

June, 2012

## Get More for Your Money: Get More Insight from SAP

Once implemented, Enterprise Resource Planning (ERP) systems soak up vast volumes of transactional data concerning many aspects of the business. That data can be invaluable when used to inform management decisions, but harnessing the value of that data can be a considerable challenge. While the data may be there, managers often find it hard to find the data they need, or discover that it is not in a form that is easily consumable. Aberdeen's research indicates that this is especially true for customers using SAP solutions. This Analyst Insight, based on data collected by Aberdeen's Business Intelligence and Enterprise Resource Planning practices, shows how organizations can leverage visual business intelligence tools to augment their investment in SAP ERP, and gain more insight from their business data.

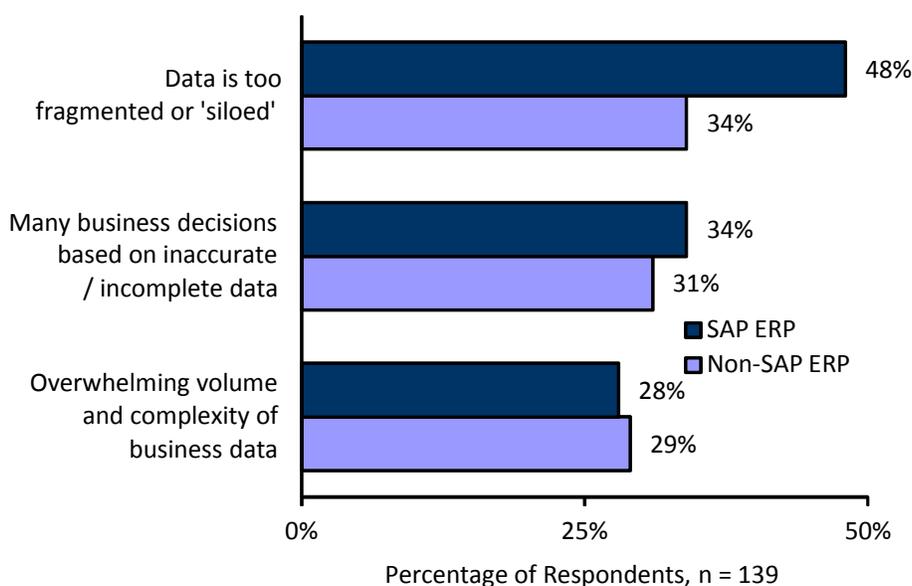
### Analyst Insight

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

### Challenges in ERP Reporting are Universal

Data from Aberdeen's current [2012 ERP Benchmark survey](#) comparing 32 SAP ERP users to 107 users of ERP supplied by other software vendors found a number of common challenges in management reporting (Figure 1).

**Figure 1: Management Information Challenges for ERP Users**



Source: Aberdeen Group, May 2012

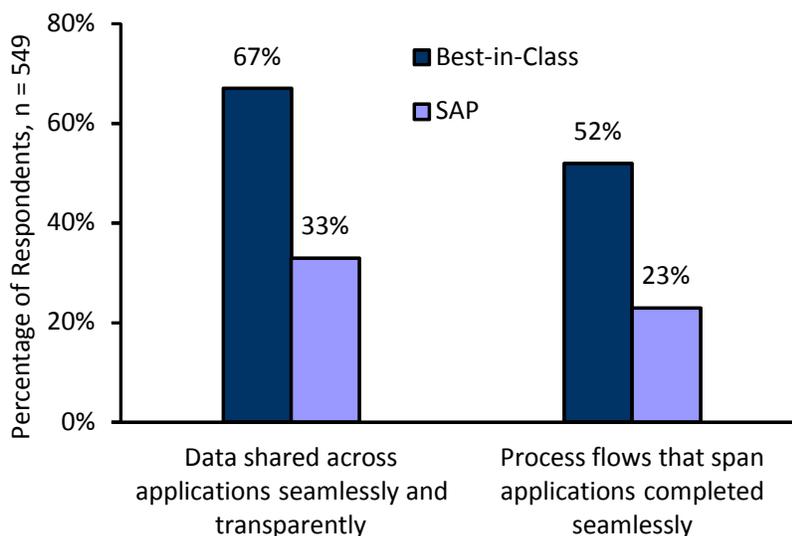
Figure 1 presents a certain degree of irony. On the face of it, the data accumulated in an ERP solution should provide a firm foundation for management reporting. Yet, as Figure 1 shows, data fragmentation is the most common obstacle in turning raw data into valuable management information for companies employing ERP. For SAP ERP users the situation is particularly acute - 48% of survey respondents find data fragmentation to be a challenge. One of the reasons for this is that although masses of data can be collected in ERP systems, the data is neither complete, nor comprehensive. Aberdeen's January 2012 research (*Data Management for BI*) found that the average large enterprise (1,000+ employees) integrated a total of 27 different data sources to feed their BI projects. In addition, as organizations grow they are subject to an increasing volume of data coming into the organization. As a result, it becomes increasingly difficult to actually organize and make sense of the data that is available. This is evidenced by the fact that 37% of all ERP users indicated that too much data is inaccessible or underutilized for business analysis.

Although ERP can form a vital part of the management information solution, it is just a part - more is required. Utilizing technology that provides functionality beyond core ERP can significantly increase the value derived from an ERP investment.

## Unlocking ERP with Business Intelligence

How then do organizations effectively integrate ERP and BI to unlock management information? According to the March 2011 ERP benchmark survey, Best-in-Class organizations (see sidebar definition) are much more likely to possess capabilities that ensure business users have a seamless data and process experience when compared to SAP ERP customers (Figure 2).

**Figure 2: Seamless Integration Lifts Business Performance**



Source: Aberdeen Group, March 2011

### Aberdeen Methodology

The Aberdeen maturity class is comprised of three groups of survey respondents. Classified by their self-reported performance across several key metrics, each respondent falls into one of three categories. All respondents within this group are currently using ERP:

- ✓ **Best-in-Class:** Top 20% of respondents based on performance
- ✓ **Industry Average:** Middle 50% of respondents based on performance
- ✓ **Laggard:** Bottom 30% of respondents based on performance

In this document, Best-in-Class organizations achieved:

- ✓ 3.2 Days to close a month
- ✓ 34.4 Days sales outstanding
- ✓ 96% Complete and on-time delivery
- ✓ 18 Growth in operating margins over the last two years

To gain insight into the business, employees shouldn't have to consciously switch from application to application, stitching together a patchwork quilt of intelligence as they go. The source and location of data need not be readily apparent to the end user - data should be shared across applications seamlessly and transparently. This ready exchange of data helps managers to find information faster, and react quicker when opportunities arise, or crises threaten. Seamless information sharing can be enabled by business intelligence.

## What BI Adds to ERP

Successful ERP projects present their own set of needs. But, what is essential for a successful BI project? And, more importantly, how are those needs related to ERP? First, successful BI projects are largely dependent on high-quality, up-to-date data. Analytics projects that skimp on this foundational step are likely to founder. Business managers can be provided with modern, visual, highly interactive BI tools. But, if the data that business managers need is not present, hard to find, or un-trustworthy, then experience shows that the project will most likely rapidly fall into disuse. In the long-term, this lack of proper utilization can manifest itself in an infectious disdain for business intelligence. Thirty percent (30%) of respondents to Aberdeen's 2011 agile BI survey noted that failed BI projects were a significant obstacle to the introduction of new BI initiatives.

However, data from Aberdeen's current [2012 Business Analytics survey](#) shows that a marriage between ERP data and BI technology can substantially improve access to management information (Table I).

**Table I: The Gains from Coupling BI with ERP**

	ERP Only	BI Only	ERP+BI
Frequency of accessing management information in the time required	59%	68%	73%
Time average knowledge worker spends looking for information	6.2 Hours	4.6 Hours	4.4 Hours

Source: Aberdeen Group, May 2012

As Table I shows, organizations with just BI have better access to management information than organizations that have ERP alone. However, bringing these two classes of technologies together to provide a solution is more powerful still. For example, when both ERP and BI co-exist, managers are able to find the information they need - in the time they need it to support their decisions - 73% of the time. For ERP alone that is possible only 59% of the time, on average.

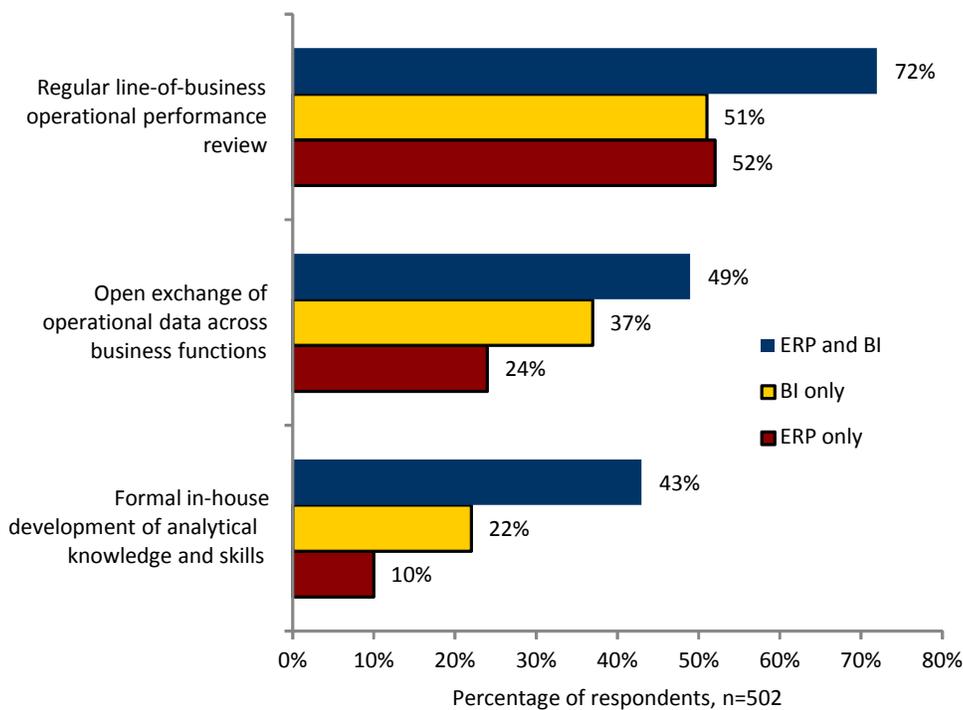
### Fast Fact

Data from Aberdeen's 2011 ERP survey found that organizations with ERP and BI saw an 18% improvement in the time it makes decisions over the past year. This is compared to 16% for those with ERP only and 8% for those with neither.

### Success Doesn't Come From Integration Alone

Simply acquiring and integrating ERP and BI technology isn't the answer though. Aberdeen's [2012 Business Analytics survey](#) found organizations combining both technologies exhibit a number of capabilities and competencies that enable them to maximize the most value from the combination (Figure 3). Companies that use both ERP and BI are 38% more likely than their peers to regularly measure operational performance and take corrective action (72% vs. 52%). For that monitoring to happen effectively, other building blocks need to be put in place.

**Figure 3: Key Capabilities for Effective use of BI with ERP**



Source: Aberdeen Group, May 2012

For example, 64% of organizations using ERP with BI have a standard process in place to define and communicate Key Performance Indicators (KPIs). Only 46% of organizations using solely business intelligence take a similar approach, while only 31% of companies using only ERP do so. Standardizing the measurement of performance across the enterprise enables the performance of different parts of the organization to be compared. Standardizing how metrics are calculated allows the on-time shipping performance for all distribution centers to be compared. An apples-to-apples comparison allows relative performance to be gauged objectively and corrective action to be taken when necessary.

An open, performance-oriented culture is another characteristic of firms that employ ERP and analytics together. As noted in Figure 2, the seamless

sharing of data and coupling of business processes is a trait of Best-in-Class ERP users. For performance data to be shared readily requires both organizational will and technical ability. Before the technical aspects can be addressed, executives and managers must be ready and willing to share data that relates specifically to their area of responsibility. Potentially, under the wrong circumstances, that could lead to embarrassment for a particular manager if their business unit performance was a drag on the company as a whole. However, almost half (49%) of all organizations utilizing ERP and BI have cultures where such free and open exchange of data is possible. Sharing information freely makes it possible to build the big picture of enterprise-wide performance. Similarly, individual managers are able to compare their own performance to that of their peers and share best practices for improving results. Companies that harness BI to ERP are also 50% more likely than their peers to have a performance driven culture that drives accountability. That performance measurement can only come from timely access to high quality performance data shared seamlessly.

With open data sharing and a performance driven culture in place, organizations can add fuel to the fire by ensuring that analytic skills are widespread. As Figure 3 shows, companies that employ business intelligence to help gain insights from ERP data are almost twice as likely as those with BI alone to invest in formal programs to develop the analytical skills of business managers.

## Not All BI is Created Equal

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BI solutions come in a huge variety of styles and forms. However, most solutions present information to users in one of three broad ways:

1. **Managed reporting or static reports.** Although business managers are often involved, this style of BI is predominantly controlled, driven and delivered by corporate IT. In many cases, only static views of data are available and any changes or enhancements must be made by the IT organization.
2. **Interactive dashboards.** A graphical representation of several key performance indicators on a single screen. Often, KPIs are depicted as charts. More sophisticated forms such as gauges and dials are also used - often with the thresholds of acceptable performance shown. In many cases, dashboards allow some degree of interactivity, navigating from summarized to detailed information, for example.
3. **Visual data discovery.** A rich, highly interactive, visual tool is provided to business users to allow them to manipulate and explore information directly. Although corporate IT is still involved, a large part of the responsibility for creating and accessing different views of the data falls on the business community.

In the early days of BI, managed reporting was really the only option. Essentially providing lists, but with little ability for interactivity or manipulated, static reports provide basic information that clearly have limitations. For example, what happens when the information the manager

requires is not present in one of the existing reports? Typically, this situation requires the intervention of a skilled BI developer to modify an existing report or create a new one. Unfortunately, it can take days or weeks for that process to be completed. Aberdeen's 2011 agile BI research discovered that the average end-end cycle time required just to add a single column to an existing report was 4.6 days.

To compound this problem, organizations are finding that business managers need access to more data - or different views of the same data - in order to support their decisions. Aberdeen's 2012 agile BI research (as yet unpublished) found that 57% of survey respondents were faced with this challenge. This in turn can create an enormous amount of tedious tactical work for the IT organization that ultimately adds very little value for the corporation as a whole. Aberdeen's previous research into agile BI in 2011 (*Agile BI: Three Steps to Analytic Heaven*) discovered that the outstanding backlog of BI related work was 143 days. To put it another way, if the IT organization did not take on any new projects or accept any new change requests from business users it would still take over four months on average to clear the backlog of outstanding work.

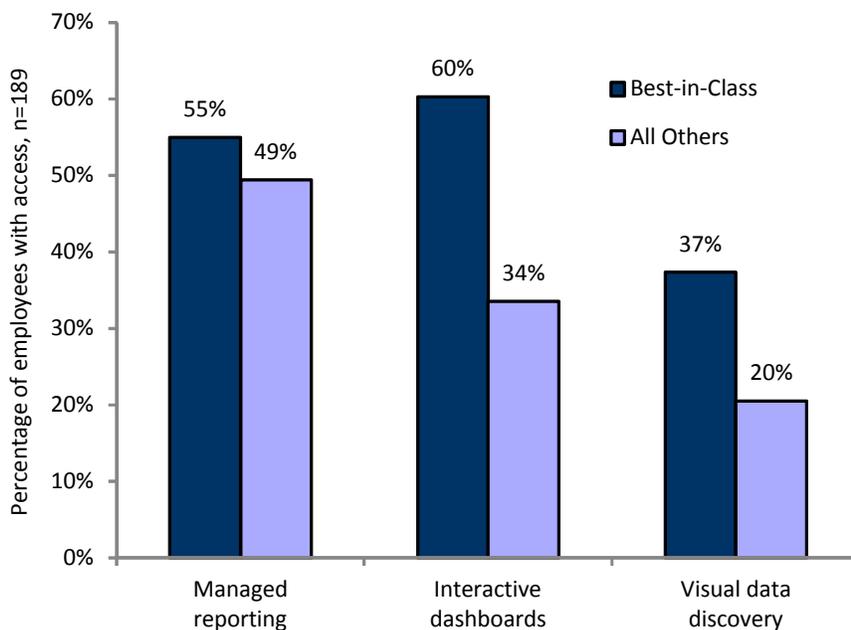
As a result, the information that the business manager requires is often delivered so late that it is no longer useful because it is delivered after the decision needed to be made. The answer to this problem, according to 66% of survey respondents, is to make BI end-users more self-sufficient. That is, to enable business managers using analytics to help themselves whenever they need access to different data, or when changes are required.

**Fast Facts**

Building the presentation layer - the part of BI that the business user interacts with - is the most resource intensive part of a BI project. Organizations with the most agile BI implementations (the Best-in-Class) commit their resources for new BI projects as follows:

- √ **26%** - Presentation layer
- √ **24%** - Data warehouse design / build
- √ **19%** - Data integration
- √ **18%** - Assessing data quality
- √ **13%** - Cleansing / enriching data

**Figure 4: Dashboards and Visual Data Discovery Aid Agility**



Source: Aberdeen Group, May 2012

Dashboards and visual data discovery tools can help to enable self-service analytics. Aberdeen's recent research found that those organizations with the most agile BI solutions (see sidebar definition) were far more likely than their peers to use these types of technology (Figure 4). Roughly equal percentages of BI users have access to static reports at both Best-in-Class and other organizations (55% and 49% respectively). However, organizations with more agile BI solutions have almost twice as many business managers using interactive dashboards and visual data discovery tools. By introducing BI tools that are highly visual and interactive to tech-savvy managers, organizations are able to become more responsive to changing business needs.

### Case in Point – Ceradyne, Inc.

Ceradyne, Inc. [NASDAQ: CRDN] is a worldwide leader in the development and production of advanced technical ceramics, and markets itself to the automotive, energy, solar, industrial, medical, electronic, and defense industries. In 2011, Ceradyne generated \$572 million in sales, with 30% of its revenue emanating from the US government alone. With 14 manufacturing plants in the US, Canada, China and Germany, Ceradyne, is heavily reliant on quality control, supply-chain management, and business process management to ensure that it consistently meets its customers' demands.

"The business of manufacturing," says Jerry Pellizzon, Ceradyne's Chief Financial Officer, "is the ability to have constant flow; you don't have interruptions. Consistency is a huge driver to make production costs go down. If you have peaks and valleys on your production – start-stops, shortages-outages – then production just evaporates and costs escalate. So we use data as much as possible to ensure that there's a consistent flow of materials. We also keep constant track of our scrap rates, our production rates, and our quality. It's a critical way to increase our quality for our customers and lessen the amount of rejects."

In August 2008, Ceradyne transitioned its legacy Enterprise Resource Planning (ERP) systems to SAP, which has proven to be very powerful for transaction processing. "We're very satisfied with SAP, but it's not the greatest at allowing people the freedom to access information," noted Pellizzon. As a result, employees spent too much time digging for data and too little time understanding what it meant for their business. "We want them to spend more time using the data to do root-cause analyses of how to improve our operations that will ultimately produce more value to the customer – and more value for the shareholders." Consequently, in April 2011, Ceradyne supplemented their ERP with a Business Intelligence (BI) program that would facilitate just that kind of insight.

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### Best-in-Class Definition

Aberdeen's upcoming research on agile business intelligence defines Best-in-Class organizations (the top performing 20%) using three criteria:

- √ The frequency with which BI users are able to get access to the information they need in the time required
- √ The average cycle time required to add a column to an existing BI report
- √ The average cycle time required to create an entirely new dashboard

### Case in Point – Ceradyne, Inc.

Currently, the company has employees from different departments who are creating reports, dashboards and visualizations that are consumed by many more people throughout the company. Reports are posted onto production floor bulletin boards and monitors, and are used to monitor quality, production rates, and scrap, for example. Managers from across the company – from finance, IT, operations and production – intuitively and quickly employed the program and soon increased visibility into Ceradyne’s business.

It was not long before Ceradyne saw tangible business impacts. Pellizzon notes a one half of one percent reduction in scrap rates, “which to us is huge in a scrap rate, because if you only have a scrap rate of, let’s say, 3% to 5%, you’ve reduced it between 10% to 15%.” Reduced scrap also translates into increased production at less cost, and ultimately more products delivered to their customers.

With hindsight, Pellizzon would not have done anything differently - only done it sooner, and faster. “If anything, we probably would have been more aggressive on the rollout. We would have done it sooner.” Regarding change management, Pellizzon said, “I wasn’t sure that the organization would be able to adapt to it so quickly. But, visualization of our data was key. I think I overlooked how powerful visualization is. And that, I think, sold a lot of people – it made adaptation quicker because they were more confident due to the visualization, user friendliness and power of the program.”

## Key Takeaways

Expansive ERP systems, such as SAP, often contain a wealth of data that managers need to make informed decisions. Unfortunately, many organizations have difficulty actually making use of the data. Aberdeen recommends that organizations currently using ERP should consider:

- **Organizations that share information easily are more likely to gain the most from their ERP solutions.** Sixty-seven percent (67%) of Best-in-Class ERP users are able to share data seamlessly across the organization. Only half (33%) of those companies using SAP ERP are able to achieve that degree of open access to data. The easy sharing of data is critical to enabling strong, fact-based decision-making across the enterprise.
- **Managers that leverage BI with ERP are more likely to find the information they need to support decision making.** On average, managers using BI supported by ERP data are 7% more likely that those with BI alone to find the information they need in time to support their management decisions. Those same managers are 24% more likely to get timely information than those managers dependent on ERP alone. To take a different perspective,

approximately two out of every five management decisions at ERP-only companies are made without supporting data.

- **Analytics encourages rigorous management processes.** Organizations that adopt BI alongside their ERP solutions have established more robust management practices than those companies that have not. For example, these organizations are 38% more likely than their peers to conduct regular operational performance reviews.
- **Interactive dashboards and visual data discovery tools help managers to gain insight fast.** Often, corporate IT faces a growing volume of raw data and an increasingly clamor from business managers for insight. As noted, the average corporate IT organization has four months of BI-related project work already in the pipeline. For managers to find the information they need in the timeframe they need it, a self-service approach to business intelligence is needed. Companies with the most agile BI implementations are in the vanguard of this movement. These organizations are almost twice as likely as their less flexible peers to provide BI users with interactive dashboards and visual data discovery tools.

For more information on this or other research topics, please visit [www.aberdeen.com](http://www.aberdeen.com).

Related Research	
<a href="#"><i>How the Europeans Mastered BI</i>; April 2012</a> <a href="#"><i>Picture this: Self-Service BI through Data Discovery &amp; Visualization</i>; March 2012</a> <a href="#"><i>Agile BI: Complementing Traditional BI to Address the Shrinking Decision-Window</i>; November 2011</a> <a href="#"><i>Turning Data Growth into Business Growth: ERP and BI in the SME</i>; October 2011</a>	<a href="#"><i>Case Study: ERP and BI Put Business Problems to Bed</i>; June 2011</a> <a href="#"><i>Case Study: ERP &amp; BI in the Outback Information Management and Delivery in Extreme Remote Australia</i>; June 2011</a> <a href="#"><i>Agile BI: Three Steps to Analytic Heaven</i>; March 2011</a>
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