How to develop a designer's instinct: A study of dashboards

By Amy Alberts, User Research Manager

Introduction

Dashboards are one of the most common communication channels our customers use to share data insights. To deliver the key information most effectively, you want to make sure your audience is drawn to the right areas of your dashboard. This is especially true when your audience is first introduced to a dashboard or in cases where you don't have an opportunity to train your audience on using the dashboard. Having a better understanding of how humans react to common design elements on a dashboard will help you build more visually compelling and efficient dashboards.

Tableau ran an eye tracking study at the Tableau Conference that sought to understand how visual attention is drawn to visual data elements on dashboards. This was the first of a series of studies intended to explore how people "visually consume" dashboards. Given that it was the first study of its kind— to focus solely on dashboards and visual attention patterns—we approached this as an exploratory, qualitative study. Our goal was to observe where people's eyes were drawn upon naïve viewing of a dashboard and to use these observations to look for common patterns and phenomena that could inform future research.

Study design

We posed a number of hypotheses about how people would consume different dashboards, as outlined below:

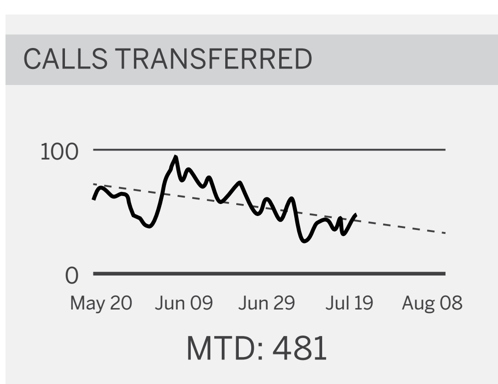
Assumption #1: People would be compelled to look at certain design elements on the screen

High contrast elements: The human visual system is built to react to high contrast. We rely heavily on this difference detection for a number of visual tasks, such as reading traffic signals or checking the ripeness of a banana.

Example of a Big Number

Our definition of high contrast was relatively unscientific. Elements that visually stood out on a dashboard were labeled high contrast. An element with a visually distinct color (hue and luminance) was tagged as high contrast.

"Volatile," jagged lines: Volatile lines infer trajectory and are reminiscent of movement. Since our eyes are particularly good at spotting movement, it seemed like a valid expectation to assume viewers would be drawn to these shapes on a dashboard. Also, jagged lines cut across the visual plane, creating a high contrast element.

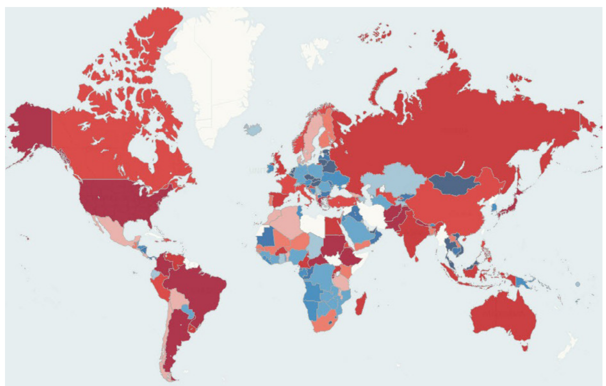


Example of a jagged line

Icons & Logos: There was a chance that icons, especially highly recognizable ones, would draw visual attention. Pictures (versus text) tend to be visually appealing and should catch the eye.

Example of icons

Maps: Maps are interesting, familiar, and tend to be high contrast (they include many lines and are visually distinct from other things). Plus, they're packed with dense data. Our suspicion was that they would grab attention.



Example of a map

Titles: Titles ground the dashboard and communicate its intent to the audience. Similar to reading behavior, we expect that people might have a habitual reaction to titles, and will be almost compelled to look at them. Or, they will ignore them in favor of another interesting visual on the screen.

Net Promoter Score Analysis

Sales Performance

Example of a title

Hypothesis #1: There is an order to how people view common dashboard design elements

We are curious to see if a hierarchy of visual concentration will be observed across these elements. For example, will a map element get more attention more quickly than the dashboard line element? We also want to see if any of these dashboard elements "break" conventional viewing patterns (see Assumption #2).

Assumption #2: People will display a propensity to “read” a dashboard like a text-based webpage

Specifically:

- Eye movements will be concentrated on the upper-left corner of the dashboard.
- Fewer eye movements will be detected in the bottom (specifically bottom-right) part of the screen.

The propensity for humans to consume web pages in this upper-left → bottom-right pattern is commonly referred to as the “F-pattern.” It has been observed in many studies of digital content, so it bears application to this study as well. However, given the graphical nature of dashboards (primarily picture-dense instead of word-dense), it’s unclear if we’ll see the same F-pattern phenomenon in this context.

Examples of the F-Pattern

Assuming we do observe an F-Pattern, we will see if the pattern is compromised by the placement of certain design elements in a dashboard. For instance, we have dashboards with high-contrast elements that are placed on the bottom of a dashboard. Will we see visual concentration on the bottom of the dashboard because of this element? Overall, we are curious to see if design elements “break” the F-Pattern, or if other factors affect participant’s viewing patterns.

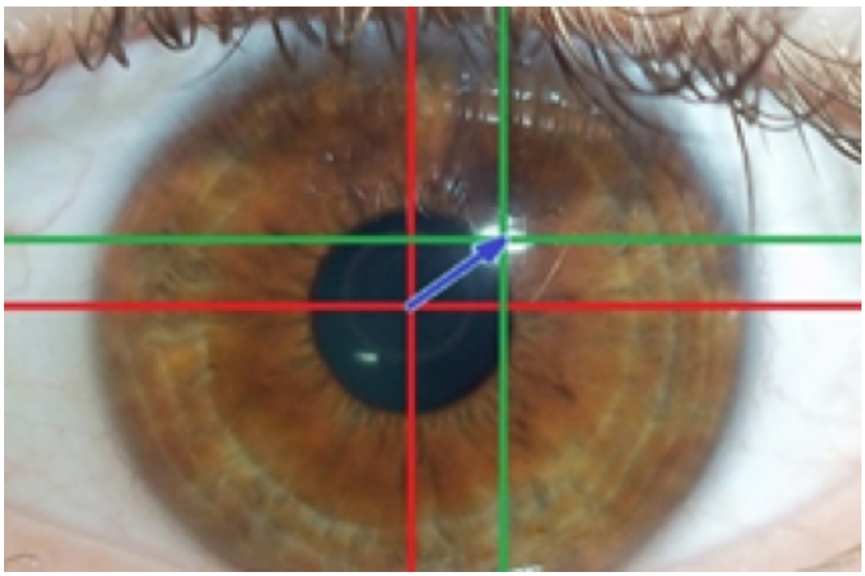
Hypothesis #2: The F-Pattern will be compromised by the presence of the aforementioned dashboard design elements.

Understanding eye tracking

Eye tracking has two components: (1) eye trackers, which are hardware and/or software collecting eye movement data, and (2) eye tracking, which is a research methodology.

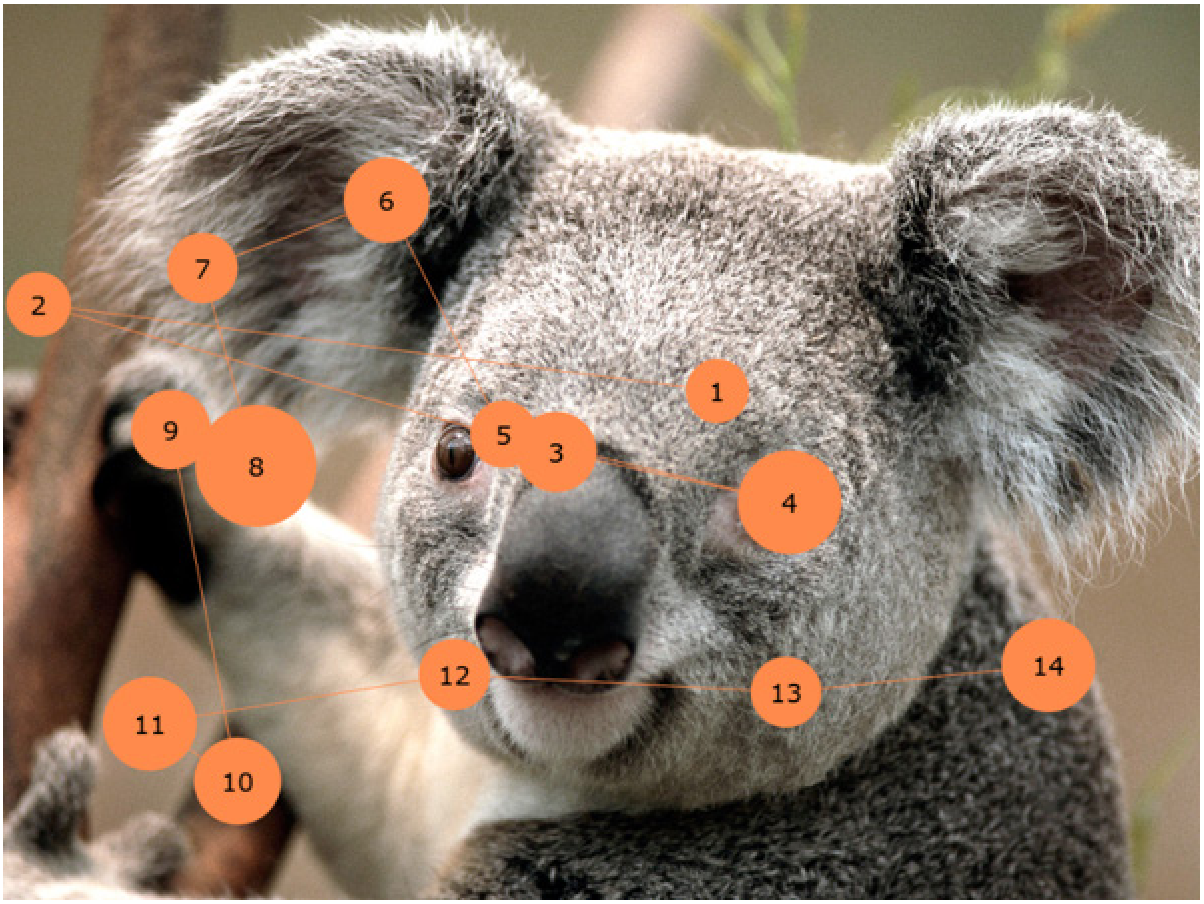
Eye Trackers

There are many types of eye trackers. The one we used for this study was the Tobii X2-30. This eye tracker uses lenses and cameras to track where someone is looking on a computer screen. The tracker beams infrared light into the participant's eyes. This light is reflected off the front (cornea) and back (retina) of the eye.



Reflections off the cornea and pupil. Learn more about eye trackers with **Eye Tracking: The Ultimate Pocket Guide.**

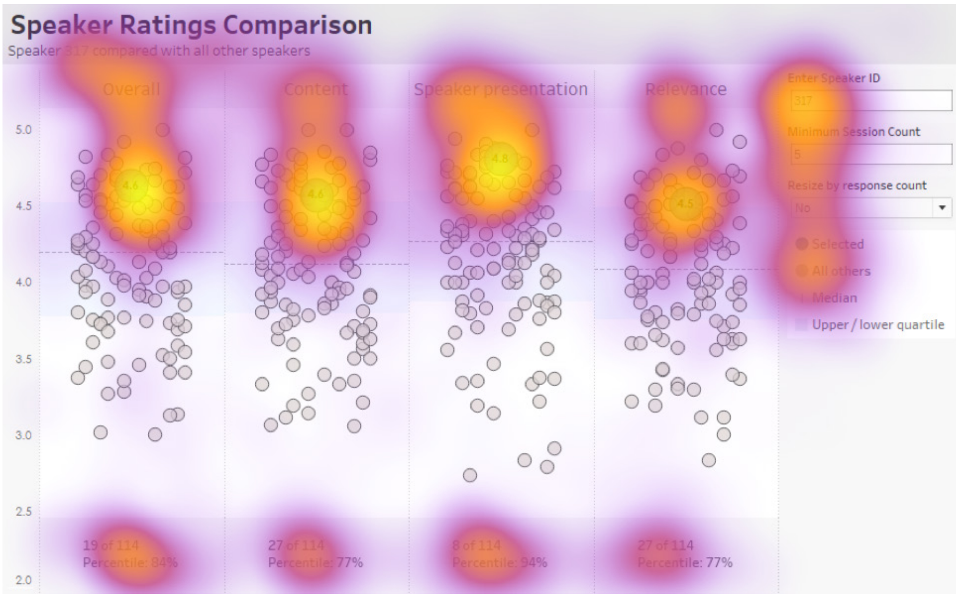
The tracker can detect this reflection. Based on the angles of the reflection—and the awareness of your head position and the computer screen— the tracker can determine where the participant is placing visual attention. The software that runs the tracker (in this case Tobii Studio) samples the eye position at 30 htz (30 times a second). The data comes in as X-Y coordinate data and is visually overlaid on top of the image the participant is viewing.



Example of a gaze plot overlay. Check out this **10-second gaze plot video**.

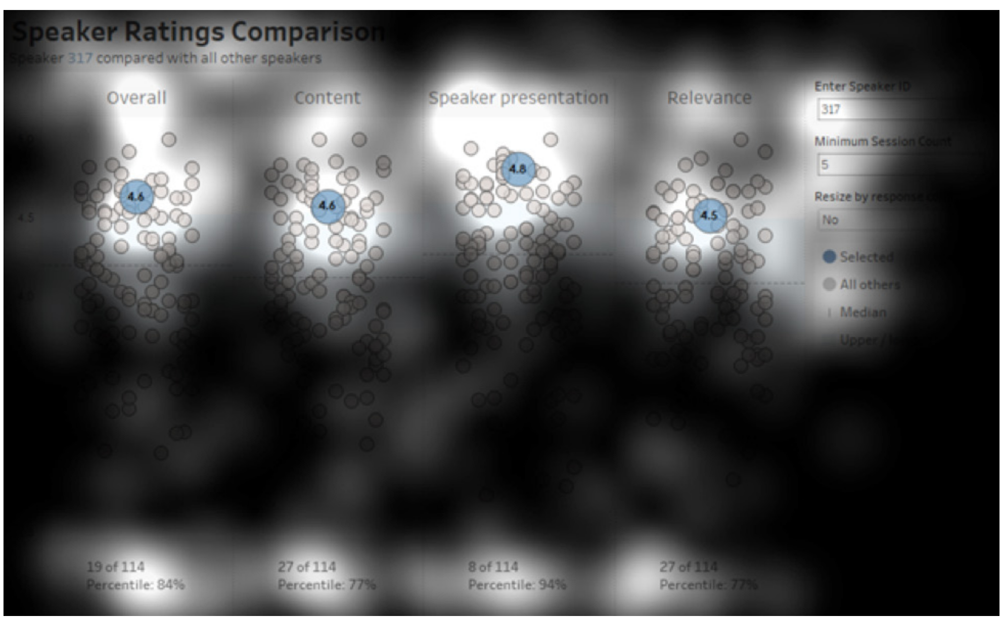
Eye tracking data can be viewed on a per-session level or can be analyzed in aggregate. Per-session data is commonly shown as a video of eye movements tracking over images.

Generally speaking, the analysis conducted for this study was at the aggregate level. Eye tracking data in aggregate is often visualized as a heatmap. The heatmap visualization uses color (yellow=hot, purple =cooler, blank=clear in the following example) to illustrate areas that have the most visual attention across all participants in the study.



Much more attention was paid to the top of this dashboard and very little in the middle. Hence, the top areas are very "hot" and the middle is very "cold."

We also use the Gaze Opacity Map (GOM) to visualize our data. Essentially, GOM is an inverse of the heatmap. Like a dirty window getting wiped clean, the GOM illustrates where eye movements concentrate by increasing the opacity of the area in attention.



Most of the visual attention was at the top of this dashboard which explains why it has the lowest level of opacity. In contrast, the fully opaque areas (in black) illustrate little to no visual attention.

Eye tracking

Eye tracking is a research methodology where knowledge about where the eyes look is central to the research question. Eye tracking research is quite varied, ranging from modern polygraphy to medical diagnostics. Another common use of eye tracking is in user experience (UX) research. Eye trackers are used to help determine where people are looking when performing tasks with a software application. Eye tracking can be incredibly exciting because it feels like you're watching someone think.

However, you must be careful when looking at eye tracking data in isolation of other data. Although eye tracking data is correlated with a person seeing something, the correlation is not perfect. How many times have you looked at something and not seen it? e.g. "Where are my keys (that are right in front of my face)?" How many times have you noticed something out of the corner of your eye, but not actually shifted your gaze to that object? e.g. "I see my phone just lit up with a call, but I'm going to ignore it for now."

The point is, you can look at something and not see it, and you can look at something indirectly and see it. So, although eye tracking by itself tells a fascinating story of the human experience, it must be triangulated with other data, like what a person says while observing something or the outcome of their associated tasks. Therefore, in this study, we talk about "visual attention," not the act of seeing, remembering, or knowing something.

Methodology

The study was conducted with a Tobii X2-30 Remote Eye Tracker attached to a 24-inch monitor. The study was designed and administered using Tobii Studio. Data were analyzed in Tobii Studio and Tableau. Qualitative analyses were conducted using Tobii Studio data visualizations (heat map, gaze opacity map, gaze plots). Quantitative analyses were conducted with Tobii Studio and Tableau. Areas of Interest (AOIs) were built inside Tobii Studio. Eye tracking metrics like Time to First Fixation were computed in Tobii Studio and exported into Tableau for further analysis.

Participants were sourced from two populations: employees of Tableau and people attending Tableau Conference 2016. Tableau employees were recruited via email requests at the Kirkland and Seattle office locations. Participants were recruited from Tableau Conference 2016 when they visited the Tableau Labs exhibit. All participants were informed of the risks of participating in an eye tracking study before being tested. Participants at Tableau performed the study in a quiet office setting. Participants at Tableau Conference sat in a corner of the Tableau Labs room and wore noise-cancelling headphones to minimize disruption and distraction.

One-hundred and thirteen (n=113) people participated in this study. Participants saw the same introductory text across all study sessions and they were told they would be only viewing (not interacting) with dashboards. Participants viewed the same 10 dashboards for 10 seconds, each dashboard preceded by a brief description of said dashboard. There were four presentation sequence conditions as the software did not support true randomization; individual participants were randomly assigned to one of these conditions. Sessions lasted about five minutes.

We selected 10 dashboards from the book *The Big Book of Dashboards* as stimuli for this study (which occurred before the book was published, so there was no risk in previous exposure). They were primarily chosen for how well they represented the business dashboards our customers produce. They also had a reasonable number of design elements that were of interest to us (e.g. high contrast elements, lines, etc.). No dashboard was altered from its original state for this study.

Analysis

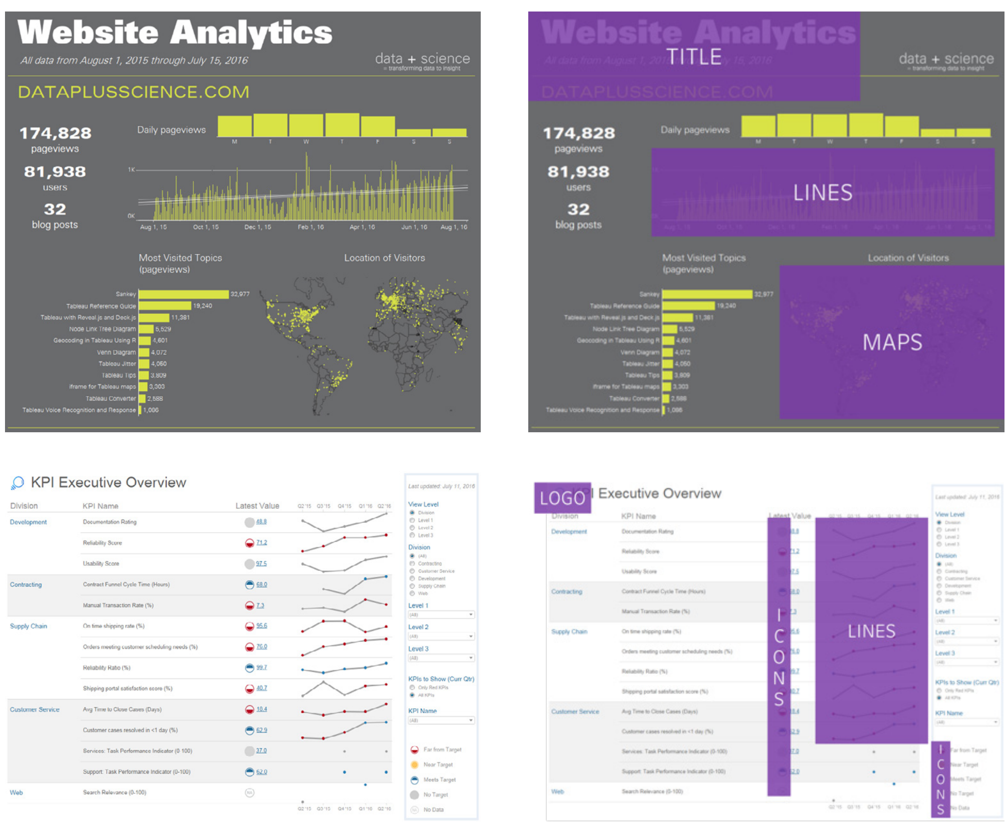
Several analyses were performed to address our research questions. We used the heatmap and gaze opacity map visualizations to explore overall trends of visual attention across dashboards. These trends were then further investigated via eye tracking metrics that we analyzed in Tableau.

Much of the analyses relied on looking at the distribution of eye movements across all dashboards. Areas of Interest (AOIs) were drawn for each dashboard to allow for aggregation and comparison across dashboards.

There are two categories of dashboard AOIs:

1. Dashboard Elements

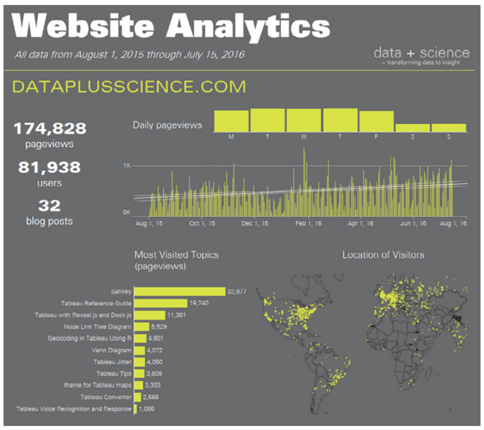
As stated above, the design elements we expected to get visual attention, e.g. high contrast elements, jagged lines, icons & logos, maps, and titles.

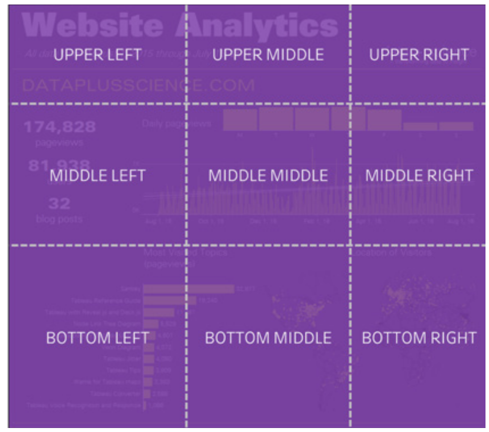


Example of AOI's built on top of a dashboard (purple rectangles). Eye tracking metrics such as Time to First Fixation (TTFF) and Fixation Duration (FD) can be computed for any AOI.

2. The grid

All dashboards were segmented into grids to allow for an analysis of the propensity of viewers to consume the content in an F-Pattern. The grid was custom to the dashboard design as evidenced below.





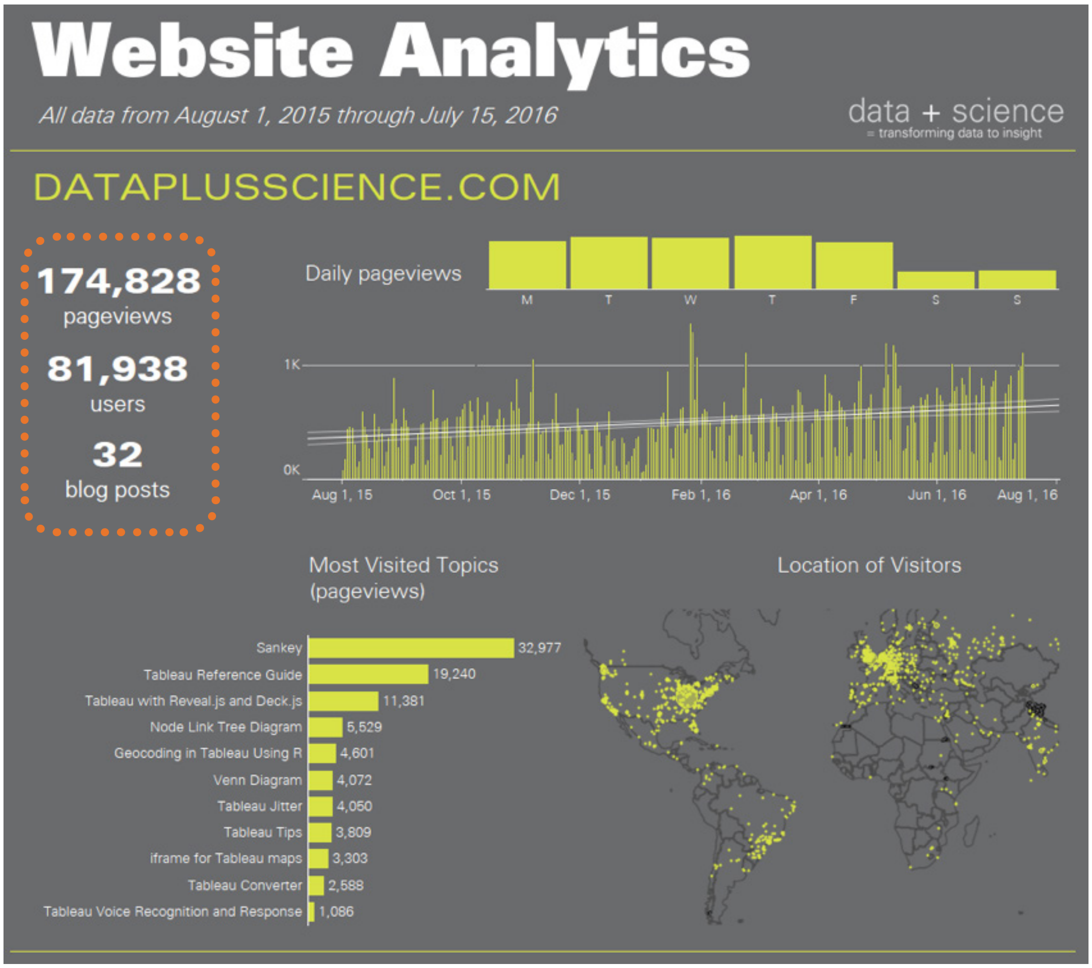
Results

Before we get into the details of the results, it's important to note that some of these conclusions are not surprising. People who have studied design would be able to predict that high contrast elements and numbers in large fonts have a big effect on where people look. However, **what's special about what we found is there seems to be a hierarchy to the things participants were inclined to look at on dashboards.** And this hierarchy might help our customers in their dashboard design process.

To illustrate this point, we looked at the eye tracking metric called "Time to First Fixation" (TTFF). This metric measures the amount of time it takes for the viewer to look at (fixate) on a specific area of the dashboard. These dashboard areas are commonly referred to as an Area of Interest (AOI). TTFF can be interpreted as a metric of visual attraction—where the more attractive an element is, the faster someone will fixate on it. TTFF is often coupled with Fixation Duration (FD). FD measures the total amount of time spent inside an AOI. FD can be interpreted as a metric of visual interest—the more interesting an element is, the longer someone will fixate on it. Taken together, TTFF and FD can explain which elements were attractive on a dashboard and which elements attracted the most visual attention over the viewing period.

BANs

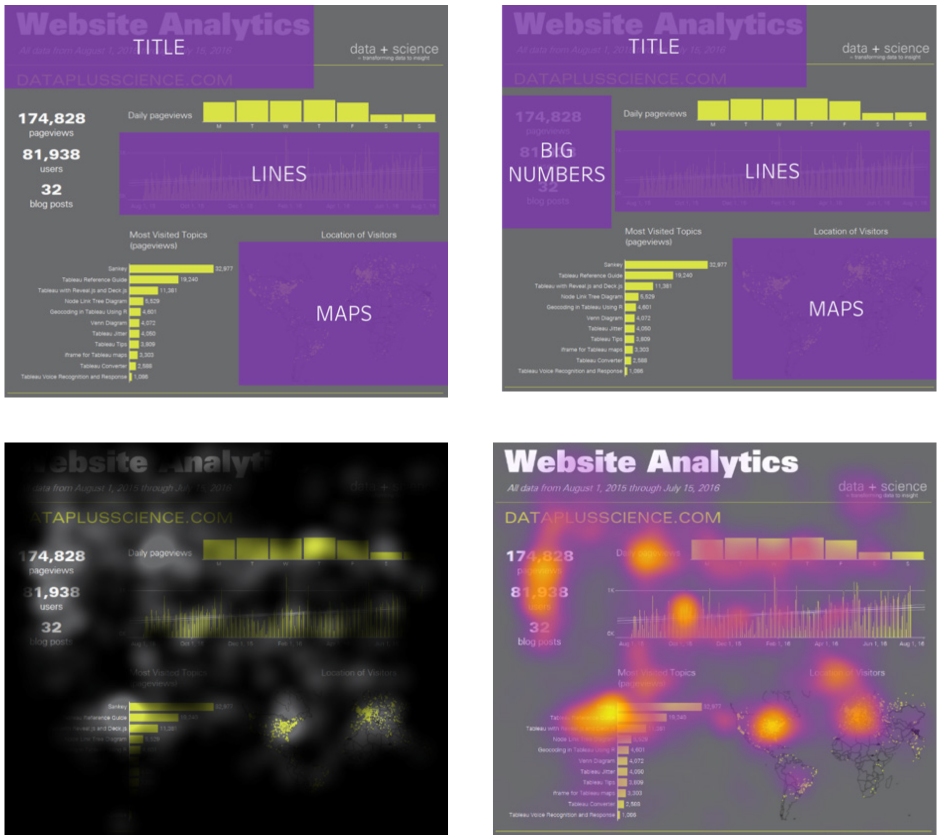
One of the most striking findings from this study was the attention BIG A** NUMBERS (BANs) received. BANs (example below in the orange box) were defined as a unique design element after we conducted the study. We found that participants in the study spent time looking at numbers on a dashboard that were in large font and visually distinct from other numbers. Numbers with these characteristics were then assigned their own element type.



Example of BANs on a dashboard

Reasons for the attention BANs received are likely varied. First, they are like the neon signs of dashboards. BANs are succinct and clear indicators of important information (and so, of course people look at them in the context of naïve viewing). Second, they often share design characteristics of a high contrast element. BANs can create whitespace around themselves which, de facto makes them high contrast.

Due to the strong role BANs played in the visual patterns observed in this study, for the remainder of this paper we will include them in our analyses. These elements are defined relative to each dashboard. So, a "big" number is the largest number size for a dashboard.

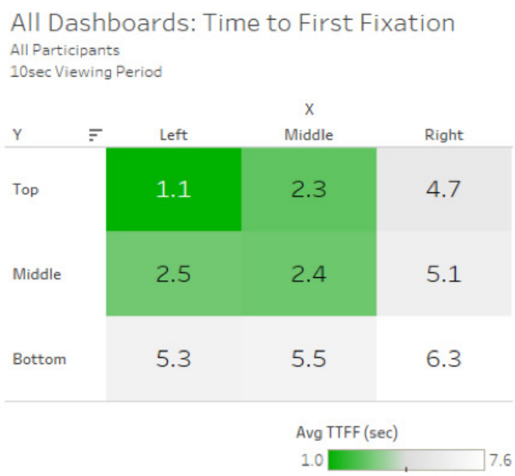


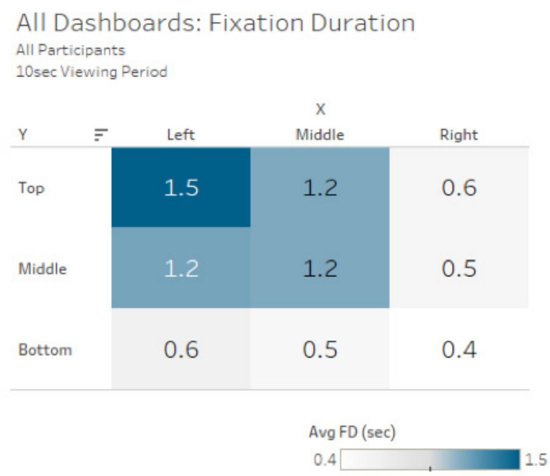
The GOM and Heatmap for this dashboard illustrate the amount of attention the BANs on the upper left received.

Finally, once our data was recoded to include Big Numbers, we no longer had a need for the "High Contrast" dashboard element. So going forward, that element will not show up in our analysis.

Do dashboards elicit an F-pattern?

Data from the AOI analyses suggest the Left and the Top areas are the most visually attractive areas of dashboards, as evidenced by the Time to First Fixation (TTFF) and Fixation Duration (FD) metrics.





The average of all dashboard's TTFF and FD, illustrating a strong propensity to consume dashboards in an F-Pattern. Explore the **time to first fixation** and the fixation duration on **Tableau Public**.

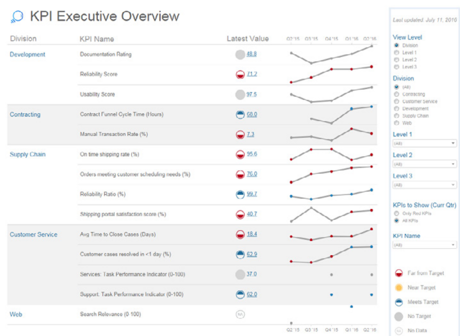
TTFF data across all participants and dashboards suggests a strong propensity for initial fixations to start in the upper left-hand corner and distribute to the right and toward the bottom with similar probability. FD data illustrates a propensity to also dwell in these areas. These data support the hypothesis that participants tended to follow an F-pattern while viewing the dashboards.

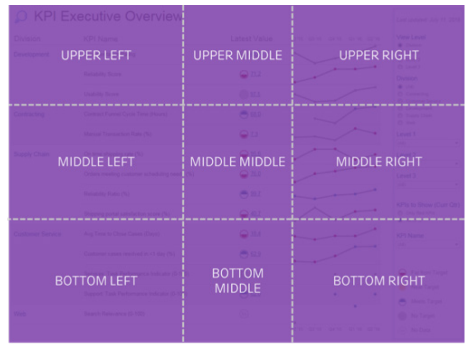
Can we "break" the F-Pattern?

Returning to our research question: can any dashboard element break the F-pattern? To answer this question, we looked at the TTFF and FD grids for each dashboard and compared each to the average. Some interesting things popped out.

First, some dashboards were extremely stereotypical, where their grid was very close to the average.

For example:





All Dashboards: Time to First Fixation
All Participants
10sec Viewing Period

Y \ X	Left	Middle	Right
Top	1.1	2.3	4.7
Middle	2.5	2.4	5.1
Bottom	5.3	5.5	6.3

KPI Overview: Time to First Fixation
All Participants
10sec Viewing Period

Y \ X	Left	Middle	Right
Top	1.1	1.8	5.2
Middle	2.5	2.7	5.3
Bottom	5.8	6.0	5.6

Avg TTFF (sec) 1.1 – 6.0

All Dashboards: Fixation Duration
All Participants
10sec Viewing Period

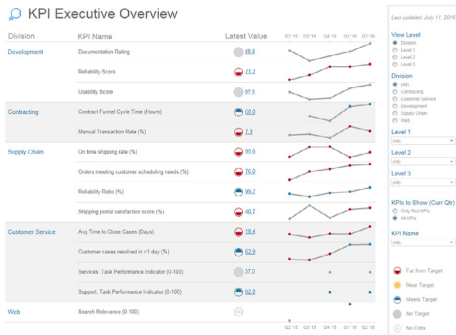
Y \ X	Left	Middle	Right
Top	1.5	1.2	0.6
Middle	1.2	1.2	0.5
Bottom	0.6	0.5	0.4

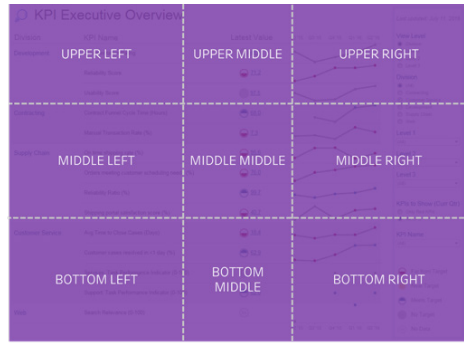
KPI Overview: Fixation Duration
All Participants
10sec Viewing Period

Y \ X	Left	Middle	Right
Top	1.6	1.5	0.4
Middle	1.1	1.4	0.2
Bottom	0.4	0.5	0.5

Avg FD (sec) 0.4 – 1.5

While some dashboard grids looked very different from the average:





All Dashboards: Time to First Fixation
All Participants
10sec Viewing Period

Y	Left	Middle	Right
Top	1.1	2.3	4.7
Middle	2.5	2.4	5.1
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KPI Overview: Time to First Fixation
All Participants
10sec Viewing Period

Y	Left	Middle	Right
Top	1.1	1.8	5.2
Middle	2.5	2.7	5.3
Bottom	5.8	6.0	5.6

Avg TTFF (sec) 1.1 – 6.0

All Dashboards: Fixation Duration
All Participants
10sec Viewing Period

Y	Left	Middle	Right
Top	1.5	1.2	0.6
Middle	1.2	1.2	0.5
Bottom	0.6	0.5	0.4

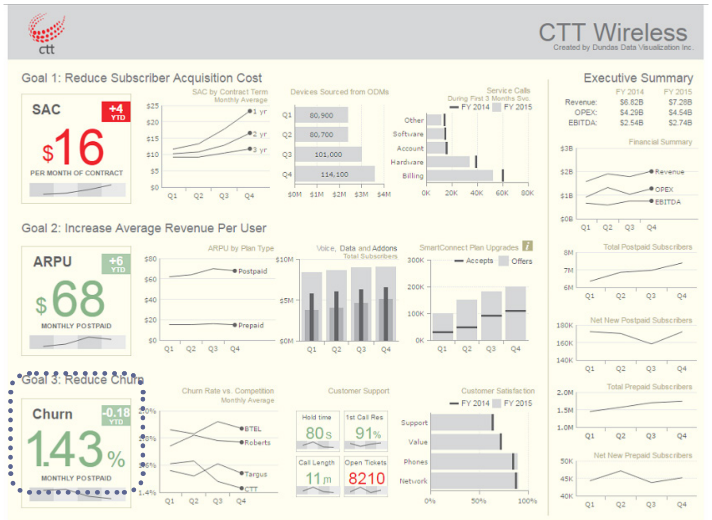
KPI Overview: Fixation Duration
All Participants
10sec Viewing Period

Y	Left	Middle	Right
Top	1.6	1.5	0.4
Middle	1.1	1.4	0.2
Bottom	0.4	0.5	0.5

Avg FD (sec) 0.4 – 1.5

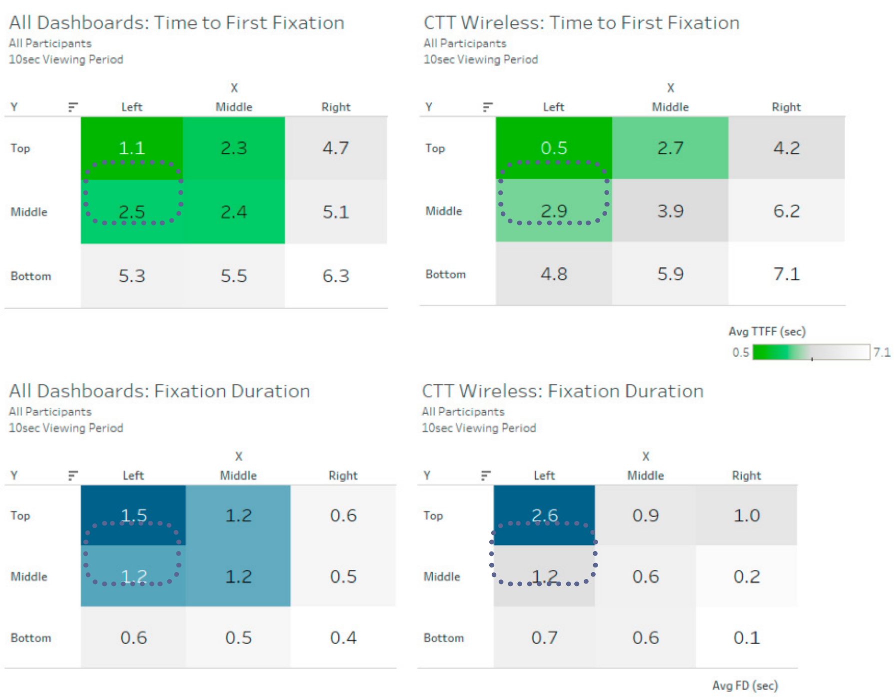
The best explanation for the variability we observed across dashboards was the dashboard design itself, namely the arrangement of elements. We address this later in the whitepaper (see Form is Part of Function section). However, the question remains: do any dashboard elements draw attention no matter their placement on a dashboard? Can a dashboard element affect the F-pattern all by itself?

Our data suggests BANs might be able to break the F-pattern. Take for instance the CTT Wireless Dashboard:



Example of CTT Wireless dashboard with a BAN at the bottom-left.

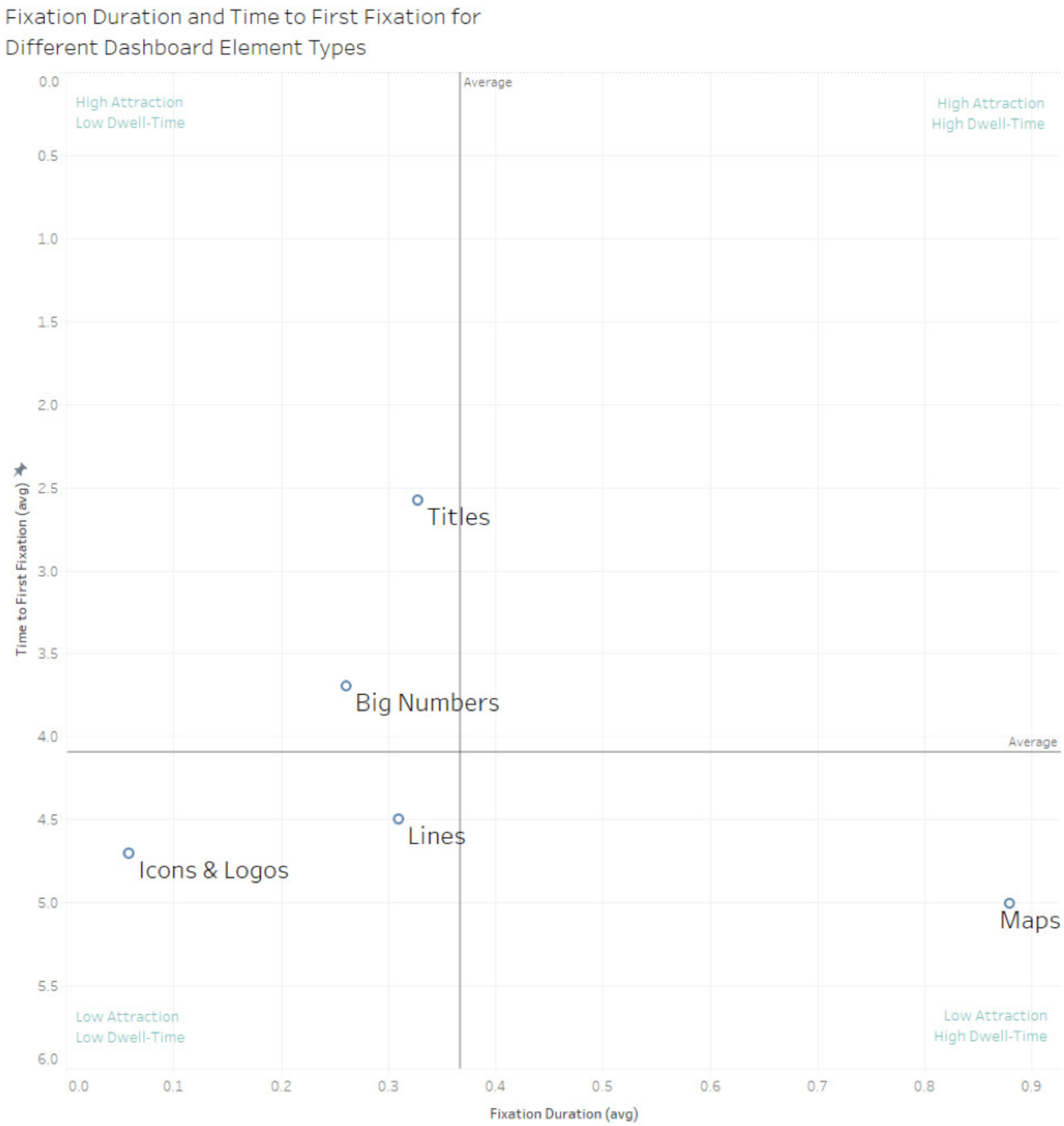
The TTFF grid for this dashboard compared to the grid for all dashboards shows a distinct difference in speed of attention to the BAN located on the bottom-left. However, the FD on the bottom BAN was no different than what your typical F-pattern would predict:



Given the relatively small number of dashboards we were testing it's difficult to conclude if other dashboard elements could also break the F-pattern. It's also up for debate how strong the attentional pull is for BANs.

The Dashboard Element Matrix

Taken together, the TTFF and FD metrics suggest some interesting theories about how people consume dashboards. Outside of the F-Pattern, our data points to a few critical design elements that seem to have an effect on where people look on a novel dashboard:



The Dashboard Element Matrix, mapping dashboard design elements to attraction (TTFF) and attention (FD) metrics.

Titles

Titles have the fastest TTFF (2.7 sec), making them the most attractive elements (likely in part because they are commonly in the top left section of the dashboard). They have low to moderate fixation duration. This data cannot address how well participants attended to titles, but it's at least reassuring to see that titles (which tend to play an important role in dashboards) do appear to get attention. It also cannot address novel title design treatments (e.g. titles at the bottom or down the side of a dashboard) and how that might affect attention.

Big Numbers

The second fastest dashboard element was the Big Numbers. The dwell-time (Fixation Duration) was relatively short, which should not be taken to mean participants got nothing out of the element. Ideally a design element like a Big Number will require little dwell-time to understand. So, the short FD should not be considered a negative outcome for this element. Also, generally speaking, the Big Numbers were well distributed around the dashboard grid, suggesting this result is generalizable to most dashboard designs.

Maps

Although slow to attract attention (comparatively), maps had on average had the longest fixation duration of any element (almost a second). The risk with this conclusion is we only had two instances of maps in the dashboards we studied. The effect was the same for each dashboard, but it is important to note the low occurrence in the study. Future research may want to manipulate the size, position, and contrast of maps to explore their attraction in different contexts.

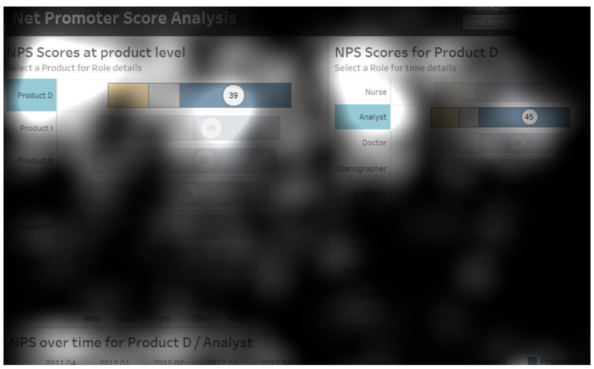
Icons & Logos, Lines

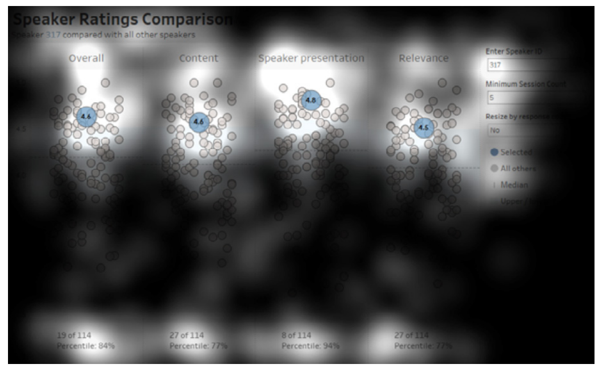
Each of these elements had relatively long TTFF and short FD. It's unclear from this data if this is a bad thing (e.g. a glance at a familiar logo may be a successful design outcome).

Other observations

Repetition

Another interesting (but logical) phenomenon was the effect of repetition. It's common in dashboard design to have repetitive visualizations for different variables. For example, using bar charts for different KPIs for easy comparison. We found that when there is high repetition of any like element—repeated line graphs or repeated numbers—the attention waned from left to right and top to bottom. More attention was given to the top- or left-most item, and then decreased as the person scanned the repetitive set.



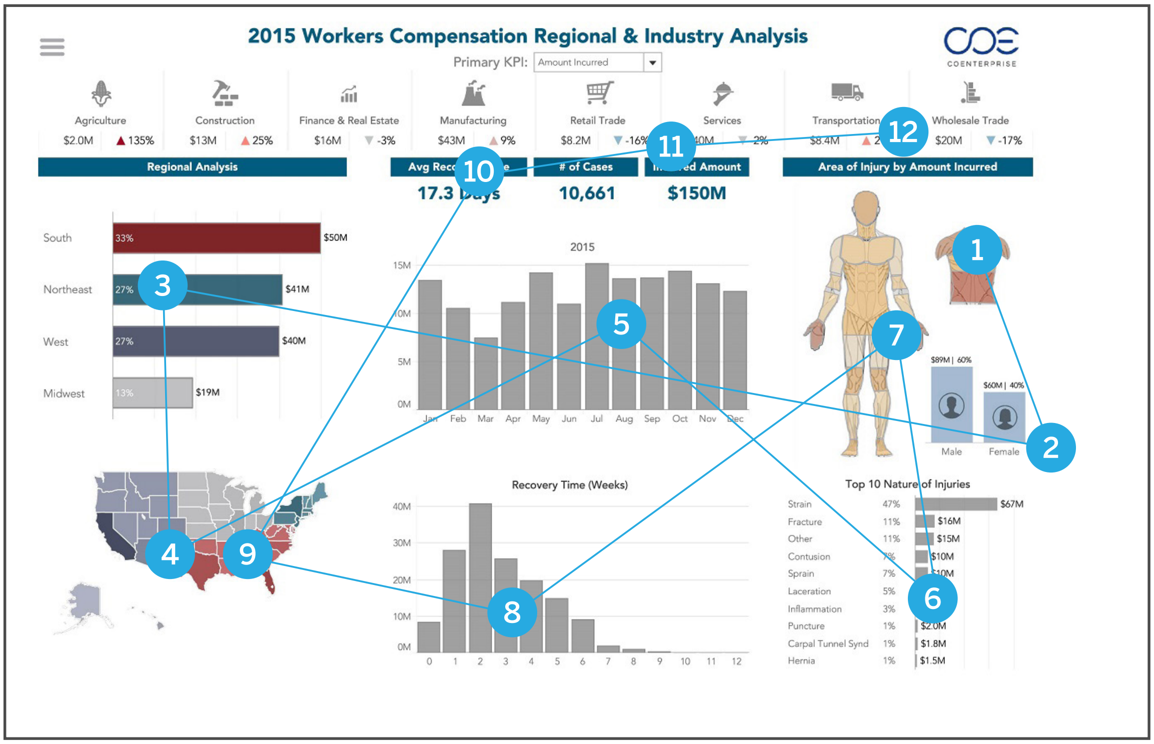


In both dashboards, there is a similar pattern repeated in each visualization.

Note: This result may be a good reminder to designers that the sequence of presentation matters to viewers.

Guide by contrast

Areas of high visual contrast appeared to act as guideposts through a dashboard. During the early viewing sequence, the eyes tended to jump from one high contrast element to the next.



Gazeplot of the Workers Compensation dashboard from one participant. Data illustrates how the participant's eye movements jump from one design element to another.

You can use high contrast elements to move visual attention around your dashboard. That being said, high contrast must be used judiciously. If used sparingly, high contrast elements will construct a logical path. Used abundantly, high contrast elements could create a messy and visually overwhelming dashboard.

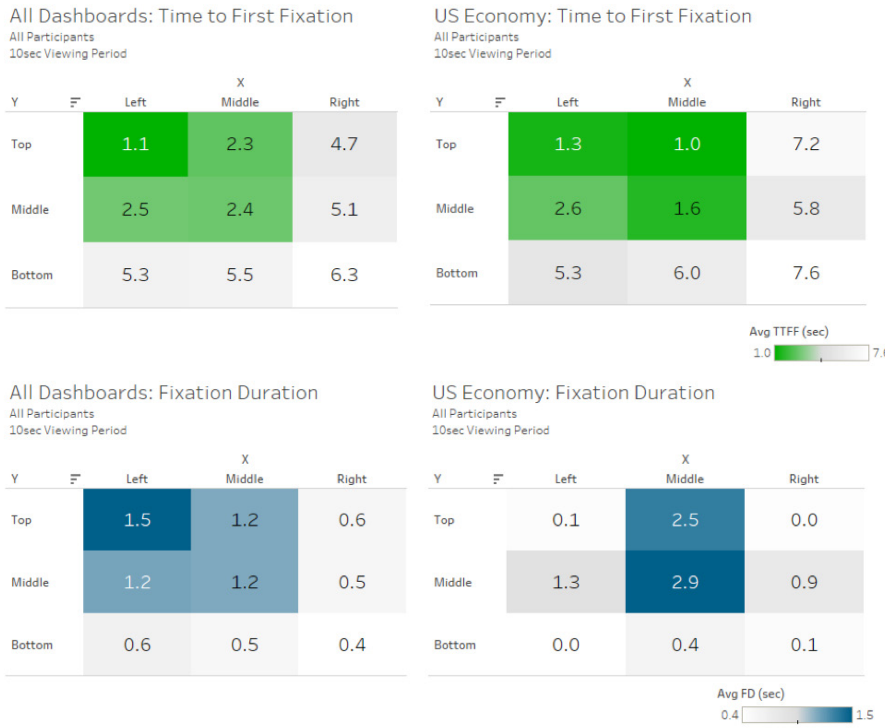
Form is part of function

All dashboards have a form (triangular, grid, columnar), and the eyes appeared to follow this form. This result was both surprising and not surprising at all. As humans, we're information-seekers. When we look at something for the first time, we want information from it. So, we look at the information, not at areas with no information. This gives the author a great amount of design freedom.

Take this dashboard from the Financial Times. It's triangular in its design, with a bit of content at the top, and then denser, more graphical content distributed across the bottom. The Heatmap for this dashboard shows participants' gazes following this design format.

Heatmap of the Financial Times dashboard, illustrating the triangular design of the dashboard.

The distribution of the eye tracking metrics for this dashboard is also a testament to the role form has in driving eye movements in a dashboard. The TTFF data shows very fast fixations to the Top-Middle area, and although the Top-Left got the next fixation, the gaze pattern very quickly left the region and moved to the Middle-Middle. Also, FD was very long for the central top 2/3rd of the dashboard (over double the average compared to dashboards with more distributed content).

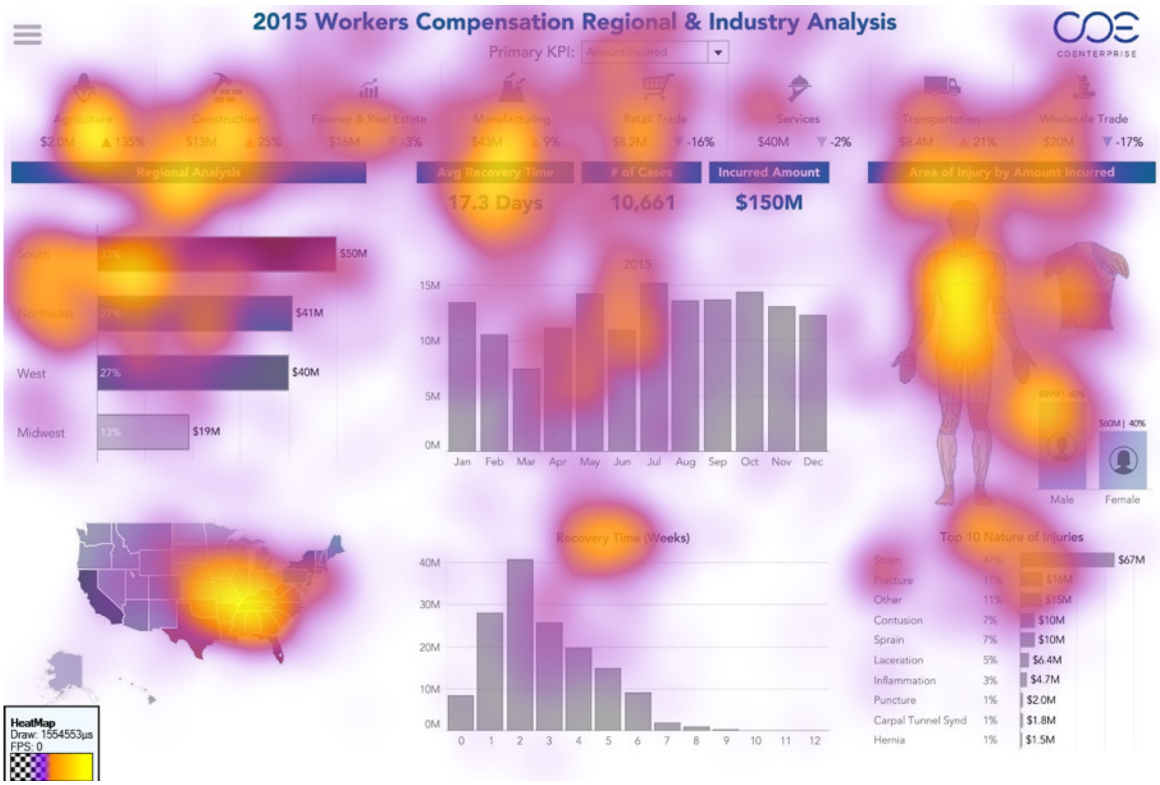


Comparison of average TTFF and FD for the Financial Times dashboard. Data illustrates the unique design of the dashboard and the affect that has on the eye tracking metrics.

This data helps illustrate the fluidity of the F-Pattern heuristic we've seen in our data. Although it is true that humans have a propensity to consume novel dashboards in an F-Pattern, this is not an unbreakable rule. Therefore, the dashboard designer does not have to conform to rules like "put anything important in the upper-left corner." Instead, one must be aware of the physical form of the dashboard s/he is building, and utilize that space accordingly.

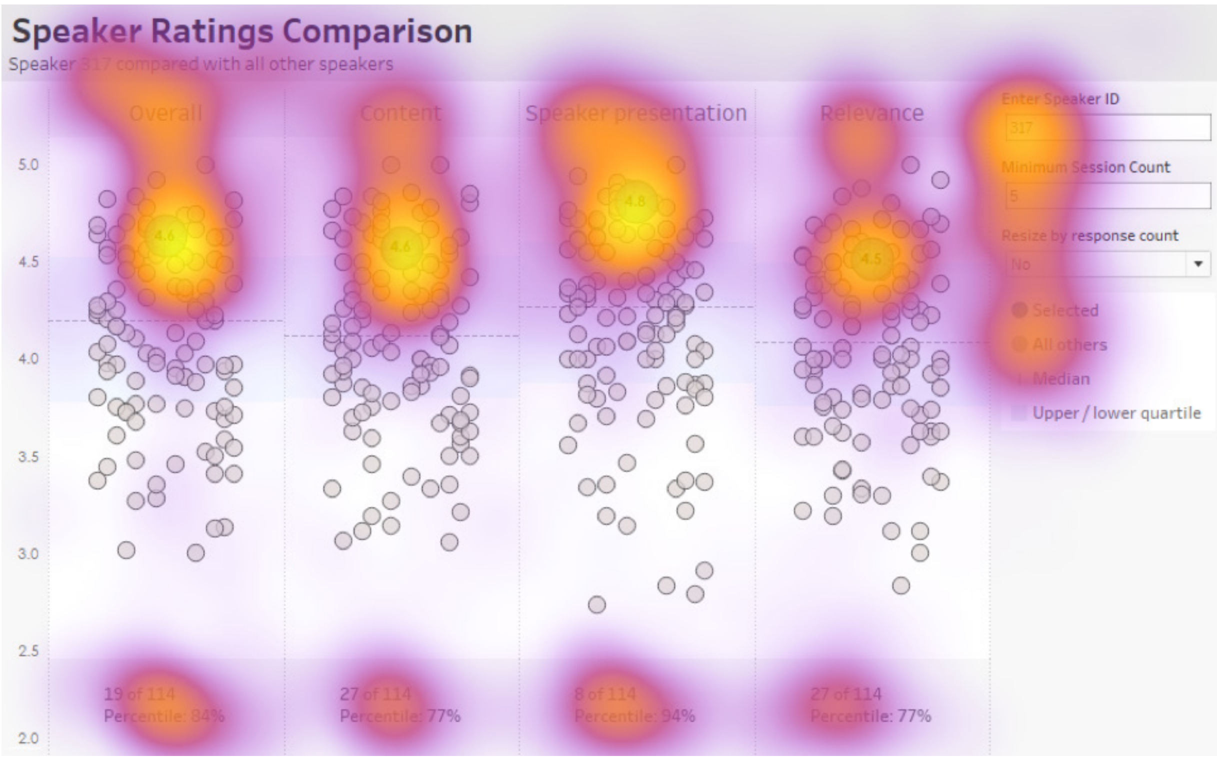
Balance yields balance

Our data shows the eyes will conform to the balance of the design. If you talk to those who've studied visual design, they know the power of balancing visual information to increase balanced consumption of said information. However, the novice designer doesn't usually have these instincts.



Heatmap of the Workers Compensation dashboard. Data illustrates even distribution of eye movements across the dashboard.

Conversely, this second dashboard lacks clear visual hierarchy. Each element on the dashboard is of relatively equal visual weight. There is also a lot of repetition in dashboard visualizations and text. The result of this is the waning effect we see with the F-Pattern, where more attention is given to the top and left-most items, and attention lessens as the customer moves down the page. This data is not to suggest this dashboard is a failure. Instead, this data should be used to illustrate how the distribution of unique or similar visualizations on a dashboard can affect how it's initially consumed.



Heatmap of the Speaker Comparison dashboard. Data illustrates uneven distribution of eye movements, with concentration on the top.

Implications

The data from our study illustrates where people look on dashboards when seeing them for the first time, without being given a specific task. While it may seem unrealistic that a viewer will be using a dashboard without a clear objective, there are a couple scenarios where customers may utilize these findings in their work.

"I'm crunched for time"

Sometimes, analysts need to develop dashboards for people they may not know well. For example, analysts often develop dashboards for C-level executives. Executives are often incredibly busy and hence, there is a need to communicate efficiently and effectively. Understanding how humans respond to design elements can help you efficiently guide the executive through the dashboard in a short amount of time.

Remember me?

There are dashboards that receive intermittent, periodic attention (e.g. quarterly business reports). Although the viewer is familiar with the dashboard, they may have not habituated to it. As a result, the viewer needs to reorient, look around, and find the data they need. In this case, their initial visual attention pattern will likely drift toward elements we identified in this study. By being deliberate about placement and use of the described elements, the designer can help viewers quickly make sense of the dashboard to get the information they need.

Limitations

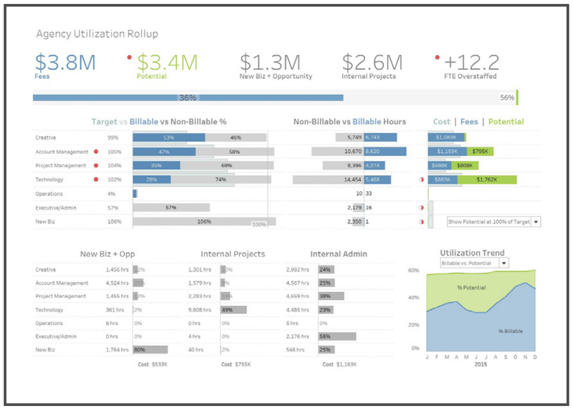
1. **Undirected:** We didn't give participants specific tasks outside of asking them to look at the dashboard. This is an artificial scenario and because of this it's unclear how generalizable these results are beyond the scenarios we've identified above.
2. **Sample Size:**
    a. We only looked at a small set of dashboards and didn't control for design attributes like positioning of the various dashboard element types.
    b. Even though the number of participants was quite large, the sample is not representative of all dashboard consumers.
3. **Relevance:** Similar but not the same as goal-directed, people might have behaved differently if the data on the dashboard was personally relevant to them as compared to your random dashboards.
4. **Environment:** Tableau Conference is a very busy environment compared to a quiet office setting. Participants at TC were in a loud room. We did attempt to control for environment by using noise-canceling headphones and visually blocking out areas of the room. However, it's notable that half of the participants were run at TC versus the other in an office setting.

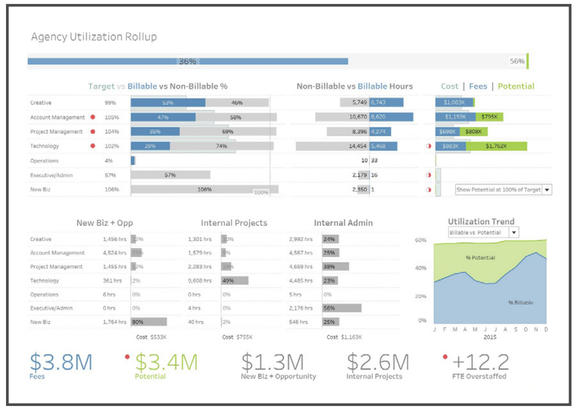
Next steps

The next step in our research will be to take a longer look at Big Numbers. We found there were a number of variables that may (or may not) affect the visual attention we saw in this area:

1. Position

Does the position of the Big Number affect the visual attention it receives? If we moved the Big Numbers (to the bottom, to the right side, etc.), will we see any changes in visual attention?

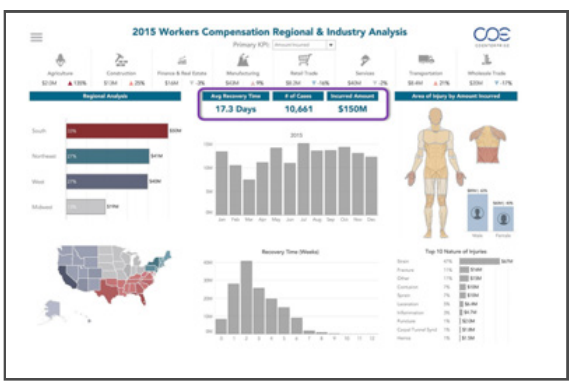


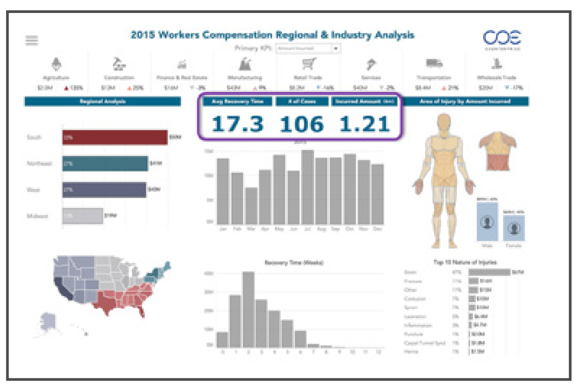


The Big Numbers in this dashboard were moved from the top to the bottom. Everything else stayed exactly the same. Would people still pay as much attention to the numbers if they are moved to the bottom of the dashboard?

2. Size

How much does size matter? How much do we need to increase the font on a Big Number of draw the eyes?

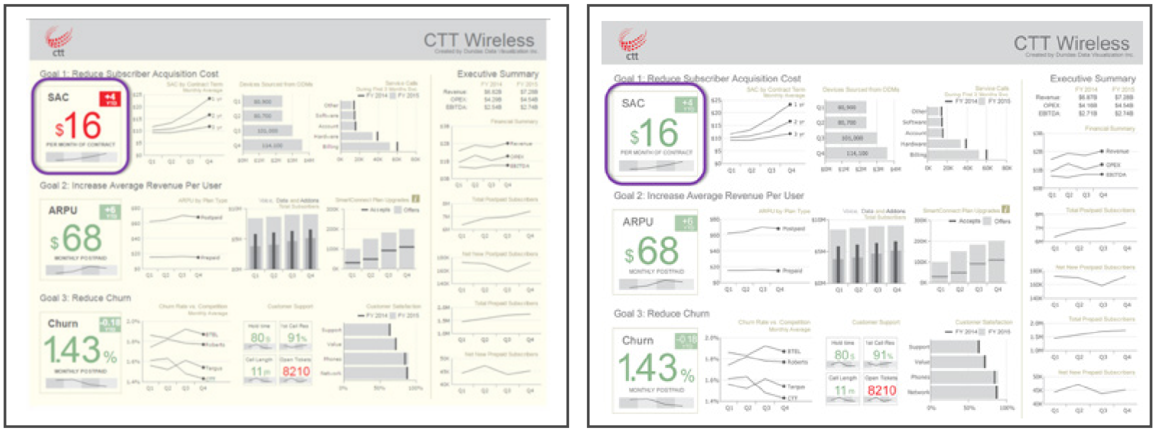




The Big Numbers in this dashboard were increased in size. Everything else stayed exactly the same. Would people pay more attention to the Big Numbers on the dashboard on the right compared to the left?

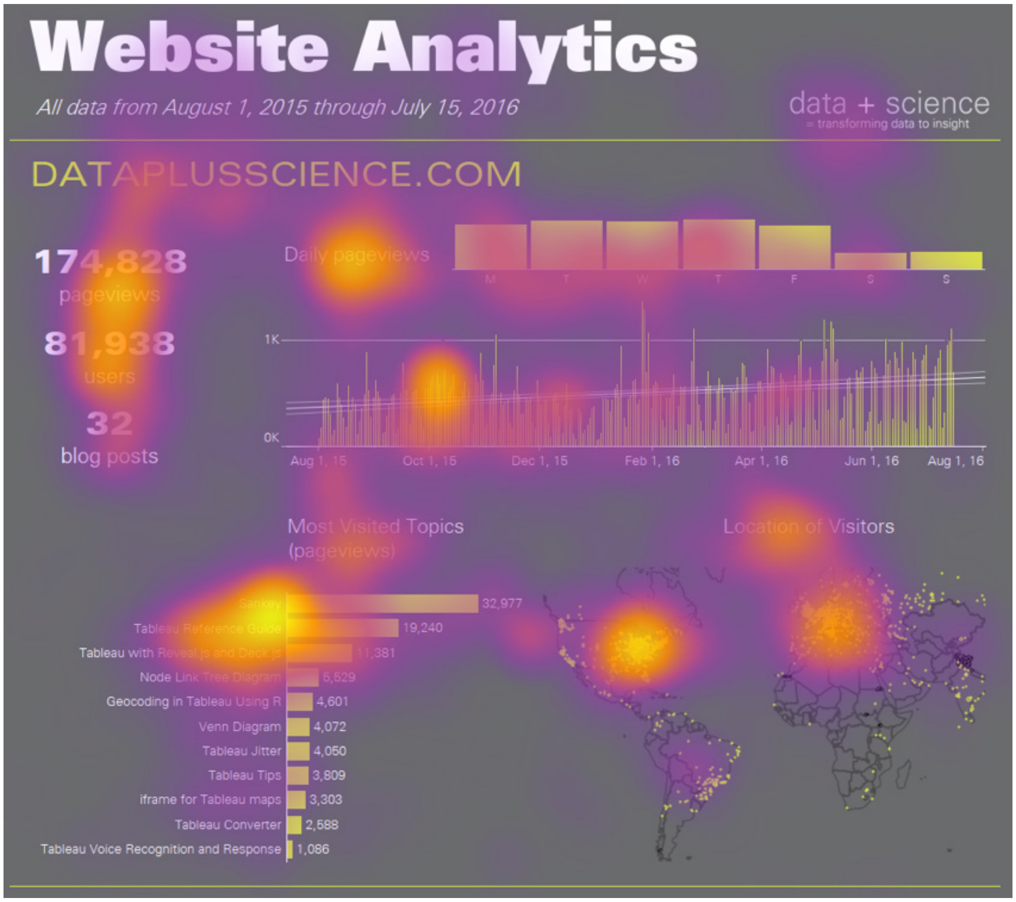
3. Contrast

How much does the visual contrast matter with a Big Number? If we take away strong contrast, will that affect visual attention?



The high contrast Big Number in this dashboard was simplified. Everything else stayed exactly the same. Would people pay as much attention to the lower-contrast version than the high contrast version?

It's also interesting to consider what might happen in a study where the task conforms to one of the salient variables we identified. For instance, take the effect a Big Number has on visual attention. If a Big Number was on screen with another salient element (e.g. map or human), we observed distributed attention—viewers looked at the Big Number and the map.



Similar levels of visual attention can be seen over the Big Numbers on the left and the map on the right.

But what will happen if the task directs the person to attend to the Big Number? We would expect to see even stronger visual attention to it. However, will we see all visual attention disappear from the map? We expect this to be the case, but we don't know yet.

Further research could help us better understand the effect "priming" has on these visual patterns. Priming is a cognitive psychology concept that describes how information in a person's brain affects how she interacts with the world. As an example, if I "prime" you by showing you the color orange, you will be faster in identifying the color orange in a picture than if I had never mentioned it. Assuming priming has an effect on visual attention patterns, we could use that to help dashboard designers. For instance, how could analysts best word their emails to executives so as to "prime" them to look at the data that's most important?

We're happy to conclude that our research thus far suggests it's possible to predict where people will look on a dashboard. We hope this research helps take some of the mystery out of your dashboard design process! Please follow us on Twitter, Facebook, and the Tableau Blog as we learn and share more about dashboard design. And as always, let us know how we can help you and help your customers see and understand their data.

About Tableau

Tableau helps people transform data into actionable insights that make an impact. Easily connect to data stored anywhere, in any format. Quickly perform ad-hoc analyses that reveal hidden opportunities. Drag and drop to create interactive dashboards with advanced visual analytics. Then share across your organization and empower teammates to explore their perspective on data. From global enterprises to early-stage startups and small businesses, people everywhere use the Tableau analytics platform to see and understand their data.

Resources

The dos and don'ts of dashboards

Building Effective Dashboards

Good enough to great

Tableau dashboard gallery