SearchDataManagement.com E-Book

Building effective dashboards and scorecards

Many executives and business users use dashboards to understand how their business is performing. But in some organizations, dashboards are underutilized or underappreciated. It is a perpetual challenge for dashboard designers to present up-to-date information in a clear, concise manner that encourages interaction and meaningful results.

In this eBook, learn advanced strategies for creating actionable, interactive and user-friendly dashboards that will help your organization track key performance indicators (KPIs). Learn how to get started with dashboards, find out what a dashboard is and what it is not. Discover how to gather input from business users about what they need in their dashboards and how to create different dashboards to meet the needs of various departments. Hear from experts Rick Sherman and Mark Whitehorn on dashboard design and learn new trends to help optimize today's dashboards. Get tips, screenshots and examples from BITadvisors, Inc. a Hingham, Mass.-based consultancy that specializes in designing effective dashboards and helping organizations make the most of them.

After you've explored this eBook, be sure to sure to visit SearchDataManagement.com to see a 12-minute screencast video with Brian Jordan, CEO of BITadvisors, who goes through dashboard examples and demonstrates some of the best and worst dashboards and scorecards he's seen.

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Executive dashboards and scorecards: How to get started

By Hannah Smalltree, Editorial Director

Executives love the concept of business intelligence (BI) and corporate performance management (CPM) dashboards and scorecards -- but they are often unprepared for the costs and complexities of deploying them, according to analysts.

The dashboard attraction is fairly obvious. What manager wouldn't want a graphical user interface that shows, at a glance, metrics and key performance indicators (KPIs) about how business is performing? Consider the alternatives -- using complex reporting applications, requesting information from employees or, worse, waiting for paper reports. Executives often return from industry events telling their IT staff, "Just give me a dashboard!" Gartner analysts say.

But it's not quite that easy, according to Wayne Eckerson, director of research for the Renton, Wash.-based Data Warehousing Institute and author of Performance Dashboards: Measuring, Monitoring, and Managing Your Business. First, delivering effective dashboards and scorecards relies on a sound data infrastructure.

"A lot of folks see the sizzle of a dashboard and want it, but when you tell them how much it's going to cost to [create] a highly reliable, highly available system that delivers data -- from a variety of different sources -- that's been integrated, cleaned, reconciled, loaded and delivered on a timely basis, they tend to shy away," Eckerson said.

And that may be before they hear the cost and implementation timeline.

"[People] think they can get a dashboard on the cheap for about $10,000 -- when, in reality, if you're starting from scratch, it's probably going to cost you half a million dollars," Eckerson said.

Then there's a recommended two-year timeline to optimize the content and context of dashboards and scorecards, according to Colin Snow in a 2007 interview. Snow, formerly a vice president and research director with San Mateo, Calif.-based Ventana Research Inc. authored the firms' 2006 dashboard study and survey of almost 600 executives. Ultimately, though, implementing a dashboard is worthwhile, Snow said. It helps companies align operational performance to corporate goals and strategies. About 50% of the companies surveyed by Ventana thought they were effective in achieving performance alignment before dashboards and scorecards, but that number jumped to 75% after an implementation.

There are some best practices when it comes to preparing for and evaluating dashboards.

Understand the difference between dashboards and scorecards

The two terms are often used together, Snow said. They are distinctly different -- but often confused.

- Dashboards are reporting tools that consolidate and arrange numbers, metrics and sometimes scorecards on a single screen. They're often tailored for a specific role and display metrics targeted for a single point of view or department. They don't have to conform to a management methodology.

- Scorecards are applications that show progress toward a strategy, goal or objective using KPIs, which are more meaningful than just any metric since they actually indicate the performance of the business. Scorecards may be part of dashboards but are different from them because they include multiple points of view and apply a management methodology -- such as balanced scorecard.

"Don't confuse monitoring with managing," Snow said. "[For example] a sales dashboard would tell you revenue attainment toward goal, but a balanced scorecard would tell you if that business is actually profitable."

To figure out what's best for a project, start with the end in mind, he advised.

"Find out from your executive teams what they really want to do," Snow said. "Is it that you want information in a scorecard and you're tracking corporate strategy? Or is it just something I need to do to monitor an operation, process or portion of the business?"

Complete a performance management process and system assessment

Next, organizations should self-evaluate -- and complete a "thorough, unbiased assessment" of financial and operational processes and technology, Snow said. This can uncover problems, help set priorities and benchmark current situations, which will be helpful later on in evaluating the dashboard project's effectiveness. In the process, organizations can also collect the data needed to build a business case for the project.

Identify user requirements and project scope

This requires defining the "performance network," or who in an organization will need access to a dashboard or scorecard, Snow said. It also entails scoping the project -- figuring out exactly what will, and will not, be delivered in each phase. This is apparently easier said than done.

"Projects get derailed very quickly if the scope is not defined well up front," Snow said. "The project goes into scope creep and starts ramping up in features."

Trying to do too much too soon is a proven recipe for failure, he said.

Build a business case for executive dashboards and scorecards

This requires more than just an ROI analysis, Snow said. Dashboards and scorecards require executive support, "selling" the project throughout the organization, and effective change management processes.

"People hit walls at the change management piece," he explained, "because there's a cultural shift and change that happens when information is more visible."

Problems can arise when dashboards publish data that used to be more private, held in someone's own spreadsheet or a single department. This visibility is often a good thing, but organizations should be primed for this change up front. This means discussing the potential information that may be published on a dashboard or scorecard, Snow said, and defining what actions will be taken based on that information.

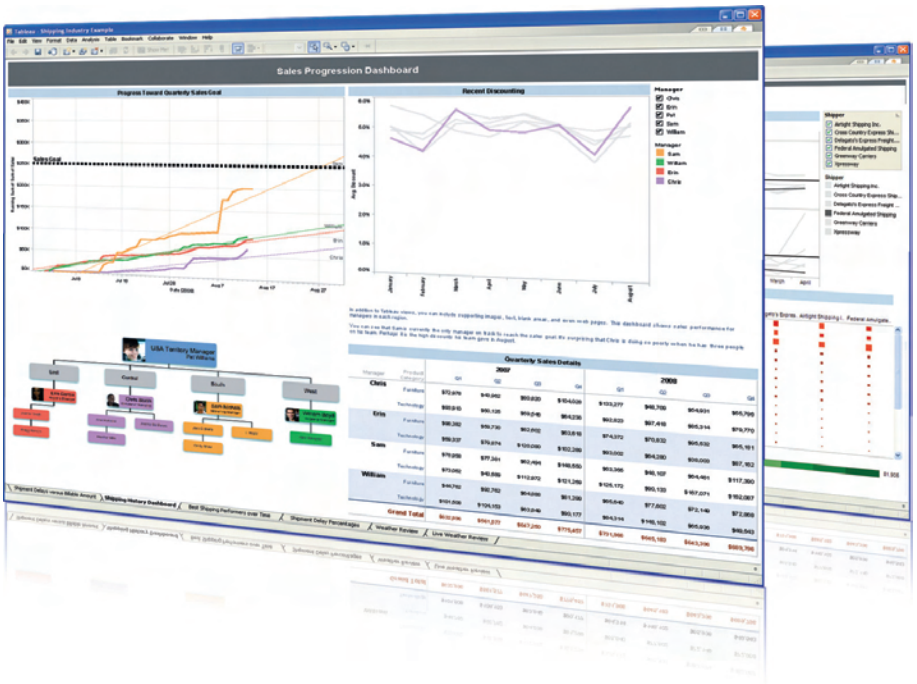
Evaluate dashboard and scorecard technology

It's common for organizations to skip many of the previous steps and evaluate technology first, he cautioned. But all of the steps leading up to the technology evaluation contribute to creating clearly defined requirements -- and this leads to making the right software purchase for an organization's needs. Once technology has been selected, Snow recommends proof-of-concept projects to iron out potential data problems, further refine design plans, and start to build more support and buy-in before the dashboard or scorecard goes live.

Plan a parallel data quality or master data management project

Data quality is a serious issue in dashboard and scorecard projects, according to Snow's research. If dashboards display incorrect or inconsistent data, it hurts user adoption and can force companies to "back in" to an unplanned data quality or master data management (MDM) project. While MDM can be a major undertaking, Snow explained, it's extremely important to have enterprise-wide agreement about things like an organization's definition of a "customer" or "product." And it's better to tackle these sorts of data quality and master data issues up front, rather than after a dashboard or scorecard has been deployed.

Deliver actionable insight through interactive dashboards



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Ten key elements for effective dashboard design

By Rick Sherman, SearchDataManagement.com Contributor

Dashboards have become the de facto face of performance management applications and are increasingly used in business intelligence (BI). But for every dashboard that effectively displays pertinent business information, there's another that is simply a set of pretty graphics that are not used for any business decision.

Effective design will differentiate the winners from the losers.

There are 10 key elements to designing effective dashboard applications:

1. Involve businesspeople in dashboard design

The businesspeople in the enterprise are your dashboard "customers." As with any product or service, you have to offer them something they need and will use. Many BI or corporate performance management (CPM) projects fail because the businesspeople do not use the dashboards -- they go back to their spreadsheets. In order to encourage dashboard usability, you need to start with the basics: what they have now, what they would need to shift to a new system, and what they ultimately want.

Business involvement is not limited to gathering business requirements and setting priorities. They should also participate in the development, testing, deployment and training phases of your project. Businesspeople need to be involved in the entire dashboard lifecycle to really produce what the business side needs.

2. Use an iterative dashboard design approach

It's a common lament of developers: "I built what the business asked for, but now that they've seen it, they say that it's not what they need!" They fell into the trap of thinking that the businesspeople knew what they wanted before development began and that requirements do not change. This is the risk of using the traditional project development process that many IT groups follow. This approach works when business needs are well defined and static, but that is often not the case with CPM.

Dashboard development calls for an iterative design approach that involves getting the requirements, prototyping the design (with data), getting business feedback, refining the design and then doing it all over again. The business evolves, and your dashboard needs to evolve, too.

3. Focus on the data in the dashboard

Developing a great-looking dashboard that doesn't have the data which the business is looking for is worthless. IT's prototype with the vendor demo might have looked great, but the excitement wears off when there's no substance behind it. While the dashboard is being developed, make sure someone is focused on getting data to populate it.

4. Include relevant key performance indicators

After getting the data, the next requirement that trips up the usefulness of dashboards is defining relevant or consistent key performance indicators (KPIs). There are two common pitfalls that organizations encounter in this area. First, many organizations get the level of detail needed to define the KPIs and then fail to validate those metrics with executives. The people reporting to that executive may have varying opinions on how to define KPIs, but it is the business decision-maker, i.e., the executive, who really determines how to measure performance. Second, some organizations fail to gather KPI definitions from across the enterprise, so business groups end up debating the numbers. If a dashboard is to be relevant, it needs to be consistent across an enterprise. "A single version of the truth" applies to the data and the KPIs presented in a dashboard.

5. Remember that one size does not fit all

Businesspeople in an enterprise have diverse information needs. Different groups, business processes and management levels need different data, KPIs and analytics from a dashboard. Dashboard designers need to take input and involve businesspeople from many groups to truly meet enterprise demand. Too often, only a few businesspeople are involved in dashboard design and feedback. In some instances, only business power users are consulted. The quickest way to get businesspeople to go back to their spreadsheets instead of using your dashboard is to leave out data relevant for them.

News portals, such as Google News and MSN, recognize that one size does not fit all, so they allow their users to customize what they see. You need to follow this and enable data diversity.

6. Use design principles from news organizations

Newspapers and news portals such as CNN and The New York Times follow basic principles in designing their front pages. First, they use a constant template for where they place information, so that every time people look at the paper or website, they know where to find things. Similarly, businesspeople should be able to use any of your dashboards and easily find what they need. Second, graphics and pictures are used to support telling the story and to grab your attention. In the same way, graphs on a dashboard need to grab a businessperson's attention and visually depict the data in a clear, meaningful way.

7. Keep data in the dashboards current

A businessperson can use a dashboard only if the data is current. This does not necessarily mean that the data has to be real-time, but it cannot be out-of-date for whatever action the business is trying to take. Daily, weekly or monthly data may be what is needed, but the dashboard must always feature the current iteration of that data.

8. Allow drill-down capabilities within dashboards

Just as you go from the front page to deeper pages within a news site, a business user often has to drill into the details beyond the data to determine what business action is called for. A report or graph displaying a trend is nice, but what is useful is drilling into the detail to see what is causing the trend and in what area the business user needs to take action.

9. Include actionable information

Performance management applications require a business to monitor, measure and act upon data. The dashboard is only a means to an end; it is the action that produces the results that business is looking for. When designing dashboards and talking to the business users about what they want, you should also ask how the dashboard helps in analyzing information and making decisions. If the dashboard does not help users take action, then it needs to be changed until it does.

Dashboard designers can get caught up in designing reports for the business to view rather than act upon. Too often, dozens or hundreds of reports are produced just because they have always been created, but no one is acting on data in them. A dashboard created without the context of a businessperson doing something with the information is not a dashboard worth developing.

10. Don't include too much

Everyone (except the person who created it) hates the PowerPoint presentation or website that is littered with stuff, has bright colors and has the latest "flashy" gadget. Contrast that visual with the simplicity of the Google homepage. Enough said.

Conclusion

Using dashboards is the most effective method of presenting information to the business to enable performance management and foster effective analytics. Just as paint on a canvas does not make a beautiful painting, simply using dashboard software does not produce an effective tool for business. Incorporating these 10 principles will help you build effective dashboards for your organization.

About the author
Rick Sherman has more than 20 years of business intelligence and data warehousing experience, having worked on dozens of implementations as a director/practice leader at PricewaterhouseCoopers and while managing his own firm. He is the founder of Athena IT Solutions, a Boston-based consulting firm providing DW and BI consulting, training and vendor services. Rick blogs on performance management, DW and BI at The Data Doghouse. You can reach him at rsherman@athena-solutions.com or (617) 835-0546.

In addition to teaching at industry conferences, Sherman offers on-site DW & BI training, which can be customized and teaches public courses in the Boston area. He also teaches data warehousing at Northeastern University's graduate school of engineering.

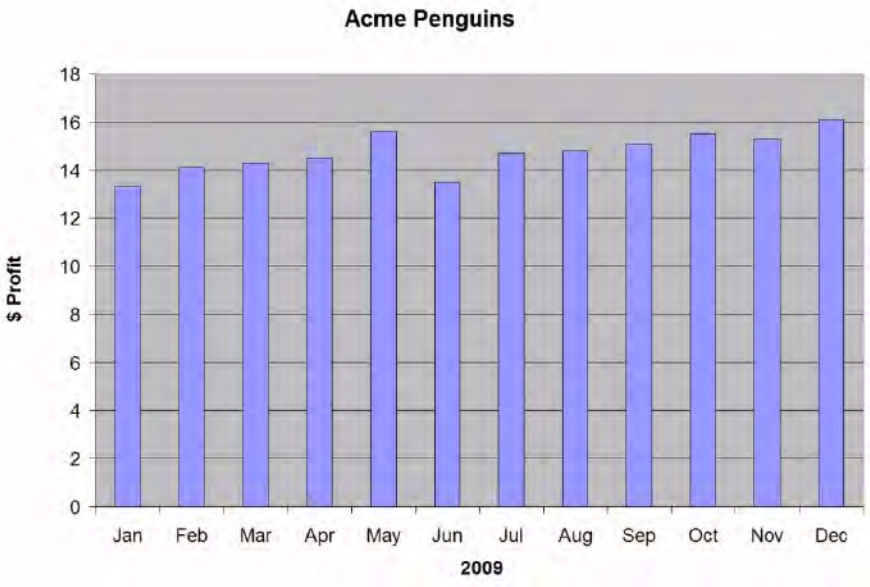
Executive dashboards and data visualization trends and future outlook

By Mark Whitehorn, SearchDataManagement.com Contributor

Dashboards have already proven hugely effective in helping some executives to understand how their business is performing. However, dashboards are still in their infancy and inevitably have borrowed heavily from the past. Most dashboards use presentation devices that were developed for paper -- possibly even parchment. The pie chart, for example, was first used in 1801. No one would suggest we abandon the pie or bar chart, but there is a golden opportunity to use the huge computing power at our disposal to make complex information easier to understand. So where do we go from here?

Trend #1: More analytical dimensions for executive dashboards

One obvious area for improvement in executive dashboards is in the number of dimensions (in the analytical sense) that can be represented on a two-dimensional surface (in the physical sense) such as a computer screen. In a typical bar chart, we see a numerical measure (say, profit) sliced by the members of a dimension (for example, the month members of the time dimension).



Even on paper, we were free to add extra analytical dimensions using color and shape, but computing power allows us to use movement to represent another dimension (often time). The best proponent of this I have seen is Hans Rosling, who demonstrates a unique way of presenting data in this video.

You can try out his software and data at GapMinder.org and you can create something very similar in your dashboard using the Google gadget called Motion Chart.

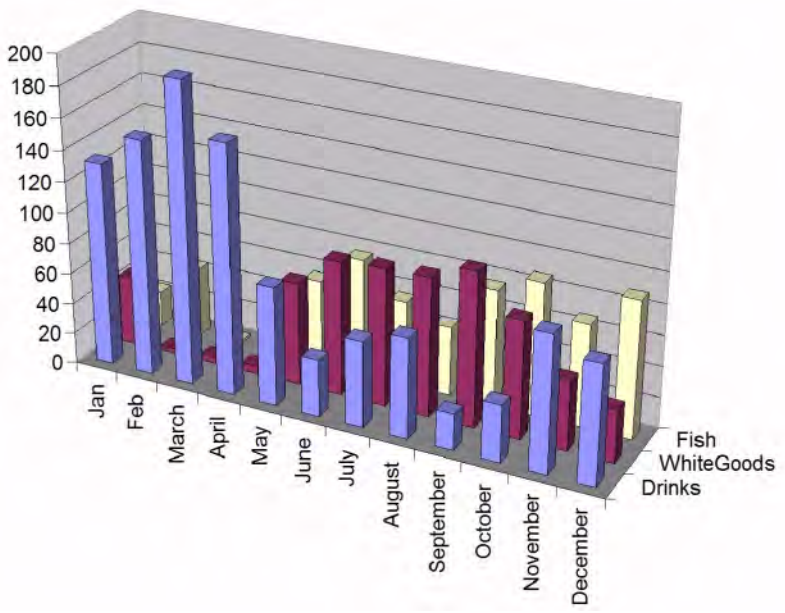
Andrew Smith, director at Escherman, a digital PR and marketing firm based in Surrey, U.K., is a big proponent of using analytics in dashboards.

Smith referred to a book called Competing on Analytics, in which authors Thomas Davenport and Jeanne Harris claim that those companies investing unreservedly in building competitive strategies based around data driven insights will significantly outperform those companies that don't.

"Every aspect of business can be improved through the better use of analytics -- none more so than marketing," Smith said. "The issue now is the ability to analyze and interpret the huge volumes of data being generated. Dashboards and visual data analysis will increasingly have a greater role to play in marketing generally and may even become the key competitive marketing differentiator."

Trend #2: The demise of 3D for enterprise dashboards?

It is very tempting to extend this idea and to try to represent three of the dimensions as the X, Y and Z axes on a two-dimensional surface in dashboards. Indeed, even the somewhat pedestrian Excel allows us to do this.



Jock Mackinlay (Tableau's director of visual analysis) believes this type of representation is problematic for two reasons. The first is simply occlusion (the data at the front has a tendency to obscure the data at the back), and the second is providing humans with controls that allow them to easily manipulate three-dimensional space. Where the data is truly three-dimensional (human body scans, oil fields, etc.), 3D displays are worth using, but for more abstract business data, the pain outweighs the gain, Mackinlay believes. So, despite what many people expect, 3D displays are unlikely to be a huge source of innovation in the future for executive dashboards.

Trend #3: More interaction for enterprise dashboards

Another major differentiator between paper and computer is that the latter can provide a high level of rapid interaction with the data. This area seems primed to offer the greatest source of innovation in the future.

According to Mark Lorion, vice president of marketing for TIBCO Software's Spotfire division, the future of business intelligence (BI) lies in data visualization and the ability of business users to take advantage of visualization methods to interact with data.

Lorion feels that the integration of data visualization to allow regular business users to explore and ask questions of large amounts of changing and diverse data represents the future of BI. He sees this as a major departure from traditional BI, which provided a quick dashboard of business metrics but required heavy involvement from IT and other analysts to access the data and compile reports that often failed to meet the needs of the business user.

Many traditional dashboards are relatively passive. And since there is clearly a limit to the information that a single screen can display, there has to be an upper limit on the quantity of information they can reveal. So they might show the overall state of the enterprise and maybe some departmental level information, but that’s it.

As Mackinlay points out, good dashboards can use relatively prosaic views of the data, but they must allow the user to interact with the data iteratively and very rapidly.

In other words, dashboards should simply be a starting point from which users can dig deeper into the data, and the display of the information should be so fast that the user is never aware of a delay. The trick here is twofold: The database engine behind the dashboard has to be lightning fast, providing the data as soon as it is requested, and the user interface has to be highly intuitive.

Trend #4: Focus on executive dashboard design and usability

To get to better usability, we need to get better at design. Indeed, however hard it may be for some technical people to admit, the main problems we face in turning data into information are not technical. We know how to handle data as dimensions and measures; we can produce very fast databases. What we also need is an interface that is so easy to use that the user is essentially unaware of it. There is no magic bullet here: We are still learning how to make interfaces to complex data easy to use, so this is an area where we should see significant advances in the future. The good news is that people are working on the problem and coming up with innovative ideas.

Trend #5: The importance of collaborative visualization in dashboards

And one final trend in dashboards: If we accept that it is a huge advantage to allow users to interact with the data (and it is), it follows that when they find something interesting, they will inevitably need to share it with others. And they won’t simply want to share a static view of the data, they will need to share the fully interactive view. This leads us to another area that Mackinlay believes is going to become crucial -- “collaborative visualization.” Indeed, he argues that some analytical processes cannot be achieved by a single individual because they require the combined expertise of several specialists.

Trend #6: Blue sky?

Will we be using graphs and dials in 10 years' time? Undoubtedly -- but perhaps we will have become a little more imaginative in presenting the highest-level, overall picture of the data. After all, humans have to be trained to understand graphs but do not require training to be excellent at both face recognition and reading moods in faces. So, in 10 years' time, the highest-level dashboard might be a face – a happy expression indicating that all was well, a quizzical expression suggesting that it would be worth drilling down, and so on. It could bring a whole new meaning to the expression "putting a brave face on the figures."

Summary

The future for dashboards specifically, and data visualization in general, is unquestionably bright -- for a very simple reason. Enterprises large and small generate data. On a daily basis, business decisions have to be based on that data, but the raw data is simply overwhelming. So data visualization has essentially become indispensable.

About the author

Dr. Mark Whitehorn specializes in the areas of data analysis, data modeling, data warehousing and business intelligence (BI). Mark works with national and international companies, designing databases and BI systems. In addition to his consultancy practice, he is a well-recognized commentator on the computer world and has written nine books on database and BI technology. The first one, Inside Relational Databases *has been selling well since it was published in 1997 and is now in its third edition and has been translated into three languages, other than English. The most recent book is about MDX (a language for manipulating multi-dimensional data structures) and was co-written with the original architect of the language -- Mosha Pasumansky. Mark is also a mentor with Solid Quality Mentors.*

On the academic side, Mark is a research associate at Cambridge University. There he is involved in an international research project analyzing data that was available to Darwin before he wrote The Origin of Species. *In 2005 this group published a paper in Nature which essentially rewrote our understanding of how Darwin came to develop the theory of evolution. (Nature, 2005, 4th. August. p643 "What Henslow taught Darwin." Kohn, Murell, Parker, Whitehorn.) He is also a Senior Lecturer at the University of Dundee.*

Q/A: Working with dashboard editors for streamlining and increased user adoption

By Jeff Kelly, SearchDataManagement.com News Editor

Editor's note: *The following Q/A is an edited transcript based on a previously recorded podcast on SearchDataManagement.com. Please contact editor@searchdatamanagement.com with any questions.*

SearchDataManagement.com News Editor Jeff Kelly: Dashboards, with their interactive gauges and dials, can be an effective way to display the critical information needed to monitor and manage business operations. But when dashboards become overly cluttered with confusing gadgets and tools -- a common occurrence -- their effectiveness is diminished and user adoption lags.

To streamline dashboards and make them as effective as possible, organizations should consider tapping a dashboard editor, according to Baseline Consulting's Steve Putman. Putman recently sat down with SearchDataManagement.com to explain his concept of a dashboard editor and why it plays a critical role in developing dashboards in any industry.

But before we get started, here's a little more information on Steve's background. Steve is a senior consultant at Baseline Consulting, a business analytics and data integration consulting firm. Steve has more than 20 years of experience supporting client/server and Internet-based operations from small offices to major corporations. He has extensive experience in a variety of front-end development tools, as well as relational database design and administration, and is extremely effective in project management and leadership roles. Steve is a recognized thought leader in data quality, data governance, and master data management theory and practice, along with enterprise data warehouse architecture and semantic Web technology. Before joining Baseline, he owned his own software and consulting company.

Kelly: So for those listening who might be new to business intelligence, can you explain exactly what a dashboard is and how it fits into the overall business intelligence landscape?

Steve Putnam, Senior Consultant, Baseline Consulting: The dashboard is basically a graphical representation of summarized bits of data. Basically what we're trying to do is replace the old green bar-type reports of days gone by with a very quick analysis tool for people to use to see what the state of the business is at a given time. A lot of people that use them are line managers and executives that need to have information quickly and they don't spend their entire day in front of a computer. But it also can be used as a gateway to more detailed analysis for power users and information workers.

Kelly: Which leads me to my next question. Are dashboards geared towards power users or everyday average business users or both?

Steve: It can be geared to both types and actually everybody in the organization. The balanced scorecard movement is actually one sort of dashboard that has a specific structure to it that starts from a top-level mission

statement, for example, and can go all the way down through the lowest level worker to give them an idea of how what they do affects the entire organization. That's one sort of dashboard. Generally, they're focused on a particular business process area such as a call center application.

Kelly: You say that busy dashboards are one reason dashboard projects fail to gain traction with users. Can you explain what you mean by busy and why is that such a hindrance to dashboard adoption?

Putnam: There have been studies done by cognitive researchers that have shown that the human mind tends to fall off a cliff from a comprehension point of view after about seven pieces of data at any one time. So what generally happens in dashboard projects is the requirements are generally given in a vague enough way that the business analyst will take them and explode them out into a lot of different areas that may or may not be related to the base requirements. And also the technical people gather up all the types of data that might be used for this analysis. So what ends up happening is you've got a lot of metrics that may or may not be in the proper context either against each other or against the overall goal of the dashboard. So what ends up happening is the screen becomes too busy, too many pieces of information at one time, which kind of defeats the purpose of a quick temperature gauge, for lack of a better term. And also it has performance implications in both a data warehousing environment or an operational environment based upon what the data structures are that you're pulling information from. So if you're pulling too much information you have a tendency of taking too long for the dashboard to load. What happens then is the ultimate people who are suing the dashboard get frustrated because the application takes too long to load so they go and find their information somewhere else. It kind of defeats the purpose of creating the dashboard in the first place.

Kelly: To make dashboards easier to use and quicker to load you suggest bringing in what you call a dashboard editor. So what role exactly would this dashboard editor play?

Putnam: The metaphor that I use is a film editor in a movie. The film editor is one of the main production staff. They are usually credited along with the writers, the executive producers, the director of a movie. They're very vital to the movie being successful. And what a film editor does is work with the director to focus the vision of the story that the movie is telling. They take a lot of raw material that's been shot by the director and the film crew and they cut and paste and assemble a coherent story that has flow and is concise. So I'm suggesting that a similar role be identified within a dashboard project to make the story that you're trying to tell with the dashboard more focused, more coherent, and then by extension it becomes a better performing solution because you're not loading everything that you might try to do with your data source.

Kelly: So how would a dashboard editor resolve the issue of busy dashboards specifically? How would he or she wade through all the possible data combinations that could be put on a dashboard and decide which ones to go with?

Putnam: What an editor would do is look at the entirety of the dashboard and determine how one set of metrics relates to another relates to another and be able to say, 'Well, that really doesn't fit with the overall story we're trying to tell with the dashboard.' You see when you get requirements for a dashboard you get the overall story of what you're trying to do but you don't get all the scenes, shall we say, to follow the metaphor. You don't necessarily

know how all the scenes fit together. So the editor would take the grander vision and determine how each of the metrics that you show fit the vision. So for example if you manage a call center you care about things like wait times for your calls, the number of levels in the organization it takes to answer a questions, things like that. You don't necessarily care about things that aren't specific to that business process, things that can creep in if there is no dashboard editor.

Kelly: In addition to streamlining busy dashboards, what other problems or issues do you envision a dashboard editor handling?

Putnam: Another one is performance, which I touched on. If you're only loading the data that you absolutely need to answer a focused group of metrics it stands to reason it will load faster. So the end user who doesn't necessarily care about drilling in to do more detailed analysis on the various metrics but just want to see what's going on, the solution loads much faster and they're more likely to use it. The tool won't get in the way of what they're trying to do, which is manage their process. Another thing that an editor can help out with is data security. It's just another check that the end users are seeing the data they're supposed to see and not seeing the data they're not supposed to see, which can be a problem especially in an aggregated environment.

Kelly: So who in the organization should take on the roll of dashboard editor? Should it be a member of the business intelligence team or someone brought in from an outside group, and do you envision the dashboard editor role as a full time roll for someone or would it be just one of many duties of an IT staff member?

Putnam: So I see this person as not necessarily part of the business intelligence project team but someone who's involved in BI projects on a larger level, I see them as a member of the organization – not a contractor or consultant. This is somebody who has to have enough political weight in the organization to make the calls on editing the content. They have to understand the bigger picture of what the dashboard is trying to do. And I think the most important thing is they shouldn't have a vested interest in the delivery of the solution itself. What I mean by that is a business analyst or technical person's performance is predicated on the success or failure of that solution. The editor should not have their job performance be solely determined by how the dashboard performs.

Kelly: Why is that so important?

Putnam: That's important because human nature is that you want to be able to produce at least as much and preferably more than what is requested of you when you're doing a project. That's something that I've seen over and over again. When you're not sure as a project team what end users need you tend to throw in more stuff because they might need it later. The editor will say, 'You know what, I don't care necessarily if you can produce all of this other data. I care that we're answering this question.'

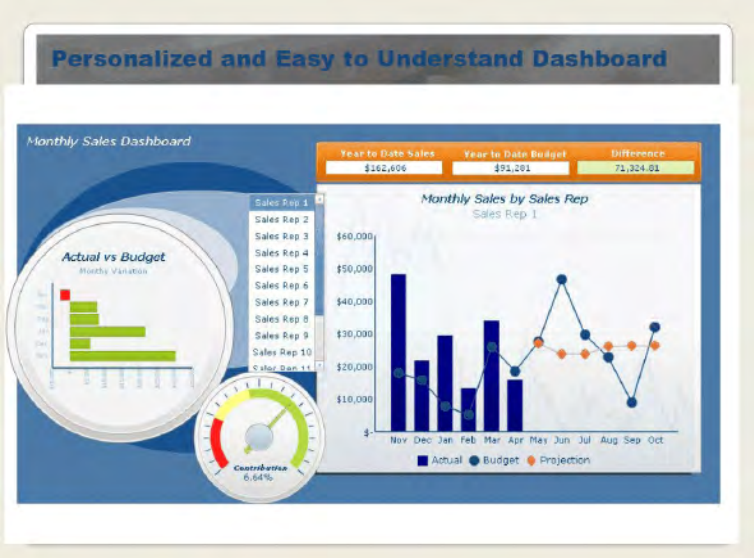
Kelly: You also mentioned in your previous answer that a dashboard editor has to have the political clout to get things done, which leads me to my last question about selling the concept of a dashboard editor to the business, especially to management who ultimately pays this person's salary. How do you go about convincing management that this is a good investment to make?

Putnam: Another thing that makes a good dashboard editor is knowledge of visual design concepts. I alluded earlier to these cognitive studies about the number of things on a screen and the comprehension level falling off as you add more to the screen. That's one of the things that go into visual design concepts. Technical resources and business analysts are not necessarily visual designers. So a successful editor will understand those concepts maybe than the technical project team. So that's one way to sell it. You are providing a resource that has a little bit different training to get you a better solution. Talking about political pull, there's a better chance if someone has political pull in the organization and they're fairly high up in the organization they will have a better chance that the solution will be better aligned to the people that will ultimately use it if they're one of them essentially. And also it provides a check from a non-project person, someone who's not necessarily assigned to the project team; it provides a check so the solution is more viable.

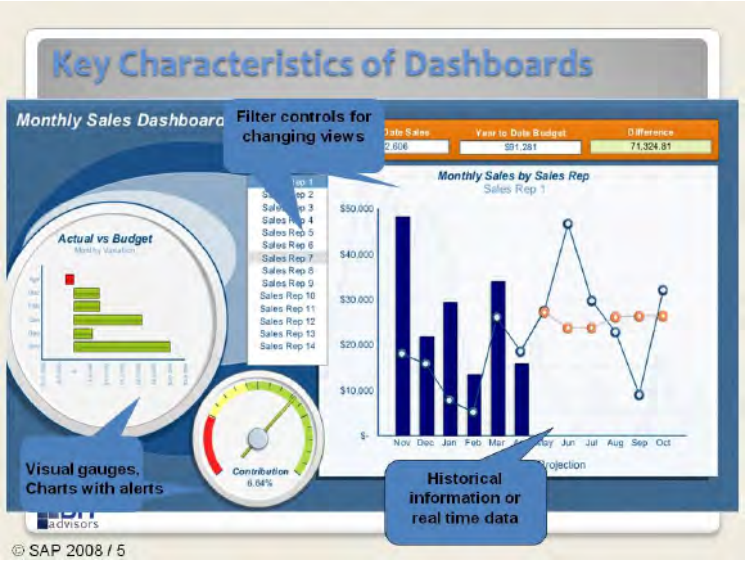
Real-life examples of effective dashboard design

If you've read the rest of this dashboard guide, you've uncovered tips for dashboard design, heard about the latest dashboard trends, and you're ready to take action and make more effective dashboards in your organization. Browse through the examples below from BITadvisors, Inc. for a look at some optimized dashboards, including examples of strategic, tactical and operational dashboards. Also see examples of how to encourage interactivity in dashboards and how to set up your dashboard based on how users will interact with it. If you're looking for more examples and interactive advice, be sure to visit SearchDataManagement.com to see a 12-minute screencast video with Brian Jordan, CEO of BITadvisors, who goes through dashboard examples and demonstrates some of the best and worst dashboards and scorecards he's seen.

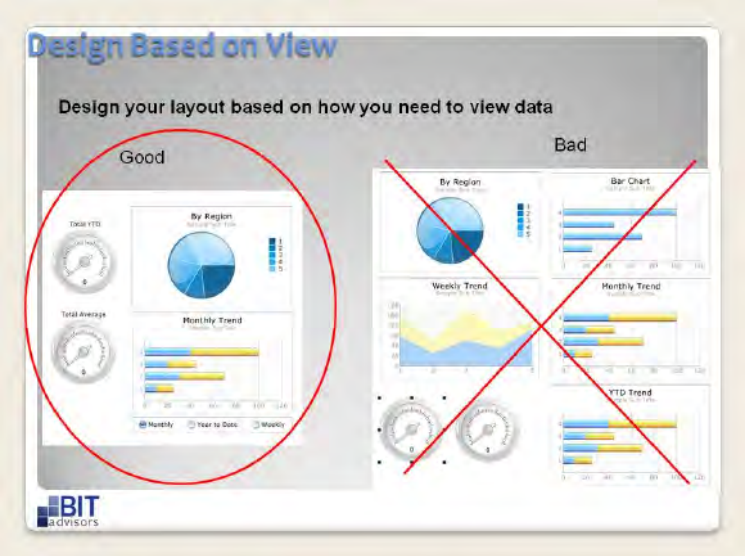
Example #1: A personalized and easy to use dashboard



Example #2: How to make use of key elements in dashboards



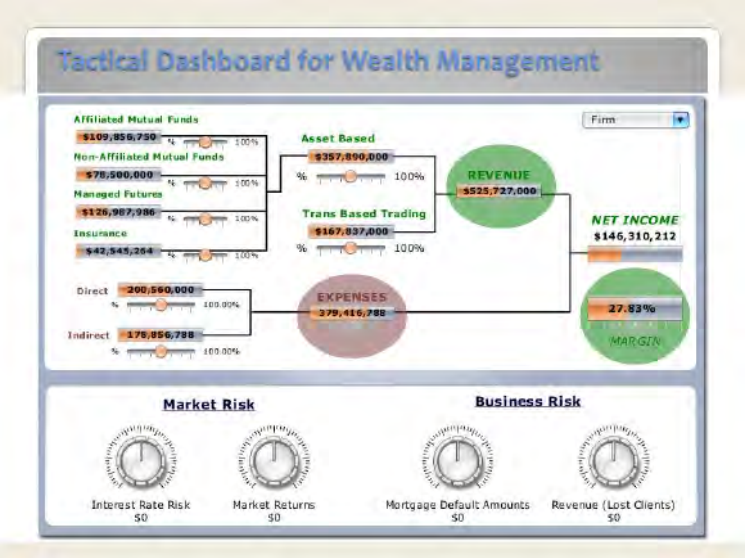
Example #3: How to design dashboards based on how users will view them



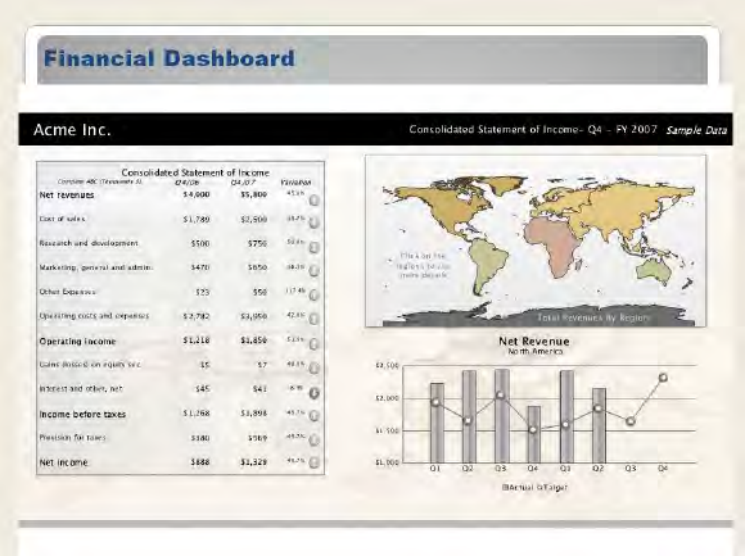
Example #4: How to encourage interactivity in dashboards

Example #5: A strategic dashboard example

Example #6: A tactical dashboard example



Example #7: An industry-specific dashboard example



About BITadvisors, Inc.

From the initial choice of the most appropriate business intelligence solution to successful implementation to end-user training, BITadvisors is a "one-stop shop" for companies seeking BI software and consulting. At BITadvisors, our team of BI professionals have many years of experience planning, implementing and supporting BI solutions.

Our customers range from small, up-and-coming organizations with a handful of employees to successful Fortune 500 companies. From basic business reporting needs through the most sophisticated analytical applications, BITadvisors has worked with them all. In addition to a wide range of customer sizes, BITadvisors has worked with customers in a variety of industries, including Healthcare, Financial Services, Manufacturing, and Life Sciences. For more information, visit www.bitadvisors.com.

Resources from Tableau Software

Video: Creating and Deploying Brilliant Dashboards

Whitepaper: Three Blind Men and an Elephant: The Power of Faceted Analytical Displays – Stephen Few, Perceptual Edge

Product: Start creating brilliant dashboards today with a 14-day free trial of Tableau Software

About Tableau Software

Tableau Software builds software for data visualization and rapid-fire business intelligence. Our mission is simple: help people see and understand data. Tableau's award-winning products are easy to deploy and make analytics and business intelligence fast, easy and fun. They include Tableau Desktop, Tableau Server and the no-charge Tableau Reader.

We understand the needs of businesspeople, non-technical and technical alike, when it comes to retrieving and analyzing large volumes of data. People using Tableau can literally connect to nearly any data source in minutes, whether it's an enterprise-wide data warehouse or a series of local files. Once connected, they can analyze data through an easy drag-and-drop interface requiring little to no training. As a result, Tableau has already attracted over 30,000 licensed users in companies from one-person businesses to the world's largest organizations.

Tableau Software began as an extensive R&D project inside Stanford University's prestigious Department of Computer Science. Professor Pat Hanrahan and Chris Stolte, a Ph.D. student at the time, together combined a structured query language for databases with the communication power of visual graphics, inventing a new database visualization language called VizQL™ (Visual Query Language).

Tableau, under the technical leadership of Hanrahan and Stolte and the business leadership of CEO Christian Chabot, used the VizQL foundation to produce a fundamentally new way of interacting with the same relational databases that are the backbone of the global database and business intelligence markets. For a free trial, go to http://www.tableausoftware.com/trial.