



BUSINESS INTELLIGENCE MATURITY AND THE QUEST FOR BETTER PERFORMANCE

Why most organizations aren't realizing the full potential of BI –
and what successful organizations do differently

Research results of a SAS survey, March 2007



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About This Survey

In March 2007, SAS conducted research to assess current trends in the use of business information – specifically business intelligence and competency centers – and the effect on organizational performance. In response to an e-mail invitation to take an online survey, 175 business professionals provided their perspectives on business intelligence in their organizations, representing a diversity of sizes and industry classifications from across the globe.

The goal of the research was to assess where companies stand in the evolution of their use of information – and how they are turning data into information to drive business strategy. The survey also measured the prevalence of business intelligence (BI) software and business intelligence competency centers (BICCs) at the functional unit and organizational levels to determine if these initiatives have helped organizations reach higher levels of information maturity.

Executive Summary

Effective management and use of information may be a key component to an organization's success, according to this research. The findings indicate that implementation of practices to maximize business information correlates strongly with improved organizational performance, but it is also evident that many organizations are still struggling with their information.

Despite the prevalence of technology to manage information – specifically business intelligence software – fewer than 25 percent of the respondents indicated that their management relies on business intelligence to make decisions. But even more importantly, close to 80 percent of organizations have not fully implemented practices to ensure data quality, integrate their data across the business or create standard data definitions – fundamental elements of maximizing business information.

Who is doing the best job of managing information? The organizations that had made commitments to effectively manage their information (leading to a higher level of “information maturity”) tend to be larger (based on revenue or number of employees), more global and publicly traded. In addition, the performance of these organizations is stronger than that of their counterparts. And while their size is certainly one factor they have in common, what likely drives these organizations to maximize their business information are the challenges they face from competition. Organizations with higher levels of competition not only exhibit higher levels of information maturity; they also outperform those under less competitive pressure.

The most successful organizations tended to be the ones that were more advanced in these attributes:

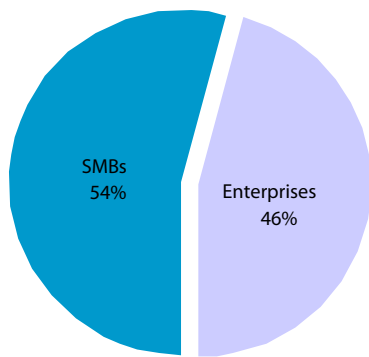
- Use of advanced analytics.
- Availability of technology for information access and information sharing.
- Data integration across the organization.

The study reveals BICCs are more prevalent in the functional unit (25 percent) than organizationwide (15 percent) and slightly more prominent in enterprise-size organizations. Of particular note is that organizations with BICCs show significantly higher commitment to information management practices, which in turn leads to improved financial results. These organizations are seeing the return on their investment in the form of improved performance.

Profile of Respondents

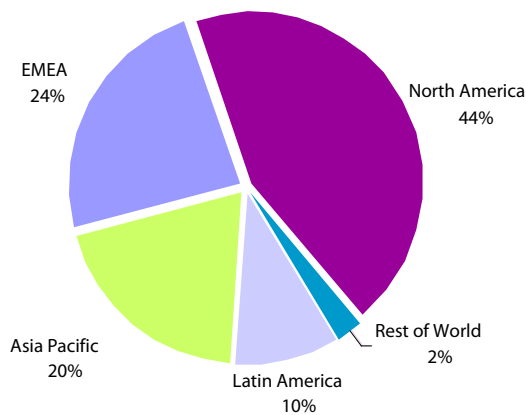
Size of organizations represented in the survey

The survey respondents represent organizations of various sizes. Organizations were categorized as small and medium businesses (SMBs) if they had less than US\$500 million in annual revenue or fewer than 5,000 employees. Larger organizations were classified as enterprises. These classifications were equally represented in the survey, with a slight majority of the respondents coming from SMBs (54 percent).



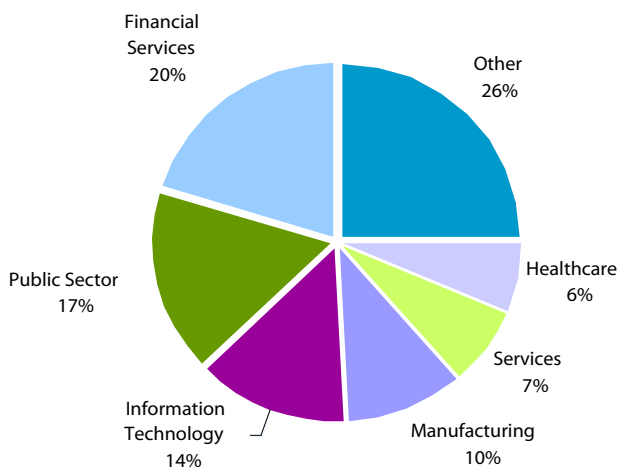
Location of organizations represented in the survey

Participating organizations represented a cross section of geographies, with the largest group from North America (44 percent), followed by Europe, the Middle East and Africa (EMEA, collectively) at 24 percent.



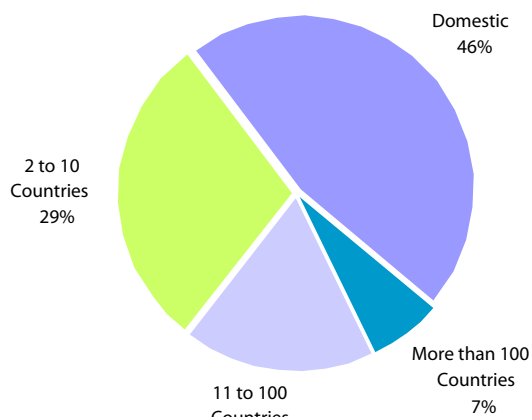
Industries represented in the survey

Organizations in a number of industries participated in the study. Companies in financial services accounted for the largest portion at 20 percent, followed closely by public-sector entities (17 percent).



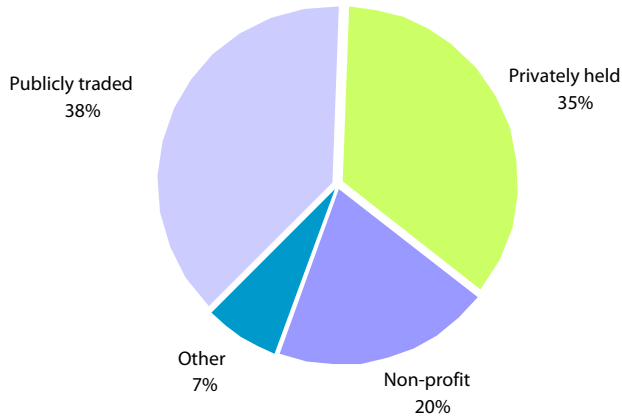
Level of globalization of organizations represented in the survey

Participating organizations ranged from those with operations in one country (domestic) to those spanning more than 100 countries.



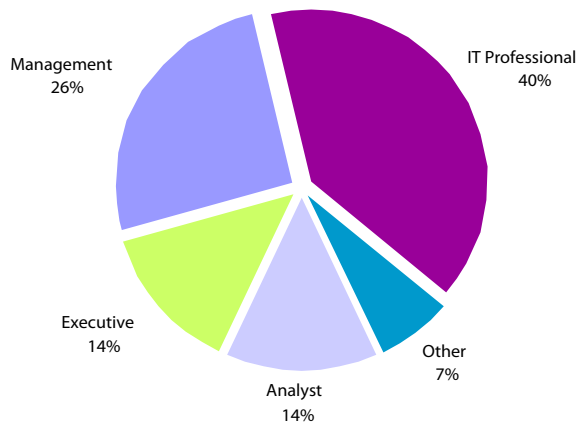
Structure of organizations represented in the survey

Publicly traded and privately held organizations accounted for nearly three-quarters of the respondents (38 percent and 35 percent, respectively). One organization in five (20 percent) was a not-for-profit entity.



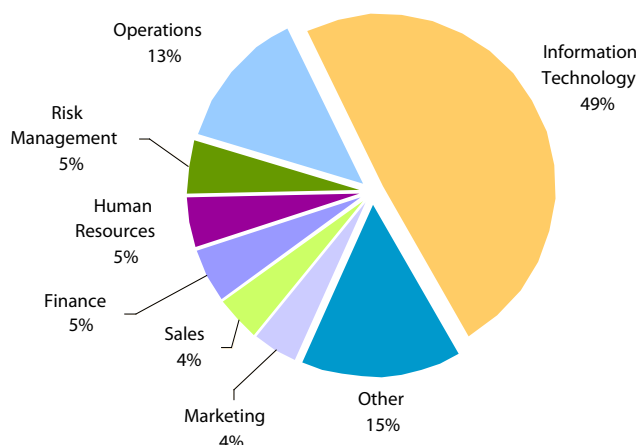
Job functions of survey respondents

Respondents' job functions varied, but IT professionals represented the largest group (40 percent).



Functional areas of survey respondents

Nearly half of the participants (49 percent) worked in the IT area of their organizations.



Research Findings

Current state of business intelligence in organizations

Much has been written about the use of business intelligence (BI) in the organization and how, when deployed effectively, it can help organizations turn data into meaningful information that drives more effective business decisions. What's more, BI experts say, business intelligence is evolving from a departmentalized effort toward an enterprise initiative. The growth of business intelligence in the organization has resulted in a \$5.5 billion software market. Indeed, BI has put the ability to access and analyze business information into the hands of the business users.

There is little doubt that many organizations embrace the promise of BI to provide a consistent view of the data accessible by everyone in the organization. However, actualizing the concept is proving to be more difficult. Even the best business intelligence software provides no instant fix for organizations without the necessary culture, processes, skills and infrastructure to make it work. Many organizations are still struggling with how to manage their business information and maximize its use to drive decisions.

In fact, the survey reveals that only a small percentage of organizations have matured in their BI efforts to a point where they are maximizing the value and utility of business information. Does this suggest that the majority of BI efforts are ill-fated? Absolutely not. According to this study, organizations that are getting the most value out of data are managing it quite differently from those that are not getting all the value they should. By identifying what the most successful companies are doing right, others can more rapidly mature in their business intelligence efforts.

Business intelligence pitfalls: Four areas that hold companies back

Pitfall #1: Few organizations are doing what is necessary to get their data in shape.

Most organizations capture data in a wide variety of sources and formats, including enterprise resource planning (ERP), legacy systems, relational database management systems (RDBMSs), flat files, Web logs, etc. This diversity creates challenges to locating, identifying and selecting the right data. Rarely are there discussions about data that are not accompanied by concerns about unwieldy amounts of data, lack of consistency across sources and differing data definitions.

Effective BI is all about the underlying data. It must be accurate, consistent and trustworthy. Yet at this important level, only 18 percent of respondents said their organizations had strong data management practices. The survey indicates that some of the fundamental components of effective BI – data quality, integration and consistency – are among the most neglected.

Surprisingly few respondents said data was integrated within functional areas (17 percent), data was integrated across the organization (16 percent) or that the organization used consistent data definitions (17 percent). Even among this minority, only a handful claim to have these practices fully implemented.

Clearly, the quest for a single version of the truth is often impeded by the absence of accurate, high-quality data for decision making.

Level of data quality and integration in the organization

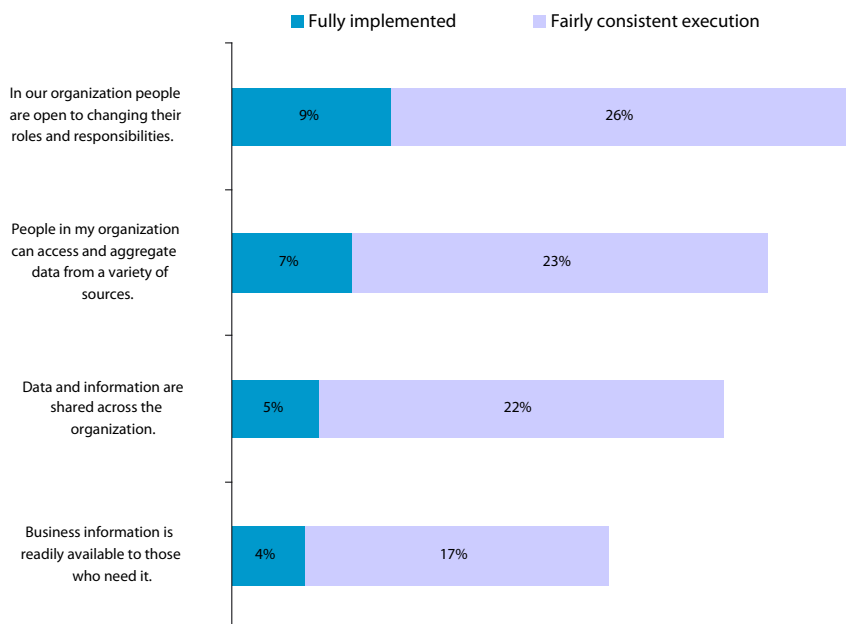


Pitfall #2: The climate of many organizations is still not conducive to being information-driven.

Effective use of information to drive decisions requires that the organization have the necessary skills, culture, infrastructure and processes in place. In other words, there must be an environment of readiness. Employee willingness to change roles and responsibilities is important to the BI culture because use of information to drive decisions will require workers to gain skills necessary to understand the results of data analysis and apply those to the business. Of course, the data and information must be available, and the various sources of data across the organization must be brought together. Information must not be hoarded; it must be shared across departments.

Many organizations represented in this survey still lack some of these essentials necessary to make the move to an enterprise BI strategy. While more than one-third of the organizations reported employee openness to changing roles and responsibilities, the real barriers are data and information availability and access, which seem to be compounded by a siloed approach to information – lack of sharing across the organization.

Level of data access and information sharing in the organization

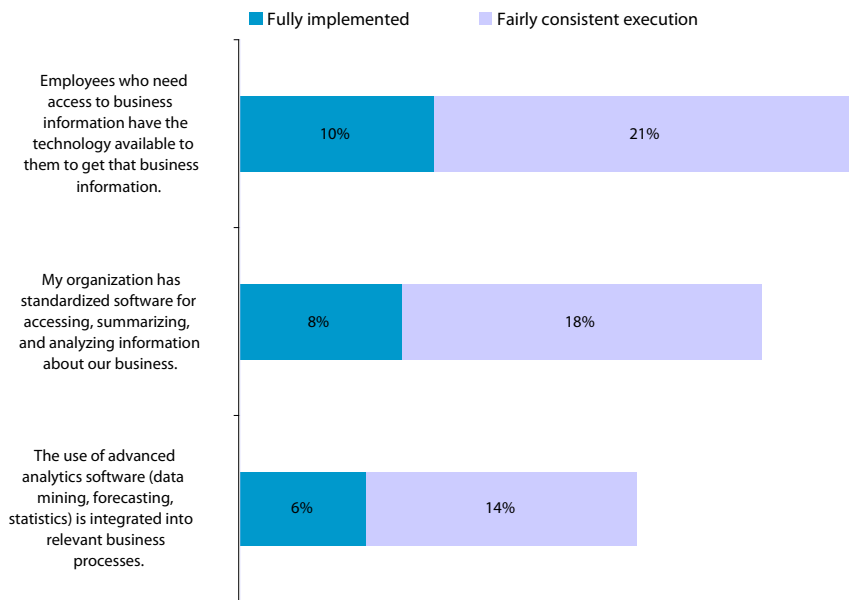


Pitfall #3: Many companies lack the appropriate technology and analytic strength.

An effective BI strategy requires that the organization make investments in the appropriate tools for information management. Employees who need access to information must have the right technology. The organization must invest in software to access, summarize and analyze information, and to be optimally effective, this should be standard across the organization. Additionally, the use of advanced analytics has been proven to be a key factor in improving business decision making and a competitive advantage.

Employees have the technology they need to get to business information in only 31 percent of the organizations in this survey. Fewer have standardized software, suggesting that there is still a strong departmentalized – and perhaps fragmented – approach to managing information. Many organizations have yet to tap into the power of analytics to drive decisions; only 20 percent report using advanced analytics as part of relevant business processes.

Technology infrastructure to support business intelligence



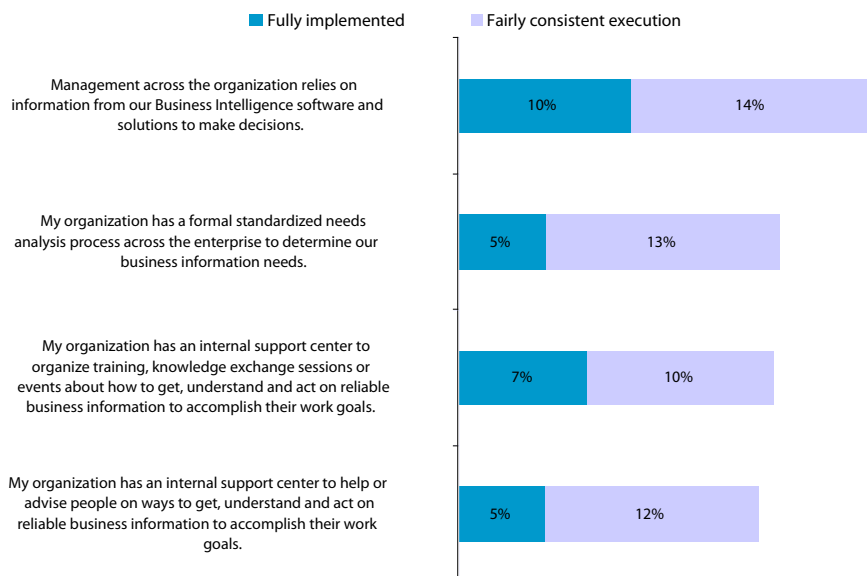
Pitfall #4: Many organizations do not fully exploit business intelligence to make decisions.

If an organization has made the decision to implement a BI strategy and rely on business information to drive its decisions, the success of that strategy will depend in part on the organization’s level of commitment – and the degree to which management actually uses analytics-driven intelligence to support decisions. Tangible support from executives – commitment evidenced by action – sets the tone for the rest of the organization.

In addition, the organization must also prioritize its information needs in line with the goals of the business. This is typically accomplished through a formal needs assessment. Finally, a support center for BI training and assistance is often the hallmark of organizations that have made a full commitment to intelligence-driven decision making.

As evidence of the relative immaturity of enterprise BI across organizations, only 24 percent of respondents reported that management across the organization relies on information from BI software to make decisions on at least a fairly consistent basis. This suggests that enterprise BI is still in its growth phase. Even fewer have taken the steps to assess business information needs or develop support centers that could maximize the use of business information, even though these activities can significantly enhance the value of BI across the organization.

Degree to which business intelligence is embedded in organizational culture



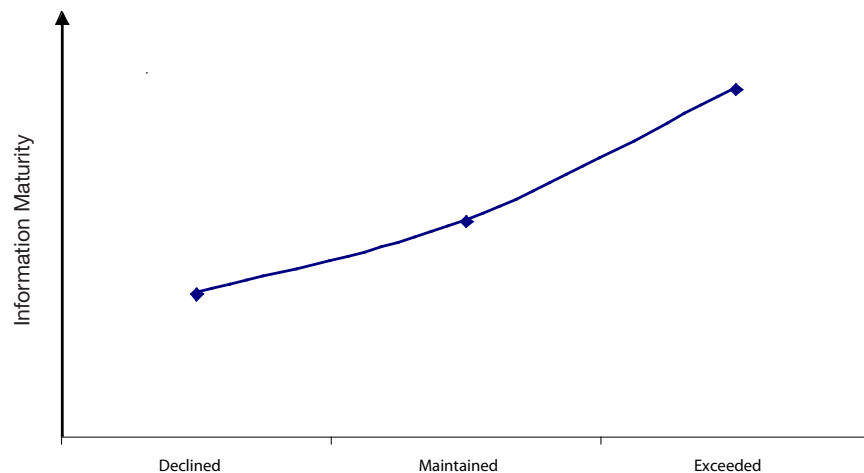
Driving performance with information management

The research shows that effective information management practices and a sound BI strategy drive better organizational performance. Responses to the survey show that more successful organizations are also more mature in their approach to business intelligence. In looking at organizations that have been more successful than others, we see distinct, tangible differences. Nearly 60 percent of respondents reported that their organizations had performed better in the last fiscal year than in the previous year. These companies tended to be larger (75 percent reported revenues of \$1 billion or more), more global (77 percent reported operations in more than 10 countries) and publicly traded (81 percent).

Using the responses concerning information management, an “information maturity score” can be calculated based on how far along organizations are in implementing information management practices. The survey results indicate that an organization’s performance and information maturity are related: the better the organization performed, the higher the information maturity.

It is clear in the following figure that the use of sound information management practices significantly increases the likelihood of success.

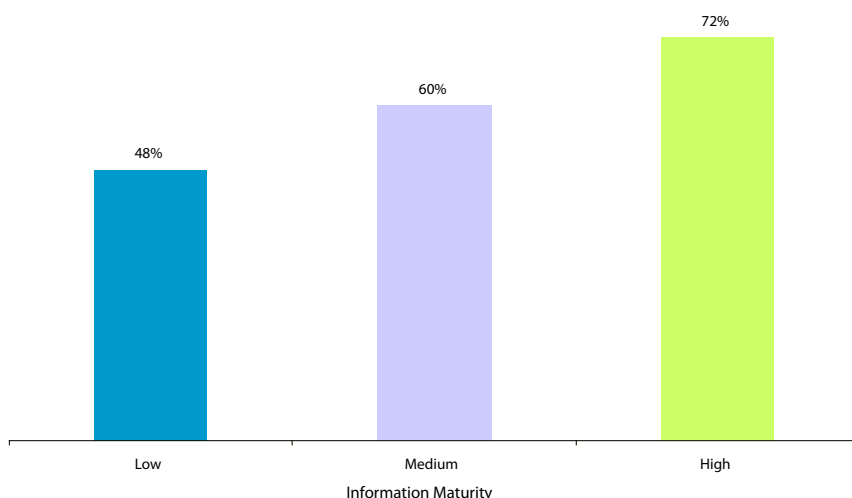
Performance vs. Previous Years



- Successful organizations are more mature in their use of information.

The research also shows that organizations that are more effective in using their information obtain better results. For instance, 48 percent of the organizations reporting a low level of information maturity exceeded their previous years' results. However, 60 percent of those with a medium level of maturity exceeded previous years' performance, while 72 percent of those with a high level of information maturity were successful in achieving better performance than in previous years.

Percent of Organizations Exceeding Previous Years' Performance



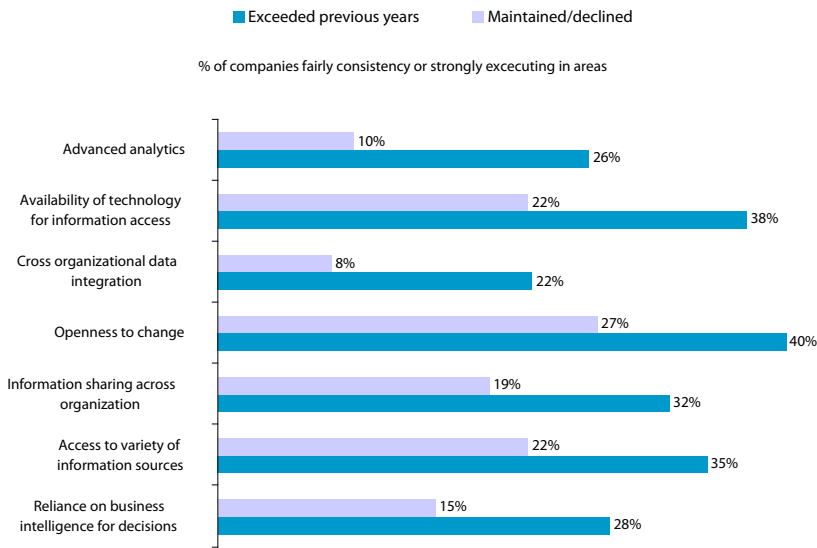
Key success differentiators: information management best practices

It has been noted that the more successful organizations in this study exhibit stronger information management practices, and in doing so, they seem to have a more cohesive BI strategy. But just what are they doing that sets them apart from their less successful counterparts?

In examining the gaps between the successful and unsuccessful organizations' practices, the top three differences are in the use of advanced analytics, availability of the appropriate technology for information access and cross-organizational data integration. While the percentages of organizations that are consistently executing in these areas are not particularly high, there is still a significant difference between the two groups on these dimensions.

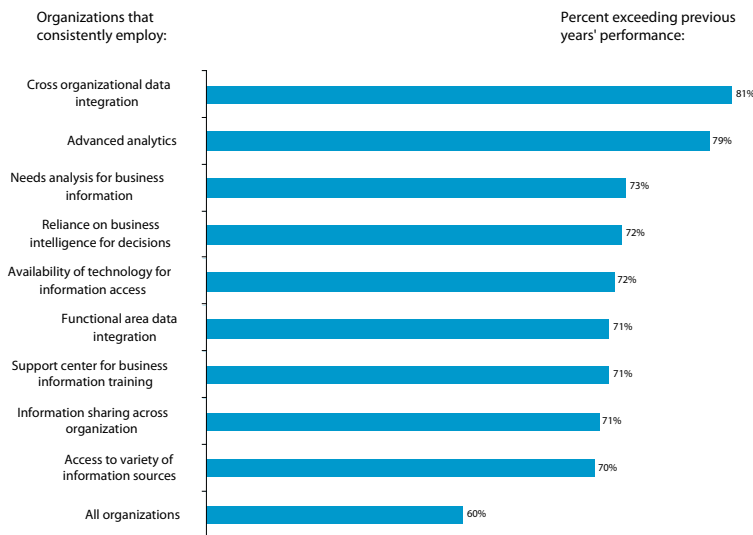
Other areas of notable difference include an organization's openness to changing roles and responsibilities, sharing of information across the organization, access to a variety of information sources and consistent reliance on business intelligence.

- The largest differences between successful companies and their less successful counterparts are in their use of advanced analytics, technology for information access and data integration.



Organizations employing strong data integration practices and those using advanced analytics are most likely to be successful.

Even more compelling than the differences in practices between more and less successful organizations is the finding that 80 percent of organizations that consistently employ cross-organizational data integration practices or use advanced analytics report exceeding their previous years' performance (compared to 60 percent of all organizations). This finding clearly shows the importance of getting business data in order (through data integration) and highlights the power of applying analytics to drive decisions.

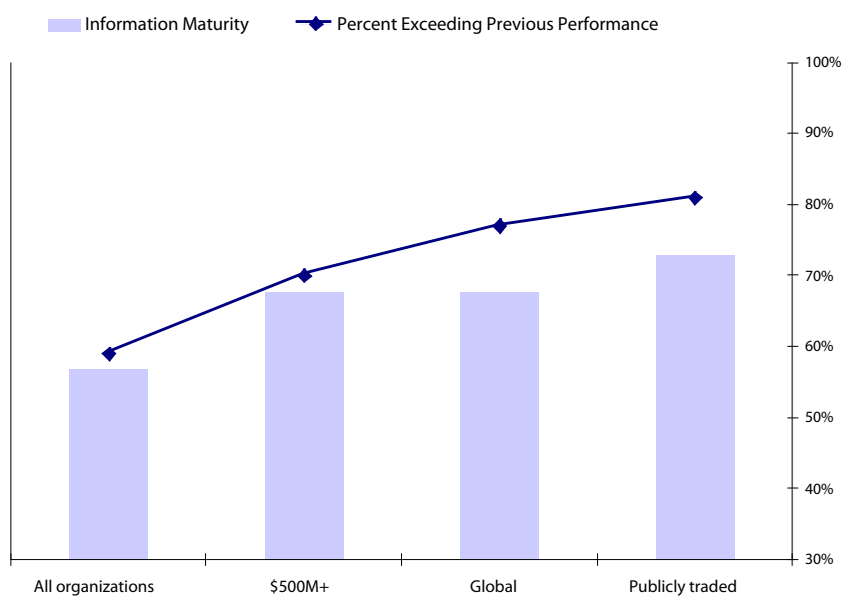


Characteristics of the BI-focused organization

This research suggests that many organizations are still in the very early stages of information use, functioning without a clear BI strategy. The findings have also shown that as organizations mature in their information management and become more BI-focused their results improve. So then, what are the characteristics of organizations that have been more successful in these endeavors, and what can be learned from them?

Organizations with revenue of \$500 million or more, those that have operations in more than one country and publicly traded companies all report higher levels of information maturity than the average organization. In addition, these entities are more likely to have exceeded previous years' performance.

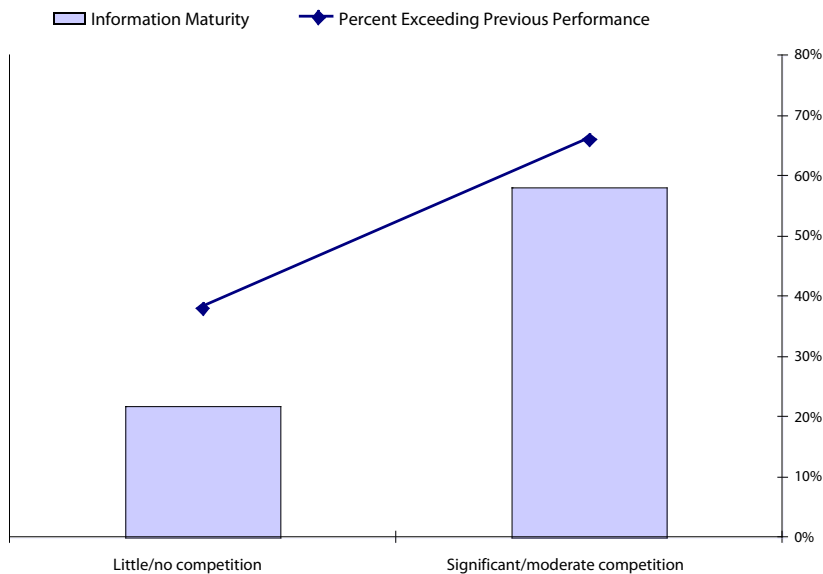
- An organization's size, level of globalization and structure are related to its information maturity.



Competitive threat drives sharpening of BI strategies

While one common thread across these organizations is size (since global and publicly traded companies tend to be larger), another important factor gleaned from the research is that all of these organizations report facing higher than average levels of competition. In fact, the difference in information maturity levels between organizations facing significant or moderate competitive challenges and those facing little or no competition was quite strong.

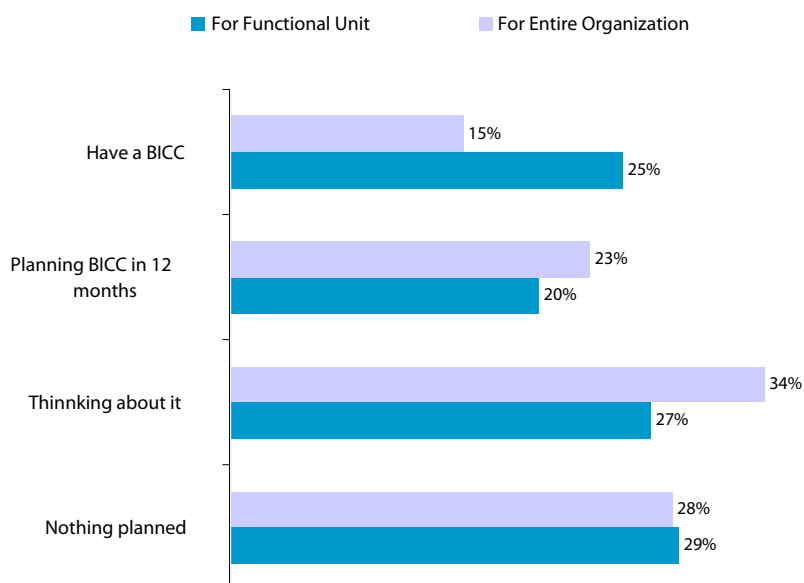
The implication here is that organizations in these categories cannot afford to be dormant. Large organizations can be threatened by smaller, niche companies offering lower pricing. Global organizations face competitive threats from both domestic and international entities. Publicly traded companies must outsmart the competition to grow market share and increase shareholder equity. Hence, it is likely that a more focused BI strategy, resulting in a more mature use of information, has helped these organizations deal with competitive pressures and improve performance.



The BICC as catalyst to a more effective BI strategy

Previous research suggests that the primary reason BICCs are set up by organizations is to drive the use of BI to different levels of the organization. These organizations are furthering their BI strategy by providing the skills and resources necessary for the organization to become information-driven.

The findings of this study show that the use of BICCs is more prevalent at the department level (25 percent) than at the organization level (15 percent). But the data also reveals that this concept is in its early growth phase, as many organizations are planning to implement a BICC in the next 12 months. Interestingly, organizations that indicate they are facing serious competitor threats or challenges in reporting for compliance purposes are most likely to say they will participate the BICC trend in the next year.

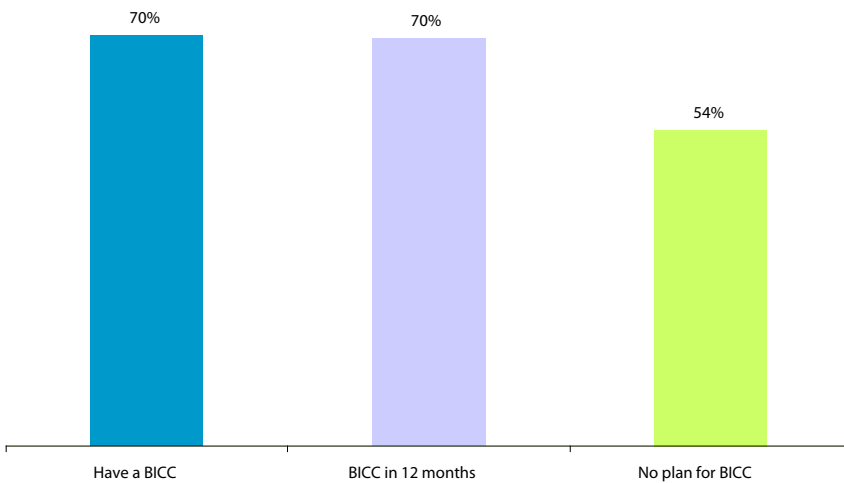


While the survey found that organizations that have set up a BICC performed better than companies in general, those that are planning to set one up in the next 12 months performed just as well. This finding suggests that organizations that have planned for the BICC implementation have already begun using information more effectively to drive performance.

■ BICCs are still in their early growth phase.

■ Organizations that have set up a BICC or plan to in the short term performed better than organizations as a whole.

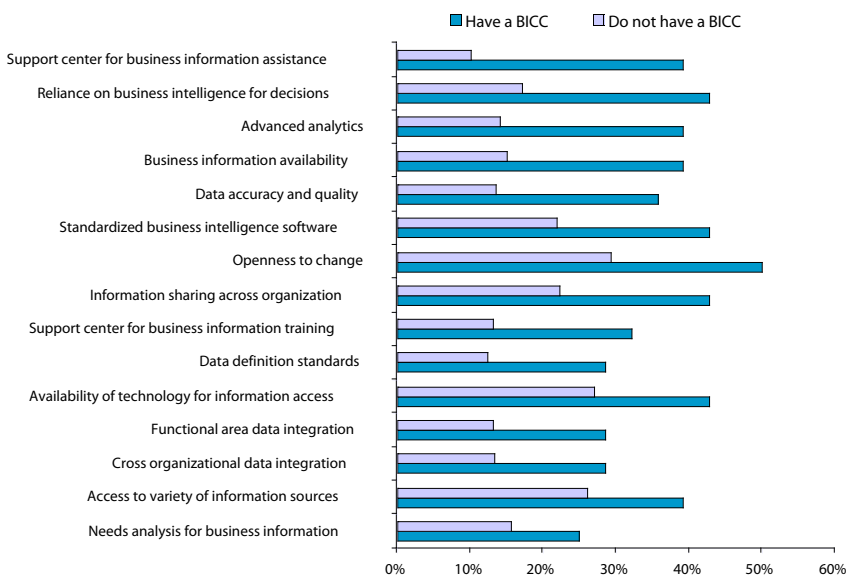
Percent of Organizations Exceeding Previous Performance



Organizations with BICCs have been much more effective in implementing a BI strategy.

A key finding of this research is that BICCs are fulfilling their purpose. Organizations with BICCs are significantly more advanced in all information management practices than those without BICCs. Of particular note is that management across the enterprise relies on BI for decisions in more than 43 percent of the organizations with BICCs – indicating that BICCs are effective in helping to drive enterprisewide BI.

While there are still information management areas that can be improved, it is clear that investing in a BICC will help organizations maximize the use of information through a more focused BI strategy, which will lead to improved performance.



Closing Thoughts

If the phone rang right now, bringing you a crisis that you had to resolve, would you be able to assemble all the information you need to take appropriate corrective action? If a brainstorming session turned up an intriguing new business opportunity, would you be able to quickly assess the risk and forecast the potential of that opportunity? Can you quickly put together quantifiable ROI or other proof of success for any of your team's projects?

If your answers are "No, not likely ... well, maybe sometimes," you're definitely not alone. In our survey, only 18 percent of respondents said their organizations had a unified, trustworthy information resource to drive decision making. Why? There's certainly no shortage of data, but there is still a huge shortfall of business intelligence – even though there's more investment than ever in BI tools.

The results of this survey imply that a big part of the answer has to do with the use of technology to effectively exploit all that data. More specifically, organizations that are further along in the areas of advanced analytics, information access technology and cross-organizational data integration seem to be achieving a higher level of performance.

But there is more to business intelligence than simply deploying technology. Organizations need a comprehensive, strategic approach to designing, implementing, managing, tracking and supporting BI initiatives. Lacking that framework, the organization could end up with a patchwork of good intentions but no meaningful enterprisewide intelligence.

To address these obstacles, a growing number of organizations are creating a Business Intelligence Competency Center (BICC) – a center of excellence that plans and prioritizes broad BI initiatives, manages and supports those initiatives, and promotes broader use of BI throughout the organization through application design, user training and technical support.

In an environment where IT organizations are tasked to do more with less, a BICC offers real relief. A BICC can meet the growing demands of end users with fewer support staff, while providing a forum for repeatable results, best practices and collaboration across the organization. Successes can be documented, measured and monitored for optimal performance. The business case is self-evident: By streamlining operations, a BICC reduces overhead and information silos while increasing the overall effectiveness of BI technology investments.

About SAS

SAS is the leader in business intelligence and analytical software and services. Customers at 43,000 sites use SAS software to improve performance through insight from data, resulting in faster, more accurate business decisions; more profitable relationships with customers and suppliers; compliance with governmental regulations; research breakthroughs; and better products and processes. Only SAS offers leading data integration, storage, analytics and business intelligence applications within a comprehensive enterprise intelligence platform. Since 1976, SAS has been giving customers around the world THE POWER TO KNOW®.



SAS Institute Inc. World Headquarters +1 919 677 8000 To contact your local SAS office, please visit: [**www.sas.com/offices**](http://www.sas.com/offices)

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