistently in various computer systems
6. Is being used, fit for purpose = Data Fitness
7. Has adequate documentation on appropriate usage and notes
8. Documents the origin and sources of authority on each metadata element
9. Is protected against unauthorized access or change

https://en.wikipedia.org/wiki/Data_steward

What's Can a Data Stewardship Policy Say?

- We will uphold the rights of individuals to privacy given the data we collect.
- We will ensure community engagement and input, especially from those that have been historically marginalized, as we define our purposes, practices and policies related to data.
- We will clearly and specifically define our purposes for working with data.
- We will communicate our purposes, practices and policies around data to the people and communities we serve.
- We will collect and retain the minimum amount of data that is necessary to fulfill our purposes.
- We will establish policies and practices that protect data privacy.
- We will protect privacy when sharing data.

Bridging The Digital Divide

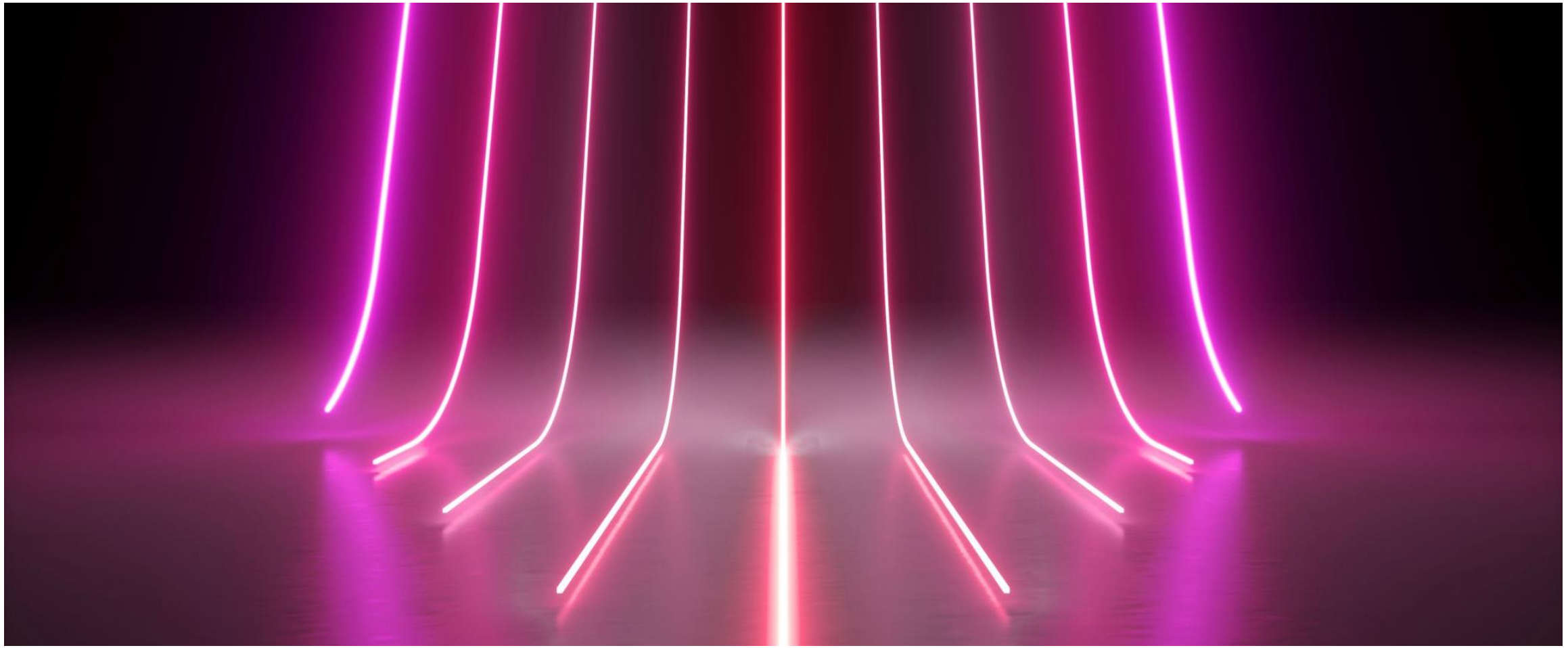


Examples of the Digital Divide from Pew Research

- Americans with disabilities are less likely to have access than those who own some digital devices
- Some digital divides persist between adults in rural, urban and suburban America
- Home broadband adoption, computer ownership vary by race and ethnicity Black and Latino have less than White residents
- 34% of lower-income home broadband users had trouble paying for their service amid COVID-19
- 7% of Americans don't use the internet. Who are they?: Today, 25% of adults ages 65 and older

Federal aid to states is intended to close these gaps. In NJ, it is being handled by OIT and the BPU Office of Cable TV and Telecommunications.

Disabilities and Technology – an Advocacy View



People with Disabilities Face…

- Inescapable technology
  - Technology, and its corresponding benefits and harms, exists in all shapes and all spheres of life including housing, healthcare, school, and work.
- Accessibility as Crucial Issue
  - Technology has the potential to change many disabled peoples' lives. Therefore, accessibility must be primary in conversations or work surrounding technology policy and civil rights.
- Importance of Representation and Diversity in Technology Development and Policy
  - Without diverse design perspectives, algorithms are trained by unrepresentative data/information sets that can reflect historical inequalities and biases.
- Algorithmic Bias and Inability to Capture Disability Experience
  - In addition to this lack of diverse representation, the experiences, needs, and barriers that marginalized communities face, including disabled people, who, by definition, cannot be quantified neatly.

Some Specific Tech-related Disability Policy Issues Include

- Access to high-speed internet and devices
- Linking access to economic security
- Equitable employment
- Privacy and commercial data practices
- Education and student surveillance
- Law enforcement
- Healthcare
- Emerging tech (i.e., AR/VR, mobility)

This means your organizations should keep these in mind when considering tech driven (and other) policies.

Examples of Tech That Can Assist the Disabled

- Talking devices such as a talking thermostat
- Braille displays
- iPads and tablets
- Voice recognition systems
- Digital recorders
- Screen reading software
- Text-to-speech systems using optical character recognition (OCR), spell checkers
- Word prediction software

Along with remote work, these techs enable people who were excluded to participate in many aspects of life.

OTHER TECH AFFECTED POLICIES

Green Tech (via the C40 Cities, www.c40.org)

- Green tech, plays a significant role in how governments around the world deal with the physical world. It has resonance with society's response to climate change.
- Energy supply solutions are driven by digital technology (mostly IoT + physics and chemistry):
  - Moving from carbon to renewables
  - EV/AV charging: public and fleet
  - Electrification of buildings
  - Use of microgrids
  - Batteries and storage
  - Decarbonization tech

See US EPA Energy Resources for State, Local, and Tribal Governments

Green Tech Also Affects…

- Water: water quality, supply, drainage, treatment, management and monitoring
- Air quality – emissions control, quality monitoring, and enforcement
- Food systems – transportation, distribution, local sourced, food deserts
- Transportation – moving to renewables at all levels
- Urban planning – climate adaptation, housing density and design, traffic and parking
- Waste management – collection efficiences, recyclable sorting, landfill management/monitoring
- Along with disruption in many industries along the way!

State Government Tech - Specific Tech Issues

- Data privacy, cybersecurity, cryptocurrency mining (regulation)
- Employee status: worker or contractor
- Environmental: impact of data and physical warehouses, mass transit vs. new roads; electrification of building infrastructure
- Workplace: tech amplifies employee abuses yet allows for improvement.
- Wages, hours, accommodations; in person vs. hybrid
- Online/social media abuse in schools and other places
- Media literacy education in schools and general public:
  - Check out Crash Course: Navigating Digital Media for more.
- Where is responsibility? Split between legislature and the executive branch.
  - Some actions require laws, other regulations. But the process to move on the issues is key. Consultation with affected parties and interests is important. Federal laws and regs may also play a role.

Local Government Tech-Specific Policies:

Some state issues may affect local government as well. In addition…

- Workplace: wages, hours, accommodations; in person vs. hybrid
- Transportation: vehicle sharing (networking), micro-mobility, door-door delivery
- Transient housing (Airbnb, Vrbo)
- Use of video surveillance and collected data
- Local climate issues: building electrification
- EV and AV impact on traffic congestion and planning
- Impact of warehousing on land use
- As with state policies, consultation with affected parties and coordination with state and federal requirements is important.

TO WRAP THIS UP, a small rabbit hole: the NJ State Open Data Law

NJ State Open Data Law: *P.L. 2017, c.2, N.J.S.A. 52:18A-234.1 et seq.*

In February 2017, the State enacted an Open Data initiative to open access to State government data. It had several goals and mandates:

- To enhance transparency and accountability in the State government agencies
- Providing an impetus to economic development by enabling "...private sector companies to use such data to produce innovative and creative items and services that benefit the citizens of this State"
- Increasing efficiency of State agencies to enhance service delivery
- To share data with other agencies to ensure the "effective and cost efficient delivery of a wide range of government information and services."
- To achieve this, the policy/law provides for the appointment of a '*Chief Data Officer* responsible for implementing the Open Data Initiative.

Specifically, the law required the CDO to…

- Oversee and implementing a unique, dedicated open data website and any additional or existing open data websites linked thereto by an agency. We know that as *https://data.nj.gov*.
- Establish open security and technical standards, policies, and practices and require the State government agencies to comply
- Require that all state agencies make their data accessible in a non-proprietary, machine-readable format
- Chief Data Officer and Attorney General together are allowed to resolve inter-agency data sharing disputes

But there is a fear that information obtained from OPRA can be misused and that the website itself may be prone to cyber attacks.

Though public agencies are prohibited from disclosing certain data which is confidential, it is still possible to utilize data which may not be classified as ‘confidential’ under law in a malicious manner. So caution is necessary when posting.

Role of State Agencies and Open Data

- Either provide datasets to the Chief Data Officer (for the data hib)or create and maintain on the agency's website links to the datasets hosted by the agency.
- Adopt rules and standards consistent with the CDO. And…
  1. Create, maintain, and post or have posted on the open data website an inventory of all its open data and datasets pursuant to the standards and timetables established by the Chief Data Officer;
  2. Include on the open data website appropriate explanations about the open data, its format, how often the open data and datasets are updated, and how notice regarding such updates can be obtained; and
  3. Assist users to gain access to the open data and datasets of the agency through the deployment of online access tools, and the development and publication of application program interfaces.
- Each agency shall update the open data and datasets on the timetable
- Some agencies have this well, or at least tried to: DoH, DoE, DCA, DEP,DCF, OGIS, DLWD, DoT


That's all Folks!