Data as a Strategic National Asset

Julia Lane, NYU
And many colleagues
TL; DR – Pocket Guide to Building Data Infrastructures

1. Use Data to Create Clear Value
2. Create Researcher/Agency Partnerships
3. Deliver Product from Data Quickly
4. Create a Data Community
<table>
<thead>
<tr>
<th><strong>Online Tool</strong></th>
<th><strong>Data/Availability</strong></th>
<th><strong>Description</strong></th>
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<tr>
<td><strong>QWI Explorer</strong></td>
<td>QWI: Quarterly, 1990-Latest</td>
<td>Provides charts, maps, and interactive tables for users to compare, rank, and aggregate QWIs across firm and worker characteristics.</td>
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<tr>
<td><strong>OnTheMap</strong></td>
<td>LODES: Annual, 2002-Latest</td>
<td>Maps, charts, and reports on demographic characteristics and commute patterns of workers/jobs covering 50 states plus D.C.</td>
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<tr>
<td><strong>OnTheMap for Emergency Management</strong></td>
<td>LODES: Annual, Latest</td>
<td>Shows potential impact on jobs/workers and population for hurricanes, fires, floods, winter storms, and disaster declaration areas. Real-time disaster events are automatically updated. Selected variables from ACS and Decennial data are also available.</td>
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<tr>
<td><strong>PSEO Explorer</strong></td>
<td>PSEO: Annual, 2001-Latest</td>
<td>Interactive tool allows for comparisons of earnings and employment outcomes for recent graduates.</td>
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<tr>
<td><strong>VEO Explorer</strong></td>
<td>VEO: Annual, 2001-Latest</td>
<td>Interactive tool allows for comparisons of earnings and employment outcomes for Army veterans.</td>
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Go to <lehd.ces.census.gov>. For more information, contact <CES.Local.Employment.Dynamics@census.gov>
This was the ’90s, remember. Turbulence was everywhere you looked. Integrated steel mills were closing but mini-mills were opening. The minicomputer industry was shrinking but the software industry was growing by leaps and bounds. Downtowns were collapsing and big box stores sprouting like mushrooms along the highways. Lane had dinner one night with a friend, Nancy Gordon, then the Associate Director of the Demographic Directorate at the Census Bureau.

“Census leadership was concerned about the gap in data integration between two of their major directorates, Demographics, which collects detailed data on households and workers, and Economic, which collects detailed data on firms, but little about the workers in those firms. There was no way in which the two data-collection activities were synchronized. The household employment survey was measuring employment one way, and the establishment data were measuring employment another way. Census knew that the workforce affected firm outcomes and that firms affect worker outcomes, but there was no way of linking the two. A survey would be incredibly expensive – about $1,000 a record. I had the opposite problem with my unemployment insurance wage-record data. I could see the links between firms and workers, but I had no information about the characteristics of either. So I said, I could figure out how to create the link.”

**Build Community**

**Annual LED Workshop**

The Census Bureau convenes an annual workshop with state partners, federal agencies, and public and private organizations with shared interest every calendar year. The purpose of the annual workshop is to review progress, showcase use of data and analyses, solicit input and ideas, explore new concepts and uses, and discuss research and development directions for the coming years.

The Census Bureau conducts training for workforce investment boards (WIBs) to help them use the Local Employment Dynamics information they need for decision-making.

Workshop materials are organized by year below:

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Create Value: e.g. impact of R&D on jobs or science diversity

NSB News Release

NSB passes resolutions to address Missing Millions & deliver research benefits across America

March 4, 2021

NSB's Vision 2030 emphasizes the urgent need for greater participation of women and other underrepresented groups in the U.S. science and engineering enterprise and ensuring that research benefits reach all Americans. Last week, the National Science Board (NSB) passed two resolutions to advance both goals. One resolution aims to address unconscious biases and improve the preparedness of proposal reviewers. The second seeks to increase the potential of proposals' Broader Impacts (BI) to benefit society.

"The Board is committed to working with NSF to find new ways to advance our shared goals that are essential to building America's workforce and ensuring its innovation leadership. These two resolutions are an important step," said NSB Chair Ellen Ochoa. "We trust in Director Panchanathan and his creative staff to find the best way to implement the policies we outline in the resolutions and look forward to getting an update on their impact."

Recovery Act

OVERVIEW OF THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009 (RECOVERY ACT)

The American Recovery and Reinvestment Act of 2009 (Recovery Act) was signed into law by President Obama on February 17th, 2009. It is an unprecedented effort to jumpstart our economy, create or save millions of jobs, and put a down payment on addressing long-neglected challenges so our country can thrive in the 21st century. The Act is an extraordinary response to a crisis unlike any since the Great Depression, and includes measures to modernize our nation's infrastructure, enhance energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need.

ACCELERATION OF ARRA EXPENDITURES

View Map of NSF ARRA Awards by State
2022 DATA RELEASE

Files in This Collection

Documentation
- Summary Documentation for IRIS UMETRICS 2022 Data Release
- Full Documentation for IRIS UMETRICS 2022 Data Release
- IRIS UMETRICS 2022 Data Dictionary

Dataset
- IRIS UMETRICS 2022 Core Files
- IRIS UMETRICS 2022 Auxiliary Files
- IRIS UMETRICS 2022 Linkage Files
- IRIS UMETRICS 2022 Supplemental Release: Medline-UMETRICS Crosswalk (forthcoming)

*Access Note: Files in this collection have special restrictions. You can apply for access to the restricted-use documentation and data.

New Features
IRIS is pleased to announce new features to this year’s annual release. Highlights

Context
Example 1
Example 2
Example 3
Deliver Product: Diversity Information

Example 1

Example 2

Example 3
IRIS is a national consortium of research institutions focused on creating new, independent statistical evidence about the economic impact of research. Our reports help member institutions document the economic impact of their investments in scientific research, manage their research portfolios, and inform outreach to federal and state stakeholders.

**VENDOR PROFILE REPORT:** measuring the economic development impacts of sponsored research

**EMPLOYEE REPORT:** tracking the careers of research-funded employees

**SPENDING REPORT:** showing the spending and employment patterns of sponsored research

**LEGISLATIVE REPORTS:** viewing research spending by legislative district

**IMPACT FINDER:** map-based browser for finding stories of research impact

**KL2 IMPACT REPORT:** tracking the career progression of research scientists

Our legislative fact sheets break out university research spending and its impact on local economies and communities by legislative district. These reports are meant to help with communications with state and federal lawmakers in discussions around the economic impact of research investments.
IRIS is... a consortium of research universities using big administrative data to understand, explain, and improve higher education and research.

Joining IRIS: In this video, Executive Director Jason Owen-Smith outlines the benefits of membership

Happening @ IRIS

Nature article on bias in scientific publishing uses IRIS-UMETRICS data

Women are less likely to be credited with authorship on scientific publications than men, according to recent research published in Nature magazine. The authors relied on IRIS-UMETRICS dataset in their analysis.

• Read article...
• View webinar with the authors...

Wayne State University joins IRIS

IRIS is pleased to welcome Wayne State University as the newest member of the consortium. Wayne State's sponsored research volume has grown 70% since 2015, totaling $320 million in Fiscal Year 2020. Read more...

Research Update: Nearly 75 researchers are active in the IRIS data enclave

Approximately 75 researchers have active accounts in the IRIS data enclave in order to access the IRIS research dataset as of fall 2022. In all, nearly 500 researchers have access the dataset since its creation in 2017. Read more...
administrative data research facility: the administrative data research facility is a pilot project that enables secure access to analytical tools, data storage and discovery services, and general computing resources for users, including federal, state, and local government analysts and academic researchers. the census bureau and academic partners developed the project as part of the collaborative training program in applied data analytics sponsored by the university of chicago, new york university, and the university of maryland. it is currently operating as a pilot with users accessing the facility as part of the training program. the facility operates as a cloud-based computing environment, with federal security approvals, which currently hosts selected confidential data from the u.s. department of housing and urban development and the census bureau, as well as state, city, and county agencies, and an array of public use data.

fy 2016 significant investments

- 2020 census ($663m): we have the potential to save $5 billion with the new 2020 census design, however, we now have to build operations and systems for the 2020 census, based on the new design.
- ceo-cap ($78m): smarter-IT delivery built on a shared-servicess model.
- american community survey ($257m): we must maintain the quality of the data while continuing our efforts to reduce respondent burden.
- geographic support ($81m): we must make use of technology and partnerships to deliver smarter geographic solutions to our surveys and censuses.
- administrative records clearinghouse ($106m): will expedite the acquisition of federal and federally sponsored administrative data sources, improve data documentation and linkage techniques, and leverage and extend existing systems for governance, privacy protection, and secure access to these data.
- economic & government censuses ($144m): data products drive economic activity and are relevant to the needs businesses, policymakers, and the public. $10.1 million increase
Researcher/Agency Partnership

Context

Example 1

Example 2

Example 3
Deliver Product: Data Literacy and New Policy

Context

Example 1

Example 2

Example 3

Education to Workforce Transitions

- Teacher Brain Drain among Kentucky Graduates
- Employment and Earnings Outcomes of Health Care and STEM Graduates in Kentucky
- Analyzing Brain Drain Among Kentucky STEM Graduates
- The Impact of Credential Level on Earnings and Mobility for Trades Students in Kentucky Community and Technical Colleges
- Following the Money: Patterns in Kentucky Graduates’ Employment Outcomes
- Only the ADRP Knows: Which Programs of Study at Ohio Community Colleges Result in a Better Labor Market Outcome?
- Assessing the Value of In-Demand Majors
- Employment Prospects of Welding Students: A Comparison by Course Completion Status
- Multidimensional Look into Graduate Debt
- PhD Recipients: Who was Funded and What Are Their Career Plans?
- Debt Hurts, Debt Scarls: Evaluating Impact of Funding on Doctoral Recipient Completion
- HBCU Impact on Black/African American PhDs in the Life Sciences
Join leaders from across the country for the Multi-state Data Collaboratives: From Projects to Products to Practice. This year's convening is a response to the success of the First Annual National Convening in March 2021, the overwhelmingly positive response to the Democratizing our Data Challenge, and the rapid expansion of multi-state data collaboratives.

Why? There is an urgent need for timely, locally relevant, data and evidence that can be used to respond to the changes in the pandemic economy, particularly for low-income learners and workers, at-risk youth, underrepresented minorities, immigrants, and formerly incarcerated individuals. New information can inform policies about investments in education and training, student debt, as well as welfare and corrections programs.
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Questions?

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