

EFFECTIVE VISUALIZATION OF SURVEY AND LIKERT SCALE DATA USING POWER BI

**Carly Contri, American Academy of Pediatrics
CQI Conference, October 10, 2024**

**BY THE END OF
THIS SESSION,
PARTICIPANTS
WILL BE
EQUIPPED TO:**

1. Identify the unique considerations necessary for visualizing survey and Likert scale data.
 2. Explain the benefits of integrating various data sources and the transformation processes involved.
 3. Implement techniques and strategies to effectively visualize survey, Likert scale, and outcome data for their organizations.
-

INTRODUCTION TO LIKERT SCALES

ORDINAL SCALE USED TO MEASURE ATTITUDES OR OPINIONS

Characteristics:

- Typically 5 or 7 points
- Ranges from one extreme to another (e.g., Strongly Disagree to Strongly Agree)
- Common uses: Customer satisfaction, employee engagement, market research

Benefits:


- Improves data quality compared to binary questions
 - Captures nuanced attitudes and opinions
 - Easier for respondents to understand and complete
-

SURVEY DATA OVERVIEW

INFORMATION COLLECTED THROUGH QUESTIONNAIRES OR INTERVIEWS


- Types of survey data:
 - Quantitative (numeric responses, Likert scales)
 - Qualitative (open-ended responses)
- Key considerations in survey design:
 - Question wording and order
 - Response options
 - Survey length and format
- Importance of data cleaning and preparation*

POWER BI OVERVIEW



Business intelligence tool for data visualization and analysis

Key features:

1. Centralizes multiple data sources
 2. Creates interactive dashboards
 3. Supports hierarchical data visualization
 4. Enables custom database creation
- 

BENEFITS OF POWER BI FOR ORGANIZATIONAL CHANGE

- Enhanced data storytelling capabilities
 - Highlight successes and progress
 - Dynamic visualization for cross-sectional analysis
 - Empowers decision-makers with direct access to data
 - User-centric design approach
 - Consider end-user needs in dashboard creation
 - Importance of planning and design phase
 - Critical for success, similar to QI and evaluation processes
 - Facilitates data-driven organizational culture
-

VISUALIZING LIKERT SCALE DATA IN POWER BI

- Unique considerations for Likert scale data visualization
 - Techniques for data transformation:
 - Splitting outcomes by attribute and value pairs
 - Setting up relationships between tables
 - Best practices for reflecting outcome measures and perceptions
 - Visualization types:
 - Stacked bar charts
 - Diverging stacked bar charts
 - Heat maps
 - Word Clouds
 - Radar charts for multi-item Likert scales
 - Tables
-

DATA INTEGRATION IN POWER BI

- Live data updates using connectors (eg SurveyMonkey, RedCap)
- Data transformation processes:
 - Combining data sources
 - Appending queries
- Benefits of real-time data updates for ongoing analysis

IMPACT OF EFFECTIVE DATA VISUALIZATION

- Improved understanding of intervention impact
 - Enhanced evaluation capabilities for program staff and grantees
 - Better case-making for future funding and projects
 - Increased data-driven decision making
-

LEARNING RESOURCES FOR POWER BI

1. Training platforms: Guy in a Cube, Curbal, Pragmatic Works
2. Importance of exploring online forums for creative data storytelling
3. Encouragement to start with beginner-level visuals and progress

DEMONSTRATION





THANK YOU!

Carly Contrì, MEd
American Academy of Pediatrics
ccontri@aap.org