Agile BI

Complementing Traditional BI to Address the Shrinking Decision-Window

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David White

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Aberdeen's prior research into agile Business Intelligence (BI) has found that organizations are struggling to get the right information to the right people at the right time. With a vast inflow of fresh data, and an increasingly demanding community of business managers, some organizations are moving away from traditional approaches to BI to implement other solutions. This Analyst Insight leverages Aberdeen's March 2011 agile BI survey to compare the performance of organizations based on the type of BI technologies and approaches they choose. Survey respondents were split into one of three groups (see sidebar). The first group uses a traditional approach to BI. The second group used a combination of traditional tools, complemented by tools that provide a much more visual and interactive user experience. The third group used exclusively visual / interactive BI tools.

The Management Decision-Window Keeps Shrinking

Aberdeen's business intelligence research increasingly finds that business users are pressured to make decisions more rapidly. As Figure 1 shows, over a quarter (28%) of organizations that took part in Aberdeen's research into agile business intelligence (*Agile BI: Three Steps to Analytic Heaven*) needed to provide information about business events to managers within one hour of those events occurring, in order for them to make timely management decisions.

Figure 1: Decision-Making Drives Need for Near Real-Time Data
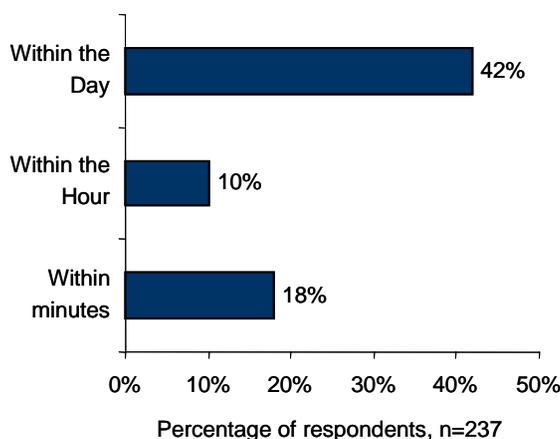
Source: Aberdeen Group, March 2011

Analyst Insight

Aberdeen's Insights provide the analyst perspective of the research as drawn from an aggregated view of the research surveys, interviews, and data analysis

Definition

This Analyst Insight segments BI implementations and solutions into one of two types:

√ Traditional BI - Although business managers are involved, this style of BI is predominantly controlled, driven and delivered by corporate IT. Often, only static views of data are available and any changes or enhancements must be made by the IT organization.

√ Visual / Interactive BI - Corporate IT still has a critical role with this style of BI. However, a rich, highly interactive, visual interface is provided to business users. This shifts a large part of the responsibility for creating and accessing different views of the data to the business community.

Out of 237 organizations, 103 used solely the traditional BI approach, 98 used only visual / interactive BI, and 36 used a combination of both approaches.

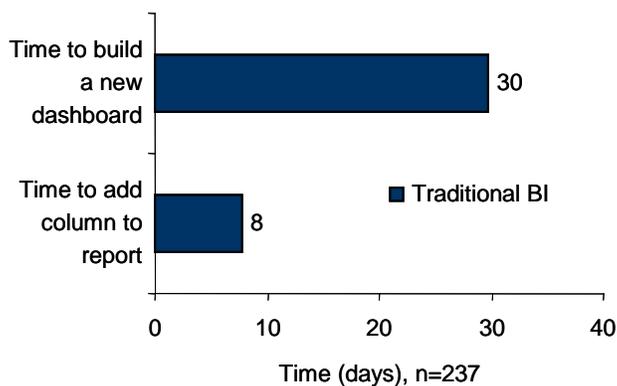Aberdeen *Group*
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In addition, a recent Aberdeen survey into operational business intelligence (as yet unpublished) found that 64% of business managers have seen their decision window (see sidebar definition) shrink in the last 12 months. This incessant pressure to respond to business events ever faster places a tremendous strain on both the IT people and plumbing that supports BI. It requires the organization to collect raw data, refine it into actionable information, and get it into the hands of business managers at ever-increasing velocities.

What's Limiting about Traditional Approaches to BI?

Overall, two parties are fundamentally responsible for successful BI projects - the IT department, and the business managers who are the ultimate beneficiaries of the insight generated through analytical activity. In balancing responsibilities between these two parties, often the locus of control - and responsibility for doing most of the work - sits with the IT organization. That is, the IT organization is usually responsible for collecting the required source data, assembling it into usable management information such as reports and charts, and delivering that information to business consumers. Often, this IT-centric approach is described as managed reporting.

This approach can work well under certain circumstances - circumstances which increasingly do not hold true. First of all, the IT group and business leaders need to work together closely to ensure that the business requirements for BI are thoroughly understood, implemented and delivered. As easy as that might sound, it is not always that straightforward in practice. Secondly, the BI requirements of business managers need to be relatively fixed and static - or at least changing only slowly as time goes by. With the traditional approach to BI, whenever business users need access to either different data or different views of data they would need to raise a support request with the corporate IT organization. And yet, Aberdeen's agile BI research found that the average time required to make changes to the BI solution can be lengthy (Figure 2).

Figure 2: Average Time for IT to Complete Support Requests

Source: Aberdeen Group, March 2011

Best-in-Class Definition

Aberdeen's April 2011 report, *Agile BI: Three Steps to Analytic Heaven*, found that Best-in-Class organizations had the following performance and characteristics:

√ Managers at 36% of Best-in-Class organizations were able to access the information they need, in the timeframe required for decisions, 100% of the time

√ An average of 4.3 hours to add a column to a report

√ An average of 3.8 days to create an entirely new dashboard

Definition - Decision Window

The decision window refers to the limited timeframe that managers have available to make decisions. If information is provided after the decision window is closed, it is of little or no value.

For example, imagine that a nursing manager has to make a decision on overtime payments for the upcoming shift based on the patient census (the number and type of patients in the hospital). If information on the patient census arrives after the start of the shift, it is likely that either the staffing level will be too low and patient safety put in jeopardy, or too many staff will work the shift, increasing costs.

Support requests of this nature can be very time sensitive. For example, a manager of a manufacturing plant that is plagued by a sudden rash of poor product quality may require urgent access to detailed supplier data that they did not normally require. For that manager, it is probably unacceptable for it to take over a week just to add a column to an existing report. In reality, the number and variety of unanticipated questions about the business are probably greater than many people imagine.

With the traditional approach to BI, if the management information needs are constantly changing - or business managers continually need to see different views of data as different challenges arise - then it is exceedingly difficult for the corporate IT team to keep up with demand. Often unfortunately, because of the complexity of the process involved, these work requests cannot be completed in the time that business managers need. In fact, Aberdeen's March 2011 research into agile BI found that the outstanding backlog of BI-related work accumulated by organizations that responded to the research survey was an average of 143 days. In other words, if no new BI support requests or jobs were added to the outstanding list it would still take over four months to clear. Consequently, business managers are not always able to get access to the management information they need in the timeframe they require. For example, Aberdeen's December 2010 research report (*Data Management for BI: Fueling the Analytical Engine with High-Octane Information)* found that Best-in-Class organizations (the top performing 20%) were able to get timely access to key information 93% of the time. In contrast, Laggard companies (the bottom performing 30%) were able to deliver timely information only 34% of the time.

This backlog of support requests exists for two reasons. First, the BI solution as delivered to the business community may not provide all of the information that the business needs. Secondly, when changes are necessary, the process required to make those changes is too difficult and time-consuming, potentially involving many different software tools and skill sets. As a result, when BI needs change or business managers need access to a variety of information that had not been foreseen, a different approach to BI is required.

Benefits of Visual / Interactive BI

Aberdeen's research into agile business intelligence found that interactive BI tools are more likely to be adopted by those organizations that list the shrinking decision window as one of their top pressures. Less than one-third (31%) of the companies that employ just a traditional approach to BI find the shrinking decision window to be a driving factor in their BI strategy. In contrast to this, over half (51%) of the organizations using solely visual / interactive BI tools are finding the shortening decision window a challenge. Similarly, 39% of the organizations using both the traditional and interactive approaches to BI are driven by the need to make decisions more rapidly. To put it simply: organizations that are under pressure to make decisions more

Fast Facts

The average size of organizations using each style of business intelligence:

√ Traditional BI: 18,868 employees

√ Visual / Interactive BI: 9,054 employees

√ Both Traditional and Visual / Interactive BI: 17,124 employees

Best-in-Class Definition:

In Aberdeen's December 2010 research report (*Data Management for BI: Fueling the Analytical Engine with High-Octane Information)* the following three key performance criteria to distinguish Best-in-Class companies:

√ 12 days to integrate new data sources, compared to 60 days for the Industry Average, and 143 days for Laggards

√ 93% of information delivered in "right-time," compared with 80% for the Industry Average and 34% for Laggards

√ 82% of respondents "satisfied" or "very satisfied" with their information environment, compared with 37% of Industry Average companies and 8% of Laggards

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rapidly are turning to a more visual and interactive approach to business intelligence. Many of these companies are old hands at business intelligence. Sixty-nine percent (69%) of the organizations using both traditional and interactive BI tools have over five years experience using BI.

But, what does the use of a more visual and interactive approach to BI achieve? Companies that use visual / interactive BI tools are more likely to be able to provide information to business managers in the time they require - even though those business mangers are, on average, more demanding in their time constraints (Figure 3).

Figure 3: Interactive BI Improves Timeliness of Information
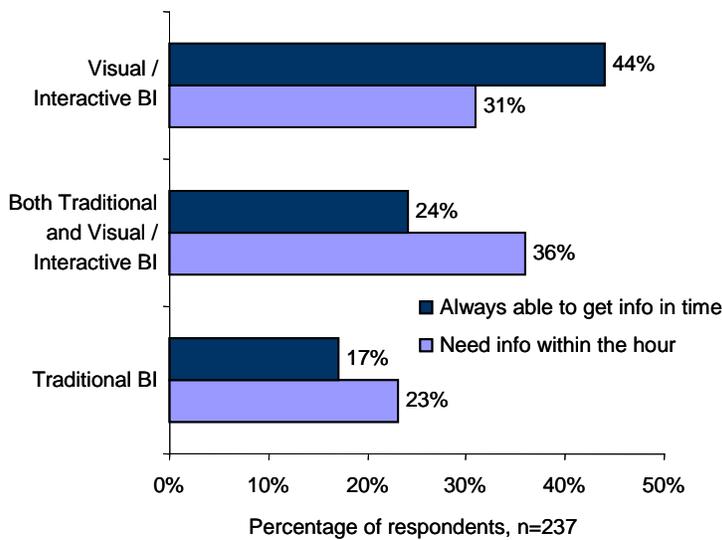
Percentage of respondents, n=237

Source: Aberdeen Group, March 2011

Only 17% of the companies that are dependent on just traditional BI tools are able to consistently get information into the hands of decision makers in the time required. However, organizations using just interactive tools are over 2.5 times more likely to be able to meet this goal - despite the fact that 31% of these companies need to deliver management information to decision makers within one hour of business transactions being recorded. As Figure 3 shows, companies that judiciously blend interactive and traditional business intelligence methods also significantly outperform companies that use just traditional BI tools.

What Makes Interactive BI so Powerful?

Organizations that leverage visual / interactive BI tools are better able to meet the management information needs of their business community. But how do they do that? Interactive tools promote two qualities that are key to ensuring that business managers have access to the information they need when they need it. Organizations that use interactive BI tools have a significantly higher proportion of self-service BI users, and a much higher proportion of power users too (Figure 4).

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Figure 4: Visual / Interactive BI Increases Self-Sufficiency

Percentage of users, n=233
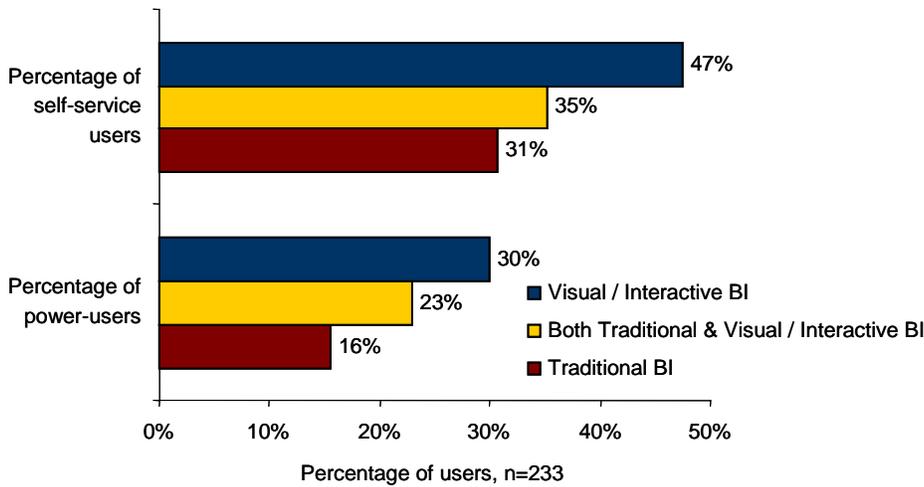
Source: Aberdeen Group, March 2011

"The right solution is going to require a minimal amount of training - half a day at most. Here's the tool, here's a couple of use cases, have at it."

~ IT Manager,
Large Consumer Packaged
Good Manufacturer

These two characteristics go hand-in-hand. Self-service BI encapsulates the concept that business managers will be fully empowered to analyze data and discover new business insights without direct help from corporate IT. Possessing a very interactive, easy to use software tool is obviously a key part of that. However, corporate IT still bears the responsibility for making a rich pool of high quality information available for the business community to explore. Training in broad analytical concepts, the particular quirks of the chosen tool, and the nature of the data available is also required for this approach to be successful. Self-service (or self-sufficiency) is important for two reasons. First, corporate IT is freed from the responsibility of trying to satisfy every request for different information. As noted earlier, most IT organizations are so overburdened that they cannot realistically achieve this quest anyway. Secondly, for many organizations, putting this power directly in the hands of the business users is realistically the only hope for those managers to gain the insights they need in the time required to support their decisions. In addition, freeing the IT organization from the chore of servicing a never-ending stream of change requests allows that part of the company to focus its resources on delivering the true value of BI. For example, Aberdeen's agile BI research found that organizations that have a high proportion of self-service BI users also have a greater percentage of their employees using business intelligence, leveraging their technology investments more widely. This is possible as the IT group is able to shift its resources away from fulfilling support requests and instead focus on enabling more business managers with the power of analytics.

Closely coupled to self-service is the concept of the power user. Power users (see sidebar definition) have an almost insatiable curiosity and appetite for information. As such, they can only thrive when they have access to the right technology. Power users are often driven to explore the possibilities that the heady combination of technology and data can provide. For this to be possible, they need the right tools. That is, tools that allow information

Definition - Power User

A power user is a business user who is very adapt at using a particular software tool. What stands out is their aptitude - they are always willing to explore and experiment to discover new capabilities of the tool and insights into data. Sometimes with formal training, sometimes without, power users often become the "go-to" person whenever a less able user runs into difficulties.

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to be freely explored, analyzed, and manipulated. Potentially, the ability for users to add new data sources can also be a powerful way to extend and enhance the information provided by corporate IT.

In conjunction with this, the corporate culture needs to be supportive of the power user concept. So, for example, not only does the corporate IT group need to provide the right technology, but it needs to provide ready access to a rich body of data too. For its part, senior management must also be comfortable with the idea of delegating the right for lower level mangers to gain insights into the business. Once established, power users can be a powerful driving force to help cut the time to information. For example, whenever a business manager needs to quickly find data to answer a question, the nearby power user can most likely provide more timely assistance that the formal information technology group. Aberdeen's benchmark report in March 2011 found that organizations with the most responsive BI implementations have a decentralized IT support structure where support staff are embedded within business units. Formalizing the role of a power user can provide exactly this type of localized support. In addition, Best-in-Class companies have established formal programs to continually develop and grow the skills and experience of their business community - improving the ability of power users and less technically able managers alike. This empowerment of the business community is further evidenced by other capabilities that these organizations possess (Figure 5).

Figure 5: Interactive Tools Facilitate Exploration and Ownership
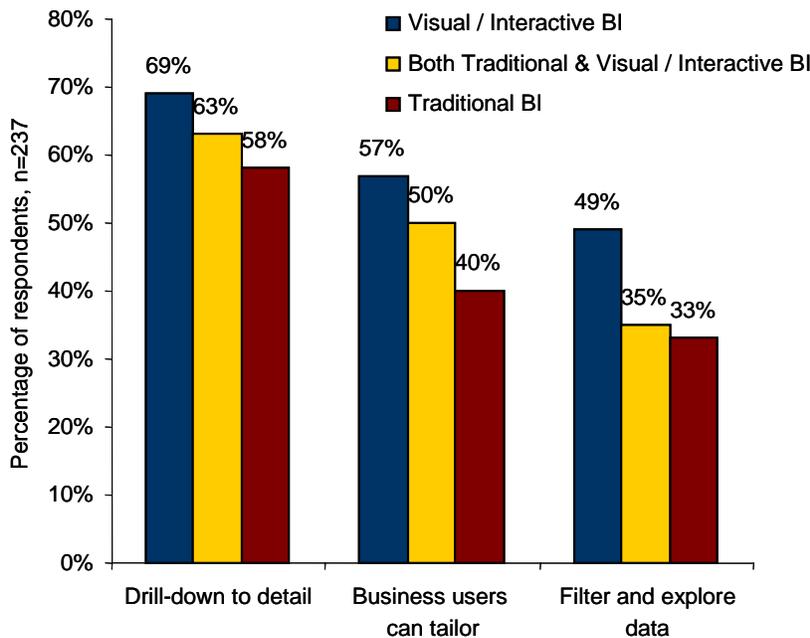
Source: Aberdeen Group, March 2011

"Making things more visual and interactive for managers means then that when they have that 'a-ha' moment they can actually do something about it instead of just setting up a meeting with IT. There's been a noticeable change in meetings because the data isn't static and it's something that people can interact with and get answers in close to real-time while the key decision makers and thought leaders are in the room."

~ IT Manager,
Large Consumer Packaged
Good Manufacturer

First, business managers using interactive tools are more likely than their peers to have the ability to customize the BI environment to suit their own particular needs. This tailoring can span a spectrum of possibilities. For example, managers may be able to configure a dashboard to show just the metrics and key performance indicators that are critical for the role. Other information that is less critical may be hidden or deemphasized in the visual display. On a similar level, business users may be able to select the columns shown in a report, and preemptively filter that report to - once again - show just the information that is relevant to them personally. At the extreme, managers may even be able to integrate their own personal data sources, such as spreadsheets. Enabling the business community to customize their BI environment in this way can bring two benefits. If managers configure the environment wisely, they are more likely to have the information they need at their fingertips when they need it. In addition, involving business managers in this personalized configuration gains buy-in and engagement as these managers will feel a sense of ownership in the business intelligence solution.

Secondly, managers at organizations that use interactive BI tools are more likely to have the ability to "drill-down" to get to details in their data. Drill down is the first step beyond simple managed reporting towards a more interactive and exploratory style of BI. Use of drill down enables managers to easily navigate from high-level summary information to the related detailed data. Drill-down is a powerful first step to identifying cause-and-effect relationships. For example, imagine a healthcare provider that wants to monitor and improve the quality of the care that it provides. A simple static report or chart could identify the areas where quality is not up to the standard required. But, for corrective action to be taken where necessary, more detailed analysis is required. This deeper analysis could show details on which quality measures were being missed. This analysis might reveal that particular physicians were performing poorly. Alternatively, perhaps the shortcomings are all at a particular clinic, or apply more to one patient demographic than the others. And yet, a static report doesn't facilitate this detailed management investigation. In contrast, a report, chart, or dashboard that has drill down capabilities would allow management to readily explore deeper. In this way, the ability to drill-down can take managers much closer to establishing the root cause than static reports alone.

But, while drill-down can be enlightening, it also has its limitations. Often, with drill-down it is only possible to follow certain pre-defined paths in the data. In other words, it still may only be possible to answer questions that the BI developer who defined the drill-down path thought of ahead of time. In that sense then, drill down can be very limiting. At best, only the cause-and-effect relationships that business managers believe (or imagine) exist in the data can be programmed ahead of time. In the worse case, that responsibility may be left to corporate IT with little or minimal involvement of the business managers. Clearly, not all cause-and-effect relationships may be understood prior to the BI implementation. After all, the business intelligence solution is supposed to provide insights into the business that

may not have been clear before. Further, change is inevitable. Even if all possible relationships between data elements were identified at the outset of the project, new ones will always materialize as time goes by.

A more powerful solution then is to enable business managers to explore data freely - and visual / interactive BI tools can provide that. Almost half (49%) of the organizations using visual BI tools allow their uses a much greater degree of latitude to explore information than drill-down can provide.

Key Takeaways

Organizations exploring the use of a more visual and interactive approach to business intelligence should consider the following:

- **The shrinking decision window challenges IT to deliver.** Not only does the IT organization have to contend with the need for business managers to have access to more information in a more timely way, but it has to manage growing data volumes too. While almost two-thirds (64%) of business managers have seen the decision window shrink in the last year, IT has also seen analytic data volumes grow by 40%. These two trends make it increasingly unlikely that corporate IT can shoulder the burden of delivering truly useful business intelligence. Instead, IT must move to a more supportive role - providing analytical tools, education and support, and a rich set of high-quality data - to enable business users to be more self-sufficient.

- **Visual / interactive BI has strong appeal for business managers being squeezed by a shrinking decision window.** Just over half (51%) of the businesses using purely visual/interactive BI tools indicate that they are challenged by the shortening timeframe for key management decisions. This is indicative that these organizations are seeking a better way to deliver BI, a way that embraces self-sufficiency on the part of the business users. For managers to be able to help themselves to the information that they need, they will require tools that are sophisticated yet simple. Sophisticated in the type and breadth of analytics that they offer, simple in the speed and ease with which data can be manipulated by non-technical users. This approach can enable managers to easily explore information and discover new insights.

- **Visual / interactive BI increases the ability to meet the shrinking decision window.** Forty-four percent (44%) of the organizations that use just visual/interactive tools are always able to provide business managers with the information they need, in the timeframe they require. This holds true for just 17% of the organizations that rely solely on traditional BI. However, companies that have complemented their traditional BI solutions with the interactive approach are almost 50% more likely to consistently

meet the needs of business managers than those that rely solely on traditional BI solutions. A highly visual approach to BI can liberate business managers and transform their decision-making by ensuring they have access to the right information at the right time.

The visual / interactive approach to business intelligence takes responsibility for the discovery of relationships in the data away from the IT organization and places it where it can be used to best advantage - with the managers who truly understand the business.

For more information on this or other research topics, please visit www.aberdeen.com

Related Research	
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Author: David White, Senior Research Analyst, Business Intelligence (david.white@aberdeen.com)	