Adaequare Software Engineering

Impactful Business Analytics

Best practices for creating dashboards and the mistakes you don't want to make

ADAEQUARE

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Executive Summary

You've been there - no matter how many reports, formal meetings, casual conversations or emailed memos, someone important inevitably claims they didn't know about some important fact or insight and says "we should have a dashboard to monitor the performance of X." Or maybe you've been here - you've said "yes, let's have a dashboard. It will help us improve return on investment (ROI) if everyone can see how X is performing and be able to quickly respond. I'll update it weekly." Unfortunately, by week 3, you realize you're killing several hours a week integrating data from multiple sources to update a dashboard you're not sure anyone is actually using.

Yet, dashboards have been all the rage and with good reason. They can help you and your coworkers achieve a better grasp on the data - one of your most important and often overlooked assets. You've read how they help organizations get on the same page, speed decision making and improve ROI. They can help create organizational alignment because everyone is looking at the same thing.

So dashboards can be effective. They can work. The question is how can you get one to work for you?

Introduction

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. Also, equally important, keep an eye on the critical mistakes you don't want to make

5 Best practices for planning a dashboard

Choose metrics that matter

Choosing which metrics to include in the dashboard is critical. Above all, they must be metrics that matter and 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 region, 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 to it, then measure your new customer acquisition rates. If you're operating in a highly competitive market, then incorporate third-party market share metrics. You're likely to have other specific metrics that are leading indicators of overall corporate goals; include these 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 organizational objectives.

Keep it visual
Dashboards are meant to be fast and easy to read. Report and text-based tables are neither fast nor easy to read and here's where a picture really is worth a thousand words. Because the human brain processes a number, 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 data, he or she can actually focus on what the views in your dashboard are telling.

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

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, heat maps and scatter plots so popular?
They are clear and everyone knows how to read them. So while it's tempting to show off your PowerPoint charting skills, please resist adding as many shapes and colors as possible until absolutely nothing is easy to understand.
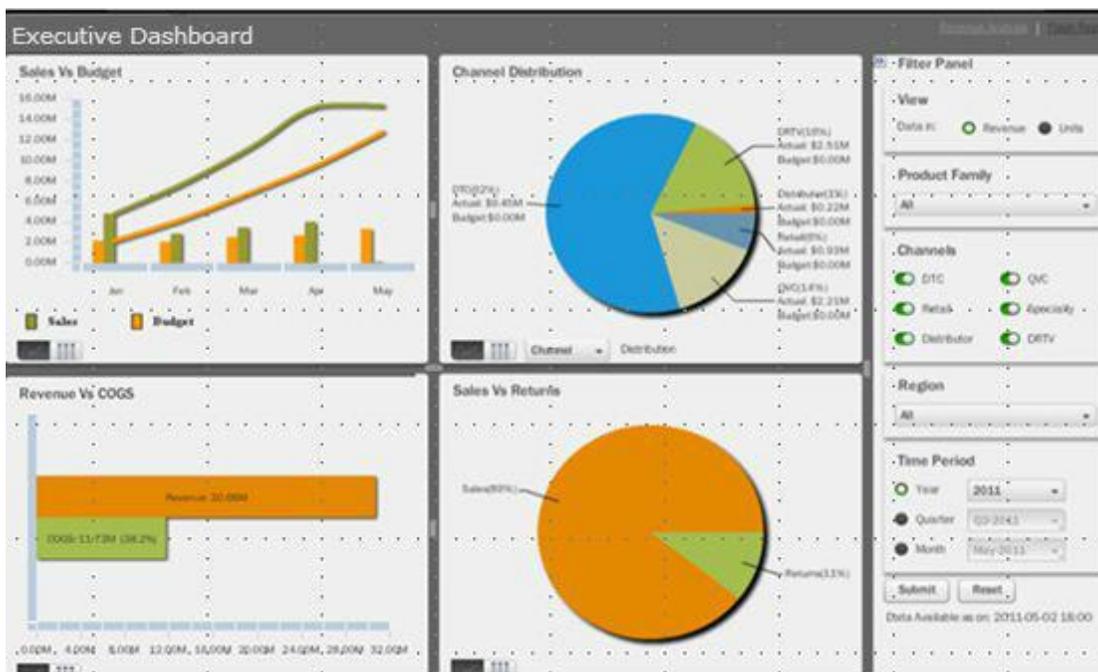
The easier and more intuitive you make the process of customization, the more likely customers will be to use your dashboard.

Make it interactive

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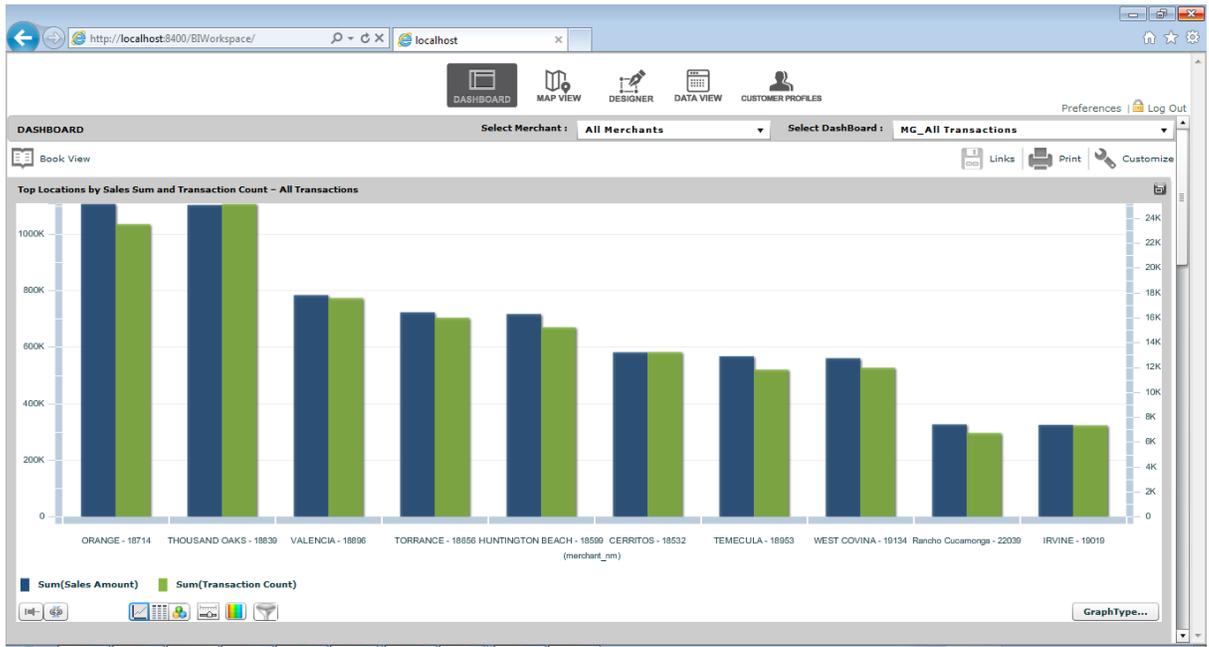
Interactive, highly visual dashboards enable your audiences to perform basic analytical tasks, such as filtering the views, drilling down and examining underlying data – all with little training. Viewers need to be able to literally get the big picture from the dashboard that everyone sees and then be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

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.

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, and test. As you gain 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.

Starting off with 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.

Using metrics no one understands
Your metrics are probably so familiar to you that common terms to you seem obvious. But the reality is, your dashboard needs to use metrics or concepts that your broader audience understands.

Cluttering the dashboard with unimportant graphics and unintelligible widgets
Keep your dashboard clean and 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 of your dashboard's objective: rapidly and easily informing your audience.

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.

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.

Failing to match metrics to the goal

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

Using ineffective, poorly designed graphs and charts

Take care in how you design your graphs and charts. For example, 3-D charts offer 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.

Use dashboards for powerful insights

Dashboards are valuable because they help use relevant, current information to understand how you are performing with respect to your organization's overall goals. Essential aspects of your successful dashboard include:

- Choose metrics that matter
- Keep it visual
- Make it interactive
- Keep it current or don't bother
- Make it simple to access and use

If you're already engaged in a dashboarding effort, take note of these five best practices and evaluate how your efforts measure up. Also, check to be sure that you're not making any of the seven mistakes to avoid.

If you haven't yet started a dashboard to help achieve your corporate objectives, get started today. Seeing your data as key metrics on a dashboard will help you march towards meeting your goals.

About BPRA

BPRA is an off-the-shelf, pre-configured and easy to deploy BI solution with ETL as a service. It has efficient data mart architecture, generates insightful reports and allows users to perform impactful business analytics.

Our mission is to make analytics accessible to small and medium business entities by providing essential, cost effective and quick to deploy BI solution.

About Adaequare

Established in 2001, Adaequare is a CMMi Level 3 Certified software services company specializing in product development, data and test engineering. We assist IT teams in delivering high performing solutions to the business with faster time to market and high return on investment.

With a global presence across 3 different locations, we focus on medium to large businesses and encapsulate consulting, results driven engagement and delivery model which are important to our target customers.

We work with several companies in USA such as CoreLogic, Tria Beauty and have been either a dedicated IT partner or a preferred IT partner. We have offshore delivery centers in India that support our customers in product development, Tier 1 and 2 support and testing with over 300+ resources.