The Art of Smart

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Brent Goldstein, while serving as the CDO and CIO of the City of Chicago, was able to drive an initiative to liberate thousands of data silos into a singular data lake (Gorelik, 2019, p. 194). While it was a challenging process to acquire and map all of the data from a myriad of sources it was a high stakes task with very beneficial results. Loading the information into the data lake allowed the city to store the data inexpensively and have full scalability for the future (Gorelik, 2019, p. 194).

The project began when Mayor Rahm Emanuel was elected and as his campaign platform promised his constituents a fresh approach with emphasis on data (Kuris). Aspects aiding in the success of the project were Chicago's dense, centralized population spanning only one county, sizeable technology sector, and deep breadth of universities, non-profits, and philanthropic organizations willing to aid the initiative (Kuris). The challenges faced were first and foremost gaining access to the data as each agency has different policies and protocols and mapping the data across datasets, including consolidating coordinate systems. Aside from the straightforward procedural challenges using this much citizen data also posed problems. Kuris states that:

> The harvesting and sharing of open data could erode citizen privacy or data security. Advanced data analytics could lead to Big Brother–type surveillance mechanisms or other authoritarian intrusions into citizens' private lives, unfairly scrutinizing citizens based on opaque computer algorithms.

Along with reducing citizens privacy levels there could also be further bias reinforced into public policies based on how and where, or where not, the data was collected and the collection methods used.

Through the challenges the project was able to address issues "pointed out by city agencies where data existed with foreseeable technical applications" (Kuris) such as targeting restaurant inspections based on media coverage and complaints, where police cars are located, where are potholes in a neighborhood, and what is the exact location of a problematic building leading into an ability to predict the locations of future restaurant testing, potholes, or which garbage cans needed repaired and effectively moving Chicago from a city who responds to issues to a city who proactively prevents issues (Gorelik, 2019, pp. 194-195). Alongside these more straightforward analytical problems the city also began to delve into more complicated problems such as predicting outbreaks of waterborne infection from E. coli and detecting high risks of lead poisoning (Kuris).

In the early stages of the project in 2018 "several factors of success were already clear" (Kuris) and Brett Goldstein believes that "by starting with smarter data architecture, particularly data lakes, we [Chicago] can move into more sophisticated analytics and machine learning' (Gorelik, 2019, p. 196). With these sophisticated processes it would be interesting to see Chicago tackle some of the major ethical issues of our time like police resistance, look into movements like Black Lives Matter, educational inequality, and areas of implicit bias in industries.

References

Gorelik, A. (2019). *The Enterprise Big Data Lake.* Sebastopol: O'Reily Media.

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