

# Dashboard Design

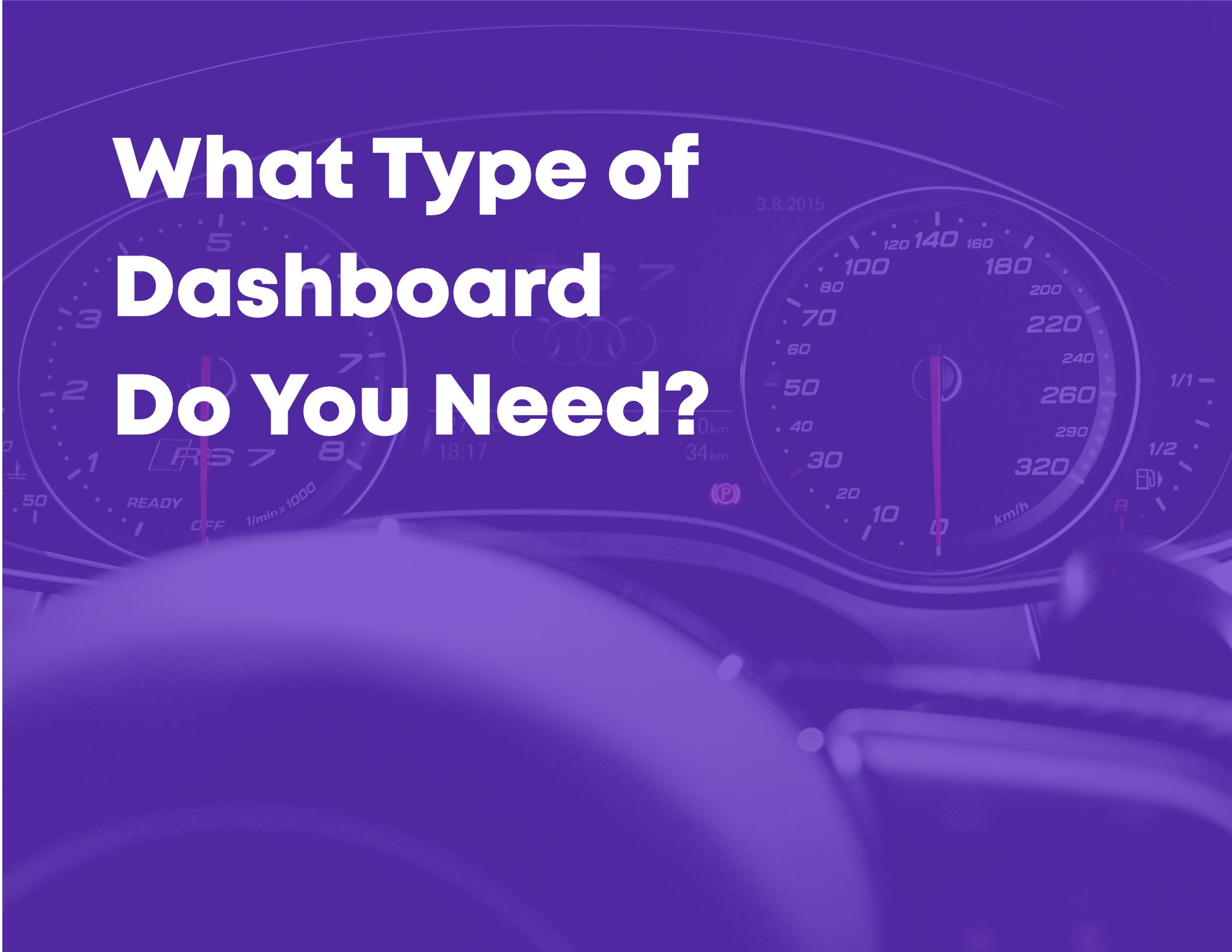
**Because Leaders Have Better Things to Do  
than Read Dusty Shelf Reports**

**Ann K. Emery  
November 2020**

# Contents

What Type of Dashboard Do You Need?.....	3
What Should Go Inside the Dashboard? .....	10
Case Studies	
Workshop Survey:.....	22
Foster Parent Survey.....	32
A Library's Achievements.....	40
TechnoServe's Results Portal .....	45
Tips for Getting Started .....	50
Recommended Resources.....	59
Meet the Author .....	63

# What Type of Dashboard Do You Need?



# Defining the Term “Dashboard”

How would you define the term “dashboard?”

I asked my newsletter readers for their definitions.  
Here's what they said:

“A dashboard is an at-a-glance – and brief – document or interactive space that allows the user to provide easy to understand highlights about a specific topic (e.g., a project, issue, demographic, etc.) for a specific range of time. Typically, it is the most up-to-date information.”

*– an evaluator at a Department of Children and Families in the northeast U.S.*

“A tally of metrics every (monthly, quarterly, yearly). All countable, but not necessarily things that count.”

*– an evaluator in Alberta*

“A snapshot array up-to-date metrics that inform a program or organization.”

*– a research scientist at a tobacco control center on the west coast of the U.S.*

“This is a new term to me. Although I've heard it on the news and have a general idea about what it means, it's not a term I use, and I don't have a clear idea what it means. I have assumed that it's some type of electronic platform where people present raw data for others to view.”

*– a communications specialist working with evaluators*

“I guess I've always looked at a dashboard as an ‘executive summary’ of sorts of the larger project or effort.”

*– an epidemiologist*

“A term clients always want but never understand. Must be flashy, constantly changing, and include 9,000 different data sources.”

*– an epidemiologist (Yes, I love this last one, too!)*

These are all correct definitions. *But that's the problem.*

The term *dashboard* means different things to different people.

Our boss, client, or stakeholder group might ask for a “dashboard.” They might have one style in mind... and we might have an entirely different style in mind. As you can imagine, mismatches in expectations are common.

Here’s how I want you to start talking about dashboards in your earliest planning conversations.

## Step 1: Single or Series?

First, narrow down how many dashboards you’ll need.

A single dashboard providing an overview of the entire project?

Or, a series of matching dashboards (e.g., one per school, program, or country you’re monitoring)?

## Step 2: Static or Interactive?

Second, discuss whether you need a static dashboard or an interactive dashboard.

Static dashboards get shared as email attachments, as meeting handouts, or as PDFs posted on websites.

Interactive dashboards live inside a software program, so users need to open the software program, and can then explore the data on their own with drop-down menus and checkboxes.

Here’s the tricky part: Technical audiences love creating and using interactive dashboards. We get in the zone, and hours go by. We love spending lots of time exploring the data and finding nuances in the numbers.

However... non-technical audiences (and busy audiences) don’t have time or interest in exploring data themselves. “That’s what I hired you to do,” a previous supervisor told me. “If I wanted to explore the data myself, I would. But you were brought on to the team to save the leadership time,” he explained.

“Senior leadership definitely doesn’t have the time to drill-around and look at it like I do. They always say they want the option to, but in reality they need a quick snapshot,” a human resources coordinator told me recently. I agree 100%.

I used to design interactive dashboards for clients. I don’t anymore because I’m tired of making things that don’t get used. It’s a better use of the project’s budget-- and my life energy--to design static dashboards that leaders actually need.

## Step 3: Choose a Software Program

Finally, your dashboard type will determine the software tool needed.

Too often, I see organizations choose the software first. Software decisions should come *after* planning discussions, not before.

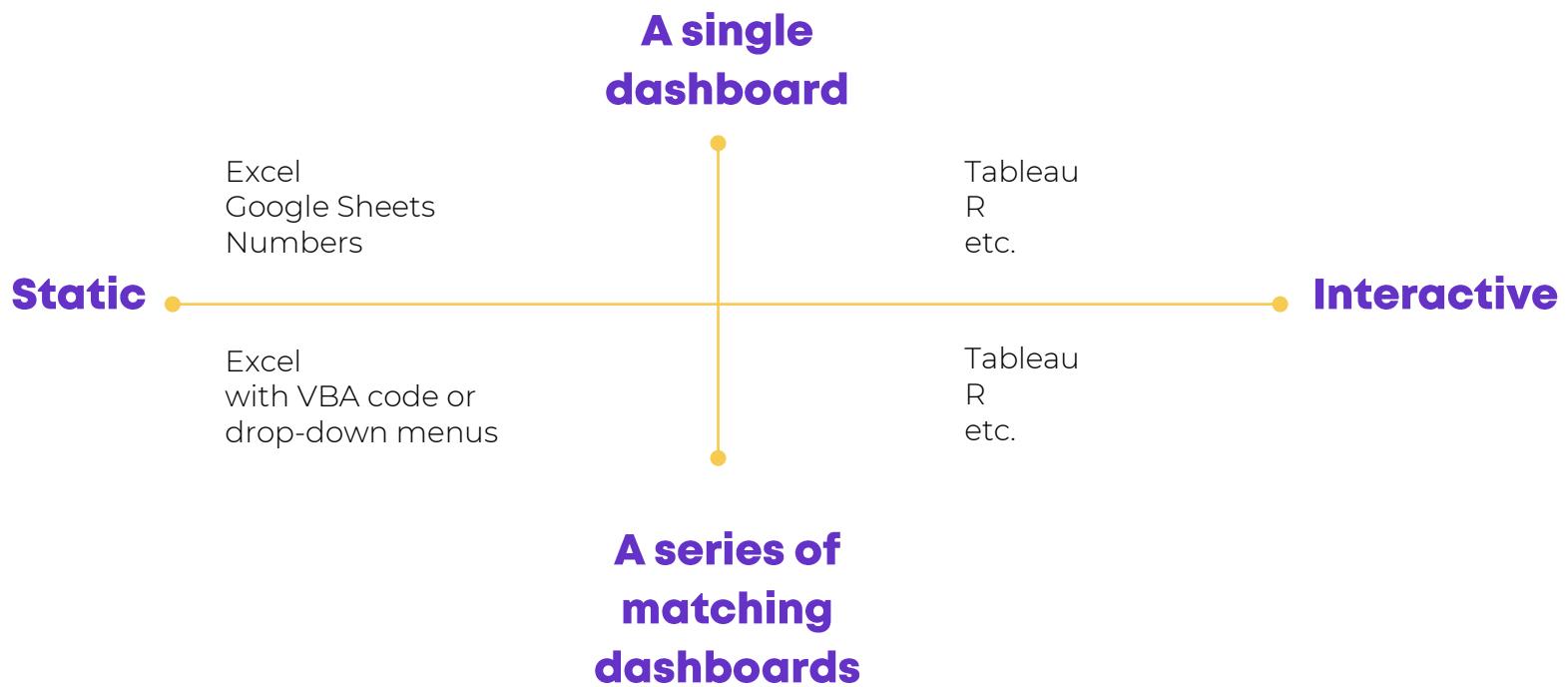
This diagram shows dashboard types and their associated tools.

Spreadsheet programs like Excel, Google Sheets, and Numbers are great for making *single static dashboards*. I make these dashboards most often. They give me the biggest bang for my buck. Viewers eat them up and they're cost-effective to create.

I often get hired to consult on projects where we need to produce *a series of matching static dashboards*. For example, I recently needed to produce a one-pager for each state and tribal area. Rather than produce each

one-pager by hand, I saved the project time and money by automating this process with Excel's VBA code or through formulas and drop-down menus.

Other times, I get hired to produce interactive dashboards. If you like to set your money on fire, then you can use Excel to design interactive dashboards. You'll waste days of precious time figuring out all the advanced formulas are needed to create drill-down buttons for interactivity. Or, if you're smart, you'll use a tool like Tableau or R when your project calls for an interactive dashboard.

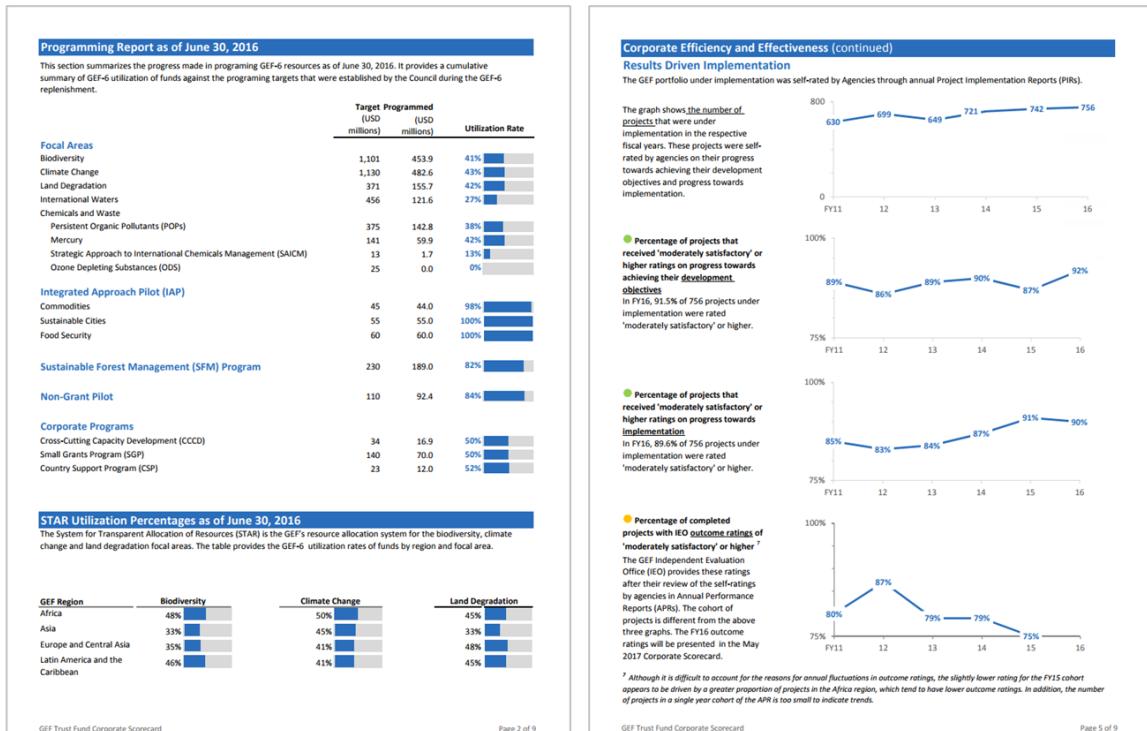


## A Single Static Dashboard

Let's look at each of these types in a bit more detail. Here's an example of a single static dashboard that I produced in partnership with the Global Environment Facility.

The dashboard features a green header with the title "GEF Corporate Scorecard" and the date "October 2016". Below the header is a collage of three images: a young girl in a red headscarf, a sea turtle swimming in blue water, and people working with dried fish. At the bottom left is the GEF 25th anniversary logo and the text "GLOBAL ENVIRONMENT FACILITY INVESTING IN OUR PLANET". The main content area contains several tables and charts. One chart shows programming report data for June 30, 2016, across various focal areas like Biodiversity, Climate Change, and Land Degradation. Another chart shows STAR utilization percentages by region. The footer indicates "Page 2 of 9".

The full *Corporate Scorecard* can be viewed at <https://www.thegef.org/sites/default/files/documents/Corporate%20ScoreCard%20Oct%202016.pdf>.

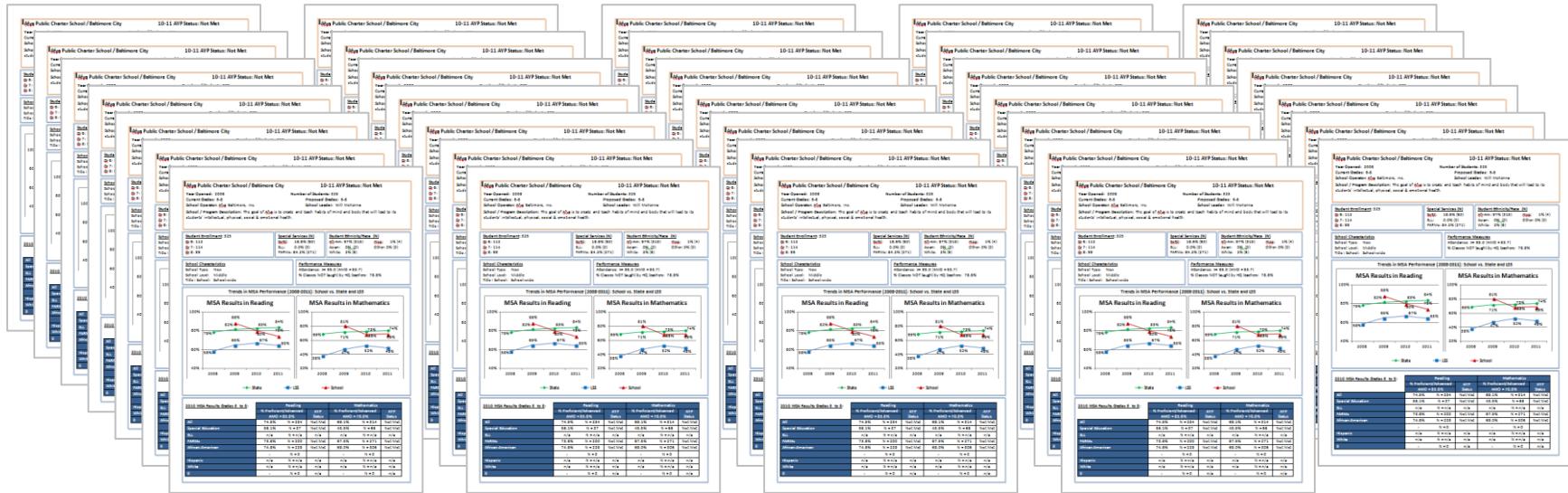


## A Series of Matching Dashboards

I initially produced a series of matching dashboards for a state education agency. This was back in 2009 or 2010.

The leaders of the state education agency were planning to visit each of the 30 charter schools in their state. The state education agency leaders wanted to talk with the school leaders about that particular school (rather than comparing schools to each other).

I used the same template for each of the 30 school-level dashboards. For example, there was a text box in the upper left corner of each school's dashboard that listed the school's name, the year the school opened, and the principal's name, and there was a graph in the upper right corner of each school's dashboard that displayed how many students were enrolled.



# Interactive Dashboards

You can build interactive dashboards in Tableau, PowerBI, R, and a number of other software tools.

Country Portal

Kenya

Kenya's economy, the largest in East Africa, has witnessed a period of recent stability, with increased credit access to the private sector, investment in infrastructure, and growth in key sectors such as tourism, renewable energy, and information and communication technology (ICT).

At the same time, unemployment and poverty rates remain high, with 35 percent of Kenyans living on less than a dollar per day, and food insecurity looms large due to poor farming methods and vulnerability to drought. TechnoServe, which has operated in Kenya since 1973, is well-positioned to address these challenges and contribute to the realization of the country's vision.

**Current projects (click to explore)**

- Maasai Dairy Agribusiness Development Program
- Mavuno Zaidi
- Smallholder Business Development (Kenya)
- Smart Dukas
- Solutions for African Food Enterprises (SAFE)
- Strengthening Rural Youth Development through Enterprise (STRYDI)

**Complete projects (click to explore)**

- Coffee Initiative I
- Coffee Initiative II
- Connected Farmer Alliance
- Delivery of MAP Dairy Strategy (KMAP)
- EADD I
- Maasai Dairy Agribusiness Development Program
- Project Nurture I
- Project Nurture II
- Smallholder Poultry and Agribusiness Development Program (SPADE)
- Strengthening Rural Youth Development through Enterprise (STRYDI)
- Young Women in Enterprise (YWE)

Only projects with measured results are included.

**Country Results**

Totals are for 2013-2016, but does not allow for double counting the same beneficiary between years. Hover over the graph for yearly totals.

**Financial Benefits**

\$59.9M

**Beneficiaries**

277K

**Finance Mobilized**

\$11.3M

**Percent Women**

33%

Share Download

Here's TechnoServe's Results Portal, which I consulted on in 2016. You can view their full interactive dashboard at <http://www.technoserve.org/our-work/impact#portal>.

Home | Country Profiles | Current Projects | Completed Projects

Current Projects

**Current projects (click to explore)**

- AAA Sustainable Quality Program (Ethiopia)
- ADVANCE - Phase II
- Alianza para el Desarrollo Económico
- Better Coffee Harvest
- Central America Small and Growing Business Accelerator
- Central Wetmill Program
- Competitive Horticulture and Coconut in Inhambane
- Danone Mexico**
- Emergo VVI
- Enhancing Growth in New Enterprises (ENGINE)
- FINAGRO
- Hatti Peanut
- Impulsa Tu Empresa
- Jobs Fund
- Joint Forces Sustainable Coffee Project
- Maasai Dairy Agribusiness Development Program
- Mavuno Zaidi
- McDonalds Technical Assistance Program
- Mejoramiento Agrícola Sostenible (MAS)
- Miniprix
- Mozacaju
- Nirmai Dhara
- Patagonia's Business Accelerator
- Promoting climate change resilience for smallholder farm
- Rebuilding South Sudan's Coffee Industry
- Smallholder Business Development (Ghana)
- Smallholder Business Development (Kenya)
- Smallholder Sourcing of Corn in Bihar
- Smart Dukas
- Solutions for African Food Enterprises (SAFE)
- Sourcing for Growth (SG4)
- Strengthening Food Producer Organizations
- Strengthening Rural Youth Development through Enterprise
- Technical Assistance Facility (TAF)
- The Box Shop Project
- Tim Horton Coffee Partnership
- Tokafala Enterprise Development Program
- Walmart Mexico

Together with several partners, TechnoServe supports the development of small-scale milk producers as they improve the management of their farms and therefore increase their family income. With the leadership of Danone, during the first phase 300 small-scale dairy farmers have been linked to the company's value chain. Farmers receive technical assistance on a regular basis and business support to obtain financing of key infrastructure. Farmers have increased their herd size and income through increases in productivity and quality and the first cohort of farmers has already tripled their net income.

**Project Results**

Totals show life of project results to December 2016, with no double counting beneficiaries between years. Hover over the graph for yearly results.

**Financial Benefits**

\$5.46M

**Beneficiaries**

635

**Finance Mobilized**

\$3.06M

**Percent Women**

8%

Share Download



# What Should Go Inside the Dashboard?

# Dashboard Cheat Sheet

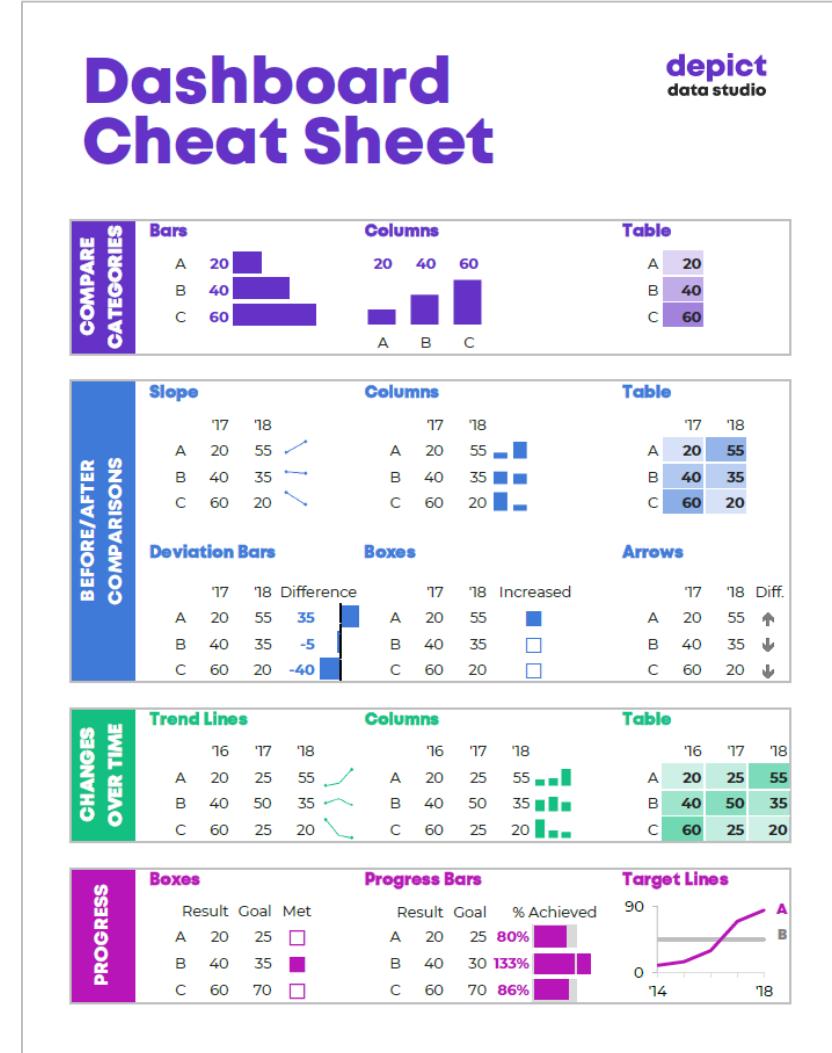
Let's focus on static dashboards that can be made in spreadsheet programs like Microsoft Excel.

These dashboards give us the biggest bang for our buck: They take very little time to build, which means we can produce them quickly for our audiences. This quick turnaround time ensures that the dashboard is available in time to inform decisions.

There are plenty of quick 'n' easy visuals that can be made right inside of Excel. I put them together in this Dashboard Cheat Sheet for us.

For example, when we want to compare categories, we can make miniature horizontal bar charts, miniature vertical column charts, or heat tables.

We can combine these dashboard elements in myriad ways to fit our audience's needs.



# Compare Categories with Bars

Here's the first sample dashboard that I'm going to share with you.

It's a dashboard that displays the results from my *Dashboard Design* workshop evaluation survey. This is the first of four pages.

The *before* version of this dashboard had been automatically generated through an (outdated) survey analysis tool.

This redesign is straightforward: Each of the workshop evaluation survey questions are listed, and there's a bar that depicts how many attendees selected each option on the survey.

For example, there's a bar beside the *strongly disagree* option and another bar beside *disagree* option. The survey questions were straightforward, too, so why complicate things?

## Dashboard Design with Ann K. Emery

November 2017 in Washington, DC

This report shows the results from the Dashboard Design workshop evaluation survey. If you have questions about this report, please contact So-in-So at [soinso@email.com](mailto:soinso@email.com).

### 1 Closed-Ended Survey Feedback

We asked your workshop's attendees why they decided to attend your workshop, whether they felt that you were well org

#### Of the following considerations, please select up to three that were most important in your decision to attend.

	Topic	Count	%	Bar
	Person facilitating	15	83%	<div style="width: 83%;"></div>
	Date and time	7	39%	<div style="width: 39%;"></div>
	Teaching methods	6	33%	<div style="width: 33%;"></div>
	Length	2	11%	<div style="width: 11%;"></div>
	Cost	1	6%	<div style="width: 6%;"></div>
	Other	-	-	

#### The facilitator was well organized.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	%
Strongly Disagree	1	-	-	-		6%
Disagree	-	-	-	-		-
Agree	1	-	-	-		6%
Strongly Agree	16	-	-	-		89%
Total	18	-	-	-		100%

#### The facilitator made good use of the time allotted.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	%
Strongly Disagree	1	-	-	-		6%
Disagree	-	-	-	-		-
Agree	1	-	-	-		6%
Strongly Agree	16	-	-	-		89%
Total	18	-	-	-		100%

#### The facilitator seemed knowledgeable about the topic.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Total	%
Strongly Disagree	1	-	-	-		6%
Disagree	-	-	-	-		-
Agree	1	-	-	-		6%
Strongly Agree	16	-	-	-		89%
Total	18	-	-	-		100%

Dashboard Design with Ann K. Emery

Page 1 of 4

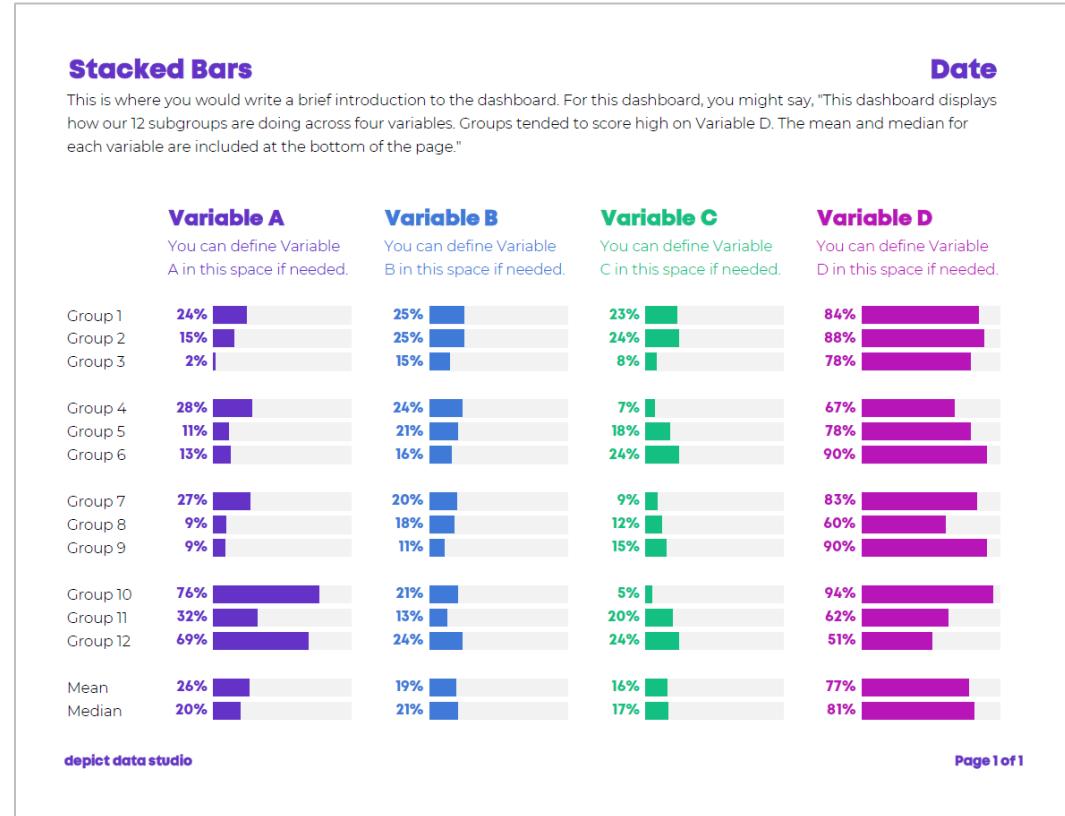
# Compare Categories with Stacked Bars

This example uses miniature stacked bars to show percentages.

This is a semi-real example. A state agency hired me to help them compile information about their grantees. The agency was funding 30 different counties. Each county was required to submit annual reports about four topics (A, B, C, and D).

We designed this dashboard to make comparisons across counties easy.

We listed the 30 counties along the left side. The first 15 counties were listed on the front of the page and the second 15 counties were listed on the back of the page. Then, we listed the four report topics along the top of the page. Miniature stacked bar charts provided an at-a-glance overview.



# Compare Categories with Heat Tables

The previous style compared subgroups with miniature bar charts and stacked bar charts. This style compares subgroups with heat maps. Thanks to Excel's *conditional formatting* features, the larger numbers are automatically darker and the smaller numbers are automatically lighter.

Heat Maps						Date
Section 1			Section 2			
	Variable A	Variable B	Variable C	Variable D	Variable E	Variable F
Group 1	24%	25%	23%	84%	7%	46%
Group 2	15%	25%	24%	88%	9%	59%
Group 3	2%	15%	8%	78%	8%	50%
Group 4	28%	24%	7%	67%	32%	65%
Group 5	11%	21%	18%	78%	29%	61%
Group 6	13%	16%	24%	90%	27%	64%
Group 7	27%	20%	9%	83%	9%	40%
Group 8	9%	18%	12%	60%	4%	38%
Group 9	9%	11%	15%	90%	7%	42%
Group 10	76%	21%	5%	94%	2%	46%
Group 11	32%	13%	20%	62%	14%	38%
Group 12	69%	24%	24%	51%	8%	44%
Mean	26%	19%	16%	77%	13%	49%
Median	20%	21%	17%	81%	9%	46%

depict data studio

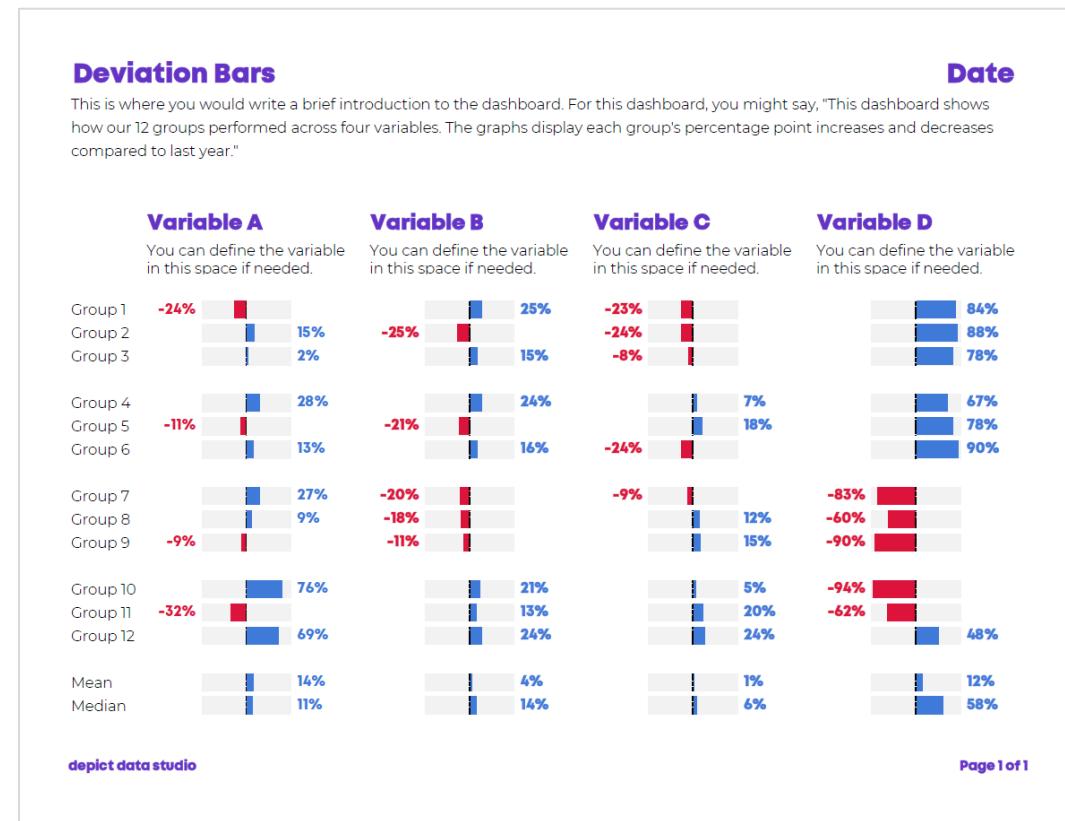
Page 1 of 1

# Before/After Comparisons with Deviation Bars

I initially created this design when I was working with a funder that wanted a quick snapshot of the progress that each of their 29 grantees had made during the first year of the grant.

Each of the grantees was very different. The organizations were working with different target populations, in different areas of the state, using different programmatic approaches to solve issues in the community. It was obvious to both me and the funder that we were in an apples-to-oranges situation.

Rather than comparing grantees to each other, we compared each grantee to itself by calculating the percentage point increases or decreases the grantee had made between their baseline data point and their most recent data point.



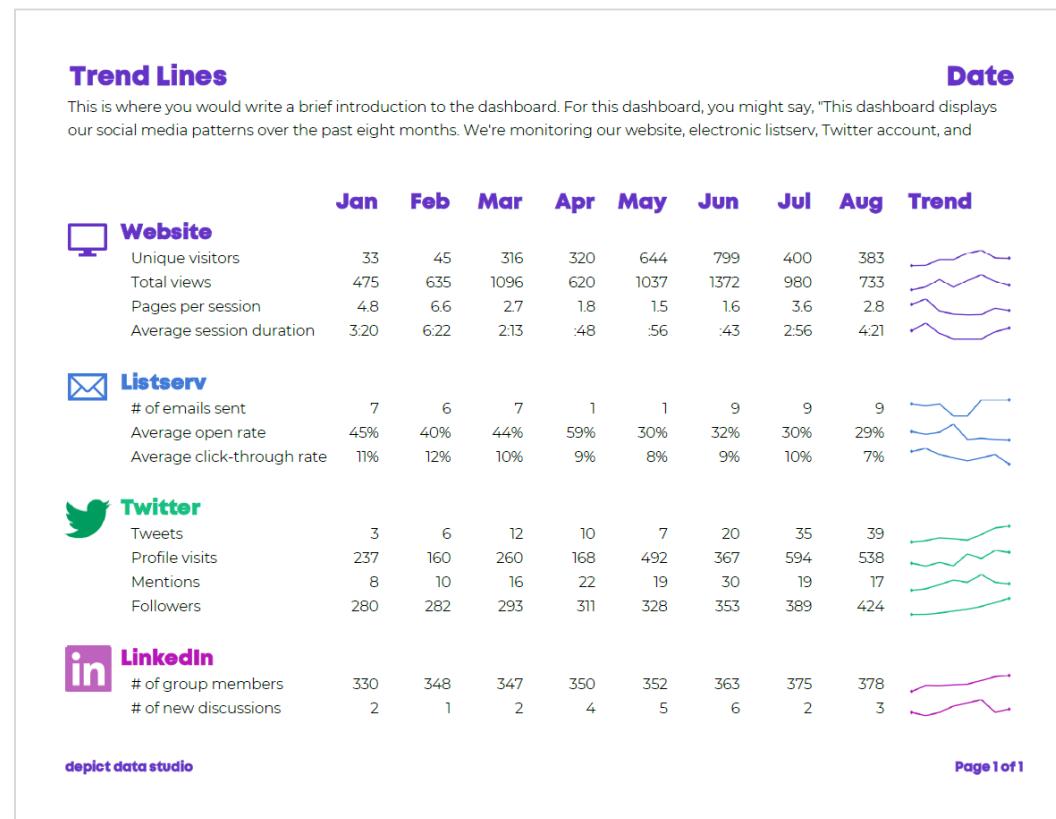
# Monitor Changes Over Time with Trend Lines

This is, by far, the most popular dashboard style among organizations I partner with.

I first created this dashboard style while serving on the board of a professional society. My fellow board members and I met monthly. During our meetings, we reviewed what we had accomplished in the past month and then set priorities for the coming month.

One of the areas we discussed was how we communicated with our members. I designed this dashboard so that we could monitor our website, electronic mailing list, and social media accounts. Miniature spark lines showed us whether each item was going up, going down, or holding steady.

Each month, I simply inserted a new column into the spreadsheet and the spark lines would automatically update themselves.



# Track Progress with Progress Bars

I developed this design when working with a nonprofit organization that needed to track their progress towards their goals in two areas:

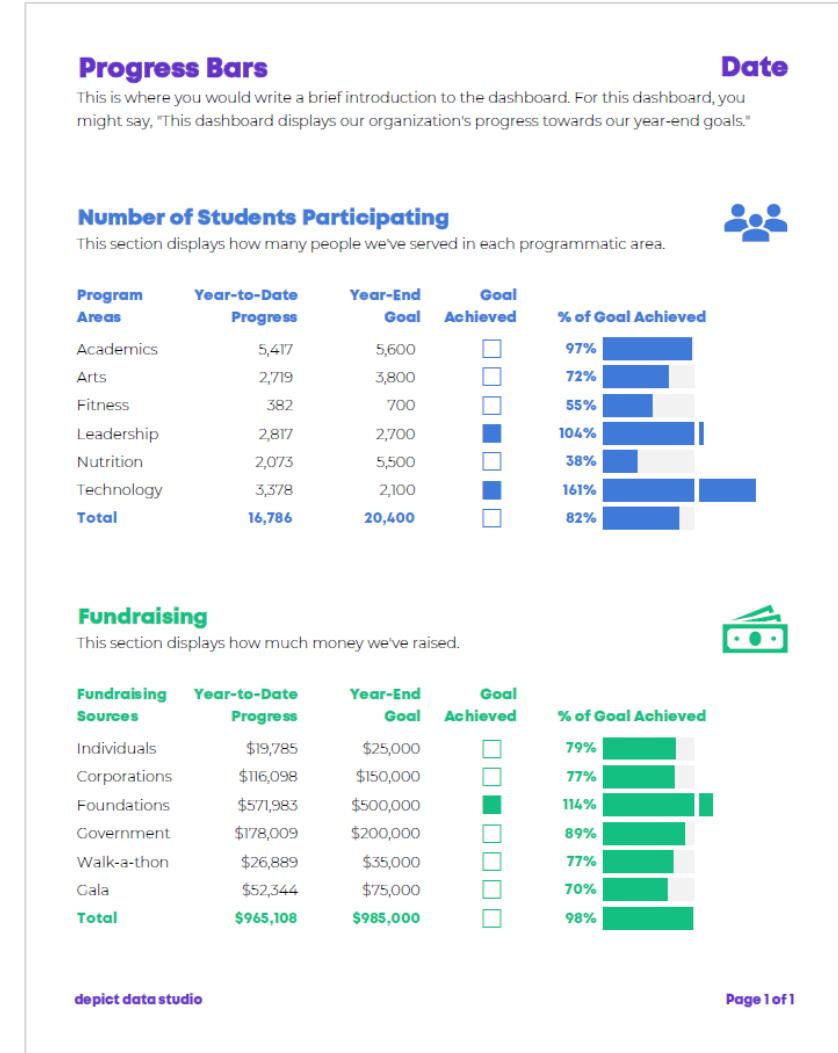
1. how many people they were serving in the community, and
2. how much money they had raised so far.

The top section detailed how many people had participated in each of their different programmatic focus areas.

The bottom section detailed how much money they had raised from each of their different funding sources.

The light gray shading behind each bar helped them see whether they had met or exceeded each goal.

The organization discussed this dashboard at their quarterly board meetings.

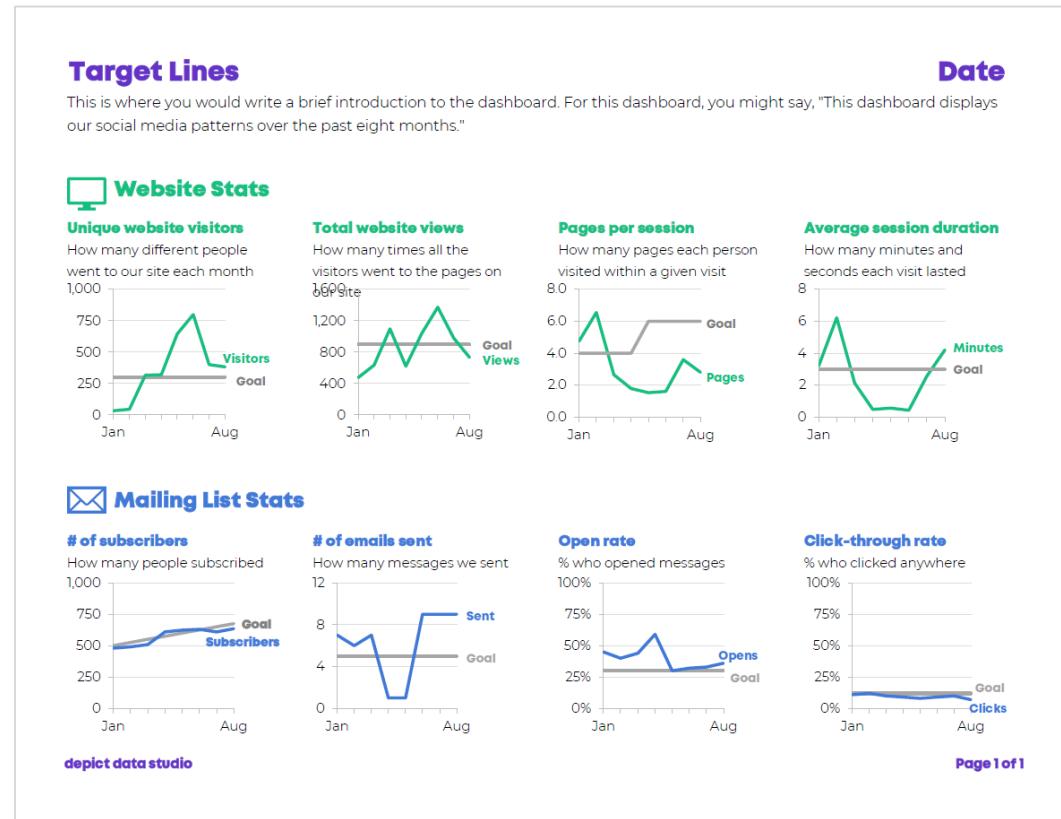


# Track Progress with Target Lines

This dashboard displays progress towards goals across multiple points in time. This style is appealing to technical staff who want to pack a lot of information into just a few pages.

The challenging thing about this layout is that it's nearly impossible to effectively fit more than a handful of graphs on each page. If you try to cram too many graphs onto a page, the font gets too small or the graphs get mashed together, and then the dashboard feels intimidating or unreadable.

This layout often morphs from a one-page document, so it usually looks and feels more like a report than a dashboard.

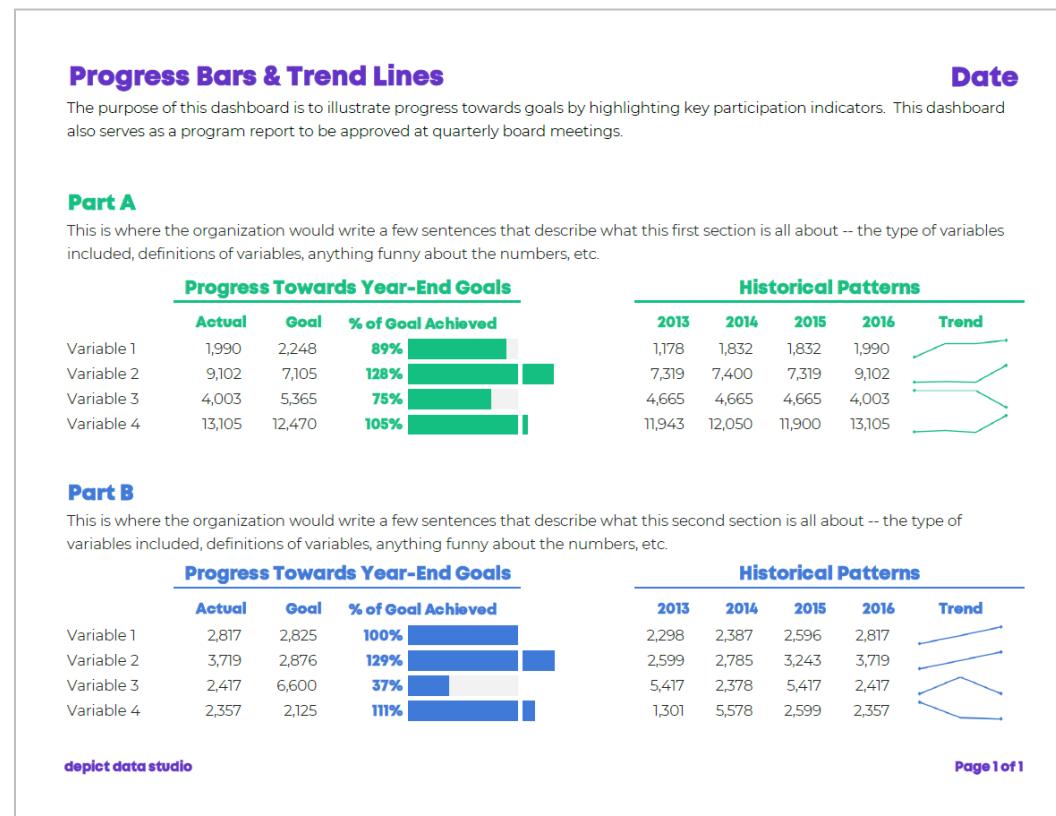


# Combo: Progress Bars and Trend Lines

This is where it gets fun! Combine elements from any of these dashboards into a customized design for your own team.

This example was inspired by an organization that wanted to see how close they had come to reaching their year-end goals, which is shown on the left-hand side. The top left section displayed how many community members they had worked with in each of their programmatic areas. The bottom left section displayed how much money they had raised from each of their fundraising sources (e.g., individual donors, corporate donors, and so on).

I encouraged the organization to include historical information so that the dashboard's viewers—their Board of Directors—would have additional context. We added the right-hand section using spark lines.



# Combo: Trend Lines and Bars

This example was inspired by an organization that had previously been displaying their revenue and expense data one quarter at a time.

The organization's leaders received pie charts that only displayed the first quarter's data.

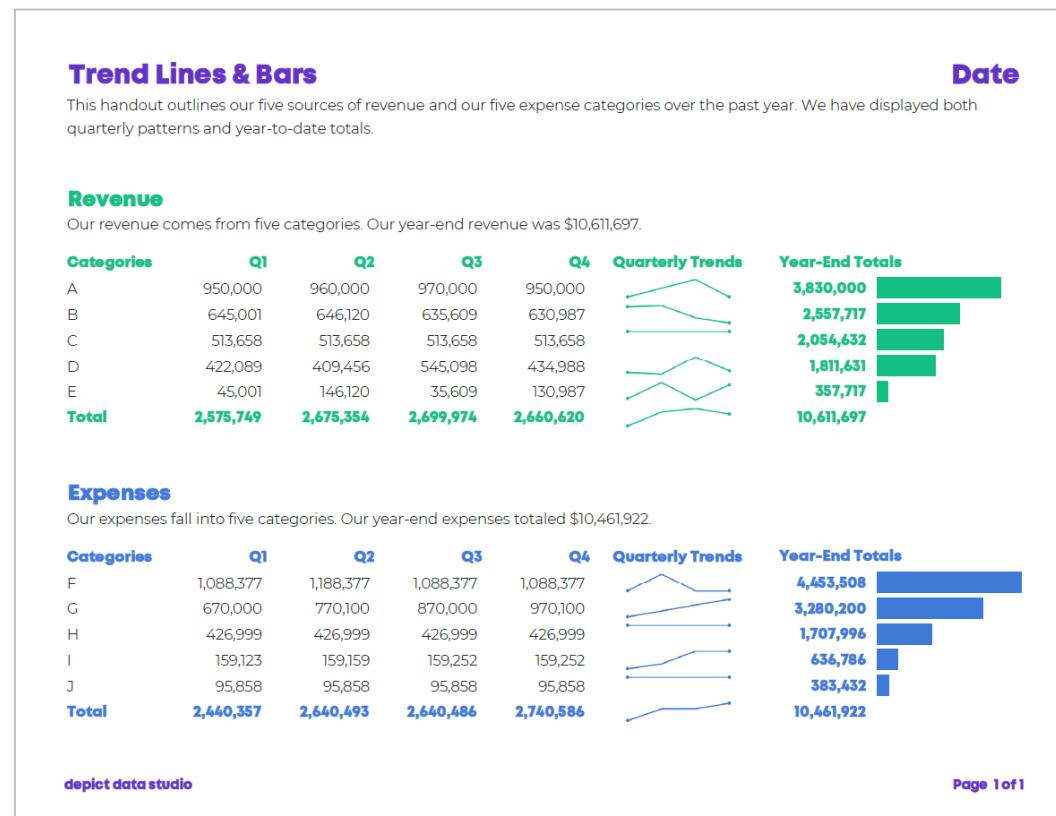
Three months later, the organization's leaders received pie charts that only displayed the second quarter's data.

Placing the charts in different documents made comparisons across quarters overly onerous.

We arranged the quarterly information on one page—one column per quarter.

Spark lines give a sense of whether the numbers went up or down over time.

We also included the cumulative year-end totals using data bars.



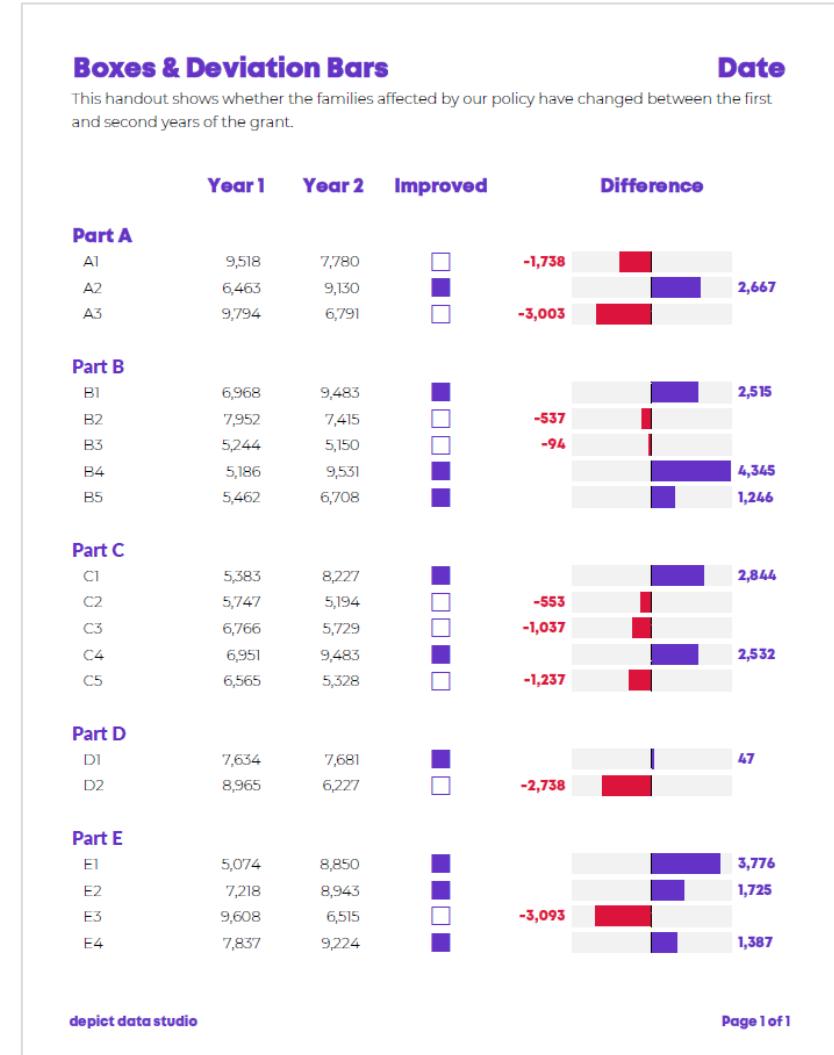
# Combo: Boxes and Deviation Bars

I initially combined trend lines, boxes, and deviation bars while working on a multi-year project.

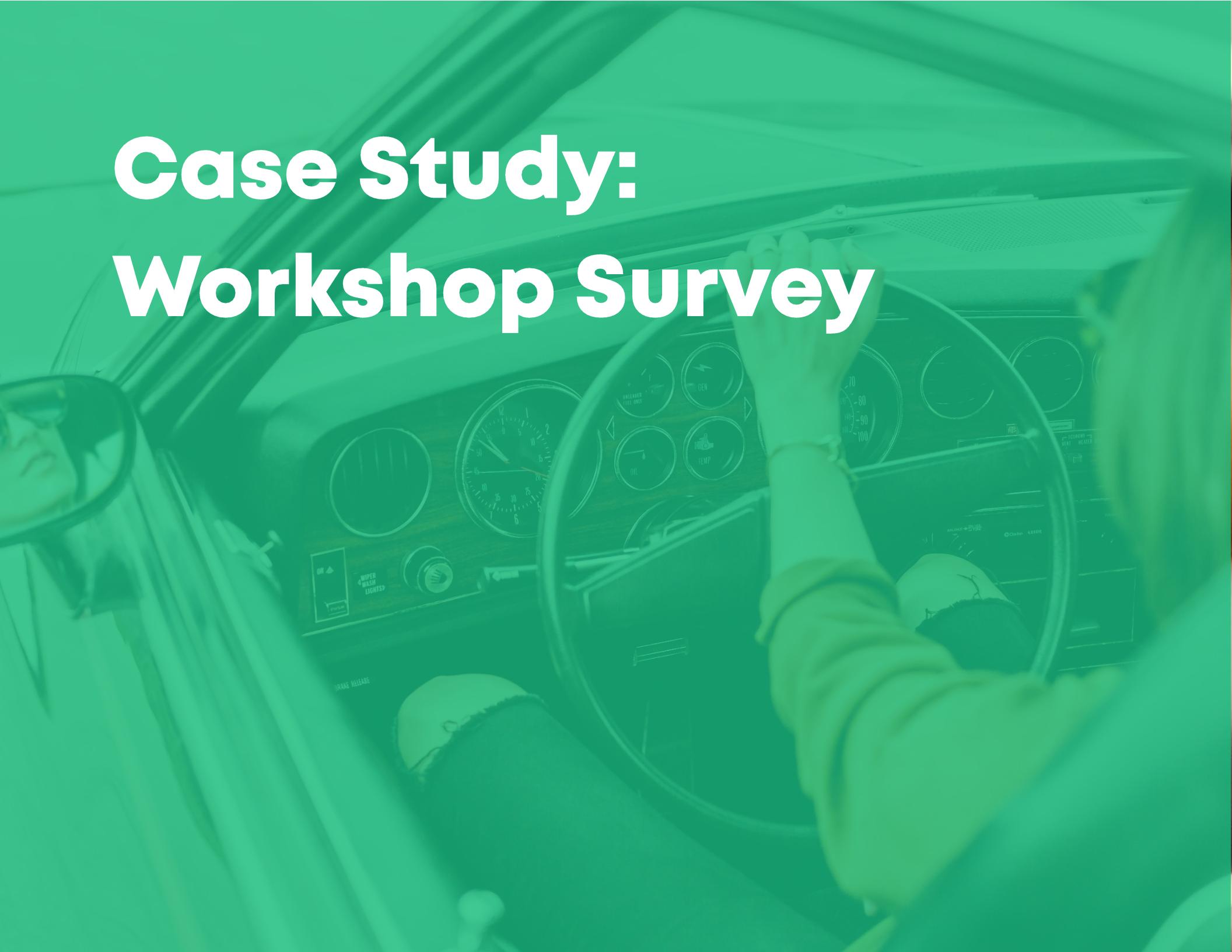
We wanted to see whether there were changes between the first and second year of the project.

We opted to display:

- the exact numbers from Years 1 and 2;
- trend lines to show the slope of the change between Years 1 and 2;
- boxes to show which areas had improved (or not);
- deviation bars to show the size of the difference between Years 1 and 2.



# Case Study: Workshop Survey



I give dozens of workshops, webinars, conference keynotes, and big talks each year.

Which means I receive dozens of evaluation surveys each year.

After my sessions, the organizers send a link to their participants and ask them to rate the session.

Sometimes these evaluation surveys are conducted with good ol' paper and pencil. Later, the paper surveys get scanned and a software program automatically compiles the results.

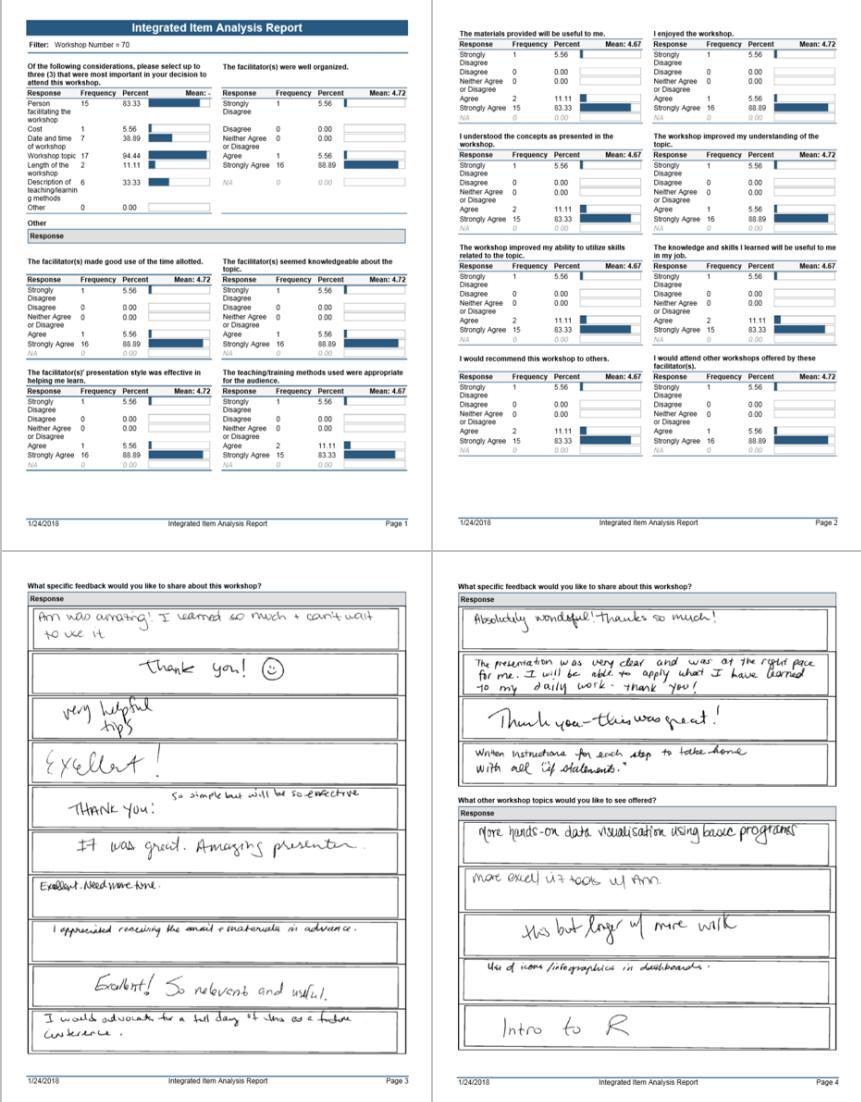
Survey software tools have come a long way. Heck, during college, I spent ten soul-crushing hours each week entering data from paper surveys into SPSS in exchange for course credit. I paid the university for the privilege of entering data! The survey scanning tools hadn't been invented yet.

Nowadays, research assistants probably get to contribute to more meaningful tasks than data entry. It's a different world.

I'm grateful for this technology. But, at the same time, survey scanning tools drive me crazy. Their designs still live in the dark ages—it's 2018 software with a 1998-era knowledge of graphic design and brain science.

Here's the most recent survey report that I received.

The four-page report comes from a *Dashboard Design* workshop that I led at a conference in 2017.



# What's Not Working about the Current Layout

This software program's design drives me crazy because:

- The title—*Integrated Item Analysis Report*—is a mouthful. Yes, I know what an *item analysis* is. I took an entire graduate course about psychometrics. There were dozens of workshop instructors at this conference. We came from a variety of academic backgrounds. Let's not assume that everyone knows what an item analysis is.
- It's dense. There are borders and outlines around everything. There are even *double outlines* around the open-ended comments. There's almost no white space. The information is straightforward—here's how people responded to each survey question—but the dense design makes it feel more complicated than it is.
- The colors and fonts are lacking a soul. The conference had its own logo, fonts, and colors. The organization that sponsored the conference had its own logo, fonts, and colors. Let's breathe some life and identity into this report.
- So many decimal places. I would never change my workshop approach because a tool told me that 88.89% of people answered a certain way. That's 89%. *I'm* the audience for this report. Decimals won't change my life.

# Start with a Table

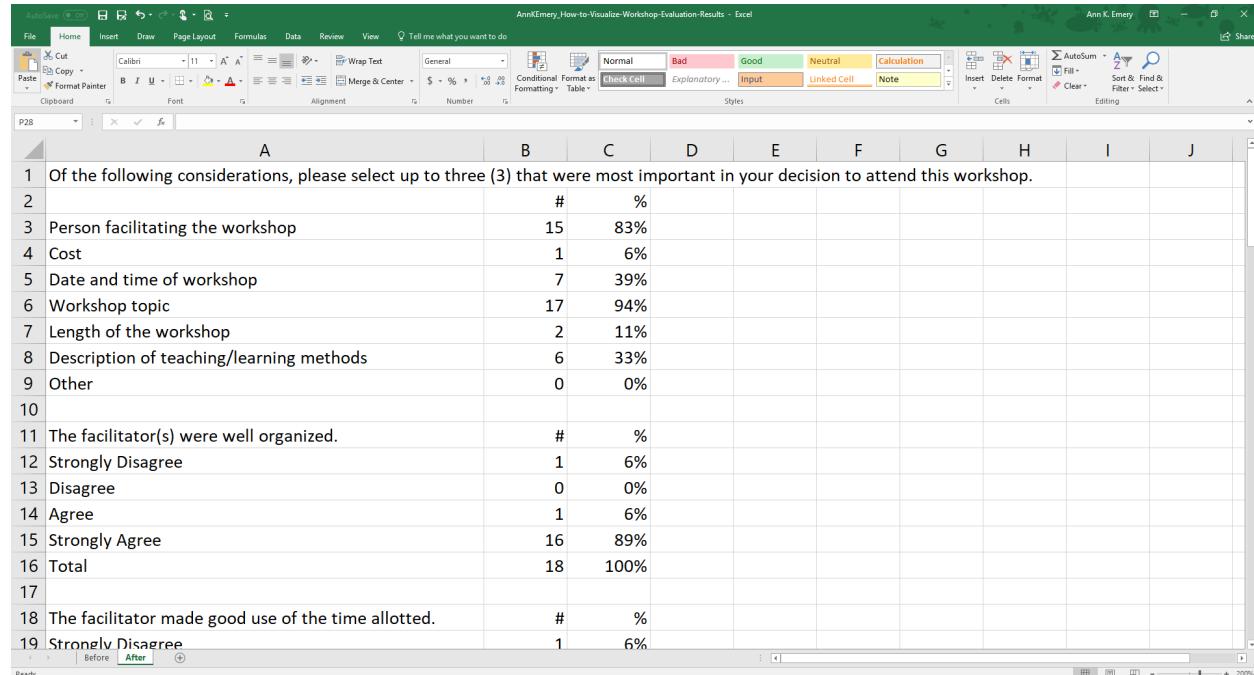
Let's revamp this report!

I re-typed the survey questions and the responses into my spreadsheet.

Make sure that you declutter your table by removing unnecessary ink. Tables rarely need all the borders, horizontal lines, and vertical lines that we're accustomed to seeing.

I ignored the mean values for each of the survey questions. Agree/disagree scales are ordinal. We can only calculate means for interval or ratio variables.

I also ignored the Neither Agree Or Disagree category. In most projects, like this one, participants tend to be fairly satisfied with the training session. We're usually comparing the top two choices.



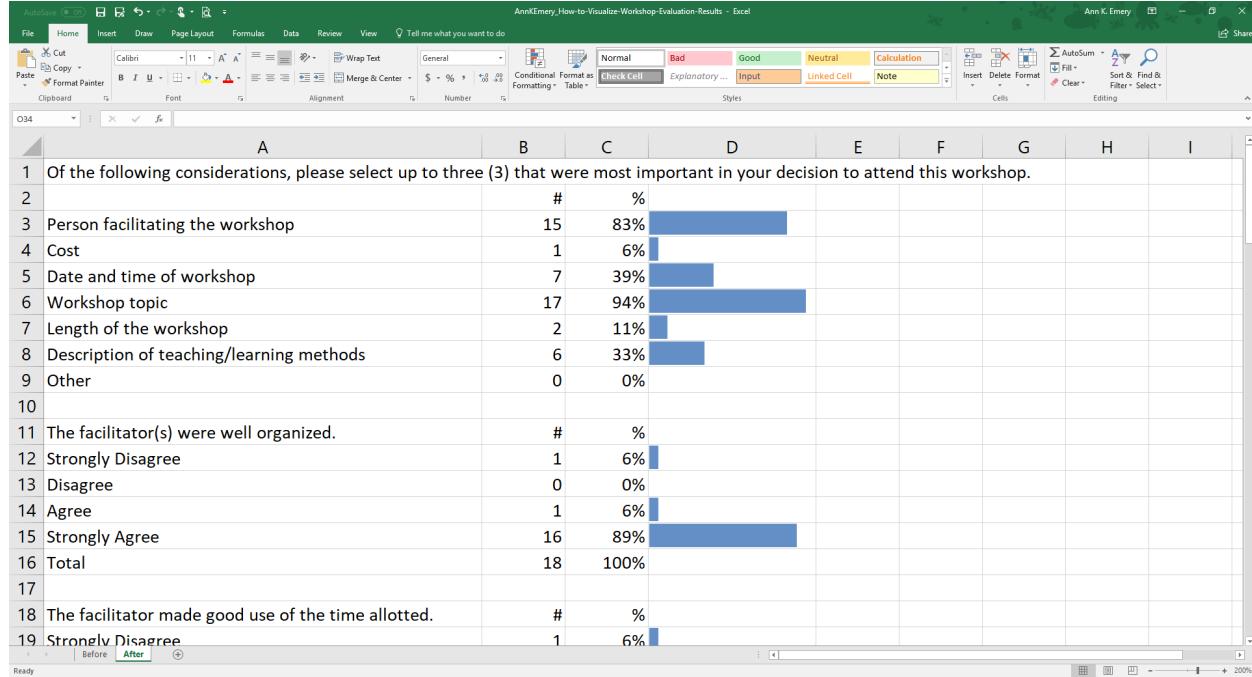
The screenshot shows an Excel spreadsheet titled "AnnKEmery\_How-to-Visualize-Workshop-Evaluation-Results - Excel". The table contains survey data with columns for question number, question text, and counts/percentages. Row 1 is a header row. Rows 2 through 10 are for workshop-related factors. Rows 11 through 15 are for facilitator organization. Row 16 is a total row. Row 17 is blank. Rows 18 and 19 are for time management.

A	B	C	D	E	F	G	H	I	J
1 Of the following considerations, please select up to three (3) that were most important in your decision to attend this workshop.									
2	#	%							
3 Person facilitating the workshop	15	83%							
4 Cost	1	6%							
5 Date and time of workshop	7	39%							
6 Workshop topic	17	94%							
7 Length of the workshop	2	11%							
8 Description of teaching/learning methods	6	33%							
9 Other	0	0%							
10									
11 The facilitator(s) were well organized.	#	%							
12 Strongly Disagree	1	6%							
13 Disagree	0	0%							
14 Agree	1	6%							
15 Strongly Agree	16	89%							
16 Total	18	100%							
17									
18 The facilitator made good use of the time allotted.	#	%							
19 Strongly Disagree	1	6%							

# Add Visuals

There are several ways to visualize agree/disagree scales, like stacked bar charts, diverging stacked bar charts, or even waffle charts.

The existing bar charts would be easiest to automate across dozens of workshop evaluation surveys, so we'll keep them.

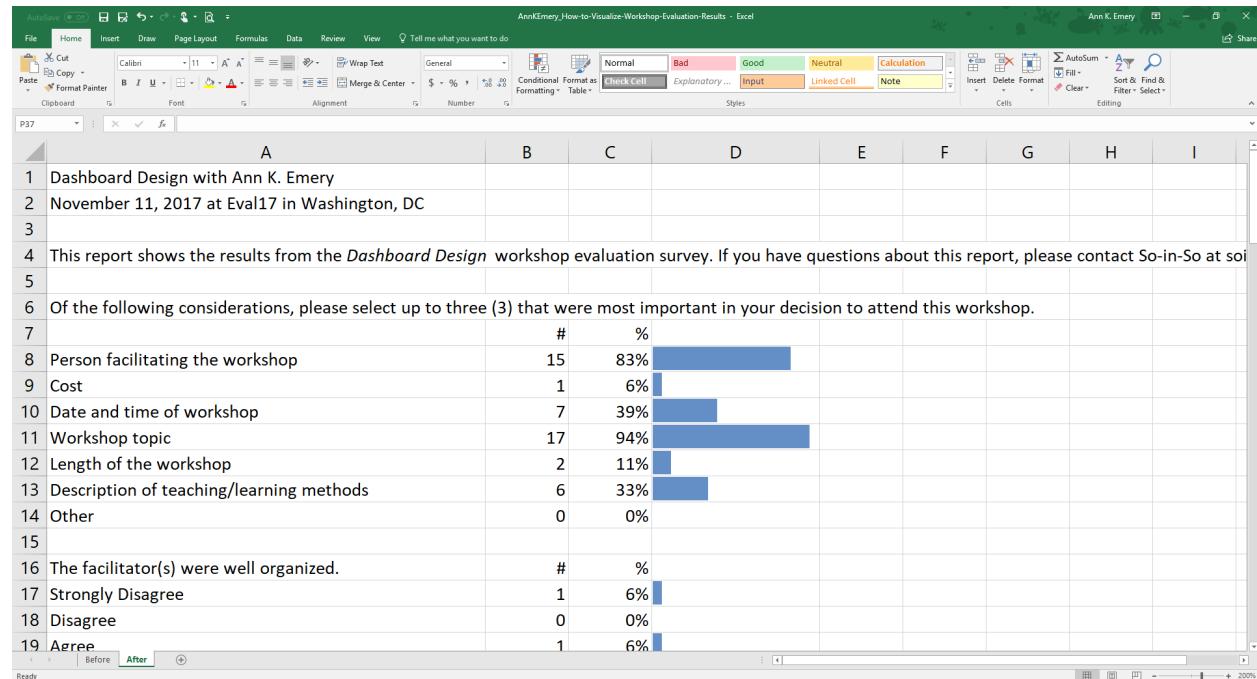


# Write a Title and Subtitle

At the top, add plain language that introduces your viewers to what you're about to show them.

For the title, I changed *Integrated Item Analysis Report to Dashboard Design with Ann K. Emery*. The contents of the report are an item analysis (a question-by-question analysis). But the *title* of the report needs to contain the workshop's name and the instructor's name.

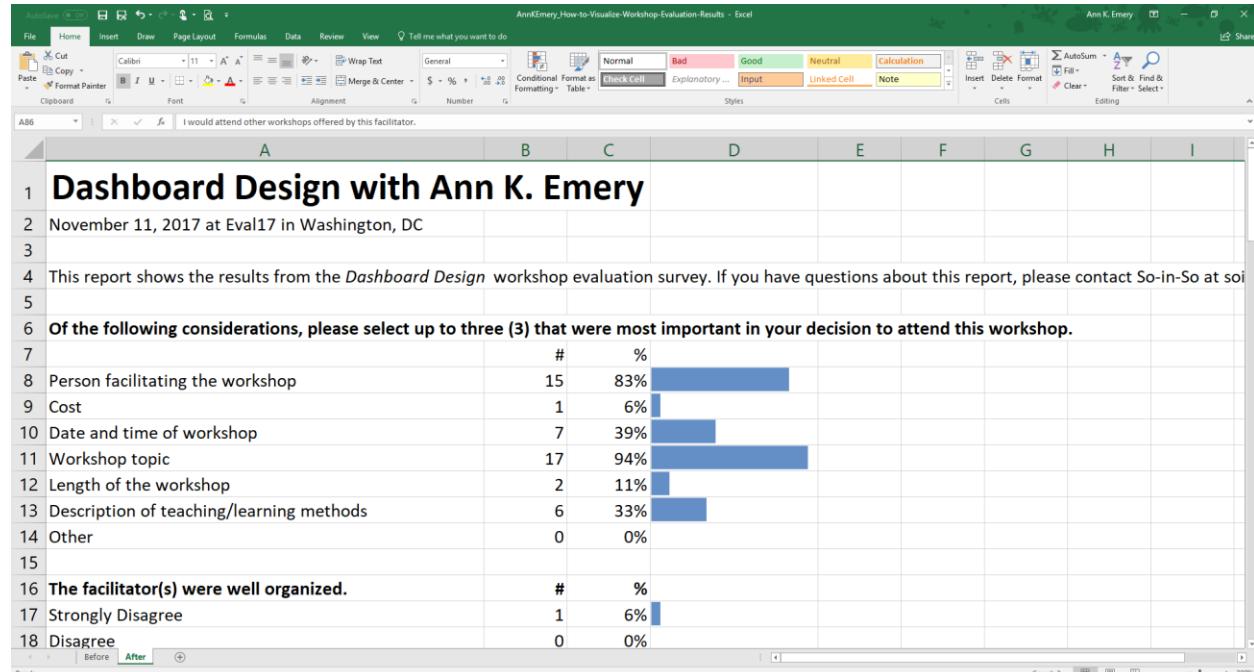
I typically keep my dashboard subtitles to two sentences. The first sentence tells you what you're about to learn. The second sentence tells you who to contact if you want to learn more.



# Apply a Text Hierarchy

A *text hierarchy* tells our viewers which text is at the top of the food chain. The title should be large, dark, and bold so that it instantly grabs your viewers' attention. You could also apply ALL CAPS to the title or section headers. Use ALL CAPS sparingly, please. It takes longer for our brains to read ALL CAPS than Sentence case or Title Case. We like having a mix of tall and short letters. This is especially true for people with learning disabilities.

I also made each of the survey questions bold. Later on, I tweaked the font sizes and colors again. The idea is the same. The important information needs to stand out in large, dark, and bold text.



# Brand with Customs Colors and Fonts

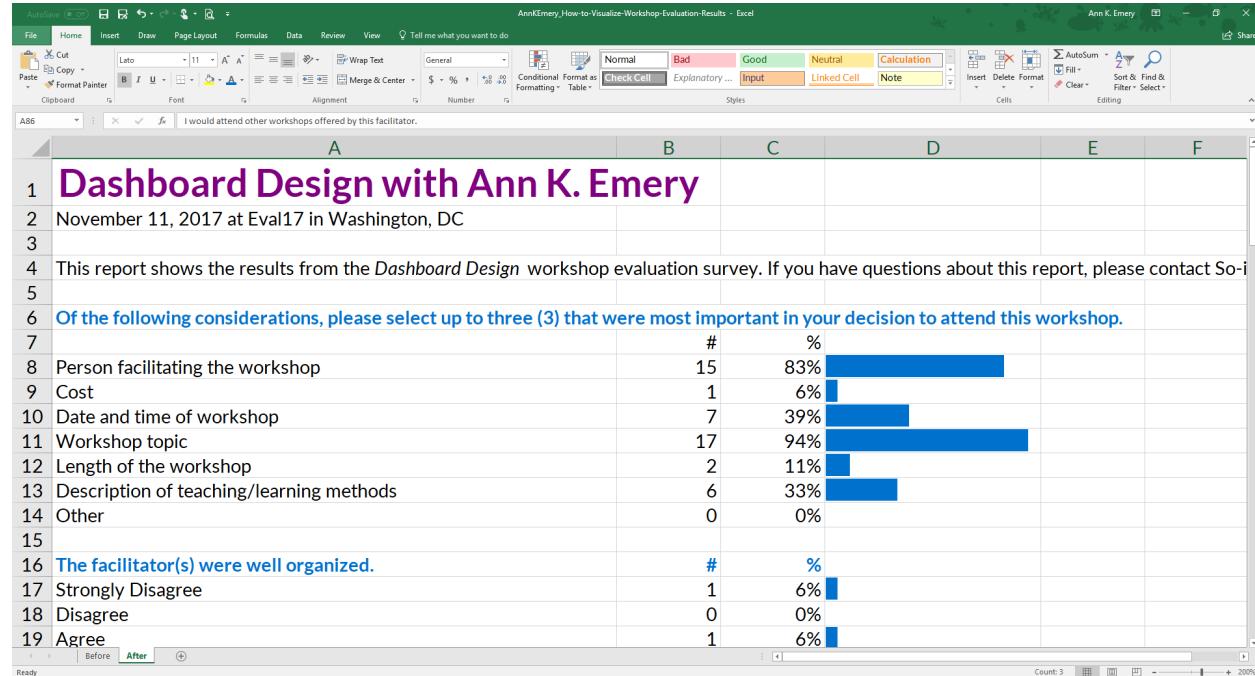
Sometimes we think that adding our logos will sufficiently brand our documents.

Sure, we can add our logos to our reports. Just make sure to place your logo in the lower corner—not in the top—so that it doesn't distract from the report's contents.

In addition to using logos, our fonts and colors can reinforce our brand.

For fonts, I'm using my old branding here (a combination of Lato Black and Lato Light)

You'd use your own fonts and colors, not mine.



# Apply the Finishing Touches

This step is more of an art than a science.

Here's what I did:

- I opted for a landscape layout instead of portrait layout. I reserve portrait layout for materials that are going to be printed. Are workshop facilitators printing out documents like this? I doubt it. I won't. Landscape layout is best for documents that are going to be read on-screen because our computer monitors are already landscape-shaped. You open the document and it *just fits* so nicely. No wasted space around the margins.
- I adjusted row heights and column widths to get the page breaks just right.
- I merged a few cells. Don't merge cells too early because unmerging is drudgery.
- I added page numbers, which is often necessary for multi-page documents like this one.
- I added horizontal lines so that readers could across the rows more easily. The lines are light gray, not black. They don't distract from the more important information.
- I removed the *double outlines* around the open-ended responses. This is one of my favorite parts of the makeover. Now, we can actually see the comments because they aren't competing with the outlines for attention.
- I color-coded category. The introductory section is purple, the closed-ended questions are blue, and the open-ended questions are turquoise. I wanted readers to know when a new topic was starting.
- Finally, I added icons because they can make graphs more memorable.

## DASHBOARD DESIGN WITH ANN K. EMERY

November 11, 2017 at Eval17 in Washington, DC

This report shows the results from the Dashboard Design workshop evaluation survey. If you have questions about this report, please contact So-in So at soinso@email.com.

### 1 CLOSED-ENDED SURVEY FEEDBACK

We asked your workshop's attendees why they decided to attend your workshop, whether they felt that you were well organized, and more.

 Of the following considerations, please select up to three that were most important in your decision to attend.

	#	%
Person facilitating	15	83%
Cost	1	6%
Date and time	7	39%
Topic	17	94%
Length	2	11%
Description of teaching/learning	6	33%
Other	-	-

 The facilitator made good use of the time allotted.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 The facilitator was well organized.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 The facilitator seemed knowledgeable about the topic.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

### 2 OPEN-ENDED SURVEY FEEDBACK

We asked your workshop's attendees to offer additional feedback and to suggest topics for future workshops. Here's what they wrote.

 What specific feedback would you like to share about this workshop?

Absolutely wonderful! Thanks so much!

The presentation was very clear and was at the right pace for me. I will be able to apply what I have learned to my daily work. Thank you!

So simple but will be so effective  
THANK YOU!

It was great. Amazing presenter.

Written instructions for each step to take home with all if statements.

I appreciated receiving the email + materials in advance.

I would advocate for a full day + this as a future conference.

Excellent! So relevant and useful.

Thank you - this was great!

Thank you! 😊

very helpful tips

Excellent!

Excellent. Need more time.

Ann was amazing! I learned so much + can't wait to use it.

Dashboard Design with Ann K. Emery

 The facilitator's presentation style was effective in helping me learn.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 The materials provided will be useful to me.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	89%
Total	18	100%

 I understood the concepts as presented in the workshop.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	89%
Total	18	100%

 The workshop improved my ability to utilize skills related to the topic.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	89%
Total	18	100%

 I enjoyed the workshop.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 The workshop improved my understanding of the topic.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 I would attend other workshops offered by this facilitator.

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

 What other workshop topics would you like to see offered?

more hands-on data visualisation using basic programmes

more excel vba tools w/ Ann.

more but longer w/ more walk

use of icons/infographics in dashboards.

Intro to R

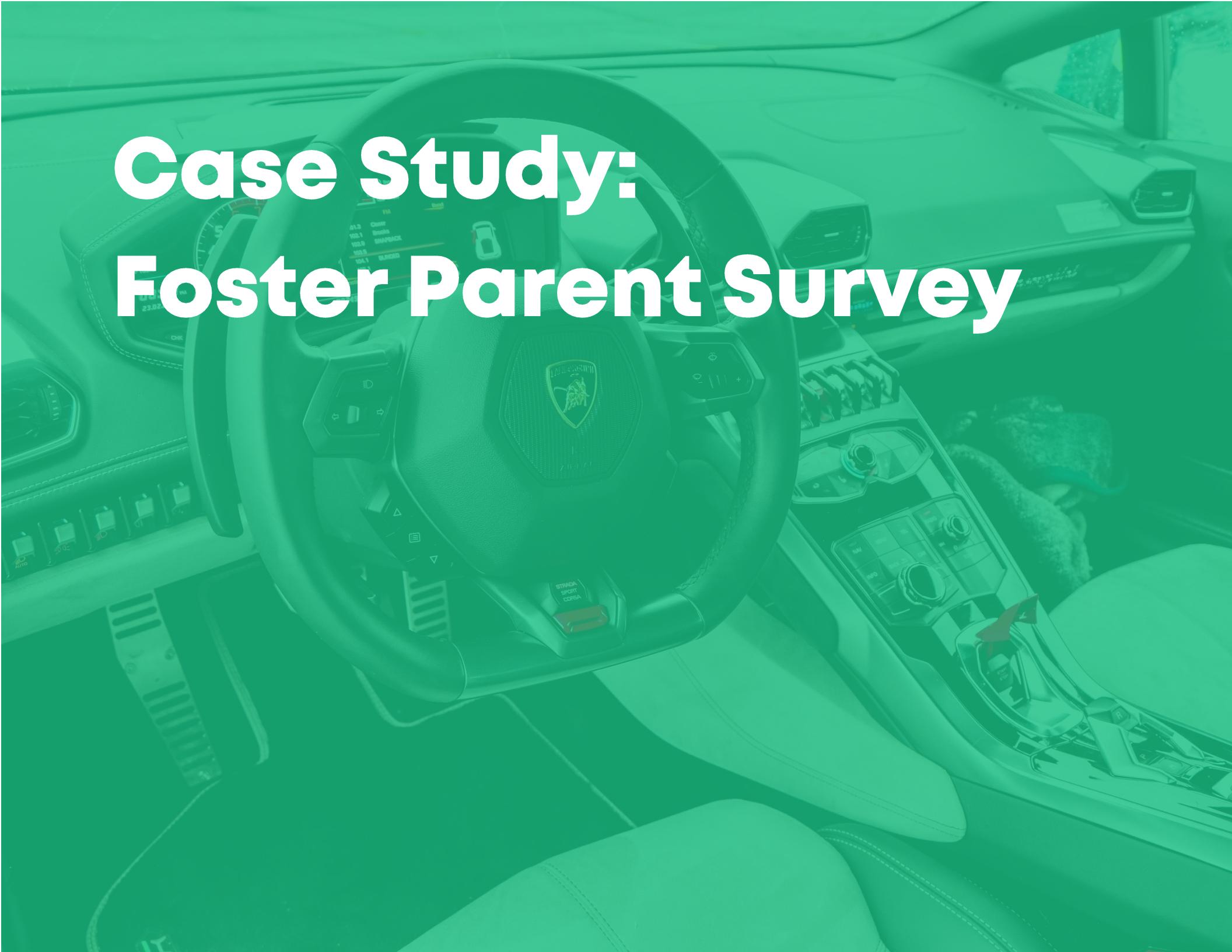
Dashboard Design with Ann K. Emery

Page 3 of 4

Page 4 of 4

31

# Case Study: Foster Parent Survey



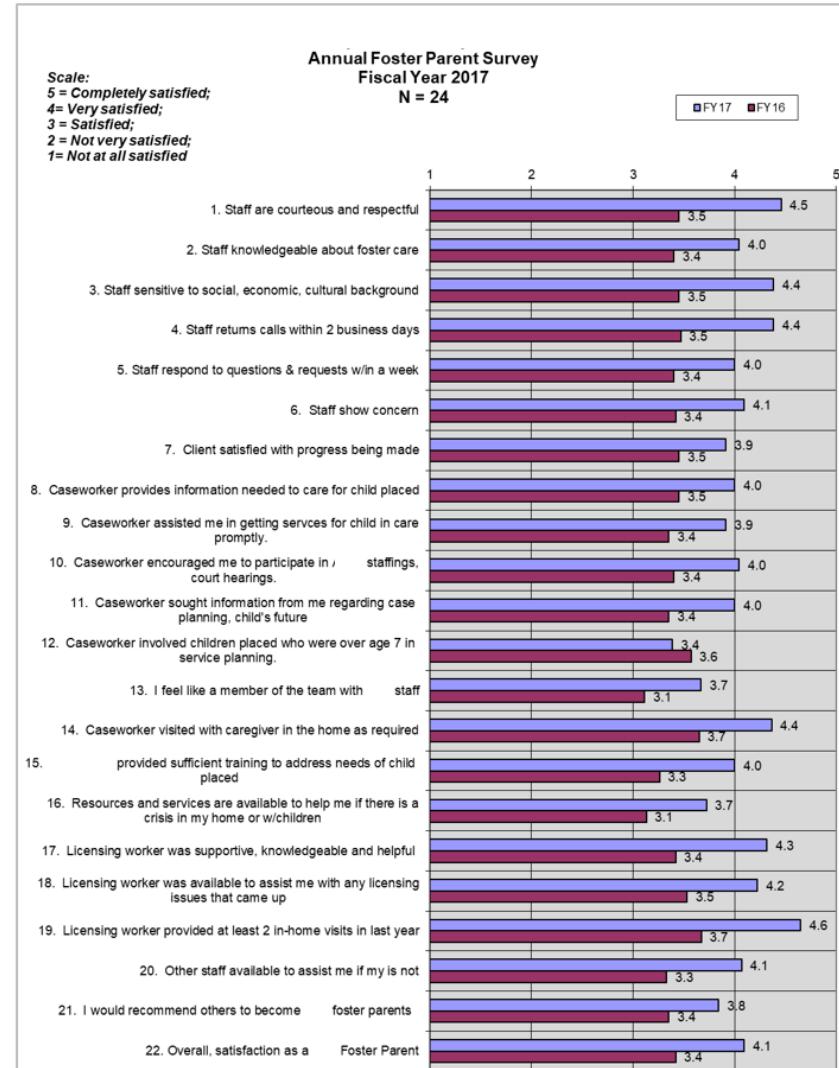
In 2017 I was invited to keynote the Continuous Quality Improvement Conference in Illinois.

As part of that process, we redesigned several of their existing reports and dashboards.

This conference attendee worked at an organization that placed children into foster care homes.

Each year, the organization surveyed their foster care parents to gather their feedback about the experience.

Here's what their initial document looked like.



# Before

We discussed the existing document together.

## What's Already Working Well

A couple things were already working well:

- First, I was pleasantly surprised to see that they fit all 22 survey questions and the responses on a single page. They wanted an at-a-glance handout.
- Second, I was pleasantly surprised to see two years' worth of data included: fiscal year 2016 and fiscal year 2017. Providing patterns over time is always a good thing.
- All of the survey results fit on a single page, which the foster care agency wanted to continue doing. They didn't want their staff to feel overwhelmed by wading through several pages of data.

## What We Wanted to Adjust

As usual, we're going to take the dashboard to the next level.

- Presenting results in the same order as the survey is rarely the most useful approach. Instead, we'll group the questions into categories.
- Clustered bars aren't inherently evil. They're just overused.
- The analysis approach was a bit off. The agency asked foster parents whether they were *completely satisfied*, *very satisfied*, *satisfied*, *not very satisfied*, or *not at all satisfied*. They coded a *completely satisfied* response as a 5, a *very satisfied* response as a 4, and so on. Then, they calculated the average score. Although this numeric coding approach is common, it's incorrect. You can only calculate averages on interval or ratio scales, but the survey has an ordinal scale. In other words, the agency should've displayed how many foster parents selected *completely satisfied*, *very satisfied*, and so on.

# After: Slope Graphs Didn't Slope...

We experimented with a few makeovers before we settled on a winning design.

I love most aspects of this first redesign.

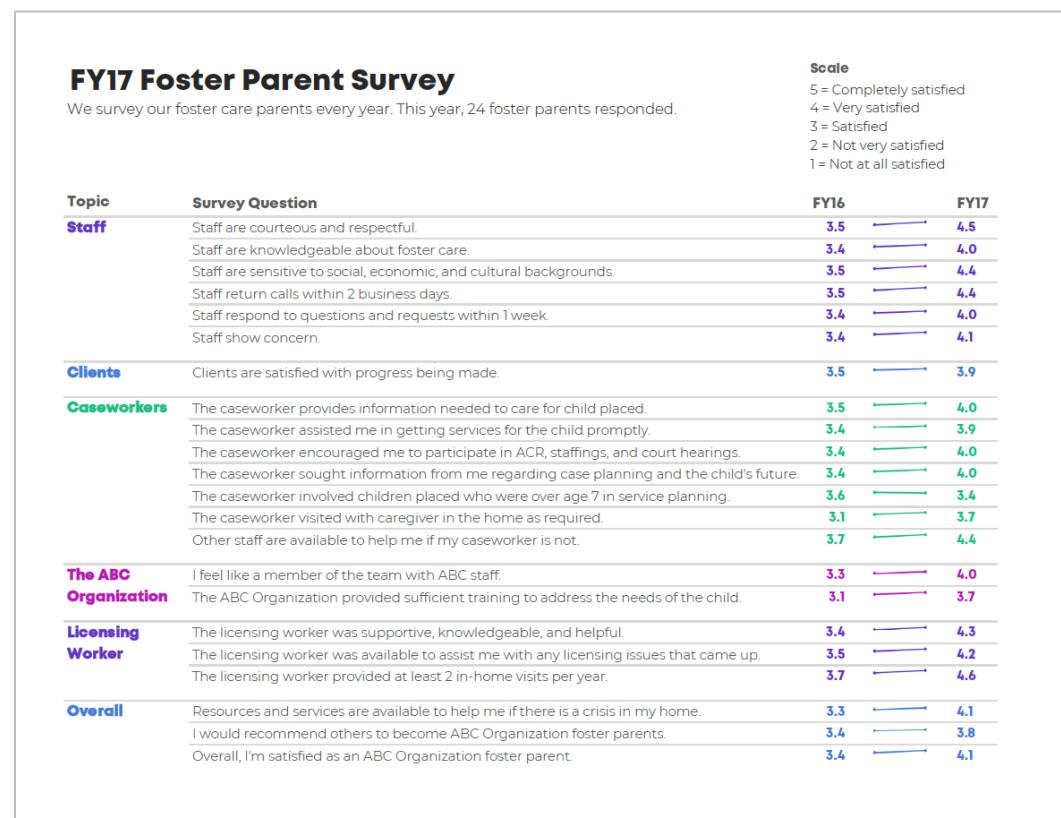
The major shortcoming of this data visualization makeover is the visualization itself—darn!

We have a few options for comparing two points in time, like these two fiscal years. The most obvious choice is a line chart, which was born with the sole purpose of displaying patterns over time.

A slope chart is just the line chart's cousin; it displays exactly two points in time.

The problem is that the slopes didn't slope.

The visuals were too short to show much of a difference.



# After: Columns Were Too Short...

Here's our second attempt.

In this iteration, we visualized the data with column charts.

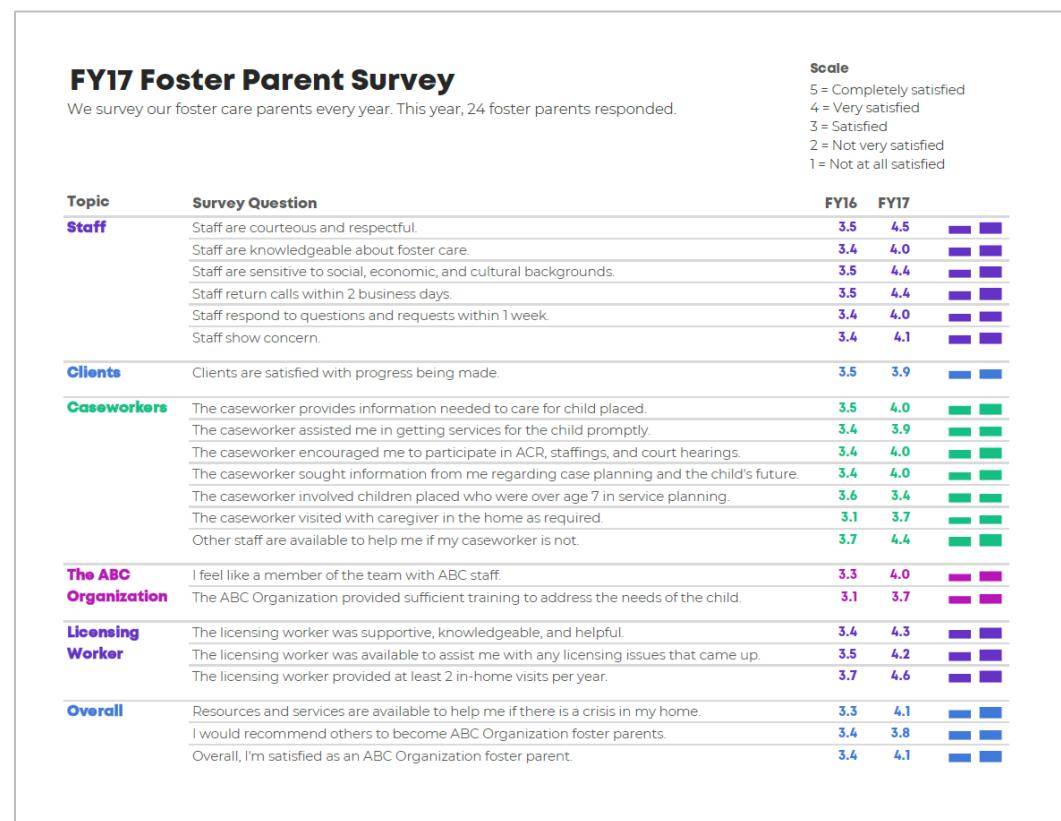
You can already see the problem, right?

The columns were too short to see any differences.

If I didn't tell you that these were supposed to be column charts, then you might've assumed they were just funny-looking squares.

I'm not upset that this makeover didn't work. I wasn't rooting for the clustered column approach anyway!

Onwards. I've still got a few more ideas up my sleeve...

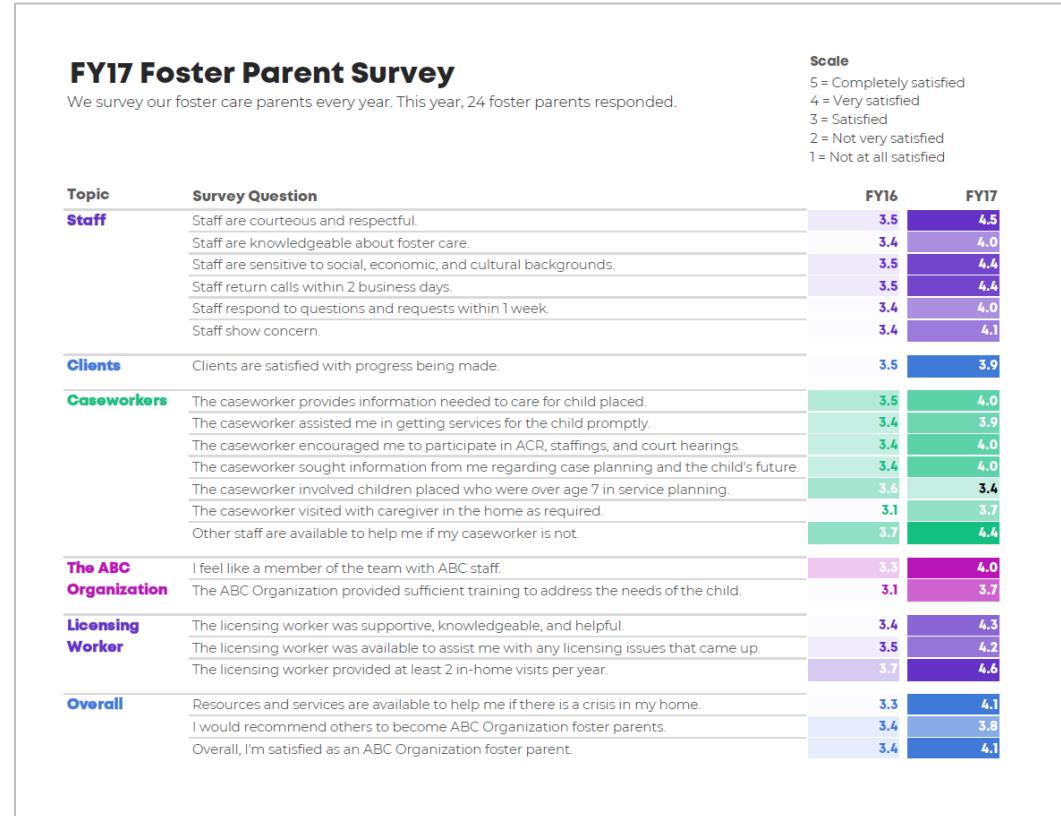


# After: The Heat Table Was Too Colorful...

Heat tables are helpful when you're working with limited space. The colors live on top of the numbers, not beside them, so they take up less space.

I can generally see that the FY17 column is darker than the FY16 column (ratings were higher in FY17 than in FY16).

But I have to work to see the darker colors because I'm distracted by the rainbow in front of me.



# After: Check Boxes Provided Overly Positive News...

As I was critiquing the heat tables, I finally realized that the FY17 results were better than the FY16 results.

I hadn't actually noticed that pattern while looking at the original, at my slopes, or at my columns! Spotting this pattern was a game-changing *aha* moment.

In this redesign, I opted to focus on big-picture results: that foster parents scored the agency higher in FY17 than in FY16 on every survey item except one. The filled-in squares and empty-squares are easy to scan at a glance.

The downside was that the check boxes provided overly positive news.

Can you have too much good news? I think so. We didn't want to encourage complacency. We wanted to provide actionable ideas for improvement.

FY17 Foster Parent Survey				
We survey our foster care parents every year. This year, 24 foster parents responded.				
Topic	Survey Question	Scale		
		5 = Completely satisfied	4 = Very satisfied	3 = Satisfied
Staff	Staff are courteous and respectful.	3.5	4.5	<input checked="" type="checkbox"/>
	Staff are knowledgeable about foster care.	3.4	4.0	<input checked="" type="checkbox"/>
	Staff are sensitive to social, economic, and cultural backgrounds.	3.5	4.4	<input checked="" type="checkbox"/>
	Staff return calls within 2 business days.	3.5	4.4	<input checked="" type="checkbox"/>
	Staff respond to questions and requests within 1 week.	3.4	4.0	<input checked="" type="checkbox"/>
	Staff show concern.	3.4	4.1	<input checked="" type="checkbox"/>
Clients	Clients are satisfied with progress being made.	3.5	3.9	<input checked="" type="checkbox"/>
Caseworkers	The caseworker provides information needed to care for child placed.	3.5	4.0	<input checked="" type="checkbox"/>
	The caseworker assisted me in getting services for the child promptly.	3.4	3.9	<input checked="" type="checkbox"/>
	The caseworker encouraged me to participate in ACR, staffings, and court hearings.	3.4	4.0	<input checked="" type="checkbox"/>
	The caseworker sought information from me regarding case planning and the child's future.	3.4	4.0	<input checked="" type="checkbox"/>
	The caseworker involved children placed who were over age 7 in service planning.	3.6	3.4	<input type="checkbox"/>
	The caseworker visited with caregiver in the home as required.	3.1	3.7	<input checked="" type="checkbox"/>
	Other staff are available to help me if my caseworker is not.	3.7	4.4	<input checked="" type="checkbox"/>
The ABC Organization	I feel like a member of the team with ABC staff.	3.3	4.0	<input checked="" type="checkbox"/>
	The ABC Organization provided sufficient training to address the needs of the child.	3.1	3.7	<input checked="" type="checkbox"/>
Licensing Worker	The licensing worker was supportive, knowledgeable, and helpful.	3.4	4.3	<input checked="" type="checkbox"/>
	The licensing worker was available to assist me with any licensing issues that came up.	3.5	4.2	<input checked="" type="checkbox"/>
	The licensing worker provided at least 2 in-home visits per year.	3.7	4.6	<input checked="" type="checkbox"/>
Overall	Resources and services are available to help me if there is a crisis in my home.	3.3	4.1	<input checked="" type="checkbox"/>
	I would recommend others to become ABC Organization foster parents.	3.4	3.8	<input checked="" type="checkbox"/>
	Overall, I'm satisfied as an ABC Organization foster parent.	3.4	4.1	<input checked="" type="checkbox"/>

# The Winning Makeover: Deviation Bars

Finally! The winning makeover!

I loved the simplicity of the check boxes. But we were afraid that they only provided good news. We needed to strike a balance: Keep the makeover simple while providing details about where the agency could do even better.

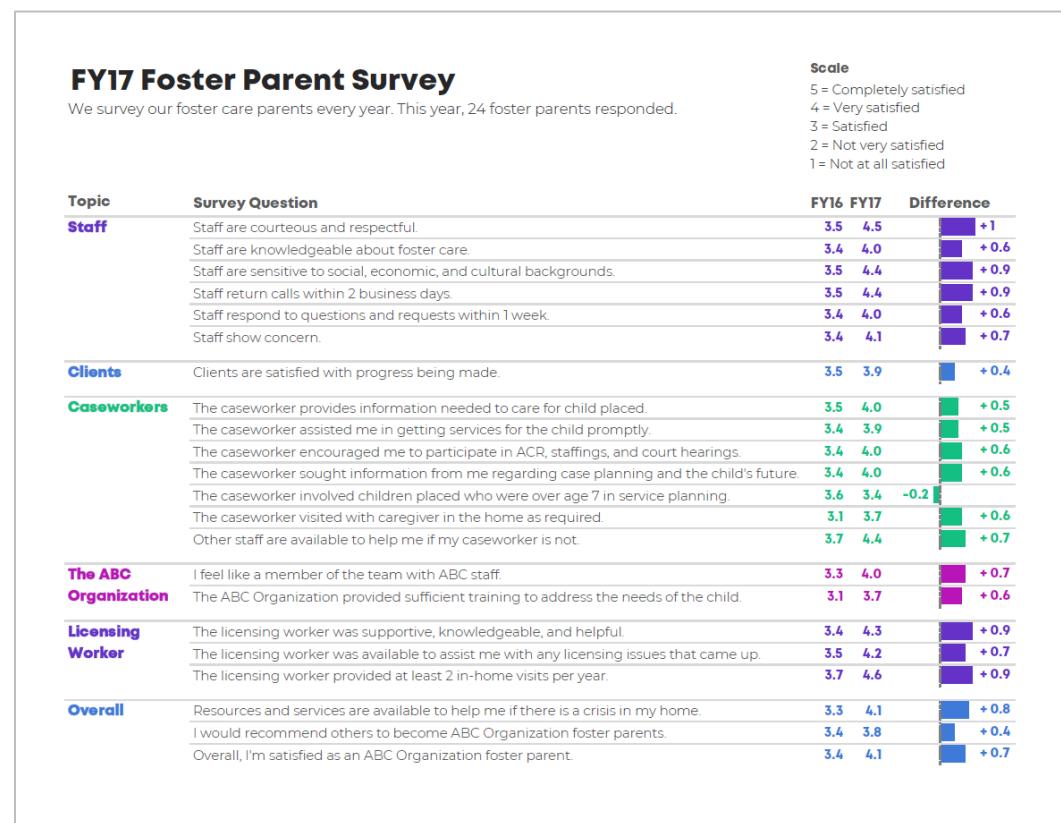
We created deviation bars to show the size of the difference from one fiscal year to the next.

At a glance, you can still see that all but one survey question improved.

But now, you can also see how much or little improvement took place.

It's good to provide leaders with good news, but it's better to provide leaders with balanced news.

Now, they can still celebrate all the areas where they improved. Then, it's time to roll up their sleeves and get to work on improving even more.



# Case Study: A Library's Achievements



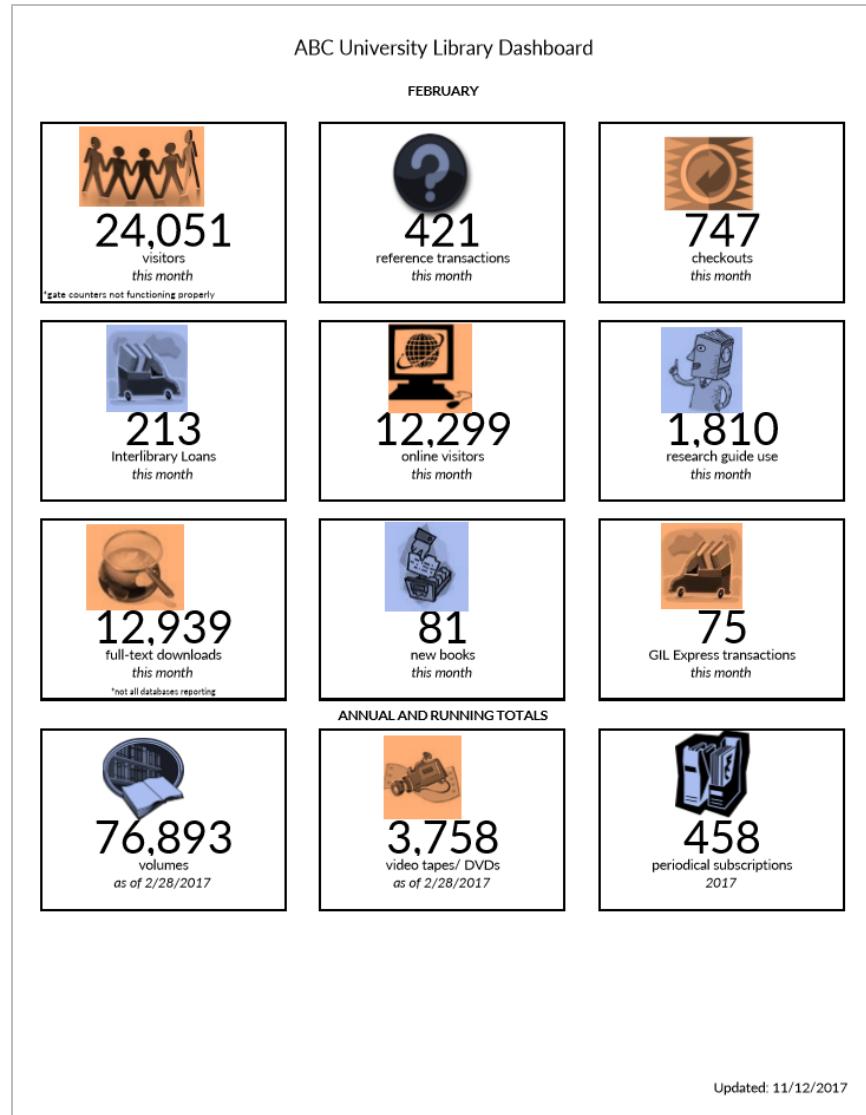
In 2017 I was invited to keynote the Southeastern Library Assessment Conference in Atlanta.

As part of that process, we redesigned several of their existing reports and dashboards.

When asked to submit their existing visualizations to be redesigned, one of the conference attendees sent me this dashboard.

The attendee was responsible for monitoring key statistics about the university's library.

The dashboard included information about the number of visitors, transactions, checkouts, and interlibrary loans.



# Before

We discussed the existing dashboard together.

## What's Already Working Well

A couple things were already working well:

- The most notable accomplishment was that it already fit on one page! I typically see “dashboards” that drone on for way too many pages. I’m not an oldschool dashboard designer. I don’t believe that dashboards *have* to fit on a single page or screen. But sometimes the multi-page dashboards also contain so much narrative text that they’re more of a report than a dashboard.
- The icons were also working well. Michelle Borkin and her team found that icons make graphs more memorable, so I add or keep icons whenever I can.
- Finally, the dashboard already incorporated a text size hierarchy of sorts. A hierarchy means that the most important information should be large, dark, and bold so that it grabs our attention. The twelve big numbers are already stood out, which was a plus.

## What We Wanted to Adjust

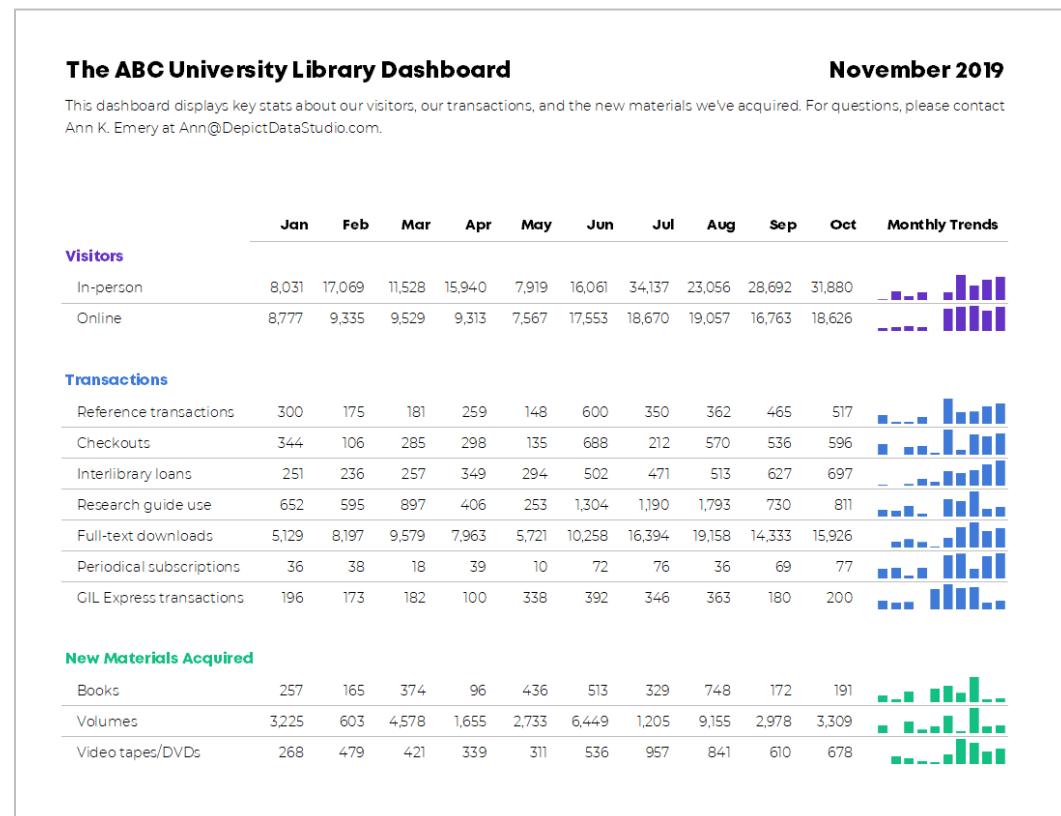
As usual, we’re going to take the dashboard to the next level.

- We need to adjust the alignment. The numbers and words are centered within their boxes. Yet the icons aren’t quite centered over them. Intentional alignment makes our visualizations look polished.
- The biggest edit needed is context. The dashboard currently shows February’s numbers. For example, 24,051 people visited the university’s library during February alone. I have no idea if that’s a huge number or a tiny number. A single number on its own doesn’t tell us much. We need more context. We need to be able to compare that number to *something*. There are a few comparisons we could make. For example, we could compare that number to the prior month (January vs. February). Or, we could compare that number to our goal (February’s actual number compared to February’s goal).

# After: Monitor Patterns Over Time

In this first makeover, we:

- added patterns over time.
- added graphs.
- color-coded by category.
- applied a text hierarchy. The title is large, dark, and bold. The headings (Visitors, Transactions, and New Materials Acquired) are a medium size because they're of medium importance.
- adjusted the alignment. The words are left-aligned and the numbers are right-aligned. The icons are center-aligned with one another, and they're top-aligned beside each of their categories.

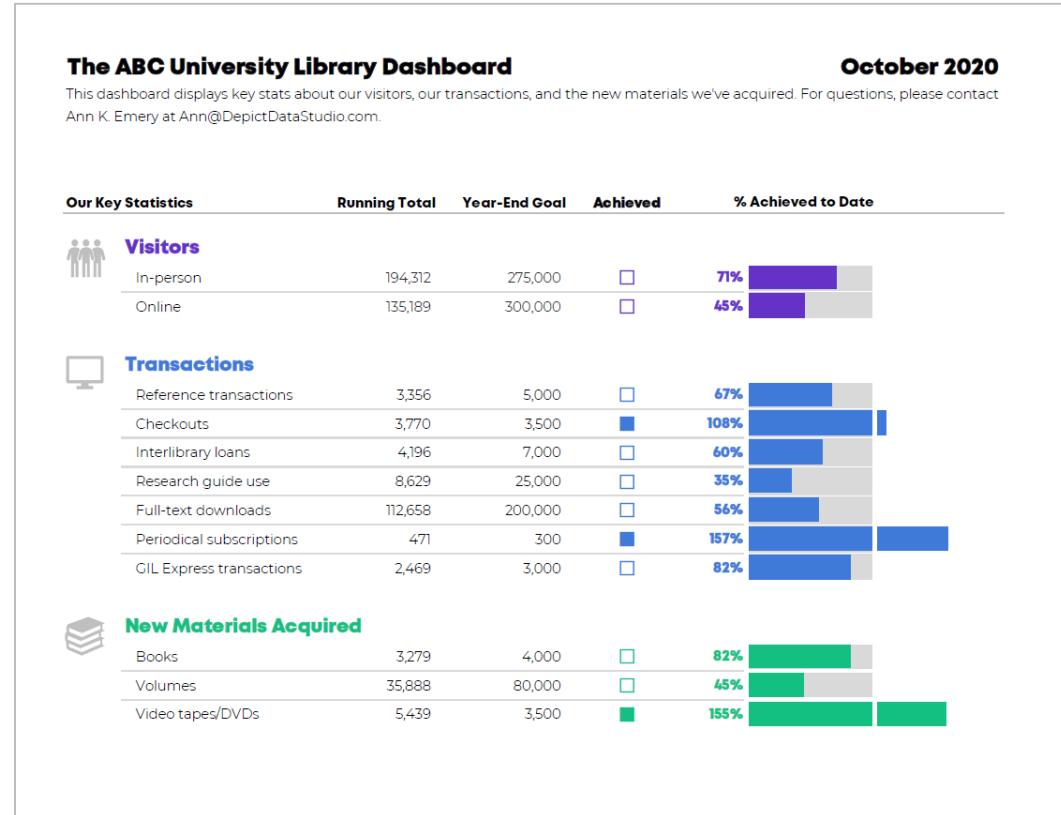


# After: Track Progress Towards Goals

Here's the second makeover. The first makeover *compares patterns over time*. This second makeover allows *tracks progress towards goals*.

I included columns for *Running Totals* and *Year-End Goals*. Then, I indicated whether the goal was achieved with filled-in squares and empty squares. Finally, I visualized the percentage of the goal that had been achieved yet with *progress bars*. In some areas, the library has already exceeded their goal, so the bars spill past the 100 percent mark—a cause for celebration!

Which dashboard is correct?! Both of them! Two dashboards, two different purposes. I recommend designing several options for your viewers. Ask which one they prefer. Gathering feedback is one of the most important steps of the design process.



# Case Study: TechnoServe's Results Portal

Input Play  
MIXER

TechnoServe's Results Portal is an interactive, web-based dashboard that's embedded within TechnoServe's website.

For the first time, TechnoServe's beneficiaries, partners, donors, and prospective donors can view key stats about TechnoServe's projects.

TechnoServe is offering their data to the public, not because they have to, but because they want to.

What's not to admire about an organization that's committed to transparency and information-sharing?

View the full portal <http://www.technoserve.org/our-work/impact#portal>.

The portal includes a map of the countries and regions where TechnoServe works...



...and results by country and by project.

### Country Portal



**Kenya**

Kenya's economy, the largest in East Africa, has witnessed a period of recent stability, with increased credit access to the private sector, investment in infrastructure, and growth in key sectors such as tourism, renewable energy, and information and communication technology (ICT).

At the same time, unemployment and poverty rates remain high, with 35 percent of Kenyans living on less than a dollar per day, and food insecurity looms large due to poor farming methods and vulnerability to drought. TechnoServe, which has operated in Kenya since 1973, is well-positioned to address these challenges and contribute to the realization of the country's potential.

**Current projects (click to explore)**

- Maasai Dairy Agribusiness Development Program
- Mavuno Zaidi
- Smallholder Business Development (Kenya)
- Smart Dukas
- Solutions for African Food Enterprises (SAFE)
- Strengthening Rural Youth Development through Enterprise (STRYDI)

**Completed projects (click to explore)**

- Coffee Initiative I
- Coffee Initiative II
- Connected Farmer Alliance
- Delivery of MAP Dairy Strategy (KMAP)
- EADDI
- Maasai Dairy Agribusiness Development Program
- Project Nurture I
- Project Nurture II
- Smallholder Poultry and Agribusiness Development Program (SPADE)
- Strengthening Rural Youth Development through Enterprise (STRYDI)
- Young Women in Enterprise (YWE)

Only projects with measured results are included.

**Country Results**  
Totals are for 2013-2016, but does not allow for double counting the same beneficiary between years. Hover over the graph for yearly totals.

Category	2013	2014	2015	2016
Finance Mobilized	\$59.9M	\$11.3M	\$277K	\$33%
Beneficiaries	150K	100K	150K	100K
Percent Women	2013	2014	2015	2016

[+ a b l e a u](#) [Share](#) [Download](#)

### Current Projects

**Current projects (click to explore)**

- A&AA Sustainable Quality Program (Ethiopia)
- ADVANCE - Phase II
- Alianza para el Desarrollo Económico
- Better Coffee Harvest
- Central America Small and Growing Business Accelerator
- Central Wetmill Program
- Competitive Horticulture and Coconut in Inhambane
- Danone Mexico**
- Emerge VVI
- Enhancing Growth in New Enterprises (ENGINE)
- FINAGRO
- Haiti Peanut
- Impulsa Tu Empresa
- Jobs Fund
- Joint Forces Sustainable Coffee Project
- Maasai Dairy Agribusiness Development Program
- Mavuno Zaidi
- McDonalds Technical Assistance Program
- Mejoramiento Agrícola Sostenible (MAS)
- Miniprix
- MozaCajú
- Nirmal Dhara
- Patagonia's Business Accelerator
- Promoting climate change resilience for smallholder farms
- Rebuilding South Sudan's Coffee Industry
- Smallholder Business Development (Ghana)
- Smallholder Business Development (Kenya)
- Smallholder Sourcing of Corn in Bihar
- Smart Dukas
- Solutions for African Food Enterprises (SAFE)
- Sourcing for Growth (S4G)
- Strengthening Food Producer Organizations
- Strengthening Rural Youth Development through Enterprise
- Technical Assistance Facility (TAF)
- The Box Shop Project
- Tim Hortons Coffee Partnership
- Tokafale Enterprise Development Program
- Walmart Mission

Together with several partners, TechnoServe supports the development of small-scale milk producers as they improve the management of their farms and therefore increase their family income. With the leadership of Danone, during the first phase 300 small-scale dairy farmers have been linked to the company's value chain. Farmers receive technical assistance on a regular basis and business support to obtain financing of key infrastructure. Farmers have increased their herd size and income through increases in productivity and quality and the first cohort of farmers has already tripled their net income.

**Project Results**  
Totals show life of project results to December 2016, with no double counting beneficiaries between years. Hover over the graph for yearly results.

Category	2013	2014	2015	2016
Finance Mobilized	\$5.46M	\$1.46M	\$2.46M	\$3.06M
Beneficiaries	635	300	200	300
Percent Women	2013	2014	2015	2016

[+ a b l e a u](#) [Share](#) [Download](#)

There are three features that make TechnoServe's Results Portal easy to navigate:

- Consistent color-coding and icons by category;
- Consistent navigation; and
- Consistent text hierarchy.

# Color-Coding and Icons by Category

I also worked on *TechnoServe's 2016 Impact Report*, in which they reported on three key variables: *financial benefits*, *beneficiaries*, and *finance mobilized*.

Each variable had its own color and icon.

For example, throughout the entire *Impact Report*, information about *financial benefits* was always displayed in green with the icon of the hand holding paper money.

We Build Lasting Solutions

**OUR MISSION**

We work with enterprising people in the developing world to build competitive farms, businesses and industries.

**OUR VISION**

We will be the most effective catalyst and partner for transformative, on-the-ground, market-based solutions to poverty.

**2016 Impact Results**

**FINANCIAL BENEFITS**

\$196 million

in increased revenue and wages generated as a result of TechnoServe's work

**BENEFICIARIES**

594,000

people and businesses who saw increased financial benefits as a result of our work, positively impacting the lives of 3 million people; 34% of beneficiaries were women

**FINANCE MOBILIZED**

\$35 million

in loans and equity provided to farmers and businesses by the private sector with TechnoServe's facilitation

2016 IMPACT REPORT 3

Dashboard Design with Ann K. Emery

We repeated the same colors and icons throughout the *Results Portal*, too. Can you spot the icons, terms, and definitions in the opening screen?

Home | Country Profiles | Current Projects | Completed Projects

## Welcome to the Results Portal!

Explore our interactive results dashboard to see impact across our four headline indicators. The map below provides detail on our regional impact. Click on a country below to learn more. Or use the Country Profiles, Current Projects, or Completed Projects tabs above to explore our results.

**Our Indicators**

- Financial Benefits** We measure the increased revenue for enterprises or increased wages for employees generated as a result of TechnoServe's intervention.
- Beneficiaries** We track the number of women, men and businesses who generated increased revenue and wages attributable to TechnoServe's work.
- Percent Women** We track the proportion of female beneficiaries, including women-led businesses, in each project.
- Finance Mobilized** We measure the amount of loans and equity provided to farmers and businesses by the private sector with TechnoServe's facilitation. This serves as one indicator of long-term growth.

United States

China

Africa

Latin America

Asia

OpenStreetMap contributors

+ tableau

Share Download

# Navigation

Tableau allows you to insert drill-down menus just about anywhere: in the upper left, upper right, lower left, lower right, or middle of the page.

In earlier drafts, our lists of countries and projects that viewers could explore were in different places on different screens. We placed the lists wherever we found blank space and could squeeze them in.

In the final version, we intentionally placed the lists in the upper left corners. In Western cultures, we read beginning in the upper left corner and then read across and down in a z-shaped pattern. That's why we placed the country and project lists in the upper left corner—because it's the most valuable real estate on the page.

Our goal was to make navigation seamless. We wanted viewers to focus on interpreting the data, not on interpreting the dashboard.

# Text Hierarchy

Sometimes, software programs give you too many different font sizes. You insert a chart and there are different sizes for the title, subtitle, axis labels, numeric labels, and category labels.

Other times, dashboard designers create too many different font sizes. We're not sure what our final product will look like. We experiment. We try a graph title in size 12 on one screen and a graph title in size 13 on another screen. We try a body font in black on one screen and dark gray on another screen. We try a page title in bold on one screen and italic on another screen.

In the final version of the Results Portal, we paid careful attention to fonts, sizes, colors, and styles. We built a consistent text hierarchy. A text hierarchy tells your viewers which information is at the top of the food chain. The most important information is largest, the information that's of medium importance is a medium size, and the regular ol' body font is the smallest size.

Consistent text hierarchies across screens make you look polished and professional. More importantly, text hierarchies make your viewers' job of interpreting the information faster and easier.

# Tips for Getting Started



Here's a step-by-step process that you can follow to design your own *single static dashboard*.

I'm going to use the feedback survey makeover that I showed you earlier.

You simply begin with a data table. Then, add visuals and get your spreadsheet ready for printing or PDFing.

### DASHBOARD DESIGN WITH ANN K. EMERY

November 11, 2017 at Eval17 in Washington, DC

This report shows the results from the Dashboard Design workshop evaluation survey. If you have questions about this report, please contact So-in-So at soinso@email.com.

#### ① CLOSED-ENDED SURVEY FEEDBACK

We asked your workshop's attendees why they decided to attend your workshop, whether they felt that you were well organized, and more.

Of the following considerations, please select up to three that were most important in your decision to attend.		
	#	%
Person facilitating	15	83%
Cost	1	6%
Date and time	7	39%
Topic	17	94%
Length	2	11%
Description of teaching/learning	6	33%
Other	-	-

The facilitator was well organized.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

The facilitator made good use of the time allotted.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

Dashboard Design with Ann K. Emery

Page 1 of 4

The facilitator's presentation style was effective in helping me learn.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

The materials provided will be useful to me.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	83%
Total	18	100%

I understood the concepts as presented in the workshop.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	83%
Total	18	100%

The workshop improved my understanding of the topic.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

The teaching/training methods used were appropriate for the audience.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	2	11%
Strongly Agree	15	83%
Total	18	100%

I enjoyed the workshop.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

I would attend other workshops offered by this facilitator.		
	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

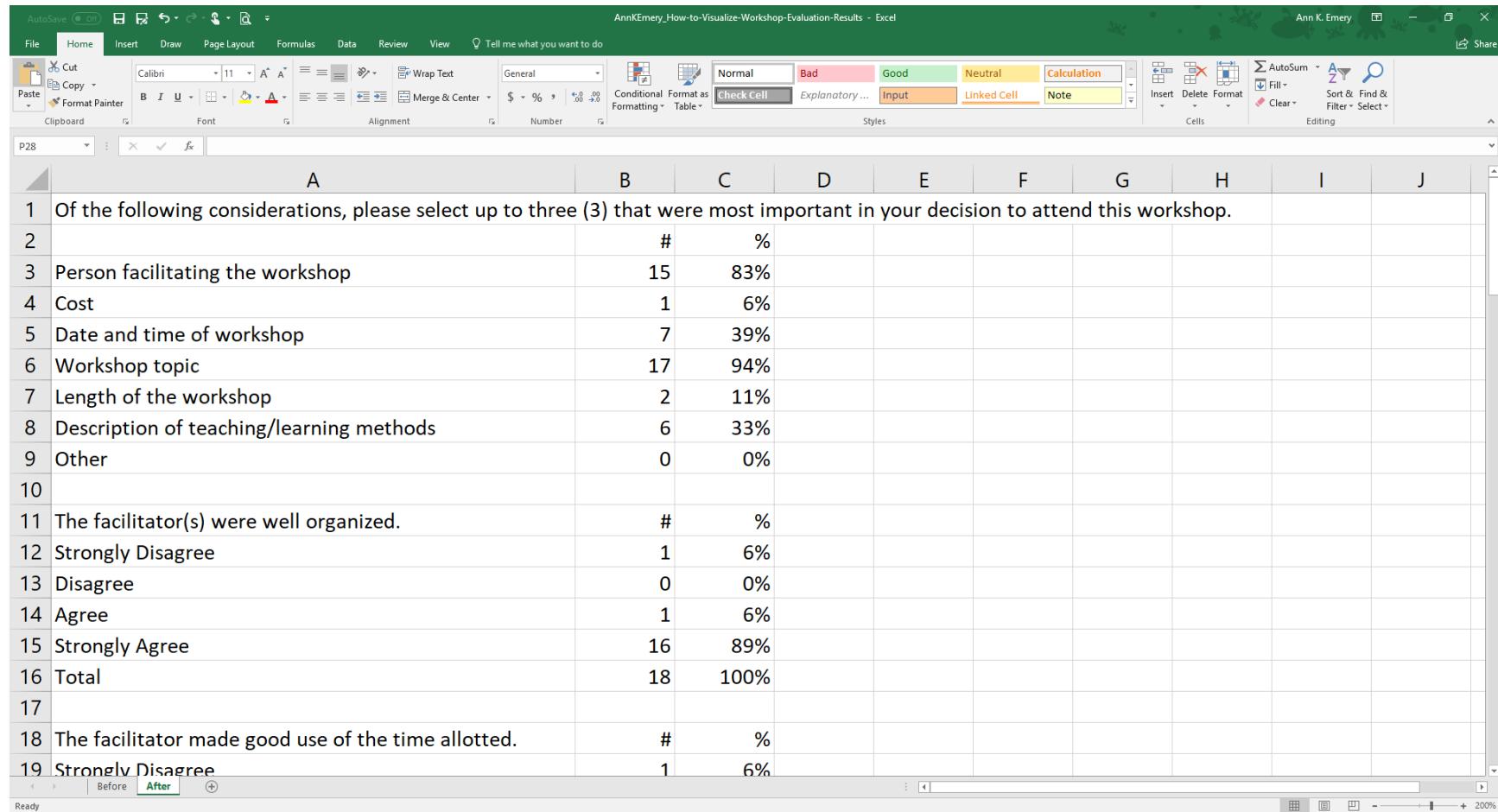
Dashboard Design with Ann K. Emery

51

Page 2 of 4

# 1 Start with a Table

A good table is the heart of every good dashboard.

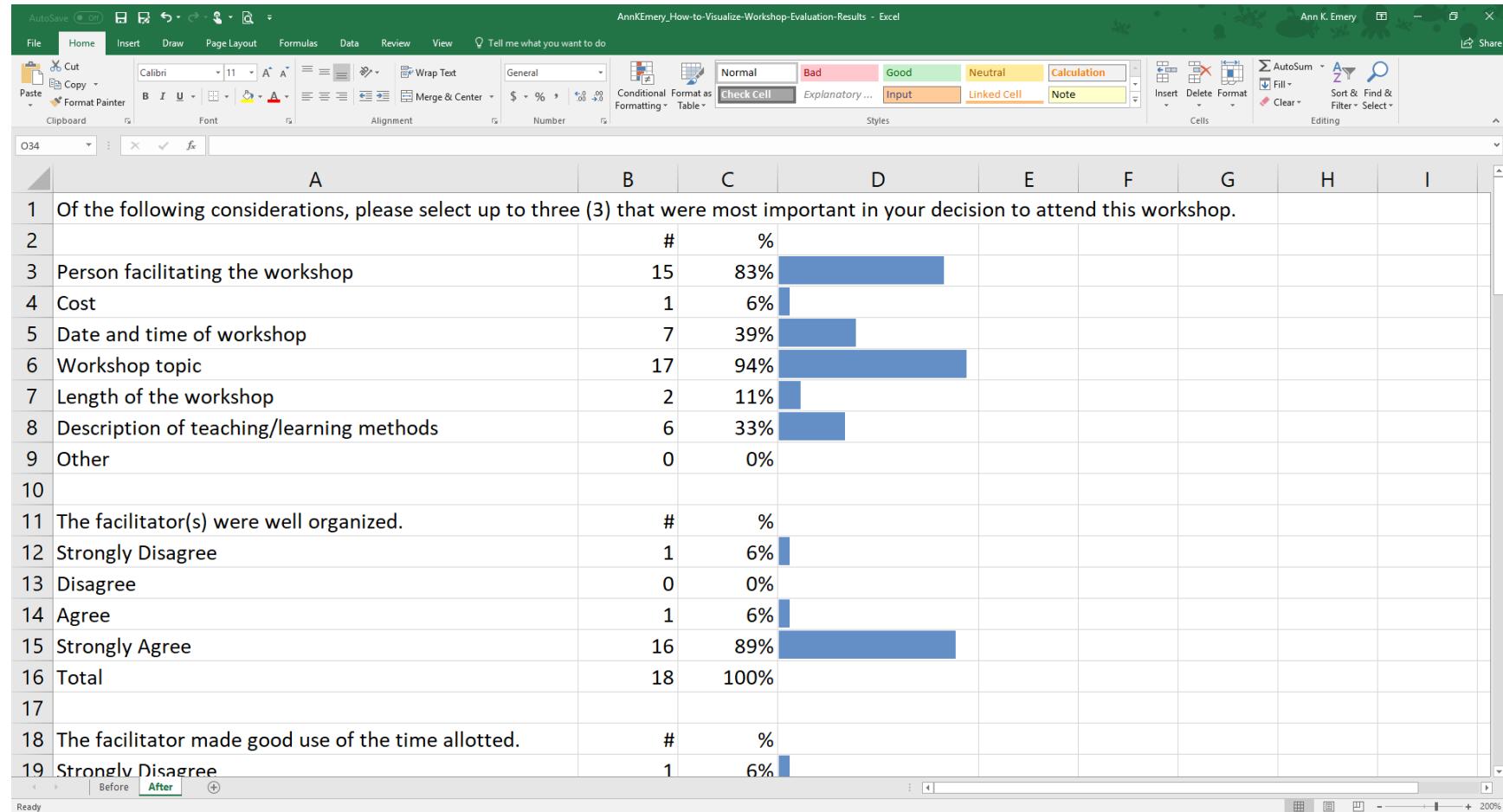


The screenshot shows a Microsoft Excel spreadsheet titled "AnnKEmery\_How-to-Visualize-Workshop-Evaluation-Results - Excel". The table contains survey results for 19 questions. Columns A and B show the question number and text. Column C shows the count (#) and Column D shows the percentage (%). The data includes responses for various workshop aspects like facilitation, cost, and time, as well as satisfaction levels and time usage.

	A	B	C	D	E	F	G	H	I	J
1	Of the following considerations, please select up to three (3) that were most important in your decision to attend this workshop.									
2		#	%							
3	Person facilitating the workshop	15	83%							
4	Cost	1	6%							
5	Date and time of workshop	7	39%							
6	Workshop topic	17	94%							
7	Length of the workshop	2	11%							
8	Description of teaching/learning methods	6	33%							
9	Other	0	0%							
10										
11	The facilitator(s) were well organized.	#	%							
12	Strongly Disagree	1	6%							
13	Disagree	0	0%							
14	Agree	1	6%							
15	Strongly Agree	16	89%							
16	Total	18	100%							
17										
18	The facilitator made good use of the time allotted.	#	%							
19	Strongly Disagree	1	6%							

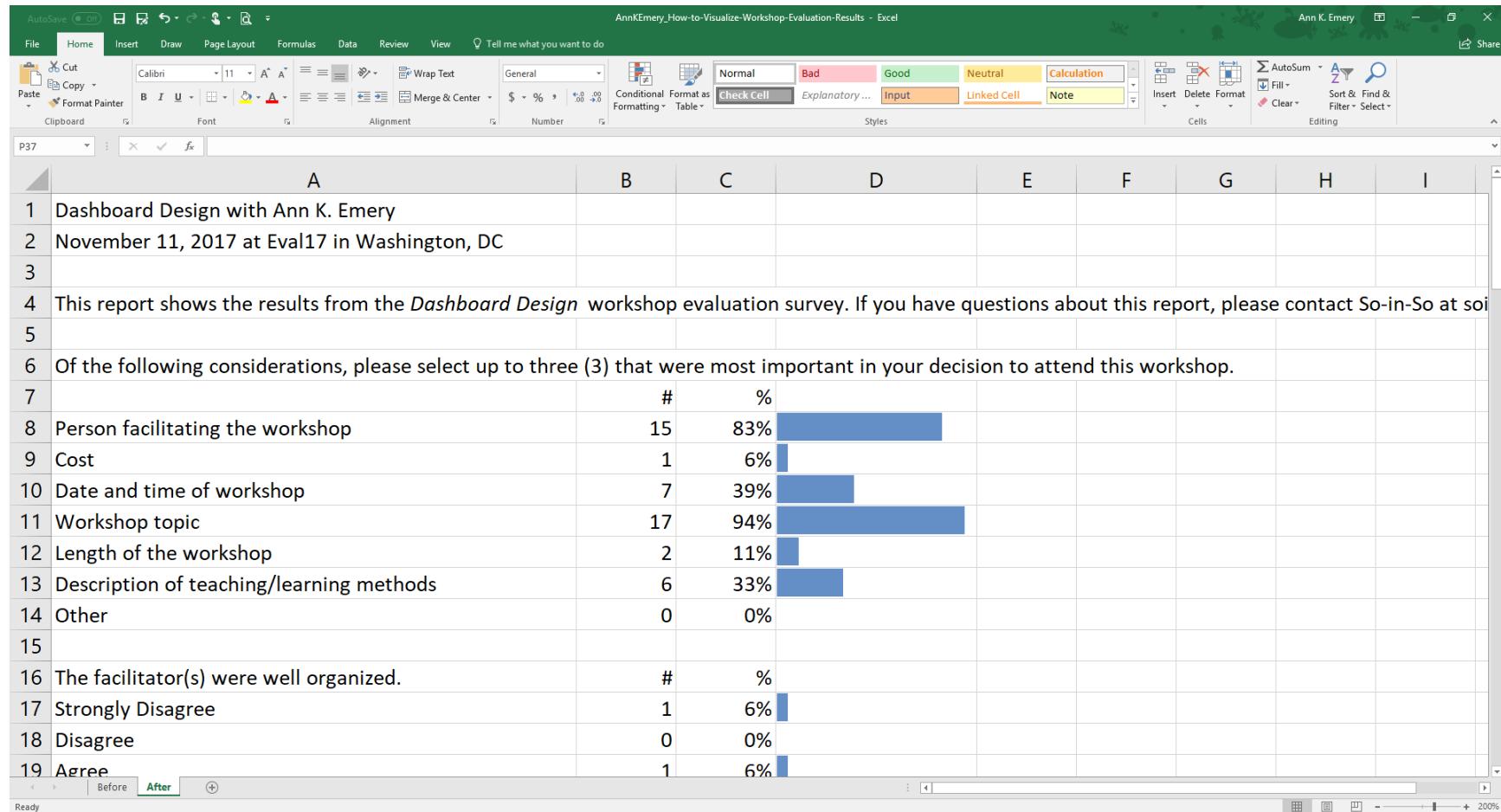
## 2 Add a Visual(s)

This example contains *data bars*, which can be made in Excel.



## 3 Write a Title and Subtitle

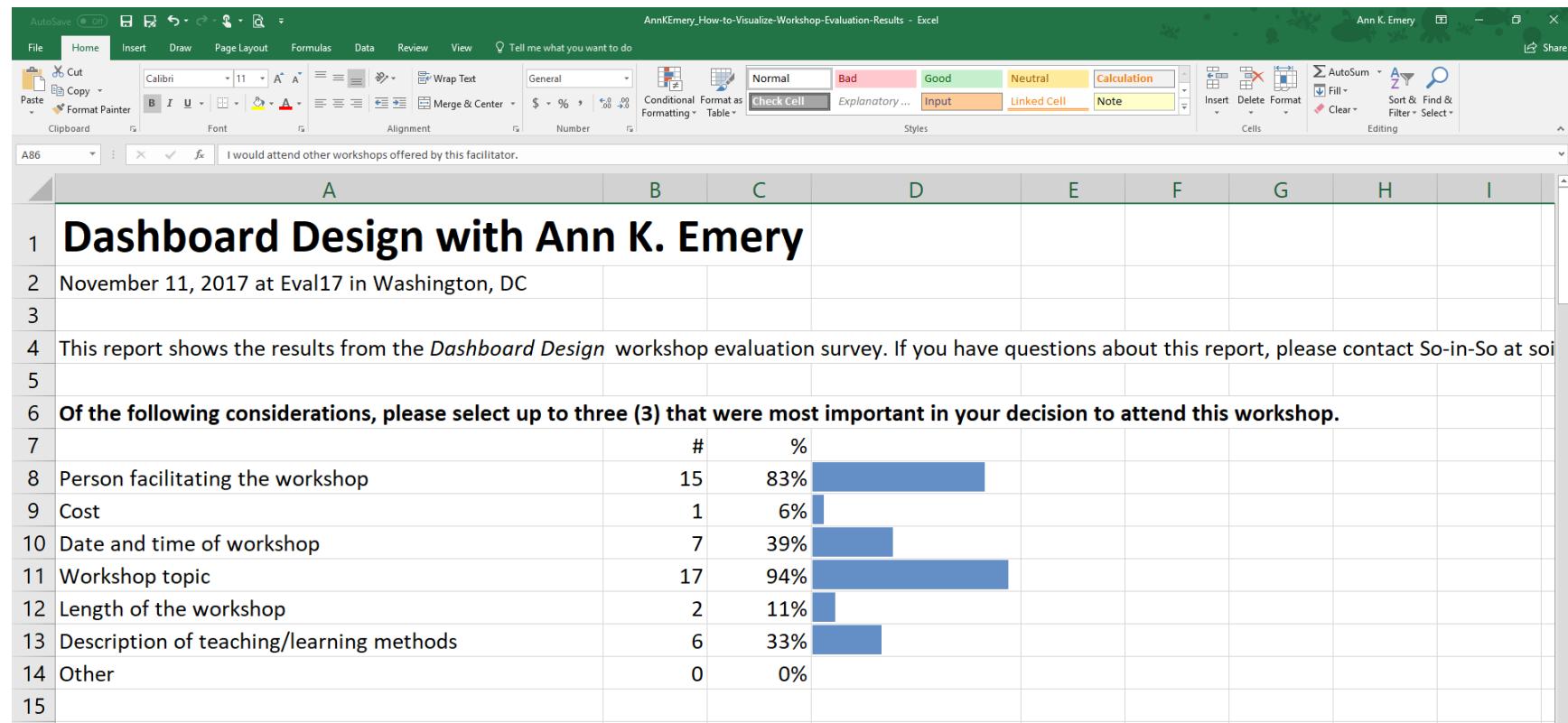
Let your viewers know what you're about to show them in your document.



## 4 Apply a Text Hierarchy

A hierarchy tells your viewer which phrases are at the top of the food chain.

The title should be large, dark, and bold so that it instantly grabs your viewers' attention and alerts them to the contents of the dashboard.



## 5 Brand with Customs Colors and Fonts

These are my previous brand colors and fonts.

The screenshot shows an Excel spreadsheet titled "AnnKEmery\_How-to-Visualize-Workshop-Evaluation-Results - Excel". The spreadsheet contains several rows of data and two bar charts. The data includes workshop details, survey results, and responses to questions about facilitation. The chart data is as follows:

	#	%
8 Person facilitating the workshop	15	83%
9 Cost	1	6%
10 Date and time of workshop	7	39%
11 Workshop topic	17	94%
12 Length of the workshop	2	11%
13 Description of teaching/learning methods	6	33%
14 Other	0	0%

	#	%
16 The facilitator(s) were well organized.	1	6%
17 Strongly Disagree	0	0%
18 Disagree	1	6%

# 6 Add Icons

Icons can make our data more memorable, so I add them whenever I can.

The screenshot shows an Excel spreadsheet titled "AnnKEmery\_How-to-Visualize-Workshop-Evaluation-Results - Excel". The data is organized into several sections:

- Section 1: Closed-Ended Survey Feedback** (Rows 9-10):
  - Row 9: A blue ribbon icon and the title "1 CLOSED-ENDED SURVEY FEEDBACK".
  - Row 10: Text stating "We asked your workshop's attendees why they decided to attend your workshop, whether they felt that you were well organized, and more."
- Section 2: Facilitator Organization** (Rows 13-14):
  - Row 13: A ribbon icon and the question "Of the following considerations, please select up to three that were most important in your decision to attend."
  - Row 14: A blue checkmark icon and the statement "The facilitator was well organized."
- Data for Facilitator Organization**:

	#	%
Person facilitating	15	83%
Cost	1	6%
Date and time	7	39%
Topic	17	94%
Length	2	11%
Description of teaching/learning	6	33%
Other	-	-

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%
- Section 3: Time Allotted** (Rows 26-33):
  - Row 26: A clock icon and the statement "The facilitator made good use of the time allotted."
  - Row 27: A bar chart showing responses for time allotted.
  - Row 28: Data for time allotted:

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%
- Section 4: Facilitator Knowledge** (Rows 26-33):
  - Row 26: A gear icon and the statement "The facilitator seemed knowledgeable about the topic."
  - Row 27: A bar chart showing responses for knowledge.
  - Row 28: Data for knowledge:

	#	%
Strongly Disagree	1	6%
Disagree	-	-
Agree	1	6%
Strongly Agree	16	89%
Total	18	100%

The ribbon at the bottom shows tabs: Before, After, After with Icons, and a plus sign icon.

# 7 Get Ready to Print or PDF

Finally, set your spreadsheet to be printer-friendly and save the document as a PDF.

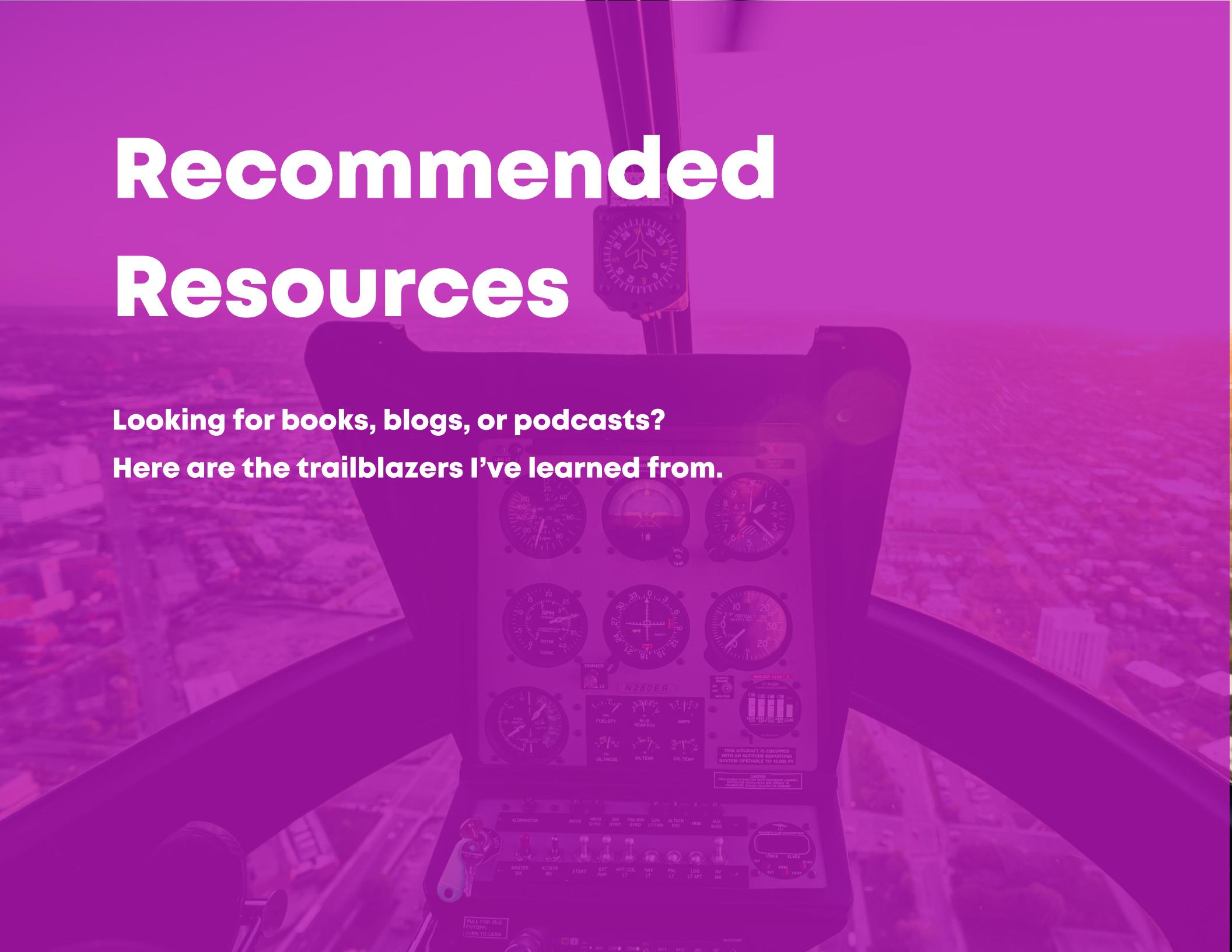
Your PDF can be printed and shared at a meeting. Or, the PDF can be attached to an email.

The screenshot shows an Excel spreadsheet titled "AnnKEmery\_How-to-Visualize-Workshop-Evaluation-Results - Excel". The spreadsheet contains a dashboard design report. The title "DASHBOARD DESIGN WITH ANN K. EMERY" is in bold purple text at the top. Below it is the subtitle "November 11, 2017 at Eval17 in Washington, DC". An introduction states: "This report shows the results from the Dashboard Design workshop evaluation survey. If you have questions about this report, please contact So-in-So at soinso@email.com." The report is divided into sections: "1 CLOSED-ENDED SURVEY FEEDBACK" (with a note about attending workshop reasons), "Of the following considerations, please select up to three that were most important in your decision to attend.", "The facilitator was well organized." (bar chart), "The facilitator made good use of the time allotted." (bar chart), "The facilitator seemed knowledgeable about the topic." (bar chart), "The facilitator's presentation style was effective in helping me learn." (bar chart), and "The teaching/training methods used were appropriate for the audience." (bar chart). A large watermark "Page 1" is overlaid across the page. The Excel ribbon is visible at the top, showing tabs like File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, and Help.

# Recommended Resources

**Looking for books, blogs, or podcasts?**

**Here are the trailblazers I've learned from.**



## Hans Rosling

[gapminder.org](http://gapminder.org) | [@gapminder](https://twitter.com/gapminder)

Hans Rosling was my earliest data visualization influence. I distinctly remember sitting at my cubicle in 2009, churning out dusty shelf reports, when a coworker leapt into my office. "Ann! I have to show you this YouTube video!" The coworker's enthusiasm for Hans' viral video was contagious, so I paused my report-writing, we crowded around my tiny monitor, and were dazzled by Hans' *200 Years, 200 Countries, 4 Minutes* storytelling phenomenon. Hans has since passed away but his children and colleagues continue his legendary work at [www.gapminder.org](http://www.gapminder.org).

## Edward Tufte

[edwardtufte.com](http://edwardtufte.com) | [@edwardtufte](https://twitter.com/edwardtufte)

Tufte's *The Visual Display of Quantitative Information* was the first data visualization book I read, back in 2010 or so. I gobbled it up during a few Metro train commutes. I consider this book a must-read. The book includes dozens of historical graphs and it's fascinating to see how much visualization has evolved over the past few decades. I love Tufte's approach because he's software-agnostic. Rather than focusing on *tools* he focuses on *techniques*, like decluttering your graphic to enhance the *data:ink ratio*.

## Cole Knaflic

[storytellingwithdata.com](http://storytellingwithdata.com) | [@storywithdata](https://twitter.com/storywithdata)

Around this same timeframe, 2010 or so, my boss saw a flier for an upcoming data storytelling workshop. A coworker and I attended together and were floored by the speaker, Cole, as she taught us to tell stories with preattentive attributes. Cole's book, *Storytelling with Data*, and her blog, [www.storytellingwithdata.com](http://www.storytellingwithdata.com), are must-reads. If you only have the time or budget to read one book, I recommend hers.

## **Andy Kirk**

[visualisingdata.org](http://visualisingdata.org) | [@visualisingdata](https://twitter.com/visualisingdata)

I jumped at the chance to attend Andy's workshop when he came to D.C. in 2010. I had been consulting to foundations and my role was to evaluate whether their grantmaking initiatives were effective. Andy's workshop opened up a brand new world. I had never heard of *data journalism* prior to this training. The concept of producing graphs for the general public was completely foreign and gave me a lot to think about. My favorite feature of Andy's blog is his *Best Of* series that showcase exemplar visualizations.

## **Stephanie Evergreen**

[stephanieevergreen.com](http://stephanieevergreen.com) | [@evergreendata](https://twitter.com/evergreendata)

I met Stephanie around 2012 through a professional society. Over the years, Stephanie and I have teamed up on conference presentations, webinars, and workshops. We also published the *Data Visualization Checklist* together in 2014 and released an updated version in 2016.

## **Jonathan Schwabish**

[policyviz.com](http://policyviz.com) | [@policyviz](https://twitter.com/policyviz)

I met Jon in Andy Kirk's workshop. Kind of. We were both in the training but didn't realize it until a couple years later, when we'd been talking on Twitter, discovered that our offices were located within a mile of each other, and met for lunch. Jon is currently an economist-plus-data-visualization-consultant with the Urban Institute and runs the PolicyViz, LLC consultancy in his "spare" time. Jon's book, *Better Presentations*, is a must-read because he applies data visualization principles to slideshows (among other dissemination formats).

## **Alberto Cairo**

[thefunctionalart.com](http://thefunctionalart.com) | [@albertocairo](https://twitter.com/albertocairo)

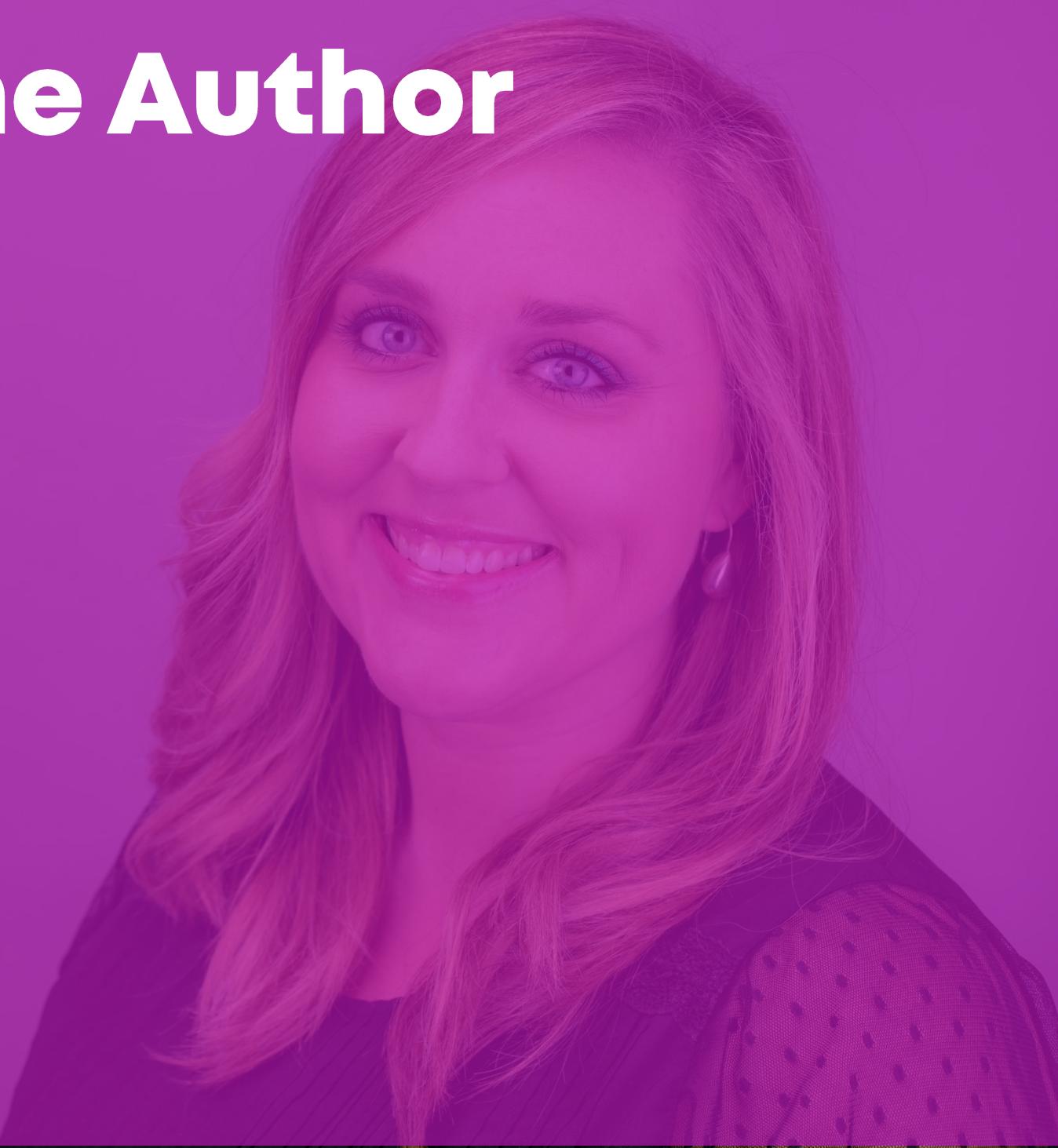
I discovered Alberto's work in 2013 when he led a MOOC (massive open online course) that attracted thousands of attendees. Like Andy, Alberto comes from a journalism background. He is also a professor (and doctoral student, consultant, speaker, and author) and his devotion to teaching the next generation of visualizers comes through in everything he writes. I finally met Alberto in-person in 2017 when he gave me personalized lessons about designing infographics with Adobe software over dinner. I still haven't figured out whether he sleeps.

## **Dave Bruns**

[exceljet.net](http://exceljet.net) | [@exceljet](https://twitter.com/exceljet)

I discovered Dave's site eons ago when I ran into problems with my spreadsheet. I officially "met" Dave through Skype around 2014. I had just quit my salaried job and was blissfully unaware of all the blood, sweat, and tears that come with running a business. Dave reached out and offered to guide me through the transition into self-employment. We finally met face-to-face in 2016 while I was in Salt Lake City for a client project. Years later, Dave's site is *still* the first one I visit when I need help with a formula. In addition to hundreds of shorter videos, Dave offers in-depth courses on everything from basic Excel formulas to conditional formatting.

# Meet the Author



# Ann K. Emery

Ann K. Emery is an internationally-acclaimed speaker who equips organizations to get their data out of dusty spreadsheets and into real-world conversations.

Each year, she delivers over 100 keynotes, workshops, and webinars with the aim of equipping organizations to visualize data more effectively.

She has been invited to speak in more than 30 states and 10 countries; more than 3,700 people have enrolled in her online training academy; and she has consulted to more than 150 organizations, including the United Nations, Centers for Disease Control, and Harvard University.

She earned a Bachelor's degree from the University of Virginia and a Master's degree from George Mason University.

Ann resides in Florida along with her husband and two daughters.

**depict  
data  
studio**

Ann K. Emery of Depict Data Studio

Website: [DepictDataStudio.com](http://DepictDataStudio.com)

LinkedIn: [LinkedIn.com/in/AnnKEmery](https://LinkedIn.com/in/AnnKEmery)

Twitter: [Twitter.com/AnnKEmery](https://Twitter.com/AnnKEmery)