Leveraging Local Data in Community Organizations

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Communities and Data

- Big Data, Open Data, Data Mining, Data Analytics...what’s the big deal?
What data would you like to have?

- “We have a lot of data but we need meaningful numbers. Method that could help us qualify the data that we have. We would like to know how the Ripple effect works and also love to see people follow up. Also, a method that can help us evaluate our programs. Goal is to deepen the experience, every neighborhood, in particular children, relationship personal with people.”
What data would you like to have?

- Demographics - to plan and evaluate
  - Available database to research prospects

- Neighborhood level data
  - Census data is not enough
    - E.g. When to move to a new area?

- Supply and demand capability
  - Identify gaps in services to encourage providers to fill those gaps

- People’s ability to donate
What data would you like to have?

• **Specific populations**
  • Youth
  • People with disabilities

• **Specific topics**
  • Housing – costs, people who would be homeless if they didn't have someone to live with
  • Employment data and link to transportation – what job would people have access to
Challenges

• Data
  • Obtaining feedback from users (follow up)
  • Having practical data / particular data that is useful from specific families, rather than broad Census or demographic data
  • Data and mapping tools

• Data management and quality
  • Keeping data updated

• Data & reaching potential audience
  • Getting in touch with the right person
    • Collecting their addresses to reach them
  • Collecting data of people who are not reachable by internet
Challenges

- Method
  - Are we measuring the right thing?
  - Sorting out information from data
    - What I need vs. What I would like to know
    - Not flaunting the results - making the conclusions clear and accurate
    - That makes sense to funders and the organization
      - Showing that it fits their mission
    - Reporting to people with different computer technology savvyness
  - Different locations of services
    - Affects data collection (distributed, by people working for other organizations)
    - Need for aggregation of data at higher levels such as neighborhoods
    - Communication with many different partners (e.g. 300+)

- Limited time / staff to collect and process data
  - Would be good to have someone dedicated to this
  - Being able to present data in a practical way / show everyday needs is a rare skillset
Data Capability in Community Organizations

• For many organizations…
  • Data and data analysis -> IT staff

• Idiosyncratic, often isolated expertise – based on experiential learning
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- Where does the expertise for working with data “live” in community organizations?
The Nature and State of Community Event Data Ecosystems

- Community -> People, places, and activity
- What does the available data about local events and activities looks like?
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- Community -> People, places, and activity
- What does the available data about local events and activities looks like?

- What are the implications of this? What does this affect?
Bringing Big Data ‘Home’

• For some “big data” is about everywhere, every-time, everything

• But for many people and organization useful data is local data.

• Wanted: tools and strategies for bridging the gap between “big data” and local communities
Bringing Big Data ‘Home’

- For some “big data” is about everywhere, every- time, everything
- But for many people and organization useful data is local data.
- Wanted: tools and strategies for bridging the gap between “big data” and local communities
- What is and could be done to bridge this gap?
Maturity Models

- Developmental models created to describe the degree of formality, management, and optimization of processes in an organization.

- “Maturity” refers to general level of development capability within the organization
  - From ad hoc practices, to formally defined steps, to managed result metrics, to active optimization of the processes.

- Maturity models are used for:
  - Development and feedback
  - Assessment and compliance
## Example Maturity Model Levels

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>The activity is chaotic, ad hoc, and characterized by individual “heroics”</td>
</tr>
<tr>
<td>Repeatable</td>
<td>The activity is at least documented sufficiently such that repeating the same steps may be attempted.</td>
</tr>
<tr>
<td>Defined</td>
<td>The activity is defined/confirmed as a standard business process, and documented at the level of specific work instructions.</td>
</tr>
<tr>
<td>Managed</td>
<td>The activity is quantitatively managed in accordance with agreed-upon goals and metrics.</td>
</tr>
<tr>
<td>Optimizing</td>
<td>Management of the includes deliberate process optimization/improvement</td>
</tr>
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Data Maturity Models

- Data Maturity Models describe the level of development of an organization’s ability to effectively use data to support critical activity.

- Complete data maturity models consider:
  - Processes and procedures
  - Infrastructure and tools
  - Human resources
  - Data resources
Data Maturity Models (cont.)

- DMMs can have multiple dimensions:
  - Data management
    - Single/few sources, Multiple structured sources, Multiple diverse sources, Multiple diverse linked sources
  - Analytics sophistication
    - Data entity description, Substantive entity description, Causal and explanatory analysis, Predictive and prescriptive analysis
  - Analytics products
    - Raw data, textual summaries, static and dynamic visualizations, computationally-enabled data and results
  - Data culture
    - Anti-, ambivalent, accepting, appropriated
<table>
<thead>
<tr>
<th>Phase</th>
<th>The Old World</th>
<th>The New Era</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Skills (IT)</td>
<td>Little or no expertise in analytics – basic knowledge BI tools</td>
<td>Advanced data modelers and stewards key part of the IT department</td>
</tr>
<tr>
<td>Staff Skills (Business/IT)</td>
<td>Functional knowledge for BI tools</td>
<td>Business Analytics Competency Center (BACC) that includes ‘data scientists’</td>
</tr>
<tr>
<td>Technology &amp; Tools</td>
<td>Simple historical BI reporting and dashboards</td>
<td>Data warehouse implemented, broad usage of BI tools, limited analytical data marts</td>
</tr>
<tr>
<td></td>
<td>Data warehouse implemented, broad usage of BI tools, limited analytical data marts</td>
<td>In database mining, usage of high performance computing &amp; analytical appliance</td>
</tr>
<tr>
<td>Financial Impact</td>
<td>No substantial financial impact. No ROI Models in place</td>
<td>Significant revenue impact (measured and monitored on a regular basis)</td>
</tr>
<tr>
<td></td>
<td>Certain revenue generating KPIs in place with ROI clearly understood</td>
<td>Business strategy &amp; competitive differentiation is based on analytics</td>
</tr>
<tr>
<td>Data Governance</td>
<td>Little or none (Skunk works)</td>
<td>Data definitions &amp; models standardized</td>
</tr>
<tr>
<td></td>
<td>Initial data warehouse model and architecture</td>
<td>Clear master data management strategy</td>
</tr>
<tr>
<td>Line of Business</td>
<td>Frustrated</td>
<td>Aligned (including LoB executives)</td>
</tr>
<tr>
<td></td>
<td>Visible</td>
<td>Cross-departmental (with CEO visibility)</td>
</tr>
<tr>
<td>CIO Engagement</td>
<td>Hidden</td>
<td>Involved</td>
</tr>
<tr>
<td></td>
<td>Limited</td>
<td>Transformative</td>
</tr>
</tbody>
</table>

Source: IDC Asia/Pacific Business Analytics Practice (July, 2011)
Level 1: Unaware
- Total lack of awareness
  - Spreadsheet and information anarchy
  - One-off report requests

Level 2: Tactical
- No business sponsor; IT executive in charge
- Limited users
- Data inconsistency and stovepiped systems

Level 3: Focused
- Funding from business units on a project-by-project basis
- Specific set of users realizing value
- BICC in place

Level 4: Strategic
- Business objectives drive BI and performance management strategies
- Deploy enterprise metrics framework
- Governance policies are defined and enforced
- Establish balanced portfolio of standards

Level 5: Pervasive
- Information is trusted across the company
- Use of BI is extended to suppliers, customers and business partners
- Analytics are inserted into and around the business process

BI = business intelligence
BICC = BI competency center

Source: Gartner (December 2008)
Community Data Maturity Model

- These models are all for organizations…
- … what would a community data maturity model looks like?

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- What are the levels?
- What are the indicators of each level?
- What activities and investments would be likely to help move a community from one level to the next?
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