

Why ad-hoc/self-service BI fails

And, how dashboards provide the answer

Written by:

Donald MacCormick

Bryan Motteram

Introduction

Ad-hoc/self-service BI is the wrong answer to the right question.

The question is:

“How do we empower end-users who are not analysts to answer multiple BI-related questions without going back to IT?”

Time and again, the suggested solution is to ask the users themselves to do more of the work by giving them access to ad-hoc (or latterly data discovery) BI tools. However, time and again, this approach has failed, because these types of tool are too complex.

It is not that the users don't have the ability to use these tools, rather they do not have the time (or often the inclination) to learn to use them.

Despite this continued failure, many in our industry still claim that ad-hoc/self-service is the nirvana for

end-user BI. In this eBook, we will show why this is the wrong approach and offer an alternative, as we discuss:

- *The allure of ad-hoc/self-service and the paradox at its heart*
- *Why issues with self-service stem from a failure to recognize 2 different types of BI user within our organizations: end-users and analysts*
- *How these 2 types of user have different needs and need different BI tools*
- *Why ad-hoc/self-service fails when we put analyst-focused tools into the hands of end-users.*
- *How the solution is to give end-users a new type of interactive dashboard, in effect a mini BI application, focused on their needs and allowing them to answer multiple business questions, without going back to IT*

- *How delivering interactive dashboards can break through the plateau of 20% adoption and drive us towards Universal BI.*
-

What is self-service BI?

The ad-hoc/self-service BI paradox

Although ad-hoc/self-service BI has been around for 15 to 20 years in various forms from end-user query through to the more recent data-discovery tools, it has consistently been shown to be the wrong answer to the right question.

End-users need information to do their jobs. However, getting useful information out of corporate systems is notoriously difficult, so the default solution is to have a team of IT people whose job it is to answer the incoming questions from the users, usually in the form of static reports or Excel data extracts.

The trouble with this approach is that however much resource is put into the reporting team the backlog of requests always grows over time.

Both the IT team and the users suffer the stress and frustration of late or non-delivery and both start to ask the right question:

“Wouldn’t it be great if end users were able to get all the information they need for themselves?”

But, unfortunately, the pendulum swings all the way to the wrong answer: **ad-hoc/self-service BI**.

The dream is for IT to just provide a well-formed data warehouse along with a generic ad-hoc/self-service or data discovery tool and suddenly everything will be fine. Users will get their information, IT can return to the infrastructure they are most comfortable with and the dreaded backlog evaporates.

However, the reality is very different. The nature of business data and the need for flexibility in a generic data access tool means that using these systems is

too complex for the typical end-user, not because they are not able enough to use them, but because they have no time to learn their intricacies. They are running a business. They have other things to do.

So quickly, these systems turn into enterprise reporting systems where a few people create reports for the many ... and, we are back to square one where a small number of BI content creators struggle to service end-user reporting requests and once again, everyone is frustrated.

Self-service means different things to different people

To really get at the heart of the matter we need to look at what we mean by “self-service”. So far in this discussion we have used the phrase ad-hoc/self-service to identify the far end of the spectrum where a technical team provides data for end users to query through a generic ad-hoc query / data discovery tool.

Consider another example where the pendulum has not swung quite so far:

A CFO opens a dashboard then clicks a button to drill into more detailed information. This dashboard has been built by someone else and designed with the needs of its users, including the CFO, in mind. Users navigate their data, without any training, to get to the information they need and make decisions, fast.

You may be thinking: “that’s not self-service, that’s a dashboard”. However, from the end-users’ perspective, this is very much self-service because the dashboard is both interactive and, crucially, allows them to answer multiple business questions.

The problem is in the definition

However, when people talk about self-service BI they are typically using this as shorthand for enabling business users to access and work with corporate information without IT involvement. A classic example is this definition from [TechTarget](#):

“Self-service business intelligence...enables business users to access and work with corporate information without IT’s involvement...”

However, this definition starts to unravel in the second paragraph:

“...except, of course, to set up the data warehouse and data marts...and deploy the self-service query and reporting tools”

And, there are numerous other factors that self-service BI does not incorporate, because we would add:

“... and the training and the documentation and on-going support and providing new data sets and helping explain why the answers are wrong...”

The reality is not if IT needs to be involved, but to what extent, and this level of IT involvement is dictated by the target audience. As we shall see, dividing users into two different target audiences; “end-users” and “analysts” makes all the difference.

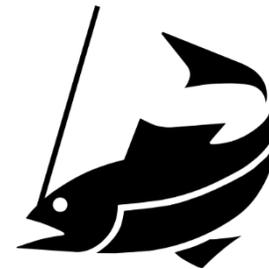
Two flawed analogies

The woolly, zero IT involvement definition of ad-hoc/self-service BI allows vendors to draw analogies which help perpetuate the self-service BI nirvana idea.

Here are examples of two flawed vendor analogies, which illustrate this point:

The fishing analogy

“Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” – Chinese proverb



Keeping this Chinese proverb in mind, the implication is that if you create a report for someone then they can use that report, but if you give them the ability to create their own reports, then they need never come back to you again.

Although true, this argument lacks any sort of sophistication and it falls down as soon as it makes contact the real world. Think about how we consume fish as a society. If you were going to cook fish for your dinner tonight, in all probability, you would not think about picking up a fishing rod and going out to sea to catch that fish. Instead, you would go to the local store and buy some fish which had already been caught, landed and processed. This is progress. We have a food supply chain which means we do not have to fish for ourselves. In fact, 99.9% of us who go fishing do so for recreational purposes, not because we need food.

The same is true for information. We have an information supply chain because this is a more efficient way of delivering information to business users. Paring everything back, so everyone looks after themselves, is a regressive step and an abdication of responsibility, which gives everyone the worst of all worlds.

The hospital analogy



Even worse, is an analogy, described by a product manager at a data discovery tool vendor, asking us to imagine a hospital where doctors could only access patient information by asking someone else who wasn't medically trained. Who would elect to be treated in a hospital where doctors cannot easily access patient information?

This is clearly meant to parody the situation where business users have to ask IT when they need some extra information. The article concludes that “*no one would think a doctor could be effective without access to information about his patients. Likewise, every business should empower its employees with the self-service information they need to prosper.*”

In effect, we are being asked to imagine doctors using an ad-hoc query system to access patient information from the hospital's systems.

This would clearly be an absurd way of running a hospital. In fact, we would rather be treated in the first hospital where doctors relied on information specialists than the inevitable chaos of doctors relying on ad-hoc/self-service to get information from a patient data warehouse.

In reality, doctors access information through a Patient Information System (PIM). PIMs allow doctors to quickly access critical information about their patients, such as high-level test results and the conditions they have. There is probably too much information to fit on one screen, so for example, there will be buttons to access x-rays, blood test results, and the patient's treatment plan.

The doctor will have access to a wealth of self-service information, but, it's a different type of self-service. It is structured self-service where someone has thought long and hard about the types of information that doctors need and they have packaged this information up in a way that fits the way doctors work.

So, ironically, when we take a closer look at what happens in the real-world, we see that the hospital analogy is a great model for us as we seek to understand how best to deliver BI to our end-users.

PIM systems are attuned to the informational needs of doctors and in the same way we should be seeking to create packaged BI applications that perfectly address the informational needs of our end-users.

Understanding BI users

To better understand the types of BI user within our organization we can classify them along 2 dimensions:

1. Activity performed



This first dimension considers the type of activity being performed. At one end are people performing the type of deep analysis supported by data discovery tools and the other extreme are those who prefer the simplicity of the 'just click' interface of a dashboard.

2. Use of information

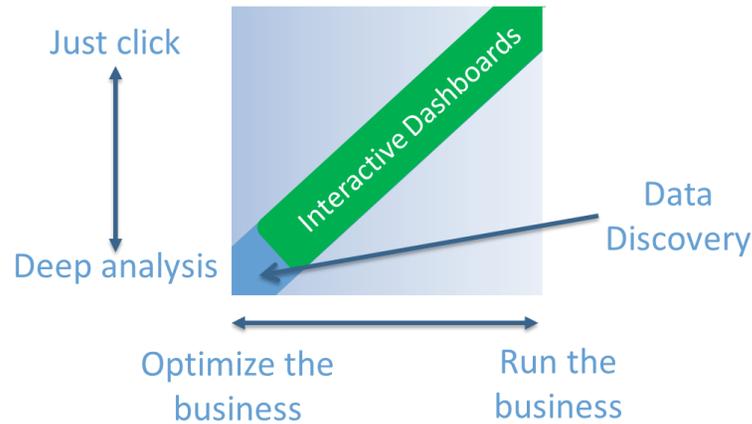


The second dimension looks at how people use information within their job role. At one end are those people whose focus is on running the business and they need information about what to do minute-by-minute, hour-by-hour and day-by-day (e.g. who should I call next, which assembly line should I turn on next, ...). At the other end are those whose job is to optimize the business by making organizational processes as efficient as possible and looking at the strategic direction of the organization.

Most users need dashboards

Plotting these two dimensions onto a quadrant it becomes clear that real-world usage lies along the

highlighted diagonal band.



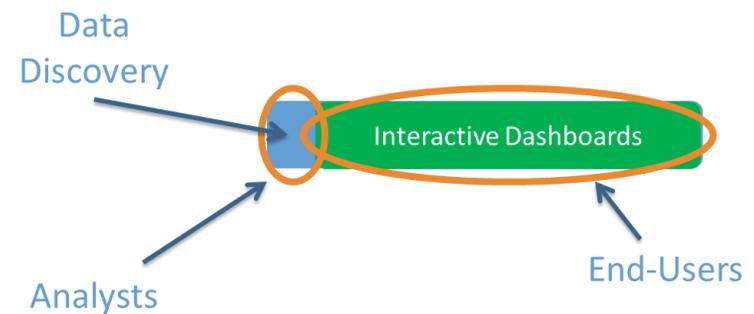
The remarkable thing is that interactive dashboards cover more than 90% of this band. That is why dashboards are the solution to the self-service conundrum – a well-designed dashboard is the perfect tool for all non-analyst end-users to quickly access the information they need and then get on with their job.

Data discovery, where analysts uncover new business insights, is represented in the bottom left corner. Data discovery helps optimize the business and is important in the world of big-data, but, still, it

is a specialist tool to be put in the hands of the few rather than the many.

Self-service shades of gray

As a rule, interactive dashboards are best for end-users and data discovery tools are best suited to analysts. However, what happens where there is an overlap?



For example, a sales manager who spends most of the quarter managing a team needs to monitor a clearly defined set of metrics to ensure their team is performing to expectation. During this period, they are focused on running the business and need the support of a well-designed dashboard. At the end of the quarter, they will have a little time to analyze

results, to see who performed well, to look at what could have been done better. At this point, they are helping to optimize the business.

It is highly likely that the interactive dashboard which gives insight during the quarter will also give enough information to drive the more strategic, end-of-quarter reflection. If not, it is almost inevitable that the sales manager will call upon an analyst to get them more details and/or information. By far the least likely situation is for them to just dip into an ad-hoc/self-service or data discovery tool.

How to select the right tools for your users

How do you tell an end-user from an analyst?

Dividing business users into end-users and analysts is at the heart of solving the self-service issue, but how do we tell them apart?



It is actually incredibly easy. Look at their business card, if it has the word “analyst” on it then they are

an analyst, and if not they are an end-user. It really is that simple.

End-users and analysts do different jobs. They have different mindsets. They do different things day-to-day. In reality, there is much less overlap between analysts and end-users than we are lead to believe by the data discovery vendors who are telling us that everyone should be using their tools – beware of these claims, they are simply dressing up the old, ad-hoc/ self-service argument to fit the product they wish to sell you.

Analysts need specialist BI tools

Analysts live, eat and breathe data. They ask wide-ranging questions, usually on behalf of others, and they need specialist tools that immerse them in their data. They will use a range of BI tools including ad-hoc query, data discovery, and predictive analysis.

Crucially, when they return from a BI training course, their training will be reinforced as they tackle the

myriad of data-related problems that have stacked up in their inbox during their time out of the office. So, very quickly they become experts in this new technology.

End-users and generic BI tools do not mix

End-users are not data-focused. Their focus is business execution where data plays an important but supporting role. When end-users return from a BI training course (*always assuming they found time to go on it in the first place*), the work that has stacked up while they were away is generally not data related, so they cannot immediately apply their training. The training is soon forgotten and wasted and typically end-users never become effective in the field of data analysis.

The “**point of failure**”, is that end-users are expected to use BI tools that are really designed for analysts.

End-users need dashboards

Instead, end-users need one form of BI: dashboards.

Dashboards are focused, mini BI apps, that provide all the necessary information end-users need to support their day-to-day business processes ... without requiring any training. Dashboards offer huge potential to dramatically simplify BI delivery and dramatically increase user adoption.

But not traditional dashboards

Although we said end-users need dashboards, we do not mean dashboards in the traditional sense. It is not enough to give people “at-a-glance” dashboards.

Traditional dashboards defined by:

“Easy to read...single page...graphical presentation...decisions to be made at a glance”

“Document...most significant information...a single page”

“Grids and graphs...attractively displayed...read and action identified in seconds”

These are all good historical definitions of where dashboards started out, but they do not represent the state of dashboards, today.

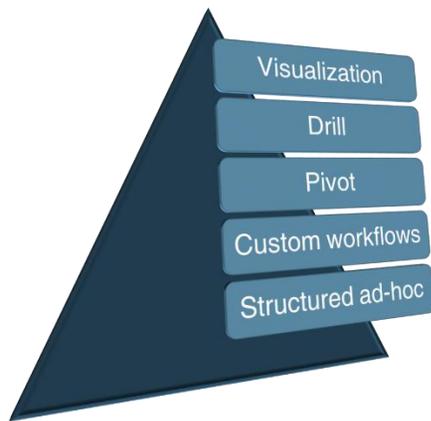
The new dashboards

The best dashboards, today, are **interactive dashboards**, which are almost like BI applications ... you can drill them, you can pivot them, you can push buttons to get more information, you can even do some ad-hoc analysis within the context of the dashboard. They have much more in common with the patient information system we talked about earlier than the dashboard in your car.

These are not static, at-a-glance dashboards that just show how your business is doing ... they support a level of interrogation that allows end-users to get answers to their questions in the least possible time. For example: *“I wonder how this*

product is doing in that region (click.) Great, there's my answer, now I can get on with my job".

The hierarchy of interactive dashboard needs



These new interactive dashboards are defined by 5 levels of capability. Each level builds upon its predecessor and together they take dashboards well

beyond 'at-a-glance' to where they become the only form of BI your end users need. The five layers are:

1. **Visualization.** *This is important for both efficiency and engagement. You need to strike a balance between these two, because things that are engaging are not usually efficient and things that are efficient are not always that engaging. Interactive dashboards offer a*

happy medium by marrying pleasing visuals with the ability to navigate vast amounts of data

2. **Drill.** *Visualizations alone are never enough. Users always want more and the first thing they want to do is to drill down through their data because they are never satisfied with summary data. Users always want to understand how a high level number is broken down, they want to click and see what the details are by drilling down and drilling across*
3. **Pivot.** *Sometimes users want to see their data from a different viewpoint, to compare and contrast (e.g. to switch from a regional, to a time, or a product view). The multi-dimensional nature of business data means that the ability to move through this data, or pivot, is extremely important to support effective decision making*

4. Custom workflows. *For more complex navigations, perhaps combining several drill and pivot operations, custom workflows allow us to simplify the workflow for end-users by capturing the whole workflow behind the single click of a button. This workflow has been designed with the end-users job role in mind, so it has should have business-friendly label on it – this dramatically increases the power of the dashboard, without the need for end-user training, because everything is couched in the language of the business*

5. Structured ad-hoc. *No interactive dashboard can answer all the questions a user may ask. Perpetually having to release new versions of dashboards to address every extra, often one-off, analysis requested by business users consumes scarce resource and leads to unwieldy, overly complex dashboards. Intuitive, in-context, structured ad-hoc analysis in dashboards provides the perfect answer to this and gives users what they need when they*

need it ... and crucially, the ability to export straight to Excel

A word about Excel

Yes, we said “export to Excel”! Everybody uses spreadsheets. Excel is not going away. It is the tool everyone turns to for the last few inches of their data analysis.

The pragmatic approach is not to stop end-users from using Excel, but to help them from over using it.

Providing end-users with interactive dashboards to do the heavy lifting minimizes the work they need to do in Excel.

The clincher – mobile apps

The clinching reason why interactive dashboards are the future of end-user BI, is mobile.

Mobile Apps have been the true revelation in the mobile world. You may have bought an iPad because you think it is a beautifully designed device, but you use it every day because of the incredible range and usefulness of the apps that it houses.



ENTICE your users

E	Easy to use	Mobile apps are an
N	No-training required	almost perfect
T	Task focused	template for BI
I	Interactive	dashboards. They
C	Connected	are easy to use, they
E	Engaging	do not require
		training, they are
		focused on the task

in hand, they are interactive, they are connected and they are engaging ... for all these reasons they ENTICE you, they pull you in to using them.

Summary

In traditional reporting environments, each report typically answers one business question. Where end-users have additional questions, they have to go back to IT ... over time, these requests pile up, creating a backlog. The result is that end-users become frustrated with the length of time it takes to service their information requests.

Consequently, organizations ask themselves how they can free end-users from this reporting backlog and empower users to answer multiple business questions for themselves, without going back to IT.

This is the right question to ask, but unfortunately, we keep coming up with the wrong answer, because the perceived wisdom for the past 15-20 years has been to provide end-users with general-purpose BI tools that are really aimed at analysts. However, end-users rarely have the time to become experts at using these complex BI tools and, as a result, this

approach fails with most end-users falling back on their old ways of relying on others to feed them with their BI content.

The reason this approach fails is we are giving end-users the wrong tools; we are giving them tools that were designed for analysts and end-users and analysts are very different. Analysts immerse themselves in data. End-users need data to support their primary focus of running the business. Analysts tend to be technology experts, whereas end-users tend to be technology users.

In this eBook, we've seen that a better way to empower end-users with BI that answers multiple questions is to give them specific, task-focused BI applications in the form of interactive dashboards. This is harder as you need to get close to your end-users and really understand their needs, but when done well, you'll give your users all the information they require in a form that lets them get in, get out and get on with their jobs as quickly as possible.

To maximize BI adoption rates, we saw that mobile is the final piece of the jigsaw for end-user BI. Interactive dashboards delivered on a mobile device are the **Universal BI** of the future for end-users . . . and, the only form of BI your end-users will need.

At Antivia, we are 100% focused on helping organizations deliver this style of end-user BI, quickly and effectively. Challenge Us. [Take a DecisionPoint™ test drive](#) and build your first end-user BI application in under 10 minutes.

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.