



# Data to Dashboards for Pharmaceutical Companies

5 best practices and 7 mistakes to avoid

## Dashboards accelerate innovation

Pharmaceutical companies have built empires on research and development (R&D) innovation. But as blockbuster drugs' patent protection ends and the landscape of buyer behavior shifts, new forms of innovation must account for both top- and bottom-line growth.

Data and people are core assets – that already exist – within pharmaceutical companies that will fuel future success. The key will be equipping individuals to reveal insights from data to innovate on all fronts – whether that's sales, operations, marketing, finance, IT or in the lab.

Breakthroughs will require individuals to analyze data in new ways. Driving their own analysis instead of relying on others, interacting with data to answer questions as quickly as they're asked, combining data sources for a complete picture, and sharing the results for collaboration are a few examples.

This paper introduced key considerations for how to transition fast-paced analysis into game-changing dashboards. Critical for finding innovative breakthroughs and managing progress over time, dashboards provide depth and dimension essential for using your data and people assets to their maximum potential.

## What is a dashboard?

In his 2006 book, *Information Dashboard Design*, Stephen Few wrote:

*"A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance."*

Leveraging that definition, an effective dashboard enables users to visually display relevant and current tasks and projects, account performance, management costs and any other critical information that effects or is

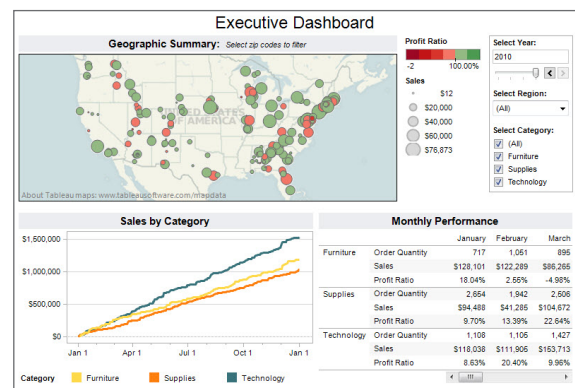
needed to achieve business objectives (such as improve ROI, achieve customer service goals and deliver revenue). It is optimized to speed the evaluation of and reaction to current trends and statistics and to make the information and results accessible to colleagues and clients.

Core to this definition are these characteristics: objectives-focused, visual, relevant, current, and accessible to its audience. Start planning your effective dashboard by following these 5 best practices. And, equally important, keep an eye on the 7 critical mistakes you don't want to make.

## 1 Choose metrics that matter

Choosing which metrics to include in the dashboard is critical. Above all, they must be metrics that matter and that are relevant to the job at hand. But that doesn't mean every metric should be included – far from it. You should be highly selective in determining which metrics earn a spot on your dashboard.

In order to find the right set of metrics to include, you need to consider the following:



**Figure 1: Executive dashboards reveal performance strengths, weaknesses**

*Combining regional, product category and key performance indicators in the same view allows executives to get a comprehensive picture of where their business stands. Explore this dashboard by selecting different Years, Regions or Categories to answer questions that arise from the initial view.*

You should be highly selective  
in determining which metrics  
earn a spot on your dashboard.

Ask yourself how your dashboard metrics  
connect to the bottom line. Does everyone  
understand the metrics that matter?

- How does each metric contribute to those objectives?
- Do you have data, either internal or external, that can shed light on the objectives?
- Can you design a meaningful metric that measures those contributions?
- Is this metric truly necessary to contribute to the objectives?
- Can you build a systematic and on-going means of measurement?

Start with a clear understanding of executive objectives and how you contribute. If your organization is in growth mode and new customers are key, then measure your new customer acquisition rates. If you're operating in a highly competitive market, then incorporate third-party market share metrics. You likely have other specific metrics that are leading indicators of overall corporate goals; these are important to include only if the relationship of those metrics to the corporate goal is clear.

So, for example, if your colleagues understand that the number of daily transactions is a leading indicator of growth, include it in your dashboard. Be sure you can clearly explain how every metric on your dashboard connects to organization objectives.

## 2 Keep it visual

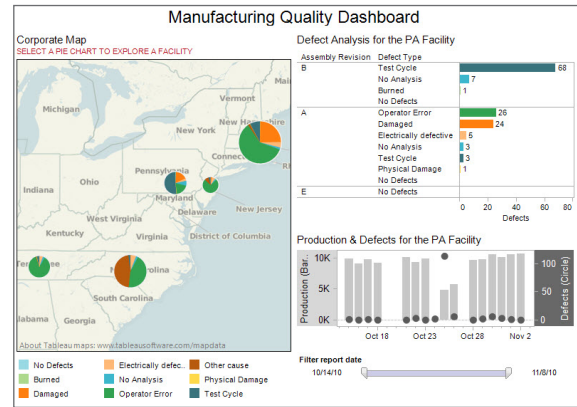
Dashboards are meant to be fast and easy to read. Report and text-based tables are not fast or easy to read. This is a case where a picture really is worth a thousand words.

Because the human brain processes a number, a visualization or a picture as individual “chunks” of information, a report or data table filled with numbers requires the brain to store and remember multiple chunks while visualizations or pictures require single chunks. So the process of comprehension and insight is dramatically faster with visualization.

Instead of users pondering how to read and interpret your views if shown with data, he or she can actually focus on what the views in your dashboard are telling him or her.

A well-designed, highly visual dashboard will be more widely adopted by your audiences.

And, because you've carefully selected your metrics to map to corporate objectives, visualization will be not only useful in speeding understanding but also potentially help cross inevitable chasms between departments. Colleagues will literally see the direct translation of a department's objectives into the broader company-wide business objectives.



**Figure 2: Sample dashboard showing cause and effect in manufacturing quality.**

*In order to understand which issues need immediate attention to improve manufacturing goals, this dashboard combines defect analysis with plant location. Teams can select specific plants, zero in on a date range or select the type of error by interacting directly with this dashboard.*

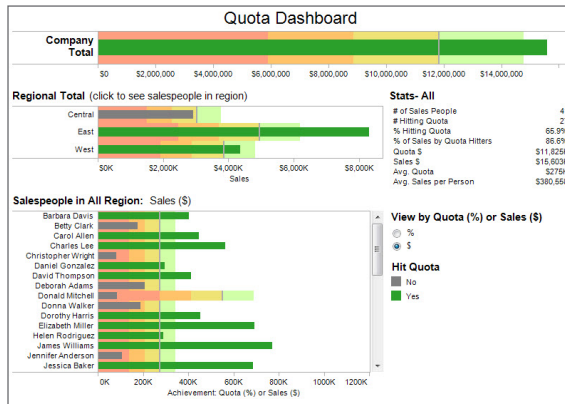
Things you should embrace when designing a dashboard include the use of colors, shapes, lines, thicknesses, degrees of shading and any other tools that leverage visual perception. Things to avoid include overly cute widgets, 3D graphic treatments and graph types not commonly seen.

Why are visualizations such as bar graphs, line graphs, heatmaps and scatterplots so popular? They are clear and everyone knows how to read them. So while it's tempting to show off your PowerPoint charting skills, adding as many shapes and colors as possible until absolutely nothing is easy to understand—resist.

The easier and more intuitive  
you make the process of  
customization, the more likely  
they will be to use your dashboard.

### 3 Make it interactive

Your dashboard will put everyone who sees it on the same page. But once on the same page, viewers each will have their own questions and areas where they want to know more. Your dashboard needs to allow viewers to customize it so that they get the information they need.



**Figure 3: Quota dashboard reveals who's getting the job done**

*Sales teams have long been measured on whether or not they make their numbers. This dashboard quickly reveals who's underachieving and who is hitting their numbers out of the park, equipping managers to drill down into regional and individual performance trends to get the story behind the top line numbers.*

Interactive, highly visual dashboards enable your audiences to perform basic analytical tasks, such as filtering the views, drilling down and examining underlying data – all with little training. Viewers need to be able to literally get the big picture from the dashboard that everyone sees and then be able to drill down into a view that tells them what they need to know to get their jobs done.

### 4 Keep it current or don't bother

Make sure that the data underlying your dashboard is up-to-date and that your selected metrics reflect current business challenges.

Data can be from this quarter, this week, this hour—whatever the right timeline is for your business. Out-of-date data can lend a false sense of confidence to decisions. You think you're making fact-based decisions, but the data is no longer representative of or relevant to your current situation.

Almost as important as having current data is having the ability to change and update the metrics represented in your dashboard. This quarter, the number of new customers might matter most. But next quarter, as you get more sophisticated in your use of dashboards and the supporting data, the focus may be on customer satisfaction, most profitable products and growth this year compared to last.

### 5 Make it simple to access and use

Making your dashboards easily accessible is critical. Web distribution is ideal – especially if your dashboards can constantly pull current data and adhere to IT protocols and security standards.

If you can't publish to the web in a way that is easy to maintain and update, then consider alternatives like posting files on websites, Wiki's or blogs. Of course, with file-based distribution, you'll always have a data synchronization issue (*i.e.*, people reading old versions) and the security of your data may be more cumbersome, but at least you can develop good habits about the importance of dashboards and collaboration.

Be realistic about your creation and distribution plan. Create a prototype, distribute it through your planned means and ask for feedback. Just like any other successful project, the key is to test, test, test. As you have more experience and learn what people are using, you can enhance the actual dashboard and your means of distribution.

## 7 mistakes to avoid

The flip side of these five best practice recommendations for dashboards is a list of seven mistakes to avoid. Your dashboard objectives are to understand key metrics and collaborate for better decisions. Falling into one of these traps will move you away from – not towards – these goals.

### 1. Starting off with too much complexity

It's easy to get overly ambitious and want to provide highly detailed, real-time dashboards covering each and every business challenge that also allow users to customize many dimensions. Instead of spending weeks or months working through your first iteration, work through several short cycles of prototype, test and adjust.

### 2. Using metrics no one understands

Your metrics are probably so familiar to you that common terms to you seems obvious. But the reality is, your dashboard needs to use metrics or concepts that your broader audience understands.

### 3. Cluttering the dashboard with unimportant graphics and unintelligible widgets

Keep your dashboard simple in its visual appeal. Resist the temptation to make your dashboard too flashy or over-designed, with gauge-like graphics and widgets. As pretty as those may seem, they get in the way with your dashboard's objective: rapidly and easily informing your audience.

### 4. Waiting for complex technology and big business intelligence deployment projects

Traditional business intelligence (BI) implementations often take much longer than originally anticipated. Waiting for a traditional BI project to materialize may mean months or years of delay. Fortunately, there are dashboard applications and strategies that can get you going now.

### 5. Underestimating the time or resources to create and maintain the dashboard

Because a dashboard is typically compact, it is easy to think that it should be quick to create and maintain. But in fact, a dashboard project takes on-going resources to design, launch and maintain.

### 6. Failing to match metrics to the goal

Often, working dashboards showcase activities of the a single department. Instead, your dashboard should connect your department's efforts to your organization's critical goals and objectives.

### 7. Using ineffective, poorly designed graphs and charts

Take care in how you design your graphs and charts. For example, 3-D charts offers no increase in viewer comprehension. Garish colors can interfere with interpretation. Choosing a pie chart for more than 6 values makes the graphic virtually impossible to read. Check out "recommended resources" for designing good visualizations.

## Convert information to innovation

As the pharmaceutical industry evolves, innovation from all corners of the organization is critical to drive success. Data and people are key assets to fuel this innovation.

Equip individuals to quickly analyze data and assemble this in meaningful dashboards for effective collaboration. By engaging in the five best practices outlined here, your team will be off to an outstanding start:

1. Choose the metrics that matter
2. Keep it visual
3. Make it interactive
4. Keep it current or don't bother
5. Make it simple to access and use

And by the same token, keep in mind the seven mistakes to avoid so your efforts to leverage data and people aren't undermined.

If you haven't started putting your data and people assets to work to find innovative solutions, get started today. Find out how Tableau Software can drive your speed to innovation. [Download a full-featured, free trial](#) or listen in to our [weekly, 20-minute live demo](#).

## About Tableau

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