Introduction

Every year about 3,000 of New York City's one million buildings erupt in a major fire.(1) The city Fire Department (FDNY) has jurisdiction over more than 300,000 retail spaces, restaurants, and high-occupancy towers, and proactively inspects a sample of about 25,000 each year as a prevention measure.(2) But what if FDNY could target the most vulnerable buildings for an inspection instead of just a random sample? In 2013 that question was put to the newly created Mayor's Office of Data Analytics.(3) The answer was found in using a state-of-the-art DataBridge warehouse that connects data systems in more than 40 different City departments that have information relevant to building safety. FDNY's Risk Based Inspection System (RBIS) uses this data to consider about 60 different factors that make a building more likely to catch fire – such as age, electrical issues, location of sprinklers, and vacancy. The system uses an algorithm that assigns each of 330,000 buildings with a risk score that is then used to direct FDNY fire prevention resources toward the highest risk buildings in order to reduce the number and severity of fires.(4)

As this one example shows, public employees, at every level, are being touched by changes and advances in data and technology. Whether setting direction for analysts doing the number crunching, creating and testing algorithms, redesigning work processes based on analysis or explaining to the public what exactly the government is doing with data, government professionals need new knowledge and skills in data management, analysis, communication, and use.

New York City Mayor's Office of Data Analytics (MODA)

- Created in April 2013 by Executive Order 306
- Small group of data analysts work with business analysts, GIS experts, researchers, and computer scientists across the city
- Focused on evidence-based approaches to city management through data, technologies, and analysis

While much is being said and written about big data and data science, much less attention has been given to the skills required of the current and next generation of public managers, policy analysts, and informed citizens who are expected to use new data resources and tools effectively. To begin to address this gap, on May 9, 2014, the Center for Technology in Government at the University at Albany hosted a one-day workshop to explore the integration of data-intensive analytical skills in public affairs education. The event represented the convergence of two streams of activity in the United States and Europe on the topics of policy informatics and policy modeling developed over the past several years.(5)

The workshop was motivated by several trends and interests: (1) recognition that complex societal challenges and related public policy problems impose ever-increasing demands on public management capabilities; (2) an expectation that these capabilities can be improved by careful use of expanding data and information, new technology developments, and advances in analytical approaches; and (3) a desire as educators to understand what the next generation of government professionals and researchers need to know about the uses and value of the emerging field of policy informatics and how university public affairs programs can prepare them.

Definition "Policy informatics is the trans-disciplinary study of how computation and communication technology leverages information to better understand and address complex public policy and administration problems and realize innovations in governance processes and institutions." -Arizona State University's Center for Policy Informatics

We adopted policy informatics as the best way to describe the focus of our discussion, following the definition created by Arizona State University's Center for Policy Informatics(6): "the trans-disciplinary study of how computation and communication technology leverages information to better understand and address complex public policy and administration problems and realize innovations in governance processes and institutions."

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(1) Dwoskin, Elizabeth (2014), retrieved from http://blogs.wsj.com/digits/2014/01/24/how-new-yorks-fire-department-uses-data-mining/?mod=WSJBlog

(2) Flowers, Michael (2013). New York City Analytics, Annual Report 2013, retrieved from: http://www.nyc.gov/html/analytics/downloads/pdf/annual_report_2013.pdf

(3) Story was presented by Nicholas O'Brien at the May 9, 2014 workshop and further elaborated using published documentation.

(4) Dwoskin (2014)

(5) For more information on the projects visit: http://www.ctg.albany.edu/projects/egovpolinet and http://www.policy-community.eu/

(6) For more information visit: https://cpi.asu.edu/