



Best Practices for Institutional Data Visualization

GO FORTH *inspired.*

Introduction to Institutional Research and Effectiveness Reporting

The Office of Institutional Research and Effectiveness produces a wide range of reports, dashboards, and data visualizations for stakeholders across Wiley University. This guide establishes consistent standards for how institutional data is visualized and reported, ensuring brand compliance and accessibility.

Report Types

Report Type	Audience	Format	Frequency
Executive Brief	Cabinet, Board of Trustees	1–2 page summary, key metrics	As needed
Full Report	Deans, Department Chairs, Committees	Comprehensive analysis, 5–20 pages	Annually
Dashboard	All stakeholders	Interactive web-based display	Updated regularly
Data Extract	Requesting party	Excel, CSV, or database file	On request
Compliance Report	External agencies (IPEDS, SACSCOC)	Prescribed format	Per schedule

Data Visualization Standards

Required Chart Elements

- Title: Every chart must have a clear, descriptive title.
- Axis Labels: Both axes must be labeled with units where applicable.
- Legend: Include a legend when displaying multiple data series.
- Data Labels: Add data labels for clarity when space permits.
- Source Citation: Include data source and date at the bottom of every chart.

Accessibility Requirements

- Ensure sufficient color contrast (minimum 4.5:1 ratio for text).
- Use patterns or shapes in addition to color to distinguish data series.
- Provide alternative text descriptions for all charts and images.
- Ensure screen reader compatibility for digital reports.

TIP: All charts and visualizations must be accessible to individuals with color vision deficiencies. Test your visualizations using a color blindness simulator before publication.

Brand-Compliant Color Usage

Priority	Color Name	HEX Code	Usage
Primary	Wildcat Purple	#3D2C68	First data series, primary emphasis
Secondary	Wiley Purple	#65538F	Second data series, secondary emphasis
Tertiary	Silver	#B1B6C1	Third data series, backgrounds
Quaternary	Gray	#595959	Fourth data series, supporting elements
Background	Light Stone	#E2E2E2	Chart backgrounds, table fills

IMPORTANT: NEVER use off-brand colors, rainbow palettes, or gradients in data visualizations. All charts must use only the approved Wiley University brand color palette.

Chart Type Selection Guide

Data Type	Recommended Chart	When to Use	Key Considerations
Categorical Comparison	Bar Chart (vertical or horizontal)	Comparing values across categories	Limit to 8–10 categories; sort meaningfully
Trends Over Time	Line Chart	Showing change over sequential time periods	Use consistent time intervals; start y-axis at zero
Parts of a Whole	Pie or Donut Chart	Showing proportional composition	Limit to 5–6 segments; combine small slices
Detailed Numerical Data	Table	Presenting precise values	Use alternating row colors; align numbers right
Distributions	Histogram or Box Plot	Showing data spread and frequency	Choose appropriate bin sizes; label quartiles

Common Mistakes to Avoid

1	Using 3D effects. Three-dimensional charts distort proportions and make accurate comparisons difficult. Always use flat, 2D chart styles.
2	Truncating axes. Starting a bar chart y-axis at a non-zero value exaggerates differences. Start at zero unless clearly noted.
3	Using too many colors. More than 5–6 colors in a single chart creates visual clutter. Group small categories.
4	Missing context. Charts without titles, labels, or source information are meaningless to readers.
5	Pie charts with too many slices. Pie charts with more than 6 segments are hard to read. Use a bar chart instead.

Quality Assurance Checklist

Category	Checklist Item
Data Accuracy	All data values verified against source system
Data Accuracy	Calculations and aggregations double-checked
Data Accuracy	Time periods and cohort definitions clearly stated
Brand Compliance	Only approved brand colors used in all charts
Brand Compliance	Open Sans font family used throughout
Brand Compliance	Wiley University logo used correctly
Accessibility	Color contrast meets WCAG 2.1 AA standards
Accessibility	Alternative text provided for all visual elements
Formatting	All charts have titles, labels, and source citations
Formatting	Consistent number formatting (decimals, percentages)
Formatting	Report reviewed by at least one additional staff member
Distribution	Appropriate audience identified for the report
Distribution	FERPA compliance verified for all data elements