Alfonso Braulio Escribá • Katrina Falk Walker • Laura Roman Canal

Computing Lab / Data Warehousing and Business Intelligence
Analytics on the US Nonprofit Sector - *Milestone II*

Our next steps focus on extracting useful information from our dataset, preparing descriptive analytics to show relevant—but not yet evident—aspects of NPOs and exploring the ways in which we can make correlations and predictions. In order to provide users with analytic insight, our data view will catalog the **information** extracted from the 990 forms, which have the following sections:

- General descriptive information, including state, country, year of formation
- Mission Statements
- Governing body and management
- Policies
- Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees
- Revenue breakdown
- Functional expenses
- Balance sheets
- Reconciliation of net assets

Descriptively, our analytics will enable users to locate sector trends over time (2012-2014) and region, as well as identify key performance indicators (KPIs) to develop metrics. Our dashboard will provide users with the ability to filter variables like fundraising expenses and fundraising revenue to run comparative analyses. Insight into fundraising finances will enable NPOs to better assess organizational performance across the sector.

Predictively, our analytics will provide a filter widget that runs a probabilistic "what-if " analysis to locate opportunity within the sector. These analytics may generate insight into everything from staffing and asset management to forecasting. With approximately 145 variables within our data set, we hope to discover unforeseen patterns that could be leveraged —especially by users who are considering entering the growing sector. Specifically, these users could weigh various variables like size, age and region of an NPO to assess the likelihood of annual revenue or volunteership.

We are still exploring how we might incorporate **diagnostic** and **prescriptive** analytics into our dash-board, the relevancy of which might be best exemplified by a fundraising effectiveness survey published by the Urban Institute in 2016. Between 2004-2005 fundraising data from NPOs showed that *"$ 4.7 billion in gifts from new, upgraded current, and previously lapsed donors..."* was offset *"...by losses of $4.2 billion through reduced gifts and lapsed donors."*[1] They go on to claim that *"total giving as a percentage of gross domestic product (GDP) has averaged a flat two percent for the last 40 years."*[2] Diagnostic analytics could yield insight into the "how" and "why" NPOs experience either a low or high ROI, while prescriptive analytics - based on potential correlations found within our data - could guide strategic planning.

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[1] *2016 Fundraising Effectiveness Survey Report*, p.2 - Fundraising Effectiveness Project (https://goo.gl/fWLgeI)
[2] *ibid*, p.2