Cognitive Testing of BLS Taxonomy

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IASSIST 2018 - Montreal, CA
30 May 2018
Taxonomy - Purposes

- User interface for DataFinder dissemination tool
- Consistent tagging for data and documents
- Guide to web site redesign
- Classification for BLS records
Taxonomy – Structure

- Describe time series and other time-dependent data
  - Current focus – aggregated data / not PUMS
- Two main facets
  - Measures – quantitative estimates and statistics
  - Characteristics – i.e., dimensions or classifications
  - At least two paths to each data series
- Very similar to data cube model
  - Dimensions and Measures
Complexity

- **Size**
  - ~100K unique paths
  - Up to seven levels deep

- **Language**
  - Plain English at top levels
  - Technical terms at bottom levels
# First Detailed Level

## Measures

- Consumer Spending
- Earnings, Benefits, and Compensation Costs
- Employment and Jobs
- Occupational Requirements
- People and Families
- Prices/Inflation
- Production and Productivity
- Time Use
- Unemployment and Labor Force
- Workplace Injuries

## Characteristics

- Demographics - Characteristics of People
- Establishments/Businesses/Firms
- Geography
- Industry
- Occupation
- Products and Services
- Time
- Unemployment and Labor Force Status
- Worker Benefits
- Worker Characteristics
- Worker Injury and Illness
Example
Unemployment Rate for Hispanics

- Measures
  - Unemployment and Labor Force
    - Unemployment Rate

- Characteristics
  - Demographics – Characteristics of People
    - Race/Hispanic
      - Hispanic or Latino Ethnicity
        - Hispanic or Latino
Possible Confusion

Measures

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Specifically

Example

Measures

- Earnings, Benefits, and Compensation
  - Benefits

Characteristics

- Worker Benefits
  - Child and Dependent Care

- Confusing, similar titles in both facets
- Requires better understanding
  - Measure vs Characteristic
Basic Assumption

Knowledge of a category – based on four things:
- Names of category, parent, siblings, and children

Understanding the meaning of the term “data” requires knowing…
Motivating Questions

- Can users find information?
  - Can users navigate the taxonomy to find answers?
  - Can users meaningfully distinguish categories?

- Do users understand each category?
  - What do users expect to see at the next level down?
  - Does it fit within the category above – its parent?
  - Does it fit with its sibling categories?
Translate Questions to Test Design

- Can users find information?
  - Test ability to navigate the taxonomy
  - Use tree testing

- Do users understand the categories?
  - Test understandability of taxonomy structure
  - Use card sorting
Tree Testing

- Treejack by Optimal Workshop
  - Use to display the taxonomy
    - Top three levels
    - Some 4th level detail available too
    - Navigation
      • Top level presented first
      • Open next level by clicking appropriate box
      • Close a level (and all sub-levels) by clicking the parent
  - Provides record of all clicks
Treejack

Task 1 of 10

Your daughter, who is a freshman in high school, is interested in becoming a mechanical engineer. Where would you look to find advice on steps she would need to take?

- Home
- Measure
- Characteristic

Created with Treejack
Treejack

Task 1 of 10

Your daughter, who is a freshman in high school, is interested in becoming a mechanical engineer. Where would you look to find advice on steps she would need to take?
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Card Sorting

- OptimalSort by Optimal Workshop
  - Manages card sort task
  - Presents list of categories to sort
    - Drag and drop interface
    - Place each category into a user-defined container
      - Can delete container if desired
    - User creates names for these containers
  - Produces results of each sort
    - Can analyze overall results
OptimalSort

Step 1
Take a quick look at the list of items to the left.
We’d like you to sort them into groups that make sense to you. You can create as many groups as you want.
There are no right or wrong answers. Just do what comes naturally.

Step 2
To begin, drag an item from the left into this area to create your first group.
Put all items into a group.
OptimalSort
Case Management

- BLS cognitive lab
  - BLS volunteers
- Mechanical Turk
  - Online volunteers
- TryMyUI
  - Selected participants
  - Specialized narrated sessions
    - Video and audio recorded
Mechanical Turk

- By Amazon
  - Publishes link for tests to web
  - Attracts people interested in earning money
    - Small payments
  - Contains link to screener questions
    - Pass screening, given link to one (not both) of
      - Treejack
      - OptimalSort
  - System manages visits, including counts, for each kind
TryMyUI

- Example of an online, unmoderated usability testing site
  - Substitute for bringing people into the lab for testing

- Advantages
  - Easy to set up and pretest
  - Competitive pricing ($35/session)
  - Able to select testers using a variety of selection criteria
  - Testers are generally excellent at “talking out loud”
  - Provide very helpful insights, and most explain why they did something
  - Video (up to 20 minutes for basic plan) and audio are provided
    - Very easy to share videos through link provided
Targeted Participants

Which kinds of BLS data users do we test?

**Persona** – kind of person

- Examples:
  - Private citizen
  - Student
  - Teacher
  - Economist
  - Jobseeker
  - Business owner
  - Policymaker
  - Journalist
  - Advocate

Choosing personas

- Likely to need to use BLS data
- Fairly numerous

Plus, some BLS volunteers
Testing Scenario

Available testing resources allow

- Two personas (students, business owners)
- Ten navigation tasks
  - Example: “... how many people in the United States want to work but have given up looking for work?”
- One card sorting task
  - Compare
    - Characteristics of People (13 underlying categories)
    - Worker Characteristics (13 underlying categories)
<table>
<thead>
<tr>
<th>Location</th>
<th>Recruiting</th>
<th>No. of Participants</th>
<th>Testing Product</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Lab</td>
<td>BLS Staff</td>
<td>6 BLS employees</td>
<td>Treejack AND OptimalSort</td>
<td>• Quantitative Treejack Analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Quantitative OptimalSort Analysis</td>
</tr>
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<td></td>
<td>• Think Aloud Narration during Testing</td>
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<tr>
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<td>Treejack AND OptimalSort</td>
<td>• Quantitative Treejack Analysis</td>
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<tr>
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</tr>
<tr>
<td>Online</td>
<td>TryMyUI</td>
<td>3 Students • 3 Business Owners</td>
<td>Treejack</td>
<td>• Quantitative Treejack Analysis</td>
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<td></td>
<td></td>
<td></td>
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Results

- Pending
- Next time!

Questions
Contact Information

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