Reading: Case study: Allegis Group - Visualizing key data to understand and advance employee performance

In this course, you learned about the dashboard-building process. You also became familiar with many of the visualization strategies that BI professionals use to answer stakeholder questions. But how does this process play out in the industry? In this case study, you'll learn how talent solutions firm Allegis Group, headquartered in Hanover, Maryland, used a visualization to monitor the productivity and effectiveness of their new recruiters.

Company background

Allegis Group is a talent solutions firm comprising several specialized companies that solve business problems for clients across a variety of industries. The firm does this by identifying great candidates for its client companies. Allegis Group recruiters identify talent, and then connect them with career opportunities at client organizations. Each time a candidate is placed, that's considered a sale for Allegis Group.

To successfully place candidates in client organizations, Allegis Group needs lots of internal BI and data analytics and a good understanding of its clients' data needs. Quick and effective BI insights are essential to Allegis Group's daily operations. The following case study explores how a BI dashboard helped Allegis Group leaders solve a sales tracking problem with a clever dashboard. This end-to-end project is an example of the kind of work you might do as a BI professional for organizations like Allegis Group.

Scenario

The talent recruitment process requires oversight and progress reports. Therefore, Allegis Group conducts its own data analytics and BI research to track the performance of its new recruiters. To challenge assumptions about how long it takes for new hires to meet sales goals, Allegis Group leaders wanted data insights into how each cohort of new recruiters performed within the first year. The goal was to create a dashboard that tracks the sales revenue made by the newly onboarded recruiters. With this tool, Allegis Group would be able to measure the new hires' ability to bring quality talent to clients. Then, these insights would be communicated to internal company leaders in order to improve processes moving forward.

The business questions

Through internal brainstorming, Allegis Group leaders confirmed that they needed answers to the following questions:

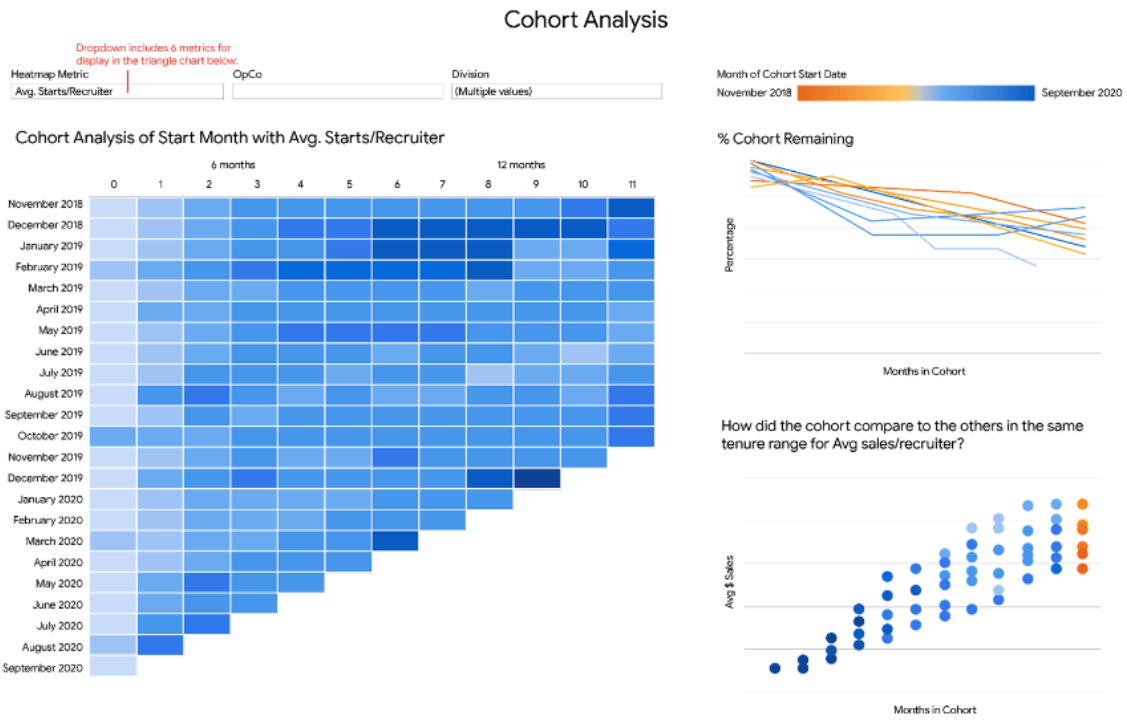
- How are new recruiters performing over time?
- What are the best months of the year to hire new recruiters?
- Are performance goals for new hires correctly aligned?
- Are new recruiters now finding success more quickly than those hired a year ago?

To answer these questions, Allegis Group's BI team collected data on how many months recruiters had been with the company. They also collected data on the sales revenue generated by recruiters within their first year. The recruiters were divided into cohorts depending on when they were brought onto Allegis Group's roster. Then, each cohort could be measured by how much revenue they made based on how long they had been with Allegis Group. This would enable Allegis Group to review and evaluate the success of each cohort over the first year of employment. The dashboard would help decision-makers learn about retention rates, the ideal hiring months, and how to improve overall hiring practices.

The solution

With these questions in mind and the data gathered, the team began creating the dashboard. They first visualized the main metric, which was the sales (in dollars) per number of individuals in the initial recruiter cohort population. This metric represented the total sales for a month divided by the number of recruiters that were initially hired in that cohort. Then, they defined the data source and created a data view. Finally, they decided on a monthly schedule to refresh and update the data with the cohort's monthly progress report.

After the team aligned on these elements, they began creating mockups of a visualization. They modeled the visualization after an existing project template, which used a chart with a triangle arrangement of boxes to represent data for each cohort at a given time. This arrangement represented data within a cohort for each row and within a relative month for each column. The BI team knew that this visual design best suited their cohort analysis needs, so it was a simple decision to build their own visualization based on the template.



The Allegis Group used specific charts to best convey the data. [The Financial Times Visual Vocabulary poster] includes a guide for choosing chart types based on the relationship you're trying to visualize; there is also [a plain-text version on GitHub].

Then, the team loaded the data into the template and created other charts to answer the business questions. Internally, the team tested the dashboard to ensure its interactive features—such as comparing cohort retention and performance—were working properly. Finally, the team released the dashboard to production. They still had a development version to iterate on, but now they had a fully functional version of the dashboard.

In the BI world, the timeline for completing projects can vary depending on the complexity of the data and the skillset of the team. For this project, the period of time between need-finding and production was about a month.

The results

The resulting dashboard had several strengths:

- The flexibility to answer each of the team's questions in one place
- A monthly refresh for continued value
- Quick visual comparison within a cohort (rows) and between different cohorts at the same point in time (columns)
- Interactivity for quick comparisons of cohort retention and performance
- Ease of adding new metrics*

*The team began with one metric (sales per number of individuals in the initial recruiter population) but later added the percentage of cohort meeting goal, percentage of cohort remaining, average number of starts, and more.

The main chart of the dashboard visualized which cohorts were high-performing and which needed more support. It was easy to find high-performing cohorts based on color. A darker blue indicated a higher number of hires per number of recruiters in the cohort. The triangle arrangement meant that each cohort could be measured horizontally (within the cohort), vertically (by time elapsed since hired to Allegis Group), and by color (average starts per recruiter). This gave the long-term year view that they needed for each cohort's progress, as well as the comparison among cohorts.

Allegis Group leaders use this dashboard to understand the progression of a typical cohort. They can also find out if some months are better to hire Allegis Group recruiters than other months. For example, if recruiters hired in the middle of the year historically perform better compared to cohorts hired toward the end of the year, management can plan accordingly.

Lessons learned

As with any complex project, Allegis Group's BI team learned several lessons about what worked well and what could have been improved in the dashboard creation process. One strength they found was in their presentation: The team went through each visualization of the dashboard with the recruitment team that was going to use it. They were able to communicate initial trends and insights, as well as how company leaders could best use the tool. This collaboration was instrumental in driving adoption of the dashboard.

A difficulty they encountered was that it was challenging to clearly convey the complexity of their metrics to the audience. Their main metric (sales per number of individuals remaining in the cohort for a given month) was misleading without context. While this initially seems like a logical metric to use, it has a survivorship bias that skews the data.

A survivorship bias focuses on only those data points that make it past a selection process and ignores those that didn't. In this case, the metric ignores the recruiters who didn't stay with the company. Because it counts only recruiters who stayed with the company, it skews toward higher-performing recruiters. The Allegis Group BI team introduced a second metric (sales per number of individuals in the initial recruiter cohort population) to address this nuance and made clear the distinction between the two metrics.

Another lesson they learned was to embed a how-to video into the dashboard. This could have given the recruitment team a quick run-through of the dashboard's tools and capabilities, enabling the BI team to focus on effectively communicating insights.

Conclusion

This example demonstrates how a BI team solved a problem by picking the most appropriate visualization. Choosing a highly specific template enabled the team to visualize the most important data in one chart, rather than in several less effective charts.

This team's success also illustrates the value of maximizing pre-existing examples in order to create new solutions. Resourcefulness is an important BI skill. Often, the inspiration for a visualization comes from examples from other analyses. Sometimes, a BI professional might have trouble deciding which type of chart to select, so they'll use a reference sheet, such as The Financial Times Visual Vocabulary poster. It isn't plagiarism to seek inspiration from other sources, so long as those sources are not proprietary or trademarked.

Conducting research on visualizations is an essential part of being a proactive BI professional. Seeking out community knowledge and continually learning about new BI visualization best practices will help you stay current on evolving trends while building a library of reference materials to guide you throughout your career.
