

Business Analytics

Benchmarking the Analysis of Data To Gain Insight



Benchmark Research

Research Report
Executive Summary

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Aligning Business and IT To Improve Performance

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Pleasanton, California

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Ventana Research performed this research for a fee to determine attitudes toward and utilization of business analytics and metrics. This document is based on our research and analysis of information provided by organizations that we deemed qualified to participate in this benchmark research.

This research was designed to investigate the business analytics and metrics practices and needs of individuals and organizations and the potential benefits from improving their existing processes, information and systems. This research is not intended for use outside of this context and does not imply that organizations are guaranteed success by relying on these results to improve planning. Moreover, gaining the most benefit from improving the use of business analytics and metrics requires an assessment of your organization's unique needs to identify gaps and priorities for improvement.

We certify that Ventana Research wrote and edited this report independently, that the analysis contained herein is a faithful representation of our evaluation based on our experience with and knowledge of analytics and sales, and that the analysis and conclusions are entirely our own.

Ventana Research

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Executive Summary

Today, where business and technology intersect, it seems as if everything is about analytics. Why? The key is information. Businesses have more of it than ever before, stored in more systems and locations, being produced in increasingly varied forms and being used in strikingly varied ways. Advances in information technology, many of them newly developed and involving the Internet, have fueled this explosive growth, creating both opportunity – in new ways for businesses to reach new markets and customers – and complexity – in trying to collect, manage and interpret data and turn it into information that can help guide them to success. Technology, two-sided coin that it is, also can provide tools to handle the complexity, and that is where analytics come in.

Businesses now collect and track information from a wider, deeper array of sources: multiple enterprise systems, real-time external feeds, their own websites and those of others, as well as voice recordings and videos. But this is only the first step. Under increasing pressure to operate more efficiently and make better decisions, business people need capabilities to analyze information, foresee future outcomes and plan how to take advantage of them. In the past they have relied on their organization's IT department to manage business intelligence (BI) systems that provide insight on processes and performance. Such efforts have made strides in standardizing querying, reporting and the delivery of information, but they cannot provide the complex analytic capabilities that line-of-business analysts and management require today.

The upshot is that analysts and managers must take more active roles, in collaboration with organizational management, in defining the analytics they need and the information sources that go into them. To advance efforts in analytics, business people must take responsibility for improvement and not assume that IT will know how to deliver what they need. Greater collaboration and cooperation between business and IT departments is necessary, as is greater clarity from the business side on what the right analytics are.

Organizations must recognize that they cannot take only a general approach to improving business analytics; they must focus on each line of business and its needs.

Organizations also must recognize that they cannot take only a general approach to improving business analytics; they must focus on each line of business (LOB) and its needs, which vary from finance and human resources to the supply chain to marketing and sales, and to customer service and contact centers. Just as important is supplying analytics so the internal IT group can improve its own operations and better support the enterprise systems and infrastructure that enable the rest of the organization. In all of these cases a strong foundation of analytics can support improvement in the key areas of people, processes, information and technology.

In many cases, however, the first things organizations and individuals must do is understand what analytics can do and ascertain what analytics they need. The buzz about analytics has created confusion in several ways. Not only is the meaning of the term itself misunderstood, so are the definitions of the business tools analytics are used to produce: measures, metrics and key performance indicators (KPIs). Nor

is there only one kind of analytics; confusion also surrounds the differences among historical, root-cause, real-time and predictive analytics. And managers, executives and their reports need to understand clearly the practical business value of applying analytics to their activities.

Ventana Research undertook this benchmark research to acquire real-world information about levels of maturity, trends and best practices in how organizations use business analytics. It explores how they do this now, how their personnel feel about the current processes and tools, plans they have to change or improve them, and benefits they hope to gain by doing so. As well as investigating the state of business analytics as a whole, we focused on eight key lines of business and produced separate reports for each of them.

About as many organizations are not satisfied with the process currently used to create analytics (42%) as are satisfied with it (43%).

This overall research found that the most important categories of metrics (which we define as measures of business performance) are central to business: financial (identified by 63% of participants), cost (61%) and operational (54%). These priorities understandably varied by line of business: Financial metrics rank first for those in finance and business departments but sales is the first priority for the marketing, sales and product areas. While cost metrics was the first choice only for supply chain areas, it was the second priority for business, finance and IT. By role, executives were much more likely than the average to mention financial, cost, profitability, sales and

pricing metrics; that is, they value higher-level business metrics used for measuring performance of the whole organization.

The research also found that analytics are not always at hand when people need them. Only one-third of senior executives (34%) and just one-fourth of vice presidents, directors and managers (27%) have them always available, though for about half of both groups they are generally available. For employees below these levels, the numbers drop even further, and for 41 percent availability is generally or completely lacking. And the research found clear need for improvement: 89 percent of organizations said it is important or very important to make it simpler to provide analytics and metrics. A similar total said they can improve the use of analytics and performance indicators significantly (42%) or somewhat (45%).

Issues also arise in providing current metrics and KPIs to people. Although 56 percent of organizations do it within one week after the end of the month, quarter or year, the rest take longer than that. The timeliness of the source data for metrics and KPIs is a related challenge: For nearly half of organizations (49%), some or most of the data is stale or outdated. Similarly, more than half (55%) said the data they use for business analytics is only somewhat accurate. Having outdated or inaccurate data is likely to undermine confidence in the metrics it is used to produce, and the research also shows that 37 percent are only somewhat confident or not confident in the quality of the information being generated by their analytics.

In broader terms, about as many organizations are not satisfied with the process currently used to create analytics (42%) as are satisfied with it (43%). The numbers of the dissatisfied increase with the percentage of work time people spend with

analytics: Among those who spend 75 percent or more of their time, more than half (51%) aren't satisfied while only 36 percent are; in all the lesser quartiles, the satisfied slightly outnumber the dissatisfied (by only a single point in the 50 to 74 percent range). Regarding the current technology for creating and applying analytics, those only somewhat satisfied with it outnumber those who are satisfied (by 36% vs. 32%), and at the extremes, more are not satisfied than very satisfied (19% vs. 9%). Those who spend 75 percent or more of their time with analytics registered both the most dissatisfied (23%) and very satisfied (12%).

The findings about which technologies are currently in use shed some light on these numbers. The only tool used by more than half of organizations (60%) to generate analytics is spreadsheets. This is the most widely used technology for five of the nine lines of business we researched and second-most for the other four. Exactly half of all organizations use spreadsheets regularly for business intelligence and analytics, and 38 percent more use them universally for those purposes – a total of almost 90 percent who use them at least regularly. We have found repeatedly that spreadsheets are not well suited for complex analytics and recurring analytical and reporting tasks. We often find excessive spreadsheet use associated with negative impacts on accuracy and timeliness, which this research confirmed. Companies that use spreadsheets universally or regularly take about two days longer to provide metrics and KPIs than those that use spreadsheets occasionally or rarely. Those that seldom use them are more likely to describe the data they use in metrics and KPIs as accurate.

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For these and other reasons, our Maturity Index analysis concludes that only 15 percent of all organizations attain the highest Innovative level of maturity in their use of analytics. Maturation requires a balanced focus on people, process, information and technology; the research found issues in each category and also concerns about progress in addressing them. Although a majority of participants (58%) said that it is very important to their business goals to simplify making analytics and metrics available, only one-third (33%) plan to take the Innovative step of changing the way they generate and apply analytics in the next 12 to 18 months. The dominant reasons for making changes are to improve business processes (for 70% and the first choice of six of nine lines of business), decision-making (67% and second-most important for five LOBs) and operational efficiency for cost savings (58%). The most important reasons for investing in analytics vary with the line of business, but aggregated into general categories they are operational efficiency (38%), business effectiveness (26%), decision support (20%) and financial (15%).

On the other hand, fundamental barriers block the road to improvement for many organizations. The absence of resources, a strong business case, a budget and awareness of the need to change all garnered more than 40 percent of participants. To overcome these will require first understanding the business benefits of investing in an initiative and then choosing the right tools to help deliver them. Among our standard seven technology and vendor considerations, 57 percent of organizations said that the most important is usability – being able to apply the tool readily to

business needs; second-most important are the functional capabilities of the analytics (cited by 47%). Executives rated both of these more highly than did the average of all job titles. We note also that in today's environment in which nontechnical users must be able to benefit from a tool as much as analysts, both ease of use and a gamut of capabilities from the simple to the sophisticated are necessary.

Thus, organizations are maturing only slowly in their use of analytics despite the fact that they view them as valuable and important. This benchmark research indicates that usability and flexible functionality are important criteria in their search for the right analytics, that failing to examine timely availability, broad access and efficient handling can obstruct analytics use, and that in technology terms spreadsheets should be replaced with more appropriate tools. When business users of analytics are clear about their needs, analytics can be developed and tuned more efficiently and they can explore new approaches such as predictive analytics and the availability of analytics on mobile devices. But investments in analytics must still be sold, using arguments about improving business processes, decision-making and operational efficiency.

What To Do Next

Among the categories of metrics, participants identified financial metrics most often (63%) as important or very important to their role in their business; cost metrics (61%) and operational metrics (54%) followed. The research found similar choices regarding the overall importance of the type of data that underlies metrics: The financial category topped the list (chosen by 71%), followed by customer (67%) and employee and sales data, each by more half of organizations. However, customer data was ranked first most often by lines of business with financial second.

Overall, only about one-fifth (23%) of organizations are satisfied with their current analytics efforts. Moreover, about half (48%) of executives said that their company can significantly improve its use of analytics and performance indicators, as did 41 percent of lower-echelon employees. Yet while two-thirds of organizations recognize a need to make changes, just one-third are planning to make them in the next 12 to 18 months. Another one-third acknowledge the need to make changes but don't view this as a sufficiently high priority on which to take action. For companies wishing to improve their performance through business analytics, we offer the following recommendations.

Assess the maturity of your business analytics.

This benchmark research found that organizations are held back in the maturity of their business analytics by a variety of factors. While the Ventana Research Maturity Index places 15 percent of them at the highest Innovative level in their use of analytics, the majority (59%) are in the bottom half of the maturity hierarchy. In people-related issues our analysis identified lack of skilled resources and lack of executive support. Process-related issues include taking longer than a week to provide metrics from analytics, formally reviewing metrics no more often than quarterly or annually and low prioritization and lack of budget. In information-related issues negatively impacting business analytics use the research identified stale, outdated and inaccurate information as well as failing to prioritize basic informational needs. In the category of technology the research found immature technology that is not working, unsophisticated technology that is known to be ineffective and a failure to prioritize forward-looking and predictive analytics. These shortcomings impede an organization's effectiveness and performance. We advise organizations seeking to mature in business analytics to take a balanced focus on people, process, information and technology issues.

Look for business analytics tools that are easy to use and flexible.

The research investigated qualities organizations seek in business analytics. Of the seven product and vendor considerations we use to evaluate analytics products, organizations ranked usability highest, with 57 percent rating it very important. More than 40 percent each rated functionality, reliability, manageability and adaptability very important. Even the lowest-ranked factors – return on investment and vendor validation – were considered important or very important by more than three-fourths of the participants.

Usability stands out as the most important consideration in selecting business analytics regardless of company size, industry, individual role or functional area. Functionality – that is, business capabilities – ranked second-most important. These should be central focuses for organizations evaluating tools. To be usable and

functional, analytics systems must have a range of components to include in presentations, and these are increasing; the standard charts, reports and tables were selected most often selected, but documents, text, visualizations such as gauges and sliders, and maps were also identified as important by one-quarter to one-half of organizations. Determine which of these are important to you today and may be tomorrow.

Look for tools that support a range of roles in your organization.

The benchmark research examined analytics needs of people in the lines of business as well as analysts. The most important capability for an analytics system is to make it possible to search for specific existing answers; this was rated important or very important by three-fourths of participants. Because anomalies are common in business, individuals need to be able to drill down to find underlying causes, and the second-most frequently chosen capability is to explore data underlying analytics, also deemed important or very important by 28 more than half. The participants rated similarly (23% to 28% deemed them very important) four other capabilities: to publish analytics and metrics; to set alerts and thresholds; to explore data by working with maps, charts and tables; and to collaborate in the review of analytics. When you evaluate products, ask about these capabilities for business users and also about more sophisticated analytics for your analysts. The most important capability for them, rated by about half very important, is being able to source data for the analytics; without this capability it's difficult to put together meaningful analytics. The two next-highest rated were to be able to take action based on the outcome of the analytics (that is, to complete the cycle of measure, decide and act) and to design and maintain a business model (which is another basic analytic function).

Ensure that business analytics are widely accessible.

Analytics are not always at hand when people need them, the research shows. Only one-third of senior executives and one-fourth of vice presidents, directors and managers have them always available. While it is true that a large majority of executives have most of what they need, this is insufficient for optimally effective performance. Almost nine in 10 organizations regard making it simpler to provide analytics and metrics to those who need them as important or very important. We urge companies to focus on making it easy for employees to access relevant analytics and metrics. Research participants who have management-level job titles most often said this is very important (63% vs. 56% overall). In your efforts to improve accessibility of analytics and metrics, keep in mind that doing this from mobile devices such as smartphones and tablet computers will become increasingly in demand; already more than one-third of people in sales, operations, the supply chain and even IT said this is important or very important.

Don't let inferior data undermine use of business analytics and metrics.

Business analytics should be about determining what is happening and will happen to an organization. But the research shows that people spend more time preparing data than analyzing it. In almost seven in 10 organizations (69%) they spend the most time waiting for data, preparing data and reviewing it for quality and consistency. Conversely only about one-fourth (28%) spend most of their time on analysis such as assembling scenarios, trying to determine root causes and determining how changes will impact current business. If these issues could be addressed, the amount

of time people work with analytics could be reduced; currently 56 percent are spending more than 25 percent of their time with them.

A related issue is the timeliness of the data to which analytics are applied to develop metrics and key performance indicators. It is encouraging that almost half (46%) of organizations work with data that they receive in real time or close to real time, but in more (49%) of them some or most of the data is stale or outdated. Analyses and assessments based on such data will have less relevance and credibility. Similarly critical is the accuracy of the data, which if it is dubious will require more time to review and ensure consistency and quality. The challenge here is similar: 30 percent said the data they use for business analytics is accurate, while more than half (55%) characterized it as only somewhat accurate. It is necessary to take steps to ensure that your source data for analytics is both fresh and correct; if it isn't, you risk undermining the use of metrics and KPIs as business improvement tools.

Replace spreadsheets as tools for business analytics.

Spreadsheets are well-established as a tool for analysis, but they are ineffective for repetitive analyses shared by more than a few people. Yet the research shows that along with business intelligence technologies (for querying, reporting and performing analysis) and analytic warehouses and databases, spreadsheets are the tools most commonly used to generate analytics. In addition spreadsheets are used universally in more than one-third (38%) and regularly in more than half of organizations. While they may be familiar, our analysis shows that organizations that use spreadsheets least have more accurate, timely data and deliver periodic reports about 30 percent sooner. This and similar findings lead us to urge organizations to limit the use of spreadsheets as data stores and for repetitive analyses, particularly in cases where the results are reported to and used by more than a few people. Their failings, limitations and necessary work-arounds undermine the needs identified by this research to simplify analytics and metrics and ensure technology usability in the process of producing business analytics.

It helps when IT and the lines of business work together on analytics.

The research found that most people who have primary responsibility for designing and deploying analytics have experience with sophisticated tools. In more than half of organizations (54%) analytics are designed and deployed by the business intelligence or data warehouse team or by general IT resources. Line-of-business (LOB) analysts are involved in a bit more than one-third of companies; 20 percent use LOB analysts alone and another 16 percent have IT analysts and LOB analysts collaborate. The research also finds some cooperation of business analysts with IT in business analytics. In 30 percent of organizations the two work together to design and deploy analytics, while business units do that for themselves in 29 percent. In the process of making new analytics available, only 23 percent will have the IT organization alone build them; more often business analysts (in 30%) will work with IT to design and deploy them or business unit employees (29%) will do that. Investigate working relations between these two sides and explore how strengthening them can help make your analytics more useful.

Understand the value of predictive and forward-looking analytics.

Predictive analytics can give business glimpses of what may happen, the consequences of actions and scenarios for how to respond to change. Technology has advanced to a stage where it is feasible to provide them to a variety of users. Yet predictive analytics are not high-priority analyst capabilities for the lines of business, nor are what-if and planning-based analytics. Exceptions were contact centers, in which predictive analytics ranked second-most important, and supply chains, where they are third-most important. Some industries (for example, telecommunications, medicine and financial services) and some roles (such as IT or R&D) are heavier users of these analytics, but even there no more than 20 percent said they employ them. Finance departments are the least likely to use predictive analytics, even though they could be widely applicable within this function. Nor did they select what-if and planning-based analytics as one of their top three priorities, although the sales and supply chain business areas. Both of these types of forward-looking analytics can help advance maturity in business processes; consider what they could do for your organizations.

Address barriers standing in the way of improving business analytics and performance.

The research shows that the most significant barriers to making changes in analytics are fundamental: lack of resources, no budget, a business case that is not strong enough and too low a priority assigned to the effort. In our experience these barriers are interrelated: Failure to provide a compelling business case results in a project receiving a low priority and therefore not being allocated the resources or budget sufficient to implement the changes. Resources must be adequate to enable investment in technology to make analytics easy to access and use; lack of resources is the foremost process and technology barrier in half of the lines of business. Driving change and addressing barriers require understanding the benefits of investments; the research found that the factors most often driving change are seeking to improve business processes (in 70% of organizations), decision-making (67%) and operational efficiency (58%). As well as these three choices, increasing profitability, gaining a competitive advantage and creating new revenue opportunities each were cited by more than one-third of organizations. Demand that vendors show how their products deliver clear benefits such as these and address issues such as total cost of ownership and return on investment that can help lower the barriers in your organization.

Consider cloud computing for deploying business analytics.

Slightly more than half of organizations still prefer on-premises deployment for business analytics, but the research found a significant preference (of 27%) for software as a service (SaaS), an on-demand approach commonly called cloud computing. Only 5 percent prefer software hosted by the supplier. A significant number (16%) expressed no preference for any of these approaches and so may be open to new methods to acquire business analytics. SaaS can provide affordable, rapid deployment to enable any size of organization to gain access to business analytics. We advise you to evaluate it if your organization is looking to avoid the effort and expense of having in-house technology resources manage your business analytics.

How Ventana Research Can Help

Ventana Research helps organizations develop, execute and sustain business and technology programs that align people, processes, information and technologies essential for success. As an objective and trusted advisor, we are your insurance that your business and IT initiatives deliver both immediate and long-term improvements to your business.

We offer a variety of customizable services to meet your specific needs including workshops, assessments and advisory services. Our [education](#) service, led by analysts with more than 20 years of experience, provides a great starting point to learn about important business and technology topics from compliance to business intelligence to building a strategy and driving adoption of best practices. We also offer tailored [assessment services](#) to help you connect the business and technology phases of your project by leveraging our research foundation and methodologies. And we can provide Ventana On-Demand access to our analysts on an as-needed basis to help you keep up with market trends, technologies and best practices.

Everything at Ventana Research begins with our focused [research](#), of which this report is a part. We work with thousands of organizations worldwide, conducting research and analyzing market trends, best practices and technologies to help our clients improve the efficiency and effectiveness of their organizations.

Through the Ventana Research [community](#) we also provide opportunities for professionals to share challenges, best practices and methodologies. Sign up for Individual membership at www.ventanaresearch.com to gain access to our weekly insights and learn about upcoming educational and collaboration events – webinars, conferences and opportunities for social collaboration on the Internet. We offer the following membership levels:

Individual membership: For business and IT professionals* interested in full access to our Web site and analyst team for themselves. The membership includes access to our library of hundreds of white papers and research notes, briefings and telephone/e-mail consulting sessions to provide input and feedback.

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About Ventana Research

Ventana Research is the leading benchmark research and business technology advisory services firm. We provide insight and expert guidance on trends and mainstream and disruptive technologies. Our unparalleled insights and best practices guidance are based on our rigorous research-based benchmarking of people, processes, information and technology across business and IT functions worldwide. The combination we offer of benchmark research, market coverage and in-depth knowledge of hundreds of technology providers means we can deliver business and technology education and expertise to our clients where and when needed to reduce the time requirements, cost and risk of technology investments. Ventana Research provides the most comprehensive analyst and research coverage in the industry; the many business and IT professionals worldwide who are members of our community benefit from Ventana Research's insights, as do highly regarded media and association partners around the globe. Our views and analyses are distributed daily through blogs and social media channels including Twitter, Facebook, LinkedIn and *Business Week's* Business Exchange. Ventana Research was ranked the number-one analyst firm you can trust in enterprise software for 2009 for its relevance to the industry. To learn how Ventana Research advances the maturity of organizations in using information and technology through our benchmark research, education and advisory services, visit www.ventanaresearch.com.