Proposal

The Seattle Public Library
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Seattle WA 98104

1/2/2019

Visualizing the Future Organization Team
℅ Justin Joque, Ph.D.
Visualization Librarian
University of Michigan Library
818 Hatcher Graduate Library South
913 S. University Avenue
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Dear Dr. Joque,

Many organizations engaged in social justice work strive to allocate resources for their communities equitably. Increasingly these organizations seek to include visual and non-visual representations of inequity data in decision-making processes—as use of data replaces use of anecdote. One approach to representing inequity is through opportunity index mapping, whereby several demographic data points are aggregated into a single index score by census tract. The index scores of multiple census tracts are then (often) combined to conform to the geography of existing organizational infrastructure, such as the service area of a public library branch, or boundary of a public school. The aggregation of multiple data points and the translation of multiple geographies into an 'existing organizational geography' may have serious implications for data visualization. For example, if you combine a 'high opportunity' geography with an adjacent 'low opportunity' geography in a visualization, you might distort the way both geographies are treated in decision making. If practical opportunity mapping is to be successful, it must avoid this sort of distortion and still be visually understandable to decision-makers. Which data inputs are selected, and how any existing organizational geographies are visualized may have real-world implications for how organizational resources are allocated.

This project will explore the ethical considerations and complexities of visualizing aggregated community data, including applied use within existing organizational geographies. To address this topic area, I plan to develop a framework for selecting and aggregating data inputs for practical opportunity mapping; explore critical thinking skills required to implement for a variety of use cases; and describe challenges and opportunities for visualizing these indices, with an eye toward context, deep understanding, and reduced cognitive load for decision-makers. Constructing a framework (as opposed to a method) is appropriate because there is no perfect approach for all possible use cases. Instead, this information package must describe the nuance required to apply to variety of circumstances. Models presented in the framework will serve as a guide for practitioners to apply in their own communities, and to further their understanding, ethical use and visualization of aggregated demographic data.

I am a data analysis librarian at Seattle Public Library. In this role, I provide decision support and assessment help across all levels of the organization using tools such as R (language), Tableau Desktop, Excel and an internal data warehouse. I regularly use mapping features in Tableau Desktop and open-source GIS software (QGIS), to communicate community demographics to other people in my organization. This work has included visualization of various opportunity indices (Kirwan, King County Health, etc). I would use the results of this focused work to further my own use and understanding of opportunity mapping within my organization. The knowledge gained through this research will help me have a more systematic approach to opportunity mapping, including improving communication and impact. I also believe this focused project will improve the veracity of practical opportunity mapping broadly.

To communicate project findings, I intend to package the results of this work into an engaging instructional module in mediums of both print (text and visual electronic documents) and video. I have extensive experience using video editing software, such as Camtasia, to develop video tutorials that combine slide decks, video clips, and narration. I also have experience with capture and editing of high-quality audio recordings. I believe these skills could be utilized to produce engaging training content. This content would appeal to other urban public libraries, local governments, and non-profit organizations who provide services to underserved communities.

I submit this proposal for your review with much enthusiasm. Thank you for your consideration.

Sincerely,

David Christensen
Librarian, Data Analysis