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## **HOW TO SELECT A BUSINESS INTELLIGENCE VENDOR**

A comprehensive framework for evaluating BI technologies

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## Executive summary

As the amount of information collected throughout an enterprise grows, so does the need for solutions that maximize the value that information adds to the organization. In fact, according to a recent survey by Gartner, strengthening the 'information value chain' is one of the three critical challenges that CIOs see themselves facing in 2006.<sup>1</sup> That worldwide survey of 1,400 CIOs by Gartner Executive Programmes (EXP) identifies **business intelligence** applications as the number one technology priority (Source: Gartner EXP, January 2006).

Therefore, it is not surprising that business intelligence (BI) software has attracted attention from a crowd of vendors, each claiming to offer the best solution. To help cut through the clutter of conflicting and overstated vendor claims, SAS has developed a comprehensive framework that can be used to evaluate any and all BI vendors. Using criteria that are crucial to the success of your BI implementation, the evaluation framework includes measures of:

- Technology (comprehensive BI platform and advanced analytics).
- Alignment with customer needs (organizational reach and customer commitment).
- Corporate vision and geographic scope.

## Working smarter with business intelligence

Today's marketplace realities have rendered obsolete old ways of doing business. Once reliable sources of revenue growth have evaporated. Most companies operate in increasingly commoditized markets where new products and services can be copied within days. Mergers and acquisitions are no longer sufficient methods of gaining market share or growing revenue. Advances in technology, such as the Web, wireless devices and broadband communications, are rewriting the rules of the game in increasingly rapid cycles. And with more information, more choices and higher expectations, your customers hold more power than ever.

One thing that hasn't changed is the pressure to return value to the business — to enter and win new markets, increase profitability and reduce costs. In an environment where the "low-hanging fruit" has long since been picked clean, organizations must continually find new ways to survive and grow. The only way to accomplish this goal is to scrutinize every facet of the enterprise and determine how each function can be optimized to work smarter, respond faster to new challenges and contribute to the organization's most critical objectives.

- The only way to continually find new ways to grow and survive is to scrutinize every facet of the enterprise and determine how each function can be optimized to work smarter, respond faster to new challenges and contribute to the organization's most critical

<sup>1</sup>"Growing IT's Contribution: The 2006 CIO Agenda," Gartner Executive Programmes (EXP), January 2006

What does it mean to *work smarter*? It means:

- Developing a thorough understanding of your suppliers — who they are and what you are purchasing from each one — to negotiate better contracts, streamline the supply chain and minimize risk.
- Measuring IT service delivery levels to ensure that scarce IT resources are deployed as effectively as possible to support business strategies.
- Evaluating financial performance, regulatory compliance and exposure to financial risk to create future value for your organization, rather than simply making sense of what happened in the past.
- Understanding how your HR policies and decisions can ensure that human capital is aligned with strategic organizational objectives.
- Predicting changes in process, product and equipment performance to better align monitoring, control and improvement actions.
- Constructing a single view of your enterprise including clients, partners, operations, etc.
- Making decisions based on facts.

It is through practices such as these — understanding the drivers of success in all facets of your organization, anticipating the impact of changes in key variables and measuring progress toward both divisional and enterprise objectives — that you can consistently deliver the value stakeholders demand. And it is only through intelligence that your organization can successfully incorporate those practices into the way you do business and achieve an overall strategic vision.

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### **Business intelligence now a “must-have”**

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The deluge of data has affected all organizations, and today’s technology executives are definitely feeling the pressure to help their organizations use information to work smarter. Operational systems such as ERP and front-office CRM (customer relationship management) systems have been seen universally as “must haves,” but for companies seeking to secure a sustainable competitive advantage in today’s unforgiving marketplace, *business intelligence* now falls into the “must have” category as well.

Pressured to show greater quantifiable and strategic value from IT investments, more companies are turning to business intelligence to drive return on investment (ROI) from ERP and operational implementations by unlocking the wealth of information stored in these systems.

According to Gartner's 2006 CIO survey, "Two-thirds of CIOs believe their competitors make better use of information," and strengthening the 'information value chain' is their number one challenge.<sup>2</sup> The survey says that CIOs see business intelligence applications as the number one technology priority and they plan to increase their business intelligence budgets by an average of 4.8 percent in 2006. Gartner predicts that sales of new licenses for BI software will reach \$2.5 billion in 2006, a 6.2 percent increase from the previous year.

*InformationWeek's* Rick Whiting also noted this trend in a March 2006 article. "Business intelligence tools are making it onto the "gotta have" list at more businesses, and projected spending on the software is on the rise at many companies."<sup>3</sup> Whiting cites a survey of 230 business technology professionals by *InformationWeek* Research that shows 44 percent planned to increase spending on BI tools in 2006. "More than a third say BI spending will make up a larger percentage of their total IT budgets this year, and one-third say it will increase by 26 percent or more."

"Business intelligence tools are making it onto the "gotta have" list at most companies..."

**Rick Whiting**  
*Information Week*

## The stakes are high and so is the hype

Obviously BI is important to today's enterprise but why? The broad answer is so organizations can make more money, save more money and allocate what they have more effectively — by getting better answers faster. This means the stakes in choosing the right BI vendor are high. The cost of incomplete, inefficiently generated intelligence is astronomical — not only in missed revenue opportunities, but also in real cash outlays.

Organizations have wasted great sums on niche software products and incompatible applications that:

- Are hugely expensive to integrate and maintain.
- Don't provide one consistent version of the truth.
- Leave decision makers doubtful of their output.

So how can you separate hype from reality? This paper provides a clear framework that you can be used to evaluate any BI vendor on criteria that are crucial to the success of your BI initiatives.

<sup>2</sup>"Growing IT's Contribution: The 2006 CIO Agenda," Gartner Executive Programmes (EXP), January 2006

<sup>3</sup> Rick Whiting, "BI Spending to Increase," *InformationWeek*, March 6, 2006

This BI evaluation framework addresses three categories, each with two dimensions:

### Technology

- Does the vendor offer a truly comprehensive BI platform or just a point solution?
- Does the vendor offer true analytics or just query and reporting capabilities?

### Alignment with customer needs

- Does the solution deliver intelligence across all organizational levels and functional areas?
- What is the vendor's commitment to customer support?

### Corporate vision and geographic scope

- Is the vendor committed to the investments necessary to grow with you as your needs evolve?
- Does the vendor offer both global reach and local presence?

In the pages that follow, we'll define dimensions within these key categories, show why they're important in selecting a BI vendor and provide specific questions you'll want to ask of any candidate being considered for your business intelligence solution.

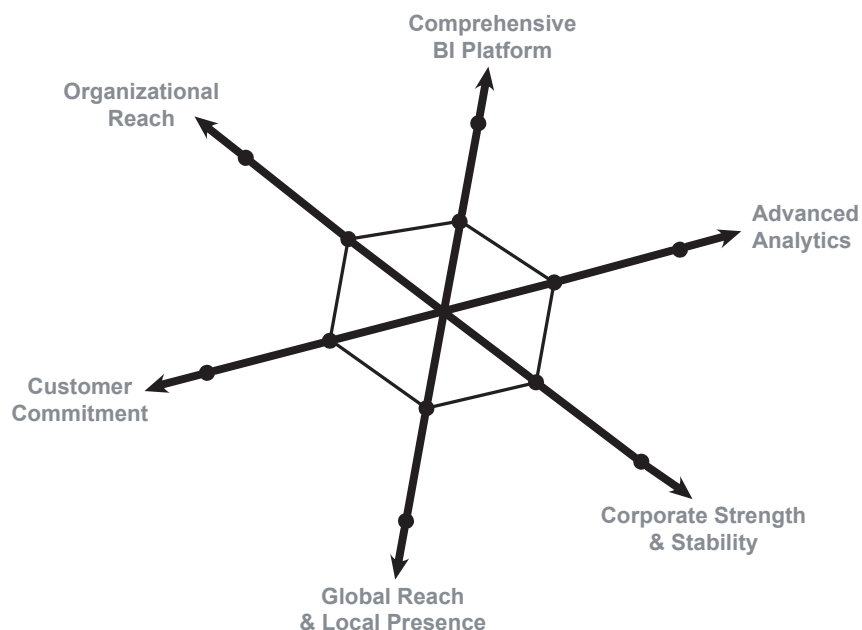


Figure 1: Six key dimensions to consider when selecting a BI vendor.

## BI Vendor Selection Criteria — Technology

### Category 1: Comprehensive Business Intelligence Platform

#### What is a comprehensive BI platform?

As opposed to a point solution or packaged application, a comprehensive BI platform provides a complete, integrated, scalable framework for identifying and collecting organizational data and for converting data into relevant, usable and timely business intelligence. By definition, an end-to-end BI platform includes elements for data integration, intelligent storage, query and reporting, and advanced analytics.

#### Why it matters

True business insight is about more than making smart investments in individual technologies. It's about what happens when those individual technology areas come together into a synergistic system. BI success doesn't just happen at the application layer. It depends on a chain of applications and technologies working together from a common data foundation to create a single, verifiable view of your business.

**Deliver more than the sum of parts.** A comprehensive BI platform integrates individual technology components into a single, synergistic system. Information flow can then transcend functional silos, organizational boundaries, computing platforms and specialized tools. Decisions can be made rapidly with full knowledge of underlying context and hidden interdependencies.

**Provide the foundation for reliable intelligence.** Accurate data is essential for delivering ROI from BI applications. If a stand-alone product is the cornerstone of your BI framework, there is always the danger of being unable to meet future needs because of shortcomings in essential data foundation elements and difficulties with cross-platform data integration.

#### Key questions you should ask the BI vendor

**What exactly do you mean by “business intelligence?”** Some vendors narrowly define “business intelligence” to focus on ad hoc query and reporting tools for end users while others are simply referring to a data platform on which developers can build BI solutions. In fact, many BI platform vendors rank low on completeness of vision and typically offer packages that extend or complement ERP applications. The BI platform that these vendors offer should not be confused with the open BI infrastructure needed for custom data warehouses and more advanced, flexible BI applications.

**Will your solution simplify management of our IT portfolio?** A good BI solution should optimize the current IT budget in line with business objectives — while managing uncertainty and hedging against the risk of under-performing technology investments.

**What does your solution do for data quality?** Data quality is an essential step for companies that seek to attain consistent and trusted information throughout the organization. A recent Gartner report authored by Ted Friedman and Andreas Bitterer states, “Companies are discovering that data quality has a significant impact on their most strategic business initiatives.” (Source: Gartner Research, April 2006) In fact, all major IT industry analyst houses recognize the importance of data quality to the return on BI investment, yet many vendors do not offer or integrate data quality into their BI tools and applications.

**How are solution components integrated?** A common, open architecture for managing metadata — the information about how data elements are obtained, derived, validated, updated and used — is essential for seamless interworking among platforms and applications.

“Companies are discovering that data quality has a significant impact on their most strategic business initiatives.”

**Ted Friedman and Andreas Bitterer**  
Gartner Research, “Magic Quadrant for Data Quality Tools, 2006”

## BI Vendor Selection Criteria – Technology

### Category 2: Advanced Analytics

#### What are “advanced analytics?”

Beyond historical tools that merely tell an organization where it has been — advanced analytics are sophisticated technologies that incorporate *predictive* capabilities, including data mining, text mining, forecasting and optimization.

#### Why it matters

**You need to know what will be, not just what was.** In our global economy, companies need to be able to predict and manage customer demand, not just react to it. They need to understand how, where and why costs are being incurred to be able to model the impact of cost savings and changes to business processes. Without predictive modeling it is difficult or impossible to quantify the impact of business decisions.

**OLAP is not enough.** Although OLAP (online analytical processing) tools deliver fast results in response to user queries, they operate from highly summarized data and therefore do not deliver the detail, accuracy and forward-looking insights that are achieved with more sophisticated analytic techniques. OLAP is a valuable part of the intelligence picture, but not your optimum source of competitive differentiation.

**Predictive insights deliver the greatest ROI.** With advanced analytic intelligence — such as forecasting, scenario planning, optimization and risk analysis — uncertainty is reduced, variability is quantified, processes are refined and resources are optimally allocated. Ideally, the results of advanced analytics can be made available to users and applications throughout the organization, supporting better decisions to mitigate risks and maximize returns.

### Key questions you should ask the vendor

**What exactly do you mean by “analytics?”** Business intelligence and analytics represent significant growth opportunities for software vendors — so naturally, many vendors want to simplify the definition of “analytics” to match what they have to offer. Beware of vendors who claim to have analytics but really only have descriptive statistics that summarize business data in reports — not the ability to forecast, explore data relationships and model behavior.

**Does your solution provide predictive analytics?** Predictive analytics deliver high value and ROI, yet most BI vendors either have no predictive analytics capability or lack the intellectual capital to apply predictive analytics into specific vertical and lines-of-business applications. Don't be misled by simple query-and-reporting capabilities wrapped up in a flashy interface. Some vendors that claim to have predictive analytics actually offer only a single algorithm, with no options for tuning the model. Still others provide simplistic forecasting/time series analysis but not robust predictive modeling, which should include various regressions, decision trees, neural networks and more.

**Is analytic power accessible to non-statisticians?** Ideally, easy-to-use, wizard-driven, self-service interfaces should enable users of differing skill levels to do their own ad hoc query and reporting, guiding them through simple and complex analytical and reporting tasks without requiring assistance from IT.

**Do you have prebuilt models specific to my industry?** Why reinvent the wheel if you don't have to? Software that has already been optimized for your industry delivers higher ROI, sooner in the game.

**What are the options for manipulating information?** BI tools typically only permit you to explore data based on predefined assumptions using basic functionality such as drill, pivot, page, sort, filter and rank. Quantitative analysts in your organization will require a broader range of sophisticated analytic techniques to produce quality intelligence.

**How much control does the solution offer for refining models?** Some vendors claim to increase productivity and ROI by making it quick and easy to develop models. However, this black-box simplicity can cost the organization millions in lost opportunity because it produces only fair models rather than highly customized ones that deliver more accurate intelligence.

“While cubes and star schemas are still very popular, there is a movement now toward more complex, deeper analytics using data mining, statistical methods and technologies that support pure ad hoc, unplanned forms of analytics.”

**Claudia Imhoff**

*“Three Trends in Business Intelligence Technology: Perfect Storm or Perfect World”*

B-eye Network, April 4, 2006

[www.b-eye-network.com](http://www.b-eye-network.com)

“Knowing where you are is important. But being able to forecast where you and the market are heading takes BI to the next level.”

**Jacques Surveyor**

*BI Pipeline*, July 8, 2005

**What are the options for presenting results?** Huge data volumes make it difficult to glean insights from pages and pages of reports. Visualization techniques enable users to explore data visually to uncover complex relationships that might otherwise remain hidden, understand the results better, and share findings quickly throughout the organization.

**Does your solution allow me to obtain insights into my unstructured data?**

One of the biggest challenges to organizations today is converting unstructured data into meaningful information. Unstructured data is that which doesn't fit neatly into information "containers" like tables and columns. Text is the most common form of unstructured data, but it also includes image, audio and video data.

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## BI Vendor Selection Criteria — Alignment with Customer Needs

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### Category 1: Organizational Reach

**What is meant by "organizational reach?"**

Organizational reach refers to the depth and breadth of the solution's applicability, where *depth* refers to serving users at all levels of the organization and *breadth* refers to sharing business intelligence across functional areas and to a broad (and mobile) audience.

**Why it matters**

Today's enterprises suffer from information overload. Transaction systems generate daily reports. Data warehouses and analytic tools let users slice and dice data in hundreds of ways. ERP tools collect data from all across the enterprise, and the deluge is compounded with information produced by desktop productivity tools and the Internet.

How do you turn this data from multiple platforms and functional silos into cohesive, usable intelligence? How do you get the information to the right users, at the right time, to enable better decision making at all levels of the organization?

IT is responsible for supporting users with differing skill sets throughout the organization and it is often difficult to satisfy all of their individual needs. A business intelligence solution should empower business users to create their own actionable, strategic intelligence, while providing quantitative users the flexibility to fine-tune models with IT retaining control over data integrity. It should be easy to disseminate the results of analyses across all functional areas and organizational levels so that everyone can contribute to the organization's success.

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## Key questions you should ask the vendor

**Can you integrate applications and data from functional areas?** Truly integrated business intelligence encompasses data from every corner of the enterprise, from operational and transactional systems, multiple databases in different formats, and from all contact channels — from PCs to mainframes, interactive to batch.

**Is ‘intelligence’ available through all levels of the organization?** You want to empower the largest user base — from workers on the shop floor to business users to quantitative specialists to executives — by giving them ready access to the insights they need to make better business decisions, in formats appropriate for their requirements.

**Through what channels can you deliver business intelligence to users?** Most organizations will require Web-based reporting, interactive query environments, delivery of content via portals or wireless devices, and publish-and-subscribe channel distribution of information through e-mail. A BI solution should provide all of these delivery options.

**Does your solution serve mobile users?** With the latest wireless connectivity, business intelligence should be available when and where it is needed, thereby moving decision making closer to customer contact points and enabling users to make faster, more informed decisions with confidence.

**Can your system deliver real-time event monitoring and alerting?** For some applications, it might be essential to have data captured from transactional systems matched against pre-existing rules and for appropriate users to be automatically notified of alert conditions in real time via their desktops or mobile devices.

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## BI Vendor Selection Criteria — Alignment with Customer Needs

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### Category 2: Customer Commitment

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#### What factors into customer commitment?

Customer commitment is shown through activities such as customer user groups, post-sale technical support and customer relationship development and recognition.

### Why it matters

Experts agree that customer service is just as important as the product itself in gauging a BI vendor. Enterprises make huge investments in business intelligence, and critical corporate objectives are dependent on BI success. However, a study conducted by *CIO Magazine* found that only 54 percent of the CIOs surveyed were satisfied with the level of ongoing support they received from enterprise vendors after sale and implementation. (Source: Survey of 545 CIOs, *CIO Magazine*, 2005)

To ensure success of BI and other technology initiatives, you need assurance that your BI vendor prioritizes customers' needs (and in turn, the value of your BI investments) over their own short-term internal initiatives and financial targets. A high level of customer commitment includes premium technical support and professional services, and results in quality software that has been shaped by user feedback. Ideally it involves a direct relationship where the vendor accepts clear, one-to-one accountability for its solutions and the customer relationship as a whole.

### Key questions you should ask the vendor

**What kind of support services are offered?** At minimum, you should expect graduated levels of technical support (including premium 24/7 support), customizable support packages and a rich set of educational and interaction opportunities.

**What are your capabilities and record for technical support?** Any vendor can say they provide "excellent customer support" — while one may provide complacent or sluggish response and another offers enthusiastic, proactive engagement with customers. You should look beyond subjective claims and get hard indicators of support quality, usually evidenced by customer satisfaction and loyalty metrics.

**What is the scope of your consulting arm, in both services and specialists?**

Successful BI implementations usually rely on expertise from the vendor's professional services group to complement and extend the capabilities of your own IT staff. Determine what level of consulting resources will be available, with what expertise, on what timeline.

**What percentage of company revenue is reinvested into R&D?** This figure is a good measure of the company's commitment to customers. Publicly held companies are often forced to balance this customer-oriented reinvestment with its promise to maximize dividends to shareholders.

**Do you have active, formal user groups?** Smart vendors actively support user groups and regular conferences of active users, knowing that these user communities provide high customer value, which in turn provides high value to a sincerely customer-centric organization.

**In what ways do your customers influence R&D and support activities?**

The best BI solutions are the ones shaped by customer needs in the real world. Look for a proven record of soliciting and incorporating customer input in new software releases.

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To ensure success of your BI initiative, you need assurance that your vendor prioritizes customers' needs above their own short-term initiatives and financial targets.

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**Do you have customer references in my industry?** You might not want to advertise to your competitors that you're about to implement a BI solution that gives you a competitive edge, but you do want to know that your BI vendor has proven implementation experience in your vertical market.

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## BI Vendor Selection Criteria — Corporate Vision and Scope

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### Category 1: Global Reach, Local Presence

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#### What is global reach with local presence?

*Global reach* means the vendor has corporate offices in major markets and a global communications process for customer services and support across all your international locations. *Local presence* means the vendor's products are localized and that the vendor has a high percentage of employees who are local citizens and speak the local language.

#### Why it matters

The BI vendor that offers global reach and local presence is able to consistently serve global markets and organizations while maintaining a high level of personalized, local customer service. With global reach, your organization receives consistent services and support across all locations, strengthened by the vendor's access to global resources and global best practices, plus domain expertise based on many engagements worldwide. With local presence, the BI vendor understands local market conditions, regulations and compliance issues and can quickly respond to local issues.

#### Key questions you should ask the vendor

**What is the geographic reach of your organization?** Some vendors will list the countries in which they have a customer or a reseller representative, rather than those in which they have a directly supported office. There is a difference between serving global markets and being committed to them.

**In what areas of the world do you have local presence?** Ideally, you'll want local offices that can mobilize for fast response, understand the local environment (especially regulatory compliance issues), and whose employees are fluent in the local language.

## BI Vendor Selection Criteria — Corporate Stability and Scope

### Category 2: Corporate Vision and Stability

#### What factors into corporate vision and stability?

*Corporate vision* is key in determining if a vendor will continue to rise as a market leader and enhance and grow their products and services along with your organization. *Corporate stability* means that the vendor reinvests generously into R&D, retains key talent and is not plagued by layoffs/downsizing.

#### Why it matters

Investing in BI solutions is a major commitment and your BI vendor is a strategic supplier for the organization. What would you do if your BI vendor is forced to scale back product development during lean times, gets acquired by another company with divergent directions, or worse, goes out of business?

Constant merger and acquisition activity among software vendors has sparked some well-deserved concern. The newly formed entities only claim the advantages of their converged resources but often the merger actually does little to reduce the size and complexity of the customer's IT portfolio; key talent has been lost in the process; and the vendor must devote significant time and resources to the inevitable problems of dovetailing two organizations.

A track record of corporate vision and stability is a good indicator that the vendor is not only big enough to serve your complex, multi-location organization, but that it will be there tomorrow. And when a company is consistently profitable, it can weather economic downturns and continue to focus on meeting customer needs and investing in technology innovation.

#### Key questions you should ask the vendor

**How long has your organization been in business?** The annals of software history are full of start-ups that offered technically inventive solutions and then disappeared almost as quickly as they appeared. With top executives looking more cynically than ever at ROI from IT investments, you can't invest in uncertainty, no matter how convincing the technology might seem.

**What is the ownership structure of your organization?** Public companies are potential targets for hostile take-over. As seen in the early 1980s, anyone with deep enough pockets can acquire a public company and do whatever they want with the acquired assets.

**Does your company own all the components in its BI solution?** BI vendors that rely on OEM or partnership arrangements with third parties for portions of their solution face tough economic and technical challenges if those collaborative arrangements dissolve for any reason.

**Are you considering, or are you a target for, a merger or acquisition?**

Declining revenues in a weak economy have forced some companies to look for pairings to extend their BI offerings or market share. These mergers tend to cause integration issues for both companies and their customers.

**What revenues and growth rate have you experienced?** Stability and proven record of customer success are key factors in reducing investment risk. A strong, stable vendor has the comprehensive infrastructure needed to serve the world's largest businesses, as well as the financial and employee stability needed to be a strategic supplier to these organizations.

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### Summary

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Clearly the question today isn't whether to implement a business intelligence solution, but rather how and from whom. Unfortunately, making informed choices for "how" and "whom" is the hard part.

With a multitude of vendors vying for a share of a lucrative market space, it's hard to separate fact from fiction. We hope this framework for selecting a BI vendor helps you cut through the marketing spin and vendor claims to identify the real issues and facts:

- *Is it a "BI infrastructure" or is it really just a point solution or extension of an ERP system?*
- *Is it really "analytics" or is it just query and reporting with a snappy interface?*
- *Is it a "predictive analytics suite" or a single algorithm with no options for tuning the models?*
- *Is it truly "single-vendor" or does it rely on piecing together technologies from various third parties?*

If you adopt the evaluation framework set forth in this document, or something like it, you can't be misled by overstated vendor claims.

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### About SAS

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Built on more than 30 years of SAS leadership and backed by unparalleled service and support, SAS®9 brings business and intelligence together in a whole new way. SAS has eliminated the complexity of sharing data and applications across your organization. Targeted interfaces align with individual business needs to provide intelligence in just the right business context. More than ever, SAS delivers strategic value throughout your organization by giving you **The Power to Know®**.

When you're ready to take a closer look at what SAS Business Intelligence solutions can do for your organization, contact your local SAS representative or visit us on the Web at **[www.sas.com](http://www.sas.com)**.





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SAS INSTITUTE INC. WORLD HEADQUARTERS 919 677 8000

U.S. & CANADA SALES 800 727 0025 SAS INTERNATIONAL +49 6221 416-0 **WWW.SAS.COM**

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