User–Centered Design for Increasing Open Data Use

How a strategic understanding of current and potential users of city data—and their role in the data ecosystem—is helping New York City realize its promise of Open Data for All.

OVERVIEW

The value of open data is not measured in the number of data sets a city publishes; it's measured in the number of problems that city residents are able to solve using that data in their daily lives and work. Recognizing this truth, in 2015 New York City launched the "Open Data for All" initiative to increase the accessibility and appeal of open data for New Yorkers. The Mayor's Office of Technology and Innovation (MOTI) engaged Reboot to develop a research-based strategy for the public-facing side of this initiative. We took an applied ethnography approach to develop a deep understanding of a wide spectrum of people in the city's open data ecosystem—from the civic tech data whiz advocating for more metadata to the busy bystander investigating a local civic issue. Through semi-structured interviews and direct observation, we surfaced a wealth of stories that made clear the meaning and potential uses of open data. We then turned these stories into a set of user personas, as well as an "Impact Cycle" framework, as tools for MOTI to integrate the findings throughout its work. Our analysis and recommendations are now helping MOTI to engage and support targeted users through technical improvements, strategic communications, and investments—a systems approach to increasing the impact of open data as part of a wider ecosystem.

Mayor's Office of Tech + Innovation

LOCATION

Nigeria

PROJECT DATES

February to April 2017

SERVICES PROVIDED

Design Research,
Strategic Advisory

TOPICS

Open Government

REBOOT

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BACKGROUND

In recent decades, cities and advocates across the United States have made huge strides in opening their data to the public. But this approach—"if you build it, they will come"—has increasingly come under scrutiny from the open data community, as download and usage rates of data have plateaued. For many cities, the promise of open data seems to be falling short; many are wondering whether technical issues, data capacity, public awareness, or other hidden factors are to blame.

New York City, a leader in the open data movement and a pioneer in increasing open data supply, is now leading the charge to solve this new challenge of open data demand. New York is the only city that has enshrined open data in law, and has committed to releasing all of its 1,600+ city datasets to the public through its flagship Open Data Portal. With the "Open Data for All" initiative launched in 2015, the City is now working to make this wealth of data appealing and accessible to all New Yorkers. The Mayor's Office of Technology and Innovation (MOTI) engaged Reboot to help shape and guide the public-facing strategy of the initiative, in recognition of both our previous successful work with New York City and our long expertise in using open data for impact.

APPROACH

To increase open data use, MOTI first needed to understand how New Yorkers already use data, as well as how data functions within the larger networks and processes of civic life. From our earliest research, it was clear that this understanding would fill an important gap in the wider movement; while much has been done to segment and understand the people who are already using open data portals, there has been little attention to how open data fits into the many ways that people seek to solve city problems. Our research offered MOTI a new way to understand the question of supply and demand of open data, and our analysis provided a targeted strategy for concrete next steps.

Select services for this project included:

User Experience Research

Grounded in the discipline of applied ethnography, we conducted five weeks of research with people across the spectrum of data skill and use, including members of the civic tech community (like platform developers and urban planners); non-profit professionals (like housing advocates and arts organizations); and new generations of residents (like high school students). We spoke with respondents across all five boroughs in semi-structured conversations; we also observed their use of data platforms and other information sources. Looking beyond open data itself, we developed a holistic picture of how these diverse people gather information, draw conclusions, and work together to solve problems.

Learning Product Creation

Through people's stories, the meaning and potential uses of open data became clear. To give MOTI a tool to integrate this understanding throughout its work, we created a set of User Personas, representative composites of similarly skilled and positioned individuals. The personas served as models for understanding open data in the context of the people who can best use it, from the journalist diagnosing civic issues to the nonprofit targeting its services more equitably to the residents using it for personal, everyday decisions. We also created a framework, "The Impact Cycle," for understanding how people use data in problem-solving
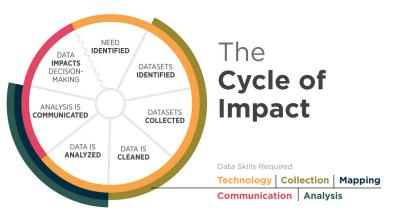
Strategic Advisory

Synthesizing our research, and working collaboratively with the MOTI team, we developed frameworks and guidance for the City to begin targeting specific users that could benefit from open data, but aren't using it already. Our approach broadened the concept of "using" data, recognizing that not everyone needs to be a data expert to benefit from open data; we developed recommendations that work within the existing open data ecosystem, pinpointing ways that MOTI may be able to target its support for the greatest impact.

RESULTS

Our research vividly demonstrated that the only valuable data is that which is used to solve a problem. By focusing in on the ways that New Yorkers are already working to address civic issues, we developed a pragmatic model for New York City to understand the best leverage points for increasing not just open data use, but its impact. "The Impact Cycle" framework visualizes the multiple paths that New Yorkers follow (and the skills needed) when they're seeking, interpreting, sharing, and implementing open data to solve a specific problem

The cycle is not chronological; people hop across the cycle and double back, following the path that makes the most sense for the problem, their skills, and the resources available. When lacking necessary skills, some people set out to master those skills, while others build connections and outsource the tasks to others. Thus, the human networks that function above and below the path of open data impact are extremely important. Understanding how to support specific groups of individuals in their most useful roles in the Impact Cycle is a powerful way for MOTI to maximize its resources and investments.

For example, one of these groups is the "Influential Interpreters," who develop data analysis experience through their work as journalists, policy analysts, or academic researchers, and who invest this knowledge in translating open data and connecting it to advocacy or nonprofit organizations (who in turn use it directly in their work). The "Influential Interpreters" are often outside of the civic tech community; reaching out to support them, including through developing products and communications that speak directly to them, may be one way for MOTI to increase data use in ways that ripple out with impact.

In ways like this, Reboot's guidance is helping the Open Data for All initiative to focus on fostering a collaborative ecosystem of open data. Based in part on this success, New York City has engaged Reboot to continue providing research and guidance, starting with helping the Mayor's Office of Data and Analytics on public-facing communications strategies for the "Open Data for All" initiative.