DATA INSIGHTS GROUP

BUILDING GREAT DASHBOARDS

A guide to building data analytics dashboards to gain business insights

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INTRODUCTION

Self-service dashboards have been growing in popularity for many years, but the truth is, for many teams, stakeholders still rely heavily on having a Data Analyst to walk them through the process and come up with thought-provoking questions to ask. When teams were working in the same office environment, this may have worked reasonably well, but in our current situation and the majority of teams working remotely because of social distancing, it is harder to support.

With that in mind, our Data Insights Group has crafted our Building Great Dashboards eBook to guide teams through the process.

GATHERING DASHBOARD REQUIREMENTS

There are three key principles to follow for holding a productive stakeholder meeting to gather dashboard requirements.

1

Don't focus on the specifics of what the dashboards will actually look like, but instead identify the questions stakeholders are trying to answer.

When we start asking what stakeholders want to see in a dashboard, we often get very specific suggestions about chart types and visualizations. Although this may be important later in the process, when you are in the gathering requirements stage we want to **focus on understanding what stakeholders are trying to see and answer with the data and then worry about the best way to display it later.**

For example: If a stakeholder says, "I want to see a bar chart with the top industries that our leads are coming from." Try to get to the underlying business question, which in this case might be "What are the top industries for new business opportunities?"

2

Ask "why?" when stakeholders describe what they are looking for.

Asking "why?" will help you to understand the underlying business problem stakeholders are trying to answer and may yield a radically different dashboard design in later stages.

Continuing our example from above: If you asked "why?" a stakeholder may respond with "I need to know how to focus marketing resources." Their answer may now lead us down a different path than just displaying the top industries in a bar chart.

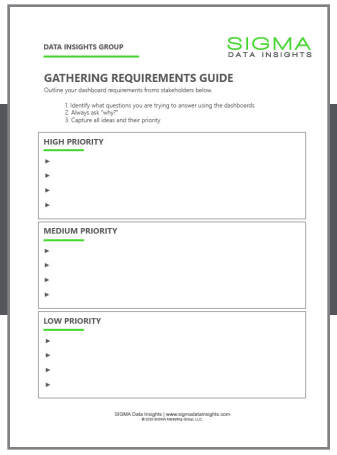
3 Don’t limit the discussion, but be sure to prioritize.

In the gathering requirements stage be sure to capture all ideas, even if you think they will not all be able to be included or addressed right away. With that being said, it is very important to prioritize all requests so we know what to focus on now and what to focus on later. For every request, ask stakeholders if it is high, medium, or low priority. If everything is high priority (as sometimes happens), limit each stakeholder to one request or metric they would want to see in a dashboard to help focus their thoughts.

Ideally, at the end of the meeting you will have a long list of requests, but in a prioritized order that can be executed in a logical way. Use our **Gathering Requirements Guide** to help you stay organized.

If you follow these steps, you will come out of the stakeholder meeting with some great data that will set you up to create successful dashboards.

DOWNLOAD GATHERING REQUIREMENTS GUIDE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GATHERING REQUIREMENTS GUIDE

Outline your dashboard requirements froms stakeholders below.

1. Identify what questions you are trying to answer using the dashboards
2. Always ask “why?”
3. Capture all ideas and their priority

HIGH PRIORITY

MEDIUM PRIORITY

LOW PRIORITY

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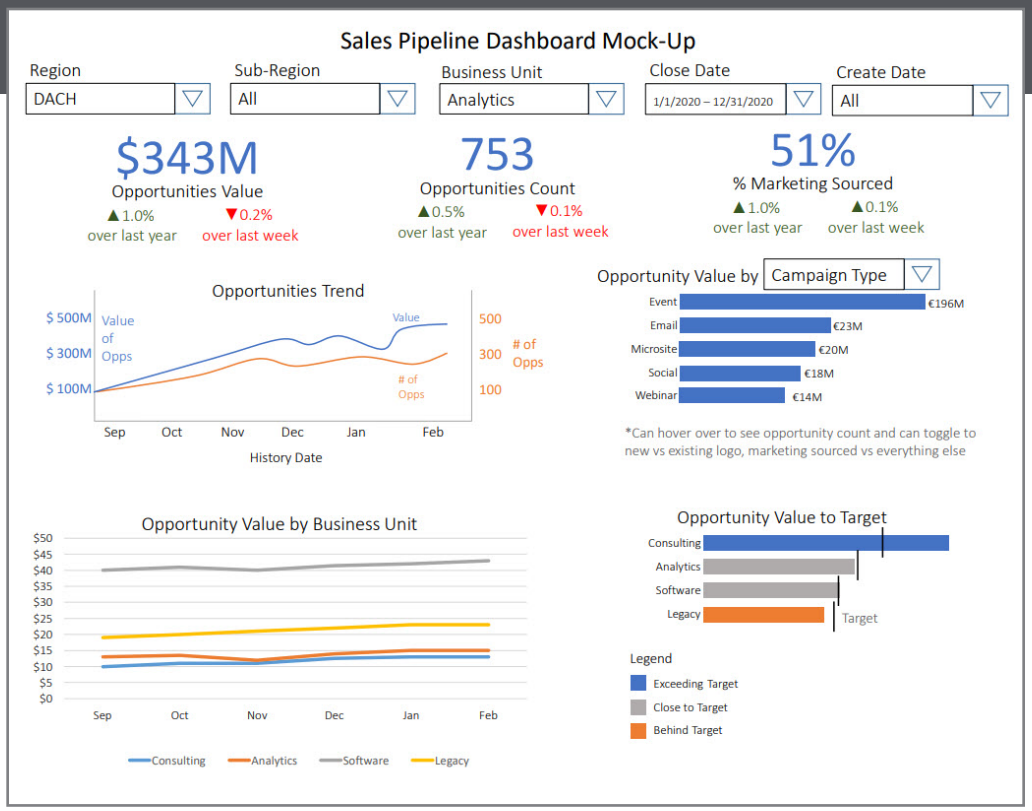
CREATING A DASHBOARD MOCK-UP

Once you have gathered dashboard requirements, you may be tempted to jump right into Tableau, Power BI, or your dashboard tool of choice but we recommend building a mock-up of the dashboard first. This mock-up is just an image or a visual of what the dashboard will look like. If you have graphic design skills or a graphic designer on your team, then you can use a tool like Adobe InDesign to build the mock-up. Otherwise, PowerPoint or even a piece of paper will work just fine. **The goal is not to build a mock-up that will look exactly like the final product – just something close enough to share with end users for discussion and feedback.**

EXAMPLE MOCK-UP CREATED IN POWERPOINT



Now that you have the basic idea of what the mock-up is, let's dive into why you should use it and how to build one.

Why should I build a mock-up dashboard?

After your requirements meeting, there are probably a lot of directions you can go in to answer the high-priority questions that you gathered from the team. Before you begin using a dashboard tool like Tableau or Power BI, you need to build a data set, and how you build that data set will be based on what the final dashboards will look like.

In reality, you could spend weeks building a data set and initial dashboard, only for key users to request something completely different. Enter the mock-up. **A mock-up is a very quick way to get a visual and your plan in front of the key users so everyone can agree at a high-level on how the dashboards will look and function.**

How do I build a mock-up dashboard?

It can be intimidating staring at a blank computer screen trying to decide what to create. Here are a few ways to help you get started.

Look for inspiration

There are many resources that show dashboards created by other people that can help get that creativity flowing. Tableau shares a Viz of the Day from its public gallery. The Big Book of Dashboards provides examples of dashboards for specific business challenges and scenario solutions. If your organization already has a library of high-quality dashboards, then you can look at those for inspiration as well.

> **A tip from our data scientists:** Whenever you see a dashboard you like, save a copy of the image to a folder, so you can scroll through them all when it is time to create a mock-up.

Get a team together

Don't feel like you have to do it alone! If there are other analysts at your organization, even if they are not on your team or working on this project, ask them if they will help you to build a mock-up. You can briefly describe the key questions, and they can quickly sketch an idea. It does not take much time, and it may end up inspiring the final design.

Crazy Eights

Crazy Eights is a design exercise to help you quickly come up with multiple mock-up solutions. You can do it by yourself, or in a group. Just take a regular piece of letter-sized paper and fold it so that there are eight separate rectangles on it. Set a timer for eight minutes, and start sketching out a different dashboard design in each rectangle. Keep it real quick and dirty. For each box, spend about a minute trying to come up with a totally different view for the dashboard. You may find this difficult after the third or fourth one, but do your best to try to get to eight. Do not worry if your views start to get outlandish, just keep trying to come up with new ideas. Once you are done, you can pull the best ideas from each sketch to build a final mock-up.

Share with the stakeholders

Once you have built a mock-up, it is time to go back to your key stakeholders and get their feedback on the mock-up. This is best done in a live meeting, but if it is hard to get everyone together at the same time, it can be done via email. If you send around a PDF, the team can add comments and notes directly in the file for feedback.

After collecting feedback from the team, you are in a really great place to build the data set and start building dashboards.

SOLICIT FEEDBACK WHILE BUILDING A DASHBOARD

At this point in the process, you may be thinking that between the requirements meeting and the mock-up that you have spent quite enough time getting feedback, however, in our experience the best dashboards are created with feedback throughout the process. Despite gathering requirements and feedback on the mock-up, nothing is like showing users a working dashboard to get some great insights into their thinking and usage.

How to gather feedback

It is best to have short, weekly meetings with users to discuss the latest improvements to the dashboards and gather their thoughts. Below are some ideas on how to effectively use your time together.

See how users interact

When possible let the users see the dashboard, and watch how they interact with it. Try to refrain from explaining the dashboards and instead let users explore. This user exploration will help you identify what parts and pieces of the dashboard may be confusing and could require some adjustments. It may be helpful to give users a specific task, such as answering a question, and see how they navigate through the dashboards and respond. In our current remote environment, our team can send users a link to a dashboard and ask them to take a video of the screen as they try to answer the question. Be sure to ask users to think out loud so you can determine where any confusion is taking place or give tips for easier and more efficient ways to answer the question using the dashboards.

What if I have 25 users?

You don't need to meet weekly with all users if there is a large group. Meeting with a few key users is fine, but make sure to have a check-in with the entire group midway through the project to make sure you have not veered too far off course. Also, feel free to pushback if you feel requests do not represent the entire group. If there are a few different "types" of users (for example if sales and marketing team members are using the same dashboard) then it is important that all the user types send a representative to the weekly meeting.

Watch out for HIPPOs! (Highly Paid Person's Opinion)

Try to understand the dynamics of the team you are building a dashboard for. There may be a leader (a HIPPO) who will tell you exactly what they want to see, without taking into account what their team members need. At SIGMA we have found the best way to handle this is to build a separate view for the leader, which is at a higher level than what the rest of the team needs.

What to do with feedback

You are not the end-user

This is so important to remember that it bears repeating: you are not the end-user. (You do, however, have valuable knowledge that your end-user may not – more on that later). You have built a beautiful mock-up, gathered feedback, and agreed on the direction, but now users want to add a lot more filters to clutter things up or they want to add a data table that ruins the simplistic, visual design you were going for. They are destroying your beautiful project! Except they are not. They are trying to create a tool that is useful for them. Sometimes it is helpful to have fifteen filters on a dashboard – if it really solves a specific problem for a user, so be it. In addition, oftentimes having a data table available somewhere in the dashboard is useful for users who want to dive deeper.

Remember that you will not be using the final dashboard to answer questions and solve challenges. Your users will. When users ask for additions that are functional, but not beautiful err on the side of giving them those features.

But you can push back

It may sound like we are advocating for doing whatever users' request, and we are suggesting that should be the default, but there are times to push back. You are more knowledgeable than your users about the data available and the best visualization techniques. Here are some examples of when to push back and share your point of view instead:

- **Do not align with goals:** Oftentimes users forget what specific goals this dashboard may have had. It is best to gently remind users of that, and let them know what they are requesting may be added in the future.
- **Technical problems:** Some things just cannot be done given the data you have and the software you are using. You should also push back if they are asking for things that may slow down the dashboard.
- **Build what your users need, not what they want:** People often want flashy dashboards that look fun to use, but often what they need is just a few standardized reports to help them get through their day. No one opens up dashboards for the fun of it – they are trying to solve a problem quickly and move onto the next task.

At the end of this process, hopefully you have dashboards you are proud of and that users are excited to start using.

DASHBOARDS ARE LIKE PLANTS, THEY NEED TENDING

So far, you've gathered requirements, created a mock-up, and solicited feedback. Now it's time to move into launching the dashboards and maintaining them.

Launch

The most important aspect of a successful launch is to make sure everyone who will be using the dashboard has seen the finished product and knows how to use it. If this is the first dashboard they are using, you will need to cover the basics of credentials and navigation as well. In a perfect world, doing each of these sessions one-on-one is the best way to ensure success. If the team is small enough and you have time, then go for it! More often though, this will be done in a large group, either in-person or remotely over a screen-sharing service. Either way, it is useful to record your sessions so that they can be viewed at a later date by current users and by new team members as part of their onboarding.

Maintenance

Is anyone even using this dashboard? That is the question many analysts may ask themselves after launch, and with most dashboard platforms you can look in at usage metrics to see who and how often users are logging in. Here are some key questions to focus on:

1. **Have all users logged in?** – Check-in with anyone who has not signed in after a week or two to ensure they know how to access the dashboard and do not have any questions.

2. **Are users logging in after the initial burst of excitement around the launch?** – People usually log in a lot right after the launch and then usage may drop off. This is natural as users initially tend to revert back to their previous workarounds, rather than using the dashboard. Make sure to remind users about the value of the dashboards and see if anything needs to be tweaked now that users have had access to it for a few weeks.

3. **Are all the different roles using it?** – For example, if you built a dashboard for both sales and marketing teams, but only the marketing users are using it, check in with the sales team and see why. Is there something missing? What about their previous workarounds do they prefer? Many times, you will find that users do not want to ask for additional functionality immediately following a launch but sometimes the simplest updates can cause them to adopt.

After the initial launch period, you can keep an eye on usage and use periodic check-ins with the team to discuss how things are going and if their reporting needs have changed. Discuss how to incorporate these new requests into the dashboard and keep them up-to-date and relevant.

If your dashboard begins to get complicated or "too busy" with additional updates, then it may be time to spin off a new dashboard for specific questions.

The Great Dashboard Portal in the Sky

No matter how successful the launch, or how meticulous you are with maintenance, every dashboard eventually needs to be sent to the great dashboard portal in the sky.

Things are constantly changing. Maybe the team has been re-organized and has different goals. Maybe different data and systems are being used. Maybe it is just too complicated to keep tweaking and would be better to start fresh. No matter the ultimate cause of death, eventually every dashboard needs to be refreshed for the last time and shut down. Use this opportunity to take what you have learned and start the whole process over again to build a better, newer version. Try not to get too attached to any particular dashboard and always remember that you are trying to answer questions and make users' work easier – not hold onto a dashboard for as long as possible.

Thank you for reading this series on building great dashboards. We really hope that it has been helpful for you now, and will continue to be a resource in the future. Feel free to send us an email to let us know what is – or is not – working for you. We are curious explorers here at SIGMA. Although we think this is the best way to build dashboards today, we are always discovering how to do things better tomorrow.

We want to give special thanks to Alyshia Olsen. Alyshia presented "Design with the User in Mind" at Tableau Conference 2017, which helped inspire the way SIGMA builds dashboards. You can check out that presentation and see other work she has completed at her website: alyshiaolsen.com.

About SIGMA Data Insights

SIGMA Data Insights is an agency, hyper focused on creating profitable customer relationships through analytics, marketing technology, and data-driven strategy. SIGMA creates a collaborative environment where clients and partners talk strategy with senior leadership, insights with data scientists, tech integration with the database team, and map out multichannel solutions with the client engagement team to achieve specific business goals. SIGMA is based in downtown Rochester, NY with a strategic group also located in Boston, MA. www.sigmadatainsights.com.