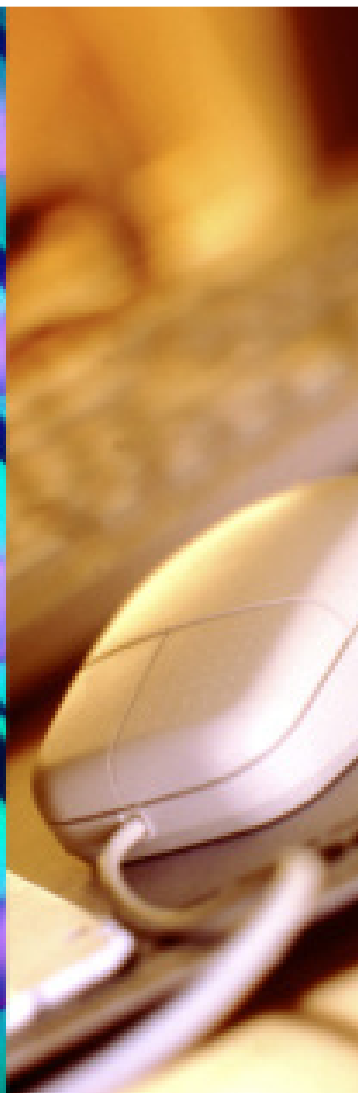
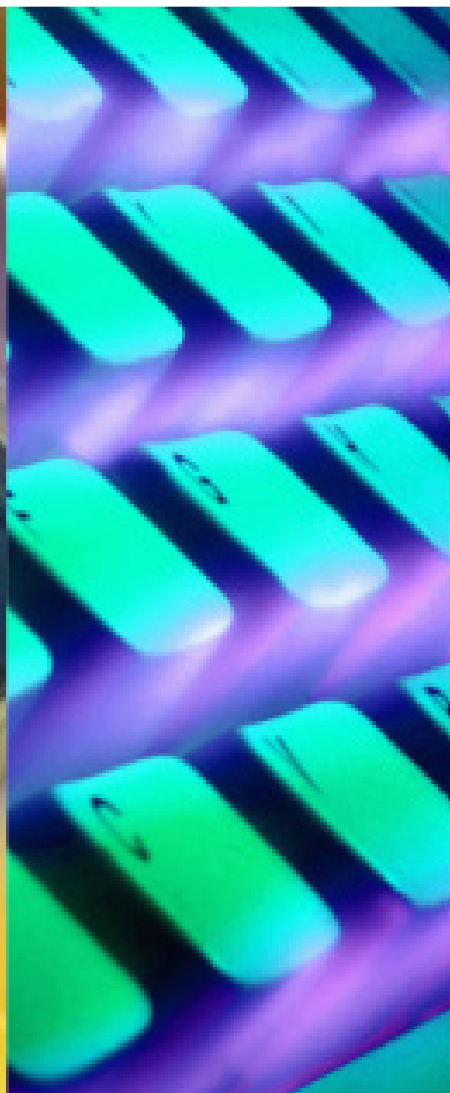


# 30 Things You Need to Know About Business Intelligence Software



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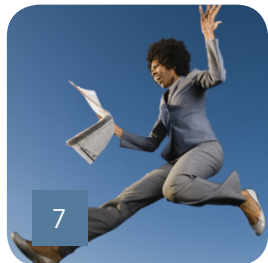
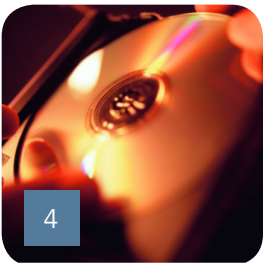
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This content was adapted from Internet.com's Datamation Web site. Contributors: Larry Marion, Thor Olavsrud, and David Needle.



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# 10 Emerging Trends in Business Intelligence Software

By Larry Marion

**B**usiness Intelligence software's biggest emerging technology over the next year or two will be from the smallest devices. Smartphones like the iPhone and the Android can access online data stores, analytical applications, and other parts of the business intelligence stack. This provides senior executives, field sales teams, and retail clerks with real-time access to sales trends, potential inventory issues, or supply chain glitches.

The CEO of the MolsonCoors beer company, for example, uses his iPhone to check on key performance indicators and other business intelligence data, according to Katrina Coyle, global information officer at MolsonCoors.

Her comments were one of many examples of the rise of mobile device access to business intelligence software, data, and analytics tools, and exemplified one of the emerging technologies highlighted at the Gartner BI Summit, held in the spring in Las Vegas.

In more than a dozen interviews over the three days of the event, I did a fact check on the emerging trends noted by Kurt Schlegel, Gartner VP for research and one of its top business intelligence seers. Some agreed with his list, others had their own lists.

## 1. In-Memory Analytics

Appliances, buckets of DRAM, and software, oh my.

The technologies have been around for several years, but are now a mainstream solution to the performance challenges posed by many existing business intelligence implementations.

## 2. Columnar Databases

Just focus on the columns, not the rows of data in your structured data stores. Vendors like Vertica and others offer a solution to the big data problem.

## 3. Cloud Computing

Offload the data created by your business intelligence software and spread out the storage and processing burden. Not new, but definitely gaining traction among big companies, not just the medium-sized companies initially signing up for cloud-based business intelligence solutions.

## 4. Interactive Visualisation

The right graphics deliver insight faster and deeper than simple pie charts. But can the front line troops really understand a scatter plot?

## 5. Integrated Search

Forget SQL query, use the Google interface.

## 6. Mobile Business Intelligence

iPhone access to online data stores.

## 7. Analytical Master Data Management

Master data management combined with brains and analytics can help solve the multiple version of truth problem plaguing most companies. This is the solution to



the data quality morass, but it will take time.

### 8. Data Mash-Ups

Mixing internal structured data with external unstructured data will increasingly be standard operating procedure for companies that want to truly stay ahead of the competition.

### 9. Scenario Modeling

What-if analysis on steroids. Combining internal and external data with in-memory analytics gives product planners, sales forecasters and other professionals the tools to spin out vast and complex prognostications.

### 10. Semantic Technologies

Automating the integration of data from different sources avoids the costly manual coding of metadata. Ontologies, taxonomies, classification, and content monitoring filtering and analytics help organisations reconcile and normalise meaning. ■

# 10 Common Business Intelligence Software Mistakes

By Larry Marion

**A**fter more than a decade of researching and writing about business intelligence software, data warehousing, and performance management implementations, I'm astonished that the same mistakes made in 1999 still occur in today. When I polled some distinguished experts to list the biggest mistakes they see when implementing these systems, they too say the same things keep occurring.

Here's our list of the top 10 BI software mistakes you should avoid, why and how:

## 1. Lack of Executive Sponsorship and Active Business Involvement

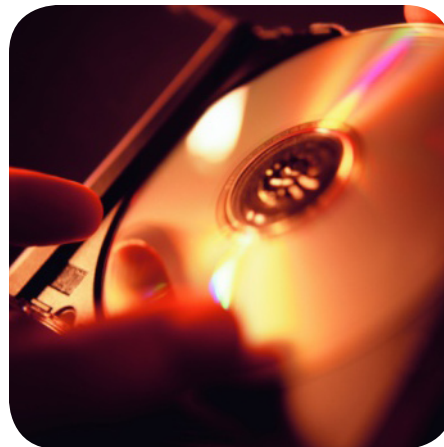
Everyone knows that any major IT effort needs executive sponsorship, but in the case of a business intelligence software implementation the big mistake by the CFO, the chief marketing officer, or other sponsor is to not be actively involved. It takes frequent injections of business process and strategy savvy to guide the IT team and prevent scope or data creep.

Business intelligence projects typically go way over budget when a directionless IT staff isn't given enough parameters about how much data is enough. They get into the bragging rights trap – my warehouse is bigger than yours. Costs skyrocket, response times lag, results are muddled and the entire project capsizes from its own weight.

Without continuous guidance from the business side, "IT tries to stuff everything into a warehouse to address absolutely any question a user could conceivably ask," notes Howard Dresner, a former Gartner analyst who

coined the phrase business intelligence and author of a book on performance management.

"As a result, IT burns tons of cash, takes far too long, and creates inordinate complexity. Warehouses needn't be big; they just need to be useful."



## 2. Inadequate Scrutiny over the Data

Just having the right extraction-transform-load tool doesn't make the data correct and current. Poor quality data can destroy the credibility and utilisation of data warehouses and business intelligence systems.

This is not an IT challenge but a business challenge. If the key business staff aren't involved in identifying the right data stores and solving the inconsistencies (how many definitions of customer are in your systems?) the

project will fail.

## 3. Not Easy to Use

Too many IT implementers forget that the biggest benefits of BI software solutions come from widespread deployment. This means the user profile will range from a doctorate in mathematics to an associate degree from the local community college.

The software user interface, graphics, and what-if query capabilities have to be intuitive. If the fancy chi-squared distributions are the most prominent tool, you'll freak out many users. Keep the heavy-duty tools easily available, though — the power users want everything.

## 4. Poor Performance

User expectations about query response times will be

much higher than you realise. If the data warehouse has more than one terabyte or more than 100 heavy users, consider more processor horsepower via a data warehouse appliance. Develop more cubes or other ways to optimise performance now, not afterwards.

A related mistake is not recognising the enthusiasm factor. A successful system begets huge interest. "Some organisations are cursed with success and can't seem to keep up with user demand," warns Wayne Eckerson, director of research at The Data Warehousing Institute (TDWI), the pre-eminent organisation in the BI field for IT pros.

### 5. Too Many or Too Few BI Software Tools

Both Dresner and Erickson warn that IT has to be careful about how many tools are available. Too many tools lead to a lot of confusion and soaring training costs. Too few tools frustrate the users.

Just relying on the tools provided by an ERP vendor may not be the way to go, warns Dresner. Think strategically about the toolset, he recommends.

### 6. Going It Alone

Ten years ago it was hard to find a lot of business intelligence expertise in specific markets. Now the maturing of the field and plentiful resources make it a crime for any organisation to launch a program without thoroughly vetting the process, project, products, and people. TDWI membership should be a prerequisite before moving ahead.

If you're in a big company, urge the CIO to develop a BI Competency Centre — a core group of experts within your organisation who can become internal consultants to business units. The competency centre approach will help avoid a huge number of mistakes and wasted money.

### 7. Allowing the "Spreadmart" Plague to Spread

Eckerson invented the term spreadmart in 2002 as a label for the proliferation of mini-data warehouses and business intelligence systems based on spreadsheets. Typically a department would try to solve a business

problem by creating a spreadsheet with lots of macros linked to transaction systems. These spreadmarts were typically undocumented, impossible to audit, and extremely fragile. But they're easy to set up and use, thanks to the ubiquity of Excel.

"Today, spreadmarts are the bane of IT departments who can't control their proliferation, and the nemesis of CEOs who can't gain an accurate view of enterprise activity because of them," notes Eckerson. "In many respects, spreadmarts are the corporate equivalent of terrorists — just as soon as you eliminate one, 10 more spreadmarts pop up to take its place."

Eckerson offers a number of tips on how to combat the problem on the TDWI website.

Essentially, IT has to develop and support a superior solution. And the CFO has to use Sarbanes-Oxley as a bulldozer to crush as many spreadmarts as possible, especially maverick systems that directly feed into the profit and loss statement.

### 8. Inflexible Business Software Design

Thanks to globalisation, an extremely volatile economy, and other factors, building a rigid data warehouse and business intelligence system is a sure fire route to misery.

Your business advisors should be probed for insights about what strategies and tactics could change. They should offer odds or likelihood that key parameters will shift, and then IT should consider which parts of the system are most likely to need updating or revision.

### 9. Ignoring External Data

The best business intelligence and performance management systems incorporate data from external sources. Weather forecasts are obviously an important factor in determining optimum shipping routes, for example.

Mark Graham Brown, a performance management expert and author, says that external factors such as economic, political, regulatory, and consumer trends may need to be considered and incorporated into a BI or performance

management system to make it truly effective and useful.

### 10. Wrong Customer Data

If customer satisfaction is a key metric for your organisation and the IT department is asked to implement a performance management system to create and track this, ignore urges to just use survey data.

As Brown notes, an annual survey won't be of much help when you need weekly or monthly updates. And few organisations are surveying customers frequently enough to make a meaningful online metric. You need more granularity. He recommends a customer aggravation metric — collect service call or help desk data, and then score the inquiries based on severity.

Sad to say, there are other commonly made mistakes. Too many Key Performance Indicators (KPIs) in the performance management system is also a common problem. Maybe we can prevent repeating the same mistakes in the next decade of the technology. ■

# 10 Leading Business Intelligence Software Solutions

By Thor Olavsrud

The business intelligence software market is shaping up as a David vs. Goliath struggle. Behemoths like Microsoft, Oracle, and IBM offer feature-rich BI suites along with their many other enterprise software products. Meanwhile, pure-play business intelligence software vendors — such as MicroStrategy and Tableau — have avid followers and are known for innovating around new features and quickly adjusting to the shifting marketplace.

Why is this important?

Because business intelligence software is used to extract data from disparate sources — spreadsheets, databases, and other software programs — inside companies and then analyse that business data to better understand a firm's internal and external strengths and weaknesses. A business relies heavily on this data. Bottom line: Business intelligence software enables managers to better see the relationship between different data for critical decision-making — particularly opportunities for innovation, cost reduction and optimal resource deployment.

The list below includes 10 industry-leading BI solutions, from vendors large and not-so-large. If you're looking for a bird's eye view of this rapidly evolving market, the following condensed portraits should help.

This list is NOT ordered "best to worst." The question of what business intelligence software solution is best for a given company depends on an entire matrix of factors. This list is simply an overview of BI solutions, with the

debate about quality left to individual clients.

## 1. SAP Crystal Reports

Crystal Reports is part of SAP's Business Objects portfolio of business intelligence software solutions. It allows users to graphically design interactive reports and connect them to virtually any data source, Microsoft Excel spreadsheets, Oracle databases, Business Objects

Enterprise business views, and local file system information. Reports can then be delivered via Web, e-mail, Microsoft Office, Adobe PDF, or embedded in enterprise applications.

Crystal Reports provides integration with Xcelsius, Adobe Flex, and Adobe Flash. It includes built-in barcode support, multilingual reporting, and an integrated Salesforce.com driver. Microsoft helped make Crystal Reports the de facto standard report writer when it bundled it with Microsoft Visual Studio.



## 2. SAS Enterprise BI Server

SAS's flagship business intelligence software solution, SAS Enterprise BI Server, combines SAS Analytics with data integration and provides role-based, self-service interfaces for all types of users within an IT governance framework and a centralised point of administration. Components include: portals and dashboards, Web-based report viewing, Web-based report building and editing, and Web-based advanced data exploration with the ability to push results back to report building and viewing environments.

It also offers integration with Microsoft Office, guided



analysis and access to SAS Analytics, query and analysis as a pervasive part of all interfaces and centralised metadata, and a single point of management. SAS has committed itself to continuing to push the envelope. Of its \$2.26 billion 2009 revenue, SAS reinvested a robust 23 per cent into R&D.

### 3. Oracle Business Intelligence Enterprise Edition Plus

Oracle's Business Intelligence Enterprise Edition Plus is a suite of business intelligence software solutions that leverage Oracle BI Server as a common platform, providing a level of integration among the tools. The integration provides a common service-oriented architecture, data access services, analytic and calculation infrastructure, metadata management services, semantic business model, security model and user preferences and administration tools.

The suite includes Oracle's BI Server, BI Answers, BI Interactive Dashboards, BI Delivers, BI Disconnected Analytics, BI Publisher, and Oracle BI Briefing Books. Additionally, it offers Hyperion Interactive Reporting, Hyperion SQR Production Reporting, Hyperion Financial Reporting, and Hyperion Web Analysis. Oracle's offering has the advantage of integrating with Oracle's many other enterprise middleware, database, and business application solutions.

### 4. IBM Cognos 8 Business Intelligence

IBM's Cognos 8 BI offering is an inclusive suite featuring a range of BI capabilities including reporting, analysis, dashboarding, and scorecards on a single, service-oriented architecture (SOA). The suite includes Report Studio, Query Studio, Analysis Studio, Metric Studio, Metric Designer, Event Studio, Framework Manager, and PowerPlay Studio.

IBM has declared business analytics as one of the most critical parts of its overall strategy. It has spent heavily on business intelligence and business analytics R&D, investing more than \$12 billion in the last five years. That includes the \$1.2 billion acquisition of SPSS in 2009, which added a predictive analytics element to its portfolio.

### 5. Microsoft PowerPivot

Two applications, Microsoft's PowerPivot for Excel and PowerPivot for SharePoint, both leverage Office 2010, SharePoint 2010, and SQL Server 2008 R2 in an offering that uses the ubiquity of Microsoft's applications to provide BI tools to the knowledge worker masses rather than BI experts.

PowerPivot for Excel uses the Excel features users are already familiar with to provide interactive data analysis tools. PowerPivot for SharePoint provides the ability to share and collaborate on user-generated data analysis in Excel and in the browser. By leveraging technology already found in many companies and comfortable to most workers, Microsoft hopes to capture a much larger slice of the BI pie.

### 6. MicroStrategy Reporting Suite

MicroStrategy Reporting Suite is a free, commercial reporting tool composed of server software for core analytical processing and job management, an end-user Web interface, Web-based reporting software, desktop reporting software, and a data architecting product. It outputs reports in HTML, PDF, Microsoft Excel, and text. It can present data in tabular grid reports, graphs, and charts; and combination grid-and-graph displays. It is available for Windows, Unix, Linux, Solaris, HP-UX, AIX, and any data source (including SAP BW and Microsoft Analysis Services).

MicroStrategy Software is often layered over massive data warehouses, and it boasts the ability to support large-scale, demanding BI environments.

### 7. Salesforce CRM

Salesforce.com is the world's first billion-dollar cloud computing company. Its Salesforce CRM is a hosted Software-as-a-Service (SaaS) offering that consists of several modules: Sales, Service & Support, Partner Relationship Management, Marketing, Content, Ideas, Analytics, and the Chatter collaboration platform. Whilst Salesforce CRM offers a number of analytics tools, many business intelligence software vendors offer products that integrate with the platform, allowing it to serve

as a primary data-gathering tool for a variety of BI applications.

### 8. TIBCO Spotfire Analytics

TIBCO Spotfire Analytics combines business process management (BPM), complex event processing (CEP), predictive analytics (PA), and visual data mining (DM) software. It handles everything from real-time data capture and streaming to data analysis, forecasting and interactive reporting on a single platform.

### 9. Information Builders WebFOCUS

Information Builders' flagship WebFOCUS BI platform uses a purely Web-based architecture with no plug-ins. The company describes its approach as focused on BI applications and embedded BI rather than tools, noting that BI applications "are much simpler to use than tools." WebFOCUS has been implemented at more than 12,000 customer sites and is used to build Web-based BI applications.

### 10. Tableau Business Intelligence Software

A pure-play BI software vendor, Tableau refers to its offering as "rapid fire BI." It boasts drag-and-drop features that allow users without IT expertise to visualise information from any structured format. It claims to be the "only provider of data visualisation and business intelligence software that can be installed and used by anyone whilst also adhering to IT standards."

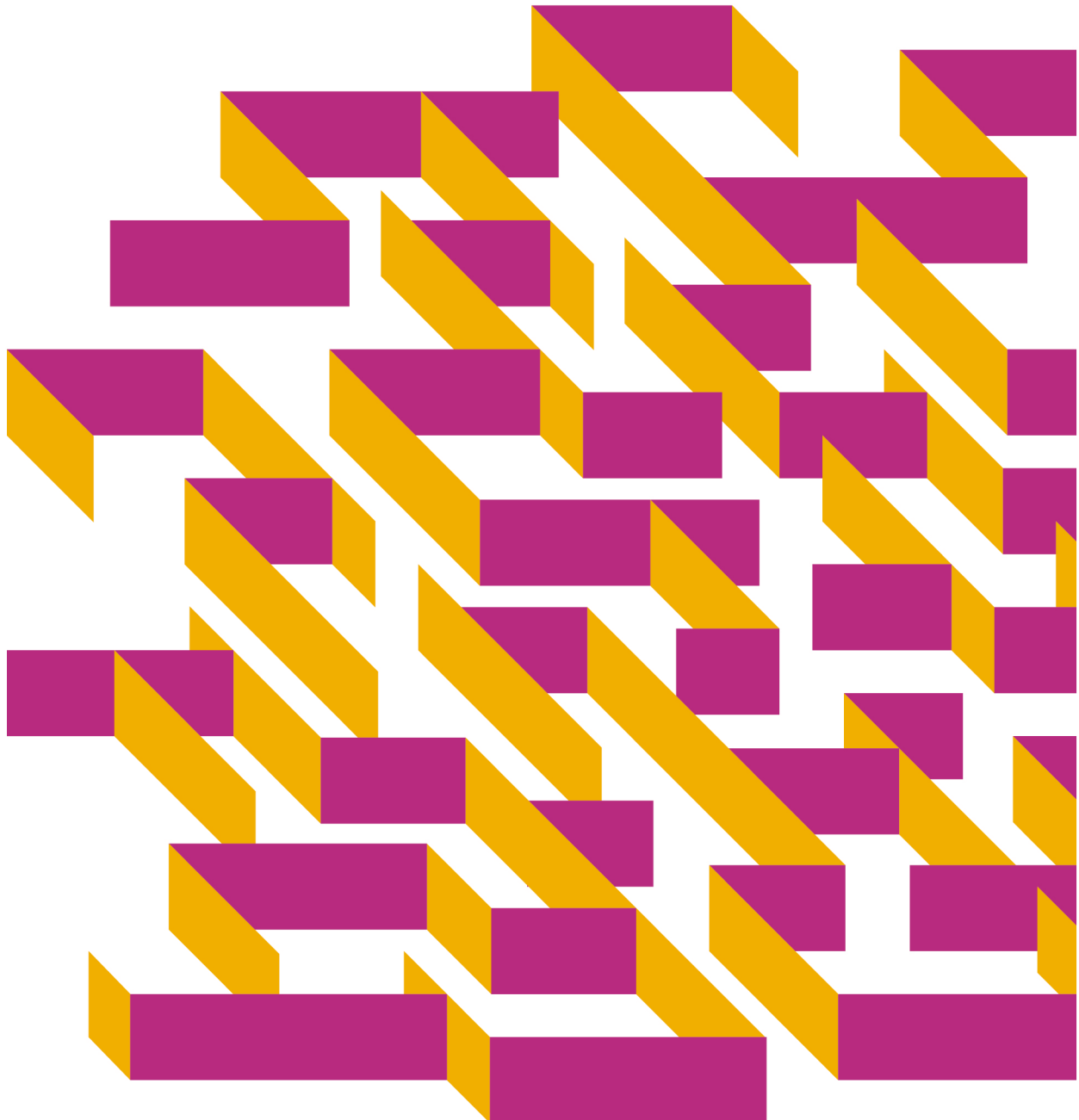
Its offering is comprised of Tableau Desktop and Tableau Server. Tableau Desktop is a tool for graphically analysing virtually any structured data to produce charts, graphs, dashboards, and reports. Tableau Server adds enterprise-class security and performance to support large deployments. ■

Smarter technology for a Smarter Planet:

## Is your information withholding information?

Most businesses have a data management strategy. And another. And another. Sometimes there's one for every application. The result is a proliferation of siloed, disjointed data that gets in the way of smart decisions. An Information Agenda from IBM helps move you from an application-centric approach to your information toward a more holistic view of your information systems. So you can use your data to reach decisions faster and with greater confidence - helping you optimise processes, predict market changes and act on new opportunities. Banks can better manage financial risk. Retail companies can spot trends quicker and more accurately. Manufacturing companies can speed delivery across a complex supply chain. So information works for you, instead of against you.

A smarter business needs smarter software, systems and services.  
Let's build a smarter planet. [ibm.com/info/uk](http://ibm.com/info/uk)



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# Is Business Intelligence Software Coming Up Short?

By David Needle

**B**usiness intelligence software can play a vital role in helping IT and knowledge workers get a handle on increasingly huge warehouses of customer data and other information critical to their sales and overall business. But does that go far enough?

In many cases, the answer is no. That's according to a Forrester Consulting survey of 226 business and IT professionals, which was commissioned by enterprise search vendor Endeca, a provider of search applications designed to complement and augment BI software.

The report said that in spite of the millions invested by BI software developers and on customers using their products, today typical BI solutions struggle to keep up with the increasing volume and complexity of data — even when those solutions are customised. The pain is particularly acute when it comes to decisions that need to be made quickly and are based on changing demands that might not conform to predetermined report structures.

"We're moving to the next stage of people in a business saying, 'If I can get the reports, why can't I slice the data a different way and see it in the context of blog postings about our products, and sort and filter that information further?'" Paul Sonderegger, chief strategist at Endeca, told InternetNews.com.

"Traditional reports and dashboards answer questions the company knew to ask," Sonderegger said. But those "will have to be complemented with next-generation discovery environments where people can ask questions they just realised matter in the moment."

As one example, Sonderegger said a BI system can provide important information like the fact that warranty claims on a company's most popular product were up 40 per cent in the past month.

"The report answered the question it was designed to answer, but now what? Do the warranty claims vary across packaging? Across retailers?" Sonderegger said. "There isn't a pre-baked report for these kinds of questions, which requires diving into data that's probably sitting on different servers for parts suppliers, contracts, and product lifecycle management, and figure out what changed."

Complicating matters is that the user who typically asks these sorts of questions isn't involved in IT decision-making: They're usually on the business side.

"They need a self-service discovery solution because they need a quick answer," Sonderegger added.

The report concludes there is "an extensive backlog of BI requests" that requires knowledge workers to continually look for alternatives for getting the information they need. Of those surveyed, 51 per cent indicated that BI requests stack up in their organisation, whilst 66 per cent cited too many requests on the IT list as the main reason for the backlog.

Also, knowledge workers seek IT help for BI requests on average 46 per cent of the time.

"Companies need BI tools and applications that combine the simplicity, and resulting zero training, of a search-like



## 30 Things You Need to Know About Business Intelligence Software

UI on top of reporting, querying, and analysis to make BI pervasive throughout the knowledge worker community,” the report said.

Sonderegger acknowledged the big BI providers have come out with new products to address the need for easier access to less standard or structured information sources.

“The challenge they face is that they have to depart from

a lot of the assumptions in the traditional data world that don’t handle jagged data well, because it’s not coming from traditional rectangular sources of columns and rows,” he said. ■