

From Homelessness to Syria War Crimes: Use Cases for Impactful, Civic Data Analytics

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Abstract

The use of data analytics and data based decision-making has been used in business and industry for decades because of the powerful impact it can have on everything from marketing and sales to operational efficiency. We have taken the same data analysis and research techniques that have been so widely successful in the private sector and applied them to humanitarian and social issues through the lens of the nonprofit environment. The results of this process are seen in several use cases, including "investigative analytics", to expose injustice by researching civic datasets, for example by analyzing civilian killings in Syria we could show that military weapons such as snipers are used as a terror tool and not for strategic military gain. Similarly, working with prostitution arrest data in New York City we have shown gender disparities in handling of prostitution arrests in New York state putting women at a disadvantage, compared to arrested men. Ultimately our work has shown that to be truly effective with social projects we need to better connect the data science with real-life intervention design. Specifically we have to ask how the data can make an intervention better, who is ultimately going to use the data, and how it will benefit the at-risk population. We also show that one of the most promising use cases of predictive analytics is to efficiently identify vulnerable, at-risk populations in order to facilitate highly targeted outreach, for instance in homelessness or public health scenarios. In our various projects we found that the impact of sophisticated data science techniques such as predictive analytics can be greatly enhanced by engaging the ultimate users in the day-to-day application of the data, for example by engaging social workers in (re) designing their workflow of delivering social services given the new targeting and personalization opportunities. We also found that leveraging state-of-the art marketing techniques, such as communication design, advertising-style copywriting, digital channels and marketing automation can enhance outreach effectiveness and social impact in a very significant way.