Longitudinal Analysis of 2003-2013 LibQUAL+ Survey Results

Data Analysis using D-M Score Handout

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These are the steps used by the UCLA Library to apply the D-M Score method to their bi-annual LibQUAL+ survey results. Please note, that your data may not be organized exactly the same way, but the formulas should stay the same.

Part A. How to Calculate and Interpret Raw Data

1. Download raw data file from the LibQUAL+ Data Repository. Download the raw data’s Data Key as well.

2. Open Microsoft Excel, or other spreadsheet software, and save file as .xls or .xlsx.
3. Delete all columns before UGroupID and all columns between UGroupID and D1AvgMin. Then delete columns D1AdqGap, D1SupGap, D2AdqGap, D2SupGap, D3AdqGap, and D3SupGap.

4. Then delete all columns including and to the right of the “Demo” columns

5. Sort by Column A/UGroupID

6. After deleting the unused columns, match the names of the columns with the data key (For example, change UGroupIDs to the correct name category)

7. Create columns for D-M Score (Ex: D1 D-M Score, D2 D-M Score, etc) and follow this Excel equation (replace the B, C, D with the applicable columns):

\[ = \left(\frac{(D2-B2)}{(C2-B2)}\right)\times 100 \]
Hint: to apply equation to all columns, enter equation into the first cell and put cursor in corner until it creates a cross symbol then drag down to rest of column.

8. Split rows between user groups. Insert two blank rows.

9. For the average D-M score, enter this formula at the bottom of the column

```
=AVERAGEIF(E2:E616, "<>#DIV/0!")
```
Hint: Then for D2 D-M score, apply D-M formula, use same steps but make sure to change to correct columns.

10. To get results for OUT and SAT average first row and last row for each user group

11. To get results for USE, manually count each time the number of usage term appears. For example, count the number of “daily, weekly, monthly, quarterly, and never” appears for all undergraduates.

12. Enter the data into a separate spreadsheet to create graphs.

**Part B. How to Create Graphs**
The data from each year has to be extracted and compiled onto one spreadsheet in order to make a graph. There are different instructions to compile the D-M score data, the “OUT/SAT” data, and the “USE” data.
D-M Score Graphs
1. Create a spreadsheet where the columns are the user groups and the rows are survey years.

2. Make a separate table for each D-M score topic (affect of service, library as place, and information control).

3. Enter in data from annual LibQUAL+ data. If there is a value that is not available, do not put “N/A.” Use the Excel equation =NA(). When creating the graphs, this means this data point is skipped instead of being interpreted as a zero.

4. Highlight the table and choose a graph format (line or scatter is preferred).

5. Format the graph with axis labels and a title.

OUT/SAT Graphs
1. Create a spreadsheet where the columns are the user groups and the rows are survey years.

2. Make a separate table for each OUT or SAT question asked.

3. Enter in data from annual LibQUAL+ data. If there is a value that is not available, do not put “N/A.” Use the Excel equation =NA(). When creating the graphs, this means this data point is skipped instead of being interpreted as a zero.

4. Highlight the table and choose a graph format (line or scatter is preferred).

5. Format the graph with axis labels and a title.

USE Graphs
1. Create a spreadsheet where the columns are the survey years and the rows are the question responses (daily, weekly, monthly, quarterly, or never).

2. Make a separate table for each user group (undergraduate, graduate, faculty, library staff, and staff).

3. Enter in data from annual LibQUAL+ data. If there is a value that is not available, do not put “N/A.” Use the Excel equation =NA(). When creating the graphs, this means this data point is skipped instead of being interpreted as a zero.

4. Highlight the table and choose “Column” graph, stacked column.

5. Format the graph with axis labels and a title.
C. How to update graphs for LibQUAL+ Data
1. Open the applicable excel file and add a column for the new year (for example 2015). Enter in the new data.

2. Right click on the graph you want to update and choose “Select Data” and expand the data range to include the new year’s data. The graph should automatically update and redraw any trend lines.