

Business Intelligence: A Guide for Midsize Companies

How Business Intelligence Can Help Improve Your
Company's Performance No Matter What Its Size

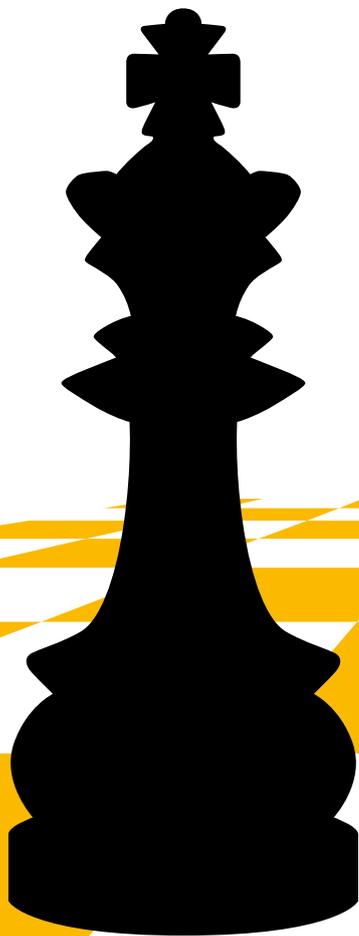


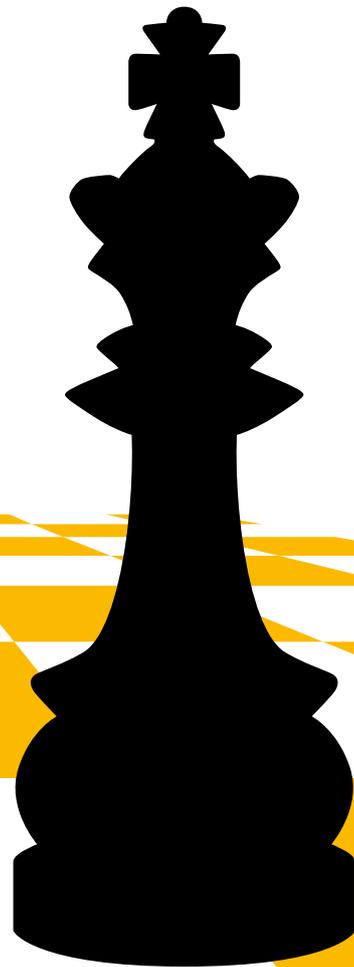
Table of Contents

5	Executive Summary	13	Approaches to Implementing BI
6	Signs Your Company Needs a Business Intelligence Solution		Make Business Users Self-Sufficient BI Consumers
7	What Is Business Intelligence?		Facilitate Analysis with a Data Warehouse
	How Business Intelligence Is Helping Midsize Organizations	14	What to Look for in a BI Product
8	BI Components Explained	15	What to Look for in a BI Vendor
	Much More Than Just a Simple Query	17	Conclusion
12	The Benefits of BI		

Michael A. Schiff

Michael A. Schiff is the founder and principal analyst of MAS Strategies. He has over 30 years of experience in the information technology industry, providing tactical market intelligence and analysis in areas such as data warehousing, database technology, and advanced decision support. Schiff earned his bachelor and master of science degrees from Sloan School of Management at Massachusetts Institute of Technology (MIT), where he specialized in operations research as an undergraduate and in information systems as a graduate.

Business intelligence (BI) allows business users to analyze and better understand their organization's plans and results. It provides insight into what's working correctly while identifying potential problem areas in time for corrective actions to be taken. Find out how BI can help keep your midsize company ahead of the competition and how to choose the right BI product from the right vendor.



Executive Summary

Your company's focus has been on streamlining operations, acquiring customers, increasing revenues and profitability, and outpacing the competition. And while your company has continued to improve its operating efficiencies (sometimes by quickly learning from past mistakes), you believe you should be spending more time analyzing what's going on and predicting and planning for the future – rather than having your employees constantly running around putting out fires and trying to solve operational problems based on gut feel.

Furthermore, you need the ability to determine where to concentrate your efforts. You can't check every detail, yet you would like to be able to monitor your operations and be alerted to potential issues when they occur, no matter where you happen to be. You need to be able to focus on quickly finding and resolving potential problems while identifying and leveraging new opportunities despite the current uncertainty of the world economy. You want to ensure that employee and departmental metrics are aligned with your company's strategic goals.

You realize that your company does not have the resources of a Fortune 500 enterprise, but you believe that – person for person – your company's employees are more passionate about their jobs and more committed to the customers. Your company may be relatively small right now, but it's on a planned growth path. You've heard the term "business intelligence" and know that large companies – and maybe even your direct competitors – are using it to obtain a competitive advantage. But right now, your company's primary analysis tool is a spreadsheet.

You were there when your company's first location was its founder's garage. Now that your operations have graduated from the garage to real offices, isn't it time your analysis capabilities graduated from spreadsheets to more powerful tools as well?

This paper from SAP offers guidance on how business intelligence can give your company a competitive edge.

Signs Your Company Needs a Business Intelligence Solution

The following are typical situations that indicate your company could benefit from a business intelligence (BI) solution:

- **Multiple versions of the truth.** Inter-departmental meetings frequently turn into shouting matches as participants argue about whose spreadsheet has the correct or most current figures.
- **Inability to perform in-depth analysis.** Your company knows which of its retail outlets have the greatest sales volume, but it doesn't know which products have the highest sales by season.
- **No retention policy or practice for historical values.** The sales department is conducting account reviews and wishes to compare each customer's sales to date this year with its sales to date at this time last year. The department maintains a spreadsheet for this year's results, but the person who maintained the spreadsheet last year has left the company – and no one has any idea what happened to last year's spreadsheet.
- **Limited operational flexibility due to weak or nonexistent BI technology.** Your company has grown to the point where its customer base has expanded to the hundreds. While it values every customer, it would like to identify the top 10 in sales volume each month and offer them extra attention and special incentives – and right now this is difficult to do.

- **Analyses that require a laptop or desktop computer rather than a mobile device.** A major customer is being aggressively courted by a competitor, and the account representative needs to have your VP of sales run an analysis to determine what counteroffer will retain the customer while still generating profits. Unfortunately, the VP of sales is on vacation and only has a smart phone with him.
- **Inability to quickly react.** Due to a perceived service issue, a dissatisfied customer is writing negative tweets about your company. But because your company only sporadically monitors social networks, by the time this is noticed the customer's comments have gone viral.
- **Unstructured data that can't be analyzed.** Much of your company's data is stored in structured formats. However, the growing amount of textual data from e-mails, blogs, customer support logs, tweets, Facebook, and other unstructured data sources cannot be analyzed.
- **Limited scope of analysis.** Your only business intelligence capabilities are part of your transaction processing systems, and your company can only analyze data generated and stored in these systems. You are unable to achieve a complete view of your customers because your call-center data

cannot be integrated and analyzed with customer data in your cloud-based customer relationship management (CRM) system.

- **Inability to quickly analyze large data volumes.** Several of your company's decisions require the rapid analysis of massive amounts of data, but your current BI products can only analyze a small subset of your data in a run that, at best, takes several hours to complete.
- **Business users forced to become technical experts.** One of your more technical business users in the payroll department thinks he has mastered structured query language (SQL). However, when he runs a query attempting to find all products with selling prices "less than \$5 and greater than \$1,000," he doesn't understand why no products meet this criteria set.
- **BI product with limited expansion capabilities.** Last year your company finally graduated from spreadsheets to a limited-scope BI product. Your company has continued to grow, and your analysis needs have expanded. However, your BI product cannot scale to meet your new demands.

What Is Business Intelligence?

HOW BUSINESS INTELLIGENCE IS HELPING MIDSIZE ORGANIZATIONS

Business intelligence allows organizations to better understand, monitor, analyze, and even predict what's occurring in the overall environment and in their company. BI helps your organization turn data into useful and meaningful information and then distribute this information to those who need it, when they need it, wherever they need it, on the device of their choice – so that they can make timely and better-informed decisions. It allows organizations to combine data from a wide variety of sources and see an integrated, up-to-date, 360-degree view.

This is especially important for midsize companies, which – while not having vast resources – are typically able to implement business decisions more quickly than industry giants. BI provides a win-win solution for IT and business users; it allows the IT department to be more productive in working with its business users to service special requests, while also permitting those business users to become more self-sufficient. Operations and analysis are two sides of the business, and BI allows IT to be a valued partner in both.

Business intelligence helps your organization turn data into useful and meaningful information and then distribute this information to those who need it, when they need it, to the device of their choice – so that they can make timely and better-informed decisions.

Typical uses of a BI solution for a midsize company are to:

- Identify its best-selling products, and see if this holds true across all of its distribution channels
- Identify customers that are cutting back on their purchases so that special inducements can be offered to retain them
- Monitor social media sites, and perform sentiment analysis to gain insights into its product launches, reputation, or potential service issues
- Catalog and store current and historical reports and analyses so that they can be quickly located and analyzed in support of its collaborative decision-making processes
- Perform “what-if” analyses to determine how profits would be affected if sales were to increase or decrease by various percentages
- Implement dashboards and scorecards so that executives and supervisors can quickly recognize operational exceptions or key performance indicators (KPIs) that fall outside of accepted ranges, and receive real-time alerts on mobile devices when this occurs so that immediate corrective action can be taken
- Identify high-level trends, such as decreasing total sales, and drill down to the details to see if this is an across-the-board phenomena or the result of a specific poorly performing product or greatly reduced sales in one large retail outlet
- Compare year-to-date sales for this year with last year, and forecast what sales are likely to be for the entire year
- Monitor a marketing campaign in real time to quickly discover if it is succeeding, and decide if it should be reinforced or cancelled in order to fund other campaigns; also determine whether a seemingly failing campaign may be succeeding in specific prospect segments
- Track customer orders and desired ship dates against finished-goods inventory, and adjust the manufacturing production cycle and supply chain logistics to reduce inventory carrying costs
- Integrate operational, spreadsheet, and historic data for analysis purposes – while helping to stamp out “spreadsheet chaos” – to provide consistency and “a single version of the truth” for the organization
- Enable business users to perform their own ad hoc analyses without having to involve scarce IT resources
- Align daily operations with strategic objectives, and quickly recognize when they are not in agreement
- Replace hunches with data-driven analytical decisions



BI Components Explained

MUCH MORE THAN JUST A SIMPLE QUERY

The BI spectrum is very broad in terms of its tools and functionality. At its core are the traditional functions of query, reporting, and analysis. This is complemented by data quality and data integration to accurately and consistently consolidate data from multiple sources. Dashboards and other visualization techniques help users quickly understand analysis results and drill down to details, a critical component of the BI solution spectrum.

Other tools include:

- A search function to locate information and reports
- Predictive analysis to discover hidden patterns and enable what-if analysis
- Scorecards and performance management to help monitor business metrics and KPIs, such as customer satisfaction, profitability, and sales per employee, in order to align individual and departmental metrics with the organization's strategic goals

Reporting Across the Enterprise

A simple query might access your company's data to ask, for example, "What were total sales to customer ABC Corporation last December?" or "What's the current salary of the employee with employee number 157?" or even "How many of part 123 do we have in inventory?"

Most query tools also provide simple reporting functionality and could, for example, be used to generate a report listing the accrued vacation of all employees, sorted and totaled by department.

Enterprise or production reporting typically involves high-volume, high-resolution reports that are run on a regular basis.

An example might be a manager's report showing monthly sales and associated sales commissions sorted by salesperson and then by customer, or an inventory status report by product or warehouse. The report distribution would likely be controlled so that each sales or production manager could see only the entries for his or her sales force, product, or warehouse location. It might be e-mailed or viewed through a Web browser or a mobile app on desktop and mobile devices. Enterprise reports can also be used to generate statements or invoices for customers or individualized benefit summaries for each of your employees.

Easy-to-Use Advanced Analytics

With advanced analysis functionality, users can view data across multiple classifications or dimensions (for example, product, customer, location, time period, salesperson, and so on) and slice and dice the data to look at various combinations, such as the sales in each region for December or the products each customer purchased last year. Advanced analysis functionality also permits organizations to define hierarchies so that, for example, a user could first view sales for each region and then drill down to view sales in each state or country in each region. By drilling further, the user could view the sales of each store within each state or country. It would also be possible to see the sales of each product in each store or the sales for each salesperson for each product. These advanced analysis functions make it easy to compare the results from one time period with another so that total sales of a product for this month (or some other time period) could be compared to the same month last year – while allowing the user to drill down and perform year-over-year comparisons at levels such as store, customer, or salesperson.

As most IT practitioners can attest, a user working with a static report will likely ask for additional details and modifications; query and analysis tools allow business users to formulate a high-level query and then immediately explore the underlying details on their own.



Other advanced analysis functions, such as filtering, can be used to include or exclude specific stores, regions, products, salespeople, or time periods in the analysis – and provide the ability to look at the top-25 or bottom-25 (or any other number) or best- or worst-performing products, stores, or salespeople. The ability to look at results across several dimensions and easily request the top or bottom performers – when combined with drill-down, slice-and-dice, and filtering functions – provides powerful but easy-to-use analytics.

Simple reports are typically designed for passive viewing, while solutions providing advanced analysis features enable interactive analysis. Many of these advanced functions were once available only in specialized online analytical processing (OLAP) products that required proprietary databases and highly skilled technical specialists. Now OLAP functionality is often incorporated into query and analysis tools, thus allowing business users to perform interactive analyses and, for example, click on a number in a report to drill down to and analyze the underlying details – ascertaining root causes in many cases.

Effective BI should be an interactive process, and query and analysis tools – with embedded OLAP functionality – permit business users to perform dynamic analyses on their data. As most IT practitioners can attest, a user working with a static report will likely ask for additional details and modifications; query and analysis tools allow business users to formulate a high-level query and then immediately explore the underlying details on their own.

Core BI technology – like query, reporting, and interactive analysis – is used to view or analyze what is or has already occurred, while data mining and predictive analysis allow users to predict what may occur in the future – very critical in today's uncertain economy. BI uses sophisticated statistical techniques to find relationships that are hidden or not obvious. It can be used to identify which factors closely relate to customer churn and attrition or which factors (such as a prospect's income, education, age, or last purchase amount) were most closely related to a successful response in a marketing campaign.

Consarc Corporation makes custom-built, high-performance vacuum and controlled atmosphere furnaces that are used by component manufacturers to make alloy parts for aircraft and other sophisticated machinery. To improve business intelligence (BI) and streamline operations, the company worked with CNE Inc., an SAP partner, to implement SAP® BusinessObjects™ Edge BI and SAP Crystal Reports® software. “We’ve made a giant step with SAP and CNE,” says Mark Mahon, IT manager at Consarc. “Today, our business runs much better.”

OraSure Technologies Inc., a supplier of innovative medical diagnostic products, needed to equip employees at all levels to perform their own data analysis and report generation. Already a user of the SAP ERP application, OraSure chose SAP again and installed SAP BusinessObjects solutions, which employees quickly learned. “With no IT help needed anymore, our people now produce results on their own – faster and with greater confidence in their accuracy,” says Scott Baker, manager of SAP systems for OraSure.

Visualization Techniques

A picture is worth a thousand numbers, and highly graphical techniques – including dashboards – strongly complement the other members of the BI spectrum. With graphical gauges analogous to an automobile dashboard and symbols such as traffic lights – where red represents an alert condition and yellow a warning – users can quickly identify exception conditions.

It has often been said, “If you can’t measure it, you can’t manage it.” Scorecards and other performance management tools enable you to establish business metrics, update and monitor the results, and communicate them as appropriate so that minor problems can be identified early on and corrective action taken quickly. Dashboards are used frequently to display performance metrics and can allow users to drill down from the visual image to view multiple layers (such as region, state, city, or store) of the underlying detail. Other visualization techniques include “slider bars,” which allow a user to perform what-if analyses and, for example, show how profit margins would increase if maintenance revenues were increased or distribution expenses reduced.

Distribution and Control

Business intelligence is not just about tools and their applications; it’s also concerned with distribution and control. Reports, including current and prior versions, should be able to be published to the Web and delivered to a user’s preferred mobile device. However, not every employee should have access to every report or analysis – and administration, monitoring, security, and control are also part of the BI environment.

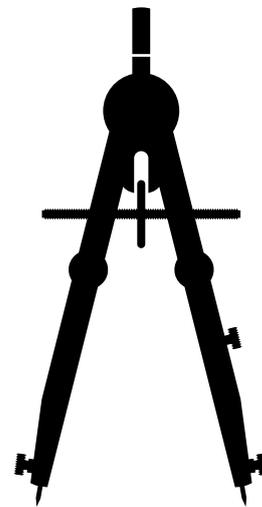
The use of commercial BI products does not necessarily mean the elimination of spreadsheets; rather, BI can provide controlled linkage of spreadsheets to up-to-date data while enforcing proper distribution and control so that “spreadsheet chaos” is no longer an issue, and trying to determine whose spreadsheet is “more correct” is no longer part of every company meeting. The ability to locate and search out relevant reports is also part of the BI landscape, as a report is of little value if no one knows it exists or how to find it.

Using BI with Data Warehouses and Operational Systems

The use of BI, however, is not limited to data warehouse environments in which snapshots of data from multiple systems are consolidated for analysis; it can be used with operational systems as well.

When deployed with operational systems (that is, those that help run or operate the business), BI might be used to show current values – such as current inventory levels, outstanding customer balances, salaries, or student attendance. When deployed with a data warehouse, which contains data values taken at periodic points in time and frequently sourced from several operational systems through the use of data-integration and data-quality technology, it often involves comparing one period’s results with another’s. A typical use would be to compare this quarter’s sales against the same quarter in each of the preceding three years. Some data integration vendors offer connectors or integration kits to facilitate access to commercial enterprise application software.

While many small businesses and mid-size companies have relied on spreadsheets as their primary BI tool, most of them have come to realize that this is a stopgap solution and one that’s apt to lead to data chaos and inconsistent analysis results.



Business intelligence can also be deployed in real-time environments such as a company's Web site, where it can track user behavior and guide the user to additional products and services or offer customized discounts to convert prospects to customers. It can also be used to perform sentiment analysis to monitor a company's reputation or identify developing product or service issues.

Data quality is of paramount importance in both operational systems and data warehouses. In an operational environment, no one wants to ship the wrong order to the wrong address, deliver 50 kilograms of a product when 50 pounds were ordered, provide a patient with the wrong medication, or transfer funds to the wrong bank account. In a data warehouse environment, no one wants to make decisions based on incomplete, incorrect, or inconsistent data. The deployment of data-quality tools helps ensure that this does not happen.

By using BI with both operational systems and data warehouses, a company can not only improve its daily operations but also compare current results with historic values to identify trends and head off problems before they become more serious.

By using BI with both operational systems and data warehouses, a company can not only improve its daily operations but also compare current results with historic values to identify trends and head off problems before they become more serious.



The Benefits of BI

A major part of any manager's job is making decisions. If you can improve the overall quality of your organization's decision-making processes, you can improve not only the overall effectiveness of your organization but also the overall efficiency of your business. Business intelligence can help your organization make better decisions – and help you manage your business more efficiently and effectively.

Business intelligence allows business users to analyze and better understand their organization's plans and results. It provides insight into what's working correctly while identifying potential problem areas in time for corrective actions to be taken. It can be used to recognize opportunities as well as problems and alert your organization to potential issues when exception conditions occur – such as sales dropping 20% below forecast or inventory falling below a threshold value.

Since BI product suites include a variety of functional options, organizations can pick those that are most appropriate for the task at hand and for the experience level of their individual employees – implementing the functions most needed

immediately and introducing others as required in the future. While in the past only technical specialists typically used BI tools, most business people can now successfully use them as well. This has served to democratize BI usage throughout organizations. The role of IT has evolved positively from maintaining user names and passwords and updating reports to more strategic activities by applying appropriate technology to bring analytical power to business users. This has provided business users with quicker response time and the ability to drill down and perform interactive analyses, while enabling IT to serve its organization more effectively and efficiently.

While many managers and supervisors pride themselves on their intuition, BI provides tools to help verify their insights and even discover new ones. It permits business users to explore results at a high level and then drill down to analyze the underlying details, and perform what-if analyses. Business intelligence is one of the primary keys to effective decision making.



Beginning a BI initiative is not necessarily expensive, especially if you choose a vendor with a suite of products that allow you to easily expand your BI usage and implement the tools you need as your business continues to grow and expand.

Approaches to Implementing BI

Beginning a BI initiative is not necessarily expensive, especially if you choose a vendor with a suite of products that allow you to easily start with your initial BI needs and expand your BI usage, implementing the tools you need as your business continues to grow and expand.

MAKE BUSINESS USERS SELF-SUFFICIENT BI CONSUMERS

As your company transitions from an undisciplined spreadsheet environment, it often makes sense to start small – perhaps deploying BI against one business application with a query and reporting tool. Your company can expand its BI deployment to additional applications and use additional functionality as the organization masters the technology – usually a quick process. One place to start is with the application that has the greatest reports backlog. But while the IT department can certainly use BI tools to reduce this backlog, the ultimate goal should be to make your business users self-sufficient and less dependent on IT for their analyses. Consider using any report distribution and cataloging capabilities to publish these reports so that other users, subject to appropriate access authority, can locate and use them.

IT can assist business users by using the “guided analysis” functions of some BI tools to create parameter-driven reports with user-selected filtering criteria that business users can use to perform their own customized analyses. As users gain experience, some can generate their own reports and contribute to a corporate report library. It’s up to each company to determine the approach that works best. In general, as an organization discovers the benefits of BI, usage is likely to spread

quickly throughout the organization. Using commercial BI tools does not mean that your organization has to abandon spreadsheets. Instead, IT must establish procedures for proper distribution and control and acquire BI tools that can interface with them.

FACILITATE ANALYSIS WITH A DATA WAREHOUSE

At any point in time there are a range of users for BI, from novice to expert. The IT department can set up and enforce policies on who can access what reports and who can create their own reports. If your organization is using a commercial software package, popular BI tools may have been bundled with it, and your organization may already have experience using these tools.

After using BI for operational purposes, organizations likely want to use it for deeper analysis, such as for comparing one period’s results against another’s. This is facilitated by the use of a data warehouse that contains historical data values – thus making time-period comparisons possible. A data warehouse usually contains data from many sources, and data-integration software provides the enabling technology for loading the warehouse, while data-quality software helps ensure that the consolidated data is both accurate and consistent. Many organizations have attempted to build data warehouses that, for all practical purposes, were data dumps; the use of data-quality software would have prevented this. One of the oldest IT adages is “garbage in, garbage out,” and this applies to both data warehouses and operational systems.

FreshDirect, an online grocery delivery company, first used SAP® BusinessObjects™ Edge solutions to gain insight into customer complaints and feedback to identify key issues across their value chain, understand their trending, and evaluate how these issues affected the business. With SAP BusinessObjects Edge solutions, the customer feedback report became a gold mine of information. Using information from the report, FreshDirect was able to dig into customer data product by product, recognize trends and understand how they affected the business, and even identify the products that were either negatively affecting customer loyalty or bringing them back for more. Armed with such insights, executives were able to look at processes within the plant where they had issues – whether at the picking operation or on the assembly line – and proactively address them. As a result, FreshDirect was able to improve product and shipment quality and save significantly on discounts provided to customers to compensate for a packaging or delivery problem.

What to Look for in a BI Product

When selecting a BI product, it's important to consider other factors in addition to specific product features – such as ease of use, ease of implementation and administration, scalability, user-interface options, and how well it integrates into your company's existing and future platform environment.

Among the most important of these considerations are:

- An integrated product suite with a range of functions that your company can deploy as needed. As your company grows, it should not outgrow the software of its BI vendor. In addition, individual users may require different functions, and an integrated product suite provides the greatest deployment flexibility.
- A suite of BI products with a consistent look-and-feel user interface across all of its individual components. Providing a unified user experience will reduce training needs while increasing user adoption and overall productivity.
- The scalability to handle an expanding user base as your organization grows and usage increases. As your organization gains experience with BI and its usefulness becomes evident, it's quite likely that its usage will spread quickly.
- Data-quality functionality to ensure a trustworthy data foundation so that your company is analyzing accurate, consistent, and complete data. High-quality data is a requirement for high-quality decisions, helping you avoid the problems associated with having "multiple versions of the truth."
- The ability to access and integrate a wide variety of data sources. Although many companies initially run their analyses against individual systems, the time will come when data from several sources, including social media and the cloud, will be needed to portray the total picture. A product suite that includes data-integration technology and the ability to have the data appear as if it were located in a single source allows you to accomplish this easily.
- Integration with your office productivity software, in particular Microsoft Office and SharePoint. This allows users to complement BI with their familiar office tools, which can reduce your organization's training requirements.
- A 64-bit architecture that can take advantage of in-memory technology to quickly analyze massive amounts of real-time data. This allows your company to base its analyses on detail rather than summary data, or on complete data sets rather than on (what you hope are) representative samples.
- Ease of initial installation and deployment, as well as ease of adding more users. This not only makes it easy to add new users quickly but can increase the productivity of your IT department.
- Powerful but easy-to-use administration tools. Your IT department needs to control "who can access what" and provide a level of security and privacy that's simply not possible in a spreadsheet-only environment. Your data is an organizational asset that your BI products should help you protect, while allowing those who need to analyze it to do so efficiently.
- Robust report cataloging and distribution functions that allow authorized business users to receive their analyses on both a periodic-subscription and an on-request basis. The ability to alert users when certain events or value thresholds occur is also important.
- The ability to deliver reports and dashboards to a wide variety of desktop and mobile devices including smart phones and tablet computers, with content formatted to match the functionality of these devices. These reports should be interactive and allow users, for example, to hover over a display to obtain summary results and drill down for additional details.
- Rapid deployment and integration with existing data and applications. This involves the use of data marts and quick implementation via software and services that include data connectors and report templates.

What to Look for in a BI Vendor

When selecting a BI vendor, it's important to consider many factors – including experience, reputation, and stability – as well as the vendor's professional services capabilities and the quality and strength of its partnerships.

Among the most important considerations are:

- A proven track record and a history of successful growth – both in revenue and in capabilities. Solid growth and profitability can indicate astute management and product acceptance. These allow the vendor to better serve its customers and invest in the future.
- A history of acquiring complementary technology, successfully integrating this with its own, and actively supporting its technology's use with competitive technologies. Such a vendor is likely to be able to react quickly to new market demands and to supply the technology your company needs – both now and in the future.
- A history of vision and innovation. A vendor with a proven track record of innovation and industry leadership is likely not only to meet the current needs of its customers but also to anticipate and meet their future requirements.
- Reputation and ability as a BI leader. As BI usage increases, it's likely that your organization will deploy it against additional systems and additional databases. While a database vendor may offer its own proprietary BI technology, what happens when your organization decides to use another database? You need a BI vendor that is committed to handling a wide variety of data sources including both its own and those of its competitors.
- A vendor's education and training capabilities. While many vendors offer on-site and in-house training, a few have developed self-paced computer-based training that can assist new users in getting started or help experienced users quickly master advanced product functionality.
- Multiple delivery options. While many vendors only allow you to license their products to run on your company's servers, others provide on-demand or software-as-a-service (SaaS) options. In this scenario, the vendor hosts the software on its own servers, and your organization uses it through Web browsers. The SaaS model can be especially appealing to smaller companies that wish to minimize up-front costs while still having the ability to bring the software in-house at a future time when it would make economic sense.
- A variety of licensing options. As your company grows, you want the flexibility for deploying the most appropriate software licensing vehicle. To protect your BI investment, look for a vendor that offers named-user, concurrent access, and enterprise licensing.
- A large cadre of partners – both software vendors and consultants. One measure of "openness" is the number of other software products that a BI tool works with. A vendor that actively encourages partnerships is likely to have little problem integrating its technology with your current and future software environments. Vendors with a strong base of consulting partners make it easier to find outside expertise should your organization have special requirements.
- A product set that provides a strong growth path. Your organization needs a solution that works in multiple operational systems and data warehousing environments to provide maximum deployment flexibility.
- A vendor's successful track record and extensive experience with organizations of all sizes. Your organization will likely grow and expand. It may not be a giant today, but it could be one tomorrow. Choose a vendor that you can grow with.
- A multinational presence. If you expect to operate on an international scale someday, you need a vendor that does the same.

When selecting a business intelligence vendor, it's important to consider many factors – including experience, reputation, and stability – as well as the vendor's professional services capabilities and the quality and strength of its partnerships.



All employees have the responsibility to make the best decisions possible, based upon the data available to them at the time. If their ability to analyze this data wherever they are and transform it into useful information is improved, the overall quality of their decisions can be improved as well.



Conclusion

Business intelligence allows business users to analyze and better understand their organization's plans and results. It provides insight into what's working correctly while identifying potential problem areas in time for corrective actions to be taken. It can be used to recognize opportunities as well as problems and alert your organization to potential issues when exception conditions occur.

All employees have the responsibility to make the best decisions possible, based upon the data available to them at the time. If their ability to analyze this data wherever they are and transform it into useful information is improved, the overall quality of their decisions can be improved as well.

Business intelligence provides a spectrum of tools and solutions to achieve this. It's the underlying technology behind and a key component for more effective

decision making. Helping to align individual and departmental efforts with overall corporate strategies should lead to improved organizational results.

While many small businesses and mid-size companies have relied on spreadsheets as their primary BI tool, most of them have come to realize that this is a stop-gap solution and one that's apt to lead to data chaos and inconsistent analysis results. This is not to say that spreadsheets should be abandoned; rather they can be a part of an organization's BI tool set, especially if used in conjunction with a commercial BI product suite that integrates with spreadsheet environments.

Shouldn't your organization be using business intelligence technology to help it run, monitor, and analyze its business more intelligently to gain or keep its competitive edge?

LEARN MORE

Business intelligence solutions can help you:

- Know your business
- Decide with confidence
- Act boldly

To learn more, please contact your SAP representative or SAP partner today, or visit www.sap.com.

the 1990s, the number of people with a mental health problem has increased in the UK, and the number of people with a mental health problem who are in contact with mental health services has also increased (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

There is a growing awareness of the need to improve the lives of people with a mental health problem, and to reduce the stigma and discrimination that they experience. This has led to a number of initiatives, including the development of mental health services that are more user-centred and that involve people with a mental health problem in the design and delivery of services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the key challenges in the development of user-centred mental health services is the need to ensure that the services are accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the ways in which this can be achieved is by ensuring that the services are designed and delivered in a way that is accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the key challenges in the development of user-centred mental health services is the need to ensure that the services are accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the ways in which this can be achieved is by ensuring that the services are designed and delivered in a way that is accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the key challenges in the development of user-centred mental health services is the need to ensure that the services are accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

One of the ways in which this can be achieved is by ensuring that the services are designed and delivered in a way that is accessible to all people with a mental health problem, including those who are most vulnerable and who are most at risk of being excluded from services (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007).

50 093 208 (11/06) ©2011 SAP AG. All rights reserved.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP BusinessObjects Explorer, StreamWork, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an SAP company.

Sybase and Adaptive Server, iAnywhere, Sybase 365, SQL Anywhere, and other Sybase products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Sybase, Inc. Sybase is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.



The Best-Run Businesses Run SAP™