5 Unorthodox Principles for Dashboard Success

An Antivia e-Book
Introduction

Over the past several years, in my time at SAP and more recently with Antivia, I’ve been privileged to witness many dashboard projects, at many different organizations around the world. The one thing that has always struck me is that successful dashboard projects seem to share a set of common characteristics.

But, the qualities these projects have in common aren’t always as obvious as you might think.

So, let’s take something of a sideways look at the world of dashboards as we consider 5 principles of dashboard success:

1. Definitions don’t always help
2. Visuals matter
3. Users always want more
4. Beware of end-users and large data sets
5. Knowing is nothing, doing is everything

Even though the 5 things we’re going to look at might seem a little tongue in cheek at times, each principle contains advice that I hope will genuinely help you to deliver dashboards more successfully and more valuably across your organization.
1. Definitions don’t always help

The perfect data warehouse?

Way back in the mists of time when I was just getting started in the data warehouse industry, I remember coming across a guy at a conference and he had taken Bill Inmon’s definition of a data warehouse to heart:

“A subject-oriented, integrated, time-variant, non-volatile collection of data in support of management decisions”

In fact, he was incredibly excited about his data warehouse it conformed completely to this definition and it was normalized in the right way, too. As far as he was concerned, he had built the perfect data warehouse.

Interestingly, when I asked him how many users were accessing his data warehouse, he came back with rather more self-confidence than I feel was warranted, saying that adding users to the data warehouse was going to be phase-2 of his project.

In focusing so much of his energy on slavishly following this definition and ensuring everything was technically correct, he ended up getting everything back to front.

Data warehouse, business intelligence and dashboard projects should all be in support of the business, not the technology. So, I’m always very wary of technology based definitions of business intelligence and of definitions which are too constraining.

So, what is a dashboard?

When I looked for definitions of dashboards, I found the same thing – technology dominated definitions.

The first definition I found was:

“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

© 2013 Antivia Group
monitored at a glance.”

Information Dashboard Design, Stephen Few, 2006

The first part is okay but why does it have to be “a single screen” can we not have different screens of critical information we can navigate between, and why does it have to be monitored “at a glance”, is that not also a little restrictive?

But, there was worse to come elsewhere…

The second definition I found seemed to go on for about 3 pages:

“A Business Intelligence dashboard is a data visualization tool that displays the current status of metrics and key performance indicators for an enterprise. Dashboards consolidate and arrange numbers, metrics and sometimes performance scorecards on a single screen…”

And, there’s more…

“…the business intelligence dashboard is often confused with the performance scorecard. The main difference between the two, traditionally, is that a business intelligence dashboard indicates the status at a specific point in time. A scorecard, on the other hand, displays progress over time towards specific goals…”

And, it just goes on and on. In fact, it tells you at the end…

“…A product combining elements of both dashboards and scorecards is sometimes referred to as a scoreboard.”

http://searchbusinessanalytics.techtarget.com/definition/business-intelligence-dashboard

I fail to see how this is going to help anyone drive their dashboard strategy forward. All you’re going to do is end up getting caught up following these slightly strange definitions.

A better definition of dashboards?

It would be wrong to poke fun at other definitions, without offering you an alternative. So, here I offer what I hope you’ll agree is a simpler definition which
starts to capture how you can make the most use of dashboards inside your organization.

At its most primitive, a dashboard is:

“An easy-to-use display of data which drives its users to deliver measurable increased value to their organization.”

This definition hones in on business value, talks about ease of use, and doesn’t constrain by saying that it should be a single view.

This is where I’d like to start, and we’ll revisit this definition later on as we look at how we can use elements of this definition to drive your dashboard strategy.
2. Visuals matter

A dashboard cannot deliver value if no-one uses it

Once you’ve created some dashboards, one of the key challenges is to get people to use them. All too often we hear about shelf ware; business intelligence technology that is deployed, but never used.

It’s an obvious truth that a dashboard cannot deliver value, if no-one uses it. So, there is no point in building dashboards if you don’t have user buy-in and engagement.

And this is where I think people often miss the opportunity to use high impact visuals, a lesson from the web-world, to get users engaged in the business intelligence process.

Is this a good dashboard?

Information Dashboard Design, Stephen Few, 2006

Research says this is a good dashboard.
What do you think?

What you see here is a dashboard that many people will tell you is a good dashboard. In fact, from all the research that has been done into what makes a good dashboard, this dashboard ticks all the boxes. It’s a dashboard you can quickly glean information from. It’s an at a glance dashboard which gives you everything you need. It’s a great example of what a dashboard should be.
And, that is the case for people who are prepared to invest time in how to understand a dashboard like this.

But, the problem is that this is not a user friendly dashboard that engages people and draws them in. This type of dashboard often scares people. High-density dashboards tend to turn people off. It’s not what they think of, when they imagine a dashboard. People tend to think of gauges and colors and more web-like, engaging UI metaphors.

So, rushing in with a dashboard like this, even one that conforms to all the best research practices, doesn’t actually help to engage end-users.

And, worse than that, these types of dashboard come with a whole set of rules:

- *Don’t use shadow effects*
- *Don’t use reflection effects*
- *Don’t use pie charts*
- *Don’t use gauges*
- *Use muted colors*
- *Minimize whitespace*
- *Maximize information density*

All of these rules have sense, and a good deal of research behind them, but, typically, they turn people off in the initial engagement process.

**Use high impact visuals during the early stages**

Which is why I come to a dashboard like this:

![World population dashboard](image)

The interesting thing about this dashboard is that I can interact with. I can spin the globe, and click on various cities around the world to pull up a number of statistics. Nobody is suggesting that this is a good use of screen real estate. And, this dashboard wouldn’t live long at all in the hand of end users.
They would want more information. They would want better presented information.

However, as a means of engaging people, as a means of getting people involved in the process, people are able to see this dashboard, they are able to interact with it, and it has the same effect as the unlock slider on the iPhone – as soon as people touch it, they’re engaged, they want to use it.

With dashboards, the first step of the battle is getting people to say “I want to do that.” And, Xcelsius is one of the few products where almost everyone who sees it says “I want something like that. I’m not quite sure what I want it for, but I want something that looks a bit like that.”

So, you should use these high-impact visualizations at an early stage, to draw people in, so that they want to get more involved with your dashboard project.

Over time, your users’ requirements will evolve and your dashboards will become increasingly sophisticated to meet these needs. Typically, you’ll find that your dashboards change to resemble one of the information packed dashboards that we originally looked at. But, getting to this stage is a journey that takes several steps, and successful projects start by engaging users early and capturing their imagination.

Don’t underestimate the iPhone effect

I guarantee that as a consumer when you go to a web-site, whether you’re looking to buy a book, buy a television, or book a vacation… if the web-site you’re visiting looks really nice, you’ll be more engaged by it, you’ll be more likely to trust it, and you’ll get sucked in to using it more. On the other hand, if you go to a web-site, that’s uses the courier font, contains broken links, or uses low quality images, you immediately turn Off, dashboards are the same.

Here is a dashboard built by Miko Yuk from EverythingXcelsius for an SAP dashboard contest. It won first place, and one of the reasons it won is that it’s immediately engaging.
People want to use this dashboard because it has been designed well by a graphic designer.

Visuals matter. I call it the iPhone effect:

Never underestimate the power of well used visual effects and graphic design to draw users in and dramatically increase the use of dashboards.

Apple is the absolute master of visualization. With all their products, they get the visualization exactly right. They have glare on top of their icons. Why would you want glare on icons? There is something about that effect that makes people want to use it. And, we need to bear that in mind when we look at dashboard design.

3. Users always want more

Once your users are engaged and using their dashboards, you’re then caught up in a different problem.

Users start with one thing which they think they want, like the big spinning globe we saw earlier. Or, maybe they start with 3 big gauges on their screen, but very quickly they want more. Soon, they want to see 3 charts instead and they want you to add more information onto their dashboard. Users always want more data and they always want more ways of looking at that data. Every time you deliver a dashboard to them, they’ll soon come up with a new way of wanting to see that data.
Sometimes, this is seen as a problem. But, actually, this is a really good thing. It means you’ve got an engaged user community who want to use this information. That’s like gold dust in the business intelligence world. But, it has to be carefully managed.

When users ask for more, behave like a 3 year old

When users ask for more, you have to ensure you don’t promise things you can’t actually deliver. But, also that you don’t let user’s run away and request things that they actually don’t want.

You need to keep asking “Why?”

Kids are great at this. “Why’s this?” “Why’s that?”

So, when end users are asking for more data, more information, more visualizations and more drill down, ask them “Why?” and get to the point of what they’re trying to do.

But, when a user says “this is why I want it” or “here is what I want”, if there is a good business reason for doing it, then the rule is you need to deliver it.

Dashboard development productivity is critical

This iterative approach is a great way of drawing users into the dashboard creation process, working together you’ll ensure your users get the dashboards they need. But, if you don’t have the productivity in your dashboard development environment to keep pace with your users and a way of making sure that you can deliver what your users need, then you’ll quickly lose credibility and with it the momentum of your project.

4. Beware of end-users and large data sets

Users always want more data

Not only do users want more visualization and more interactivity in their dashboards, they always want
more and more data in their dashboards. Sometimes these requests are valid, but sometimes they are not. When you ask an end user what they want often they’ll tell you they want everything about everything, by everything – so they can slice and dice to the nth degree. They want the flexibility to ask any question they can think of, and many questions they haven’t yet thought of.

However, this is rarely what is really required for a business user. What user’s should get is the information they need to push them to do their jobs better.

99% of the time what users want and what users should get are different things. In fact, 99% of the time, complete unfettered access to information actually gets in the way of someone doing their job better. The other 1% are analysts. These are people whose job is to genuinely look at data, understand it in more detail, and drive the organization forward by finding out new things that we didn’t know before about the data and the business. But, this is a small subset of your business users, and I’d argue that what this group needs isn’t dashboards; they need specialized analytic tools that allow them to roam over huge amounts of data.

Dashboards are for people who have a job which isn’t about analyzing data – their job is getting on with the business of running the business. They should be able to get into their data, get what they need, and get out as quickly as possible.

The “Goldilocks” dashboard

99% of the time the answer is to create a “Goldilocks” dashboard:

*Not too little data, not too much data, just right*

With a “Goldilocks” dashboard, there is not too little information, where you are just putting up the current state of play – this would never help anyone do anything.

There’s not too much information, where all your users’ do is sit with their dashboard asking questions all day and not getting on with their jobs.
It’s the amount of information that’s just right. It’s enough to help people take action from the information available, but not too much that they get distracted by asking tangential questions that may or may not have a beneficial effect.

And, we all know what that’s like...
How many times have you been on the web to find something specific, but 15 to 20 minutes later you find yourself 20, 30, or 40 web clicks away from where you started, because you’ve been engaged by other interesting things?

Give your users information about your business and they’ll click on that data all day to try to understand things, but is this really driving your business forward? You need to be really careful that it is.

5. Knowing is nothing, doing is everything

Wisdom in 140 characters

And that brings me on to what I believe is one of the most powerful concepts behind dashboards, and it was only cemented in my mind a short while ago. And, it’s the idea that dashboards are about doing, and not about knowing.

Knowing something about your business isn’t important, doing something about your business is all that matters.

And it came about, because I saw the best business intelligence advice I’ve ever seen in 140 characters, in the form of a tweet by Andreas Bitter, the Gartner analyst.
If there was ever a phrase that should help people drive their business intelligence, and particularly their dashboard strategy, this is it.

Dashboards should always drive action

Dashboards are about helping people act, rather than helping them to be reassured about the current state of play.

That’s where the early definitions of dashboards we looked at fall down. They tend to encourage the mindset that “I’ve got an all green dashboard, everything must be OK.”

A fully green dashboard never did anyone any good; it simply reassures you that you’re in the right place. It doesn’t help you sort your problems out, or to start taking efficiency savings to the next level, in fact it breeds a sense of complacency.

Dashboards have to be there to drive action, and not just to inform people about the current state of play.

“An easy-to-use display of data which drives its users to deliver measurable increased value to the organization.”

And, this is why in the alternative definition that I gave, I talked about driving users to deliver measurable value. It’s not just about giving people information; dashboards should drive users to take action. It should be difficult to use a dashboard and not take an action from it.

Back to Goldilocks

And, this goes back to the “Goldilocks” principle. An all green dashboard is useless, nobody does anything. Nothing changes. People just feel reassured. And yes, as human beings we’re very reassured by knowing, but, knowing never changed anything.

Doing changes things.

And, actually, a dashboard with some red in it isn’t that much better. A dashboard with some red in it tells me I have a problem, but the question is: “what do I do about it?”
We need just enough information to drive action and get people to do things about this. And that almost always involves interactivity – the ability to drill-down to see the next level of detail. For example, if I’m below target on my pipeline, where are the areas I should be drilling into? If I need to make some more sales calls, who should I be calling? Which products would be best to pitch to which customers? Dashboard are about understanding the activities that drive the business and helping people to take the next step. In fact, often it shouldn’t be a decision, the dashboard should present the information to people as “you need to do that”. For example, you need to think about this product, you need to call this person, or you need to stack this on that shelf.

Dashboards drive action in the business, they’re not about analysis. The analysis should already have been done. We should understand our business and from this deep analysis of our data, we should understand which actions we need people to take in specific circumstances.

So, it’s not about if something is red or if something is green, it’s about if something is red, how do I fix it? Or, if something is green, how do I improve it. It’s about giving people information, minute by minute, in order for them to do their jobs better.

So, a key principle of dashboards is: **dashboards should always drive action.**

Dashboards are not just about preserving the status quo; they’re about providing information to help people take the next step, to make the business better, or to fix problems that have occurred.
Afterword

So, a very left field view of dashboards and business intelligence, but I genuinely believe that each one of the 5 principles I’ve discussed here, starts to inform a way in which we can use dashboards better.

I hope these 5 principles provide you with food-for-thought and I wish you every success delivering actionable dashboards across your organization.
About Antivia

Antivia is an international software company run by a team of seasoned BI experts, with backgrounds working at SAP, Business Objects and Crystal Decisions.

Frustrated by the low adoption rates achieved by traditional BI tools, we have a vision of BI for everyone, not just analysts ... where 100% of end-users within an organization have fingertip access to all of the information they need to do their jobs, in a format that works for them.

This vision is realized through DecisionPoint, a next-generation end-user BI tool, which enables you to create stunning interactive dashboards, reports and BI applications for mobile devices and the desktop, with no-coding. With DecisionPoint, you can produce the tailored BI interfaces that end-users really need; interfaces that are simple enough to be used without training, yet sophisticated enough to allow end-users to interact with their data to answer all their questions.

DecisionPoint eliminates reporting backlogs and, at the same time, avoids the need to overwhelm non-technical users with complex, ad-hoc, self-service tools which make them work too hard to access their information. And, when used to deliver to mobile devices, DecisionPoint has the potential to drive BI adoption towards 100% ... towards BI for everyone.

DecisionPoint is based on the same proven back-end server technology as XWIS Advantage, which addresses performance, productivity and interactivity limitations in the SAP BusinessObjects Dashboards product.

Our customers span 4 continents and include: 3M, BlackBerry, Deutsche Bank, Fifth Third Bank, Honda, HP, Shell, Shire Pharmaceuticals, The Coca-Cola Company, Telenor, The NHS and Vodafone.

We operate from offices in the United States and Europe.