



# **BI Scorecard<sup>®</sup> Strategic and Product Summary – Q4 2013**

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## Background

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### Evaluation Methodology

Some of the BI products look increasingly similar, and yet beneath the covers, there are significant differences. At BI Scorecard, we want to make sure you buy the best products for your company and understand these differences before deploying. BI Scorecard is the only analyst firm that tests BI suites hands-on, based on over 300 detailed criteria, and with the customer perspective in mind. Within each strategic and functional area, vendors and products are scored on various criteria that are based on:

- Features and aspects that customers often look for in evaluations
- Unique capabilities identified while evaluating products
- Vendor marketing claims that are either a point of differentiation or confusion

To evaluate products, we rely on customer references, feedback from partners and consultants, and vendor briefings and demonstrations. To ensure an objective, consistent comparison of products, we also evaluate the software hands-on.

Within a given feature category, 10 to 25 detailed features are considered. Summary scores are determined based on a weighted score within each category. In some cases, the summary percentages may not translate directly to the summary score for the following reasons: 1) a summary score may be rounded up or down when there is a wider gap among summary scores, 2) missing data points are considered in the totals and adjusted accordingly, 3) the vendor has released new capabilities that have been demonstrated but not fully tested.

Each feature is assigned a score of 0 to 3:

Score	Explanation
3	Exceptional capabilities.
2	Very good capabilities.
1	Limited capabilities, difficult to do, or may require a work around.
0	Minimal capabilities out of the box. The software may require customization or coding to accomplish.

### Updates

Updates to the summary scorecards are published on a quarterly basis as a separate report and are available to subscribers.

## Business Intelligence: Agile and Enterprise

The BI market slowed in 2012 and 2013, with larger vendors' revenues either flat or modest, single-digit growth. Specialty vendors are still growing in double digits, from 23% (QlikTech) to 76% (Tableau). Slowing in BI buying is reflective not only of the overall world economy, but also of the challenge for BI teams to simply maintain existing user bases and investments. There is pent up demand for BI, but much of that demand is coming from business units and individual users who cannot wait for a slow-to-respond IT or central BI team.

BI standardization was a key theme for BI purchases from 2007 to 2009, but BI buying is now more driven by business user empowerment and agility. Fortunately, in 2013, we saw greater cooperation between central BI teams and business users to evaluate, purchase, and expand their BI portfolios to provide that agility. Enterprise-class BI is still required, but agility has to be part of the solution. BI vendors who have been innovating in visual data discovery, self-service, and in-memory have the most momentum.

Customers are also further willing to expand their BI tool portfolios to save cost or time to deploy. Low cost has been a driver for Microsoft deployments, open source, and start-ups such as Yellowfin. Faster time to deploy has helped visual data discovery vendors, as well as Oracle with its pre-built analytic applications, and cloud vendors such as Birst.

While cloud BI cannot be called mainstream, the buzz around cloud reached a crescendo in 2013 with new offerings from Tableau, TIBCO Spotfire, and announcements from Microsoft and Oracle. Pure cloud vendors such as Birst, GoodData, and 1010data have expanded their offerings and/or received increased venture capital funding in the last year. Inquiries about these solutions increased in 2013. Enterprise customers are willing to adopt cloud BI for individual lines of business and for use during proofs of concept. Vendors that allow data to be left on-premise and use the cloud for software and presentation delivery offer customers the best of both the cloud and on-premise worlds.

Mobile BI continues to be a puzzling segment and one in which BI teams must continue to evangelize the capabilities. Innovative companies say their executives and managers expect mobile BI, particularly on an iPad, and in 2013, we encountered a few large deals that were decided based on mobile BI capabilities. However, the majority of BI teams say their users are not asking for it. There continues to be volatility in the capabilities, devices supported, and technology used to deploy mobile.

Big data, meanwhile, continues to be a big headline, but its impact on core BI tools has been modest. Big data seems to be most disruptive in the ETL and data storage space. For BI tools, many BI vendors provide connectors into a variety of big data sources. Specialty vendors that access Hadoop or NoSQL data sources such as DataMeer, Platfora, and Karmasphere, have strong interest from data scientists and in particular applications such as fraud detection, advertising, and social media analysis.

In considering these business and market dynamics, BI Scorecard recommends the following:

- Ease of use and the ability to combine data from multiple data sources now outranks even data quality in terms of importance. In a volatile and fiercely competitive business environment, time to market and time to insight trumps a perfectly architected solution. For this reason, we have now called out ease of

use as a separate summary category in the product scorecard. The need for agility, however, does not obviate the need for trustworthy data and enterprise solutions. The optimal BI tool portfolio will include capabilities that support enterprise, consistent views of the data, along with agile solutions.

- Leading BI platform vendors have had major new releases with significant new and improved capabilities. The cost and complexity of upgrades varies vendor to vendor. BI teams must assess the benefit of upgrading to the latest release with the effort of testing and migrating. With these upgrades, expect to renegotiate your BI license to take advantage of new features. While like-for-like capabilities may be included in maintenance fees, new capabilities generally are not.
- Dashboards and visual data discovery, once optional components of the BI tool portfolio, are now must-have modules. BI platform vendors have gradually added such capabilities to their portfolios, but these modules have varying degrees of integration and functionality. Solutions from pure-play vendors may lack integration with a BI platform, but in particular, visual data discovery capabilities are stronger from pure-play vendors. With the growth in visual data discovery at three times the pace of the overall BI market, some vendors are attaching the “visual discovery” term to any BI front-end, causing confusion and fueling hype.
- Customers should make mobile BI a part of their BI delivery plans but should continue to expect significant change in this segment.
- Self-service BI is a priority for many companies and BI teams. However, it’s important to understand the spectrum of self-service capabilities and requirements. This term should not be synonymous with the visual data discovery segment only, but also includes the more mature segment of business query and the oft-overlooked aspect of interactive reporting.

With so much activity in the BI tools market, IT can easily become side tracked and forget the ultimate value of business intelligence: to provide business users with a way to access and interact with data to manage and improve the business. BI teams should continue to actively manage their BI tool portfolios to deliver enterprise-class BI at the lowest cost to the organization. The BI tool portfolio may include a *predominant* BI standard along with additional products and tools that provide superior capabilities and business value. In some cases, the additional business value of a mix-and-match BI tool portfolio may be in the form of lower licensing costs for particular applications and deployment types such as extranet deployments or ones involving thousands of information consumers.

No matter which solution you select for an enterprise-standard or new BI implementation, naysayers will second-guess that decision. The key to managing such second-guessers is to follow an objective, agreed-upon methodology in developing your BI tool strategy, with clear guidelines as to when a particular solution should be used. This selection process must include both the business users and IT experts. (Refer to the complementary BI Scorecard [selection methodology](#).)

This report discusses strategic and functional criteria to consider when evaluating vendors and major product modules. Scores are provided for leading platform vendors, specialty vendors, and open source vendors based on extensive evaluations, customer interviews, and vendor briefings. A brief description of noteworthy vendors we monitor is also included in the final section of the report.

## Strategic Considerations

When evaluating BI vendors and their solutions, consider strategic aspects as well as current product capabilities. The degree of importance for strategic considerations versus product capabilities will vary depending on customer buying philosophy, BI organization and culture, past experience, and existing relationships.

The following table provides an overview of strategic considerations and current vendor market focus.

BIScorecard		Strategic Considerations (Q4 2013)											
		BI Growth & Market Leadership	BI Breadth					Pricing & Packaging	Account Management	Support	BI Innovation	2013 YTD R&D Spend	2013 Services Revenue
			EIM	Performance Management	Analytic Applications	Predictive Analytics							
BI Platforms	SAP	●	●	●	●	●	●	●	○	●	●	14%	22%
	IBM	●	●	●	●	●	●	●	●	●	●	4%	27%
	Oracle	●	●	●	●	●	●	●	●	●	●	9%	12.5%
	Micro Strategy	●	-	-	-	●	●	●	●	●	●	18%	27%
Specialty	QlikTech	●	-	-	-	-	●	●	●	●	●	15%	9%
	Tableau	●	-	-	-	-	●	●	●	●	●	28%	32.5% <sup>M</sup>

Legend: ● Excellent ● Good ● Limited - Don't Compete in Segment  
M - Maintenance and services combined

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Customers who make bigger investments and have a longer time horizon to deploy and evolve a solution will give greater weight to these strategic considerations. Customers who are making a smaller investment may give greater weight to current product capabilities than to vendor strategies and relationships. Often, departments and business units with their own BI budgets will ensure a product more fully meets their immediate requirements than strategic considerations.

### BI Tools Growth and Market Leadership

Market leadership scores reflect the vendors' core BI revenues, number of customers, and license revenue growth. As several vendors no longer break out BI revenues, we also look at user conference attendance, marketing events, and number of customer inquiries. The degree to which a particular vendor leads the market may also indicate a greater availability of resources for either hire or contract as you deploy and enhance a solution. Specialty vendors are scored for their leadership, growth, and appearance on short lists within their market segment.

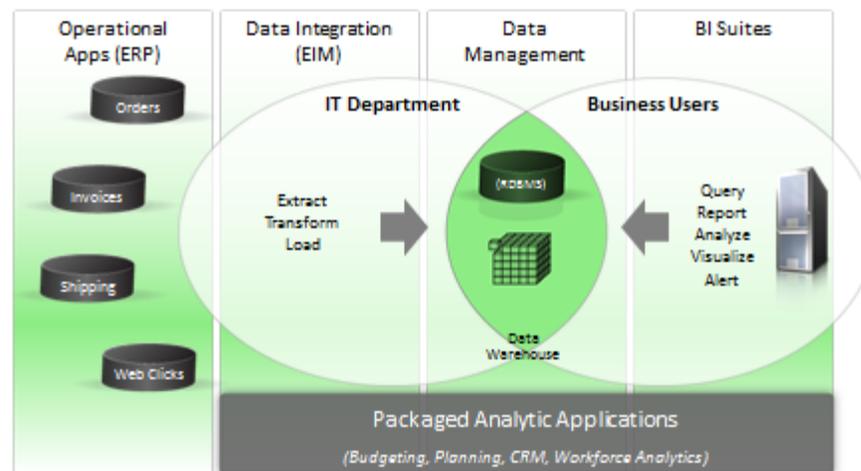
Smaller vendors may not command the same market share as larger BI vendors, but they may be more nimble and innovative, with distinct capabilities. In buying from smaller vendors, customers must consider the vendor's financial viability, which can be a challenge to assess for privately held vendors. Independent BI vendors also may have a greater likelihood of being acquired, particularly if their capabilities are unique and complementary to the acquiring vendor. There is less likelihood of an acquisition when there is little differentiation in capabilities or overlapping technologies.

License revenue growth has often been an indicator of the long-term health of a company. When a company shows strong license revenue growth, it's an indication the vendor is either adding customers or selling additional licenses to an installed base. In theory, the latter indicates product innovations. However, as vendors add flexible pricing, annual licensing (which SAS has long had), and SaaS capabilities, expect to see a greater shift in revenue mix. Ideally, vendors would break out their cloud BI revenues, but some are reporting this as maintenance.

## BI Suite Breadth

In considering the BI lifecycle from source system to analytic applications (shown in the following figure), vendors covered by BI Scorecard provide core BI capabilities (query, reporting, analysis, dashboards) and may provide additional capabilities, including operational applications, data integration, data quality, master data management (enterprise information management or EIM), database platforms, performance management, and analytic applications. When evaluating BI platforms, consider whether you will give preference to vendors who provide solutions in these other market segments. Scores for these aspects indicate whether a vendor has strong presence in any of these related segments; it does not reflect scores for product capabilities or depth of integration with the BI platform.

### Market Focus & BI Lifecycle



Vendors with a broader BI focus offer the promise of greater integration and breadth of capabilities. In reality, degree and depth of integration varies vendor to vendor. Oracle and SAP, for example, may give BI integration with the business applications a greater emphasis, while IBM and Microsoft may give a greater emphasis to server systems, database, and infrastructure integration. Buying from a single vendor means there is one vendor who is accountable for problems and with whom you can negotiate volume discounts. However, it also means that the BI unit vies with other divisions for R&D, support, and marketing dollars.

You will find substantial differences in vendor strategies in terms of their BI breadth. How much weight you give these criteria and which strategy you think is “right” will depend on:

- existing investments your company has already made in the related segments, whether source systems, IT infrastructure, ETL, etc.
- the degree to which the vendor has successfully integrated the related modules and the depth of capabilities.
- who is sponsoring your BI project, whether the CIO, CFO, or VP of a line of business, and who has greater influence on related software and technology investments.

### **BI Suite Breadth – Enterprise Information Management**

The EIM segment includes data integration, master data management, and data quality and profiling. Vendors that have an EIM solution will tout the value of “trusted” data, as business users can see the end-to-end data lineage from a report or dashboard down to where the data was extracted from. In reality, this visibility for the business user is variable and in need of improvement across the industry. It is sometimes possible as well to get this degree of visibility by mixing and matching products. While IT teams may be the main evaluators of the EIM modules, business users have greater influence on the BI tools and suites.

### **BI Suite Breadth – Performance Management**

Performance management applications include budgeting, planning, financial consolidation, and strategic scorecards.

Most BI buyers treat performance management purchases separately from BI purchases. According to the 2011 Successful BI survey, only 13% treat performance management and BI as one initiative, a slight decline from previous years’ survey results and a trend we no longer tracked in 2012. When they are combined initiatives, the CFO often is the sponsor and carries more influence than does IT.

However, just because a vendor offers a solution in both market segments, this does not mean that the performance management and BI solutions are deeply integrated or robust in both segments. Some vendors, such as MicroStrategy, Information Builders, QlikTech, and Actuate, have chosen not to pursue the performance management market. Information Builders and Actuate offer scorecards but not budgeting and planning solutions.

### **BI Suite Breadth – Analytic Applications**

A number of vendors offer analytic applications for particular industries or functional areas. SAS, for example, emphasizes its “solutions” more so than its BI platform and is considered a leader in fraud detection and warranty analysis. Oracle has been successful in selling and enhancing its analytic applications that provide pre-built extractors, data models, and reports for E-business Suite, PeopleSoft, Siebel, and J.D. Edwards. SAP has continued to expand its analytic applications that are source-system agnostic and focused on particular vertical industries.

Beyond the analytic applications from BI vendors, there are numerous solutions from niche vendors, some that OEM BI capabilities from the leading BI players and some that build their own BI capabilities within an analytic application.

## Advanced Analytics

Predictive analysis is used in a variety of forward-looking applications such as fraud detection, customer scoring, risk analysis, and campaign management. Advanced analysis and the task of creating predictive models are reserved for specialist users, with SAS and IBM (via SPSS) leading the market. In 2013, SAP released a competitive solution to SAS and SPSS, Predictive Analysis, and later acquired KXEN. Normally, the process of accessing data to build and test predictive models is not part of the BI platform and data is extracted into a separate analytic environment. The results of the advanced models are also kept separate from other analyses.

In an effort to make BI more actionable, some BI vendors are incorporating predictive analytics into their BI suite. This does not mean that predictive analytics software will become mainstream, but rather that the results of such analyses will become mainstream, as they can be readily incorporated into everyday reports and decision-making. To get to faster processing of the models and greater data scale, some vendors are pushing the processing of the models into the database.

## Pricing and Product Packaging

BI pricing and packaging continues to be confusing for BI buyers and, in many cases, unnecessarily complex. Most vendors offer named user licensing, server-based, or a combination of the two. There may be special packaging for departmental or SMB deployments.

BI Scorecard subscribers are encouraged to view the related report on this topic and to be aware of the pricing and packaging complexities early in the buying process.

Scores on this criterion reflect pricing transparency and degree of complaints from customers about inconsistent and confusing packaging policies: can customers readily figure out what they need to buy, without hidden fees for common and essential features? Customers are advised to pay attention to virtualization policies, counting of server cores or sockets, and test and development environments. In 2013, Oracle lowered the list price of their core BI platform. IBM, who once had nine user roles for its products, announced a simplification to two user roles.

## Account Management

With the role of BI increasing in organizations, customers should be able to view their BI provider as a strategic partner. Unfortunately, such partnership is sorely lacking at larger firms but more available in smaller firms or consulting partners. The ideal account manager understands the customer's business and is involved enough to know that the appropriate BI solution is being deployed effectively (and working!). In order for the account manager to achieve this, the account manager must also understand the vendor's product line. High sales-force turnover can make this a challenge.

Scores for this item reflect consistently positive or negative customer feedback, as well as customer satisfaction surveys conducted by the vendor, third parties, and the 2012 Successful BI Survey. Vendors with more than 25% of survey respondents rating account management as poor or needing improvement were given a yellow or limited score.

## Support

All BI products have their problems, and no vendor's software is immune to bugs (although some vendors do seem to have higher software quality standards than others). When a problem arises, customers can reasonably expect to contact technical support to resolve the problem. In some cases, this may be in the form of a work around, and in others, it may be a matter of waiting for a software patch or new product release. Communication about the status of a resolution and built-in escalation procedures are both important. Customers do have a responsibility here to ensure they are using the software in a supported environment and to report problems in a clear way that can be readily documented. Support should never be considered as a replacement for training and reading quality documentation.

Vendors may offer different support levels that range from:

- Web-based support in which problems are logged online and customers can search a knowledge base. Vendors vary in the quality of the articles in their knowledge bases and how frequently support personnel must contribute articles.
- Telephone support in which problems are reported and diagnosed by phone and remote Web sessions.
- Premium support that involves a technical support person periodically visiting the customer site to resolve problems.

With varying levels of support available, I strongly advise customers to consider the value of a higher support level, particularly during initial deployments, migrations, or significant user ramp-up. Money saved by using a lower support level can quickly be lost when problems are encountered and not readily resolved.

Scores for this item reflect consistently positive or negative customer feedback, as well as customer satisfaction surveys conducted by the vendor, third parties, and the 2012 Successful BI Survey. Vendors with more than 25% of survey respondents rating support as poor or needing improvement were given a yellow or limited score.

## BI Innovation

BI innovation considers key enhancements and time to market, as well as future development plans. Key innovation areas considered in this score include mobile BI; dashboards; visual discovery; search; in-memory; actionable BI, collaboration, and cloud BI. These items are given the greatest weight. Additional innovation areas considered are Office integration through e-mail and spreadsheets, integration of predictive analytics with BI, and support for Hadoop and noSQL data sources. Vendors who are first to market with an innovation are given a higher score. Vendors who have provided the innovation through acquisition are given partial credit. Specialty vendors are scored for innovation that pertains to their market segment.

## R&D Spending

The percentage of revenues spent in research and development is reflective of how much the vendor invests in improving existing products and developing new ones. Percentages shown here are for year-to-date through Q3 when the vendor is publicly held. Privately held vendors are based on year-end 2012 estimates.

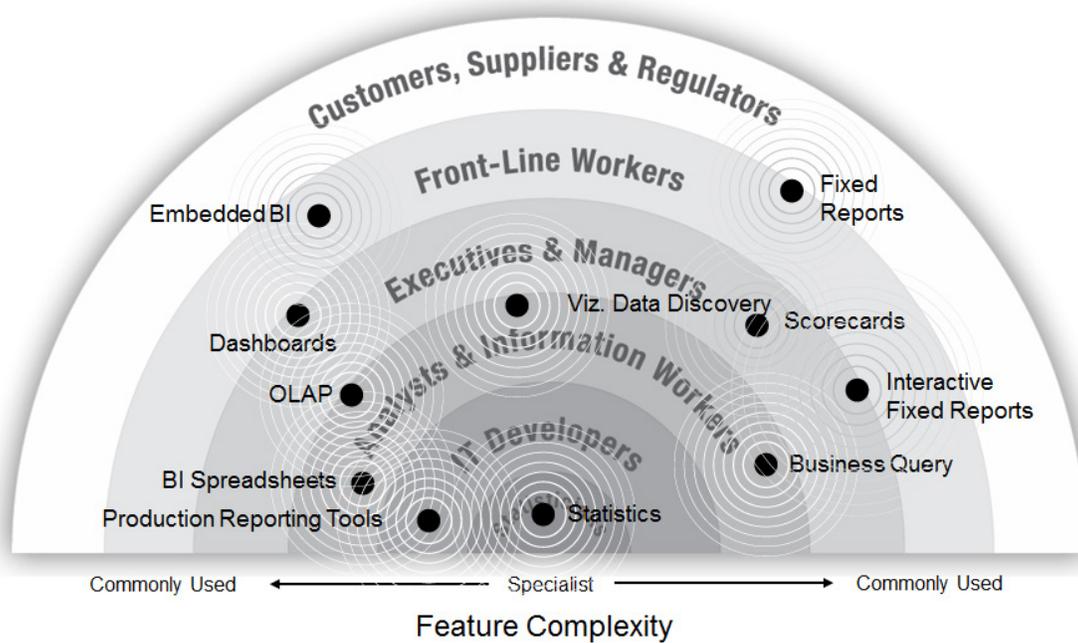
## Services Revenue

The importance of services revenue is hotly debated in the BI industry. Some believe that a high percentage of services revenues is indicative of a complex product line that requires a lot of additional consulting fees to implement. Others see it as a way of customizing the solution for a particular industry vertical. As an example of this contrast, IBM earns a significant portion of revenues from consulting services, in part a diversification from its hardware and software business. Microsoft, on the other hand, earns very little in services revenue, preferring that its strong partner network fulfill this role. Some vendors include maintenance fees in this figure (indicated with an M in the scorecard), making it difficult to get a side-by-side comparison.

## Product Capabilities

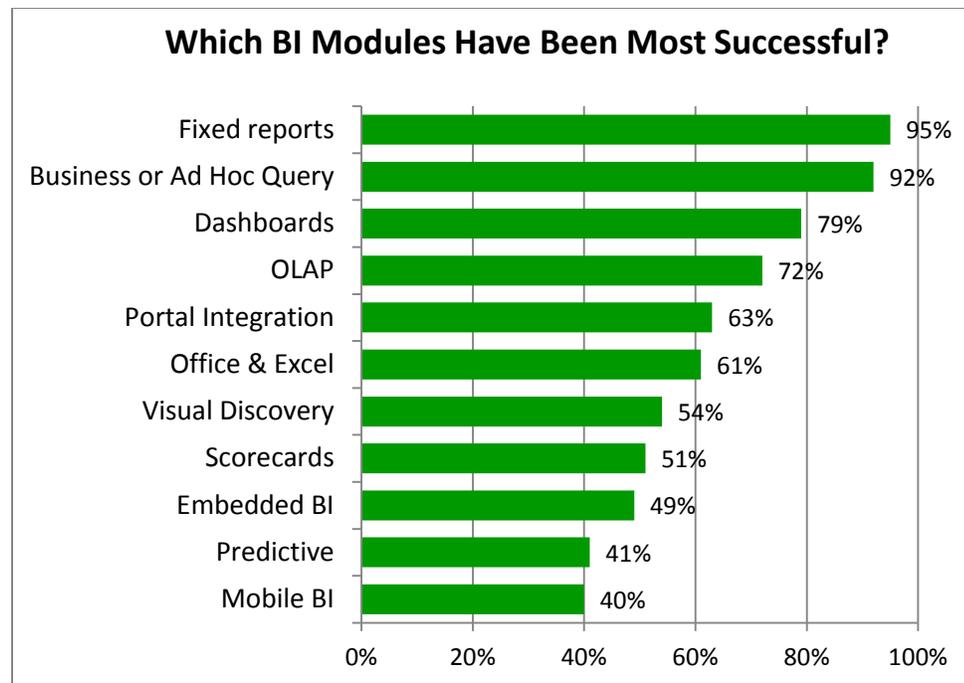
Customers have sometimes aspired to buy one BI tool to meet all their business intelligence requirements. This is an impractical goal. At best, you may aim to buy several modules from a single vendor, but the better BI tool portfolios pursue a strategy of the right tool for the right user.

BI vendors may offer a broad range of capabilities as part of a BI solution or may specialize in one particular module. The importance of a particular module will vary among customers, and certain modules are more important to different user segments. The following spectrum positions BI tool modules according to the user segments that predominantly use any given module. More sophisticated users may need advanced features, whereas modules that have broader usage warrant features with mass appeal and ease of use. For example, statisticians may need predictive analytics, whereas call center operators and front-line workers may need BI nuggets embedded in an operational application. Managers and sales personnel may want dashboards delivered on an iPad.



The following chart shows which capabilities customers reported as being most successful within an overall BI deployment (according to the 2012 Successful BI Survey, 600+ respondents; look for updated survey results in Q1 2014). For the first time since we have run this survey, fixed reports nudged out business query as the most successfully deployed BI module. We think this is in response to two opposing forces: the backlash of overwhelming, poorly designed business views and improvements to interactive, fixed reports.

Based on customer advisory sessions and anecdotal feedback from customers, some data points seem unusually high and may not reflect the same definitions we use. For example, in 2011, only 22% of companies said they had successfully deployed visual data discovery capabilities, compared with 54% this year. We suspect that some customers interpreted this as a greater use of charting capabilities within business query, dashboard, or OLAP viewing modules rather than the distinct category. Likewise, in 2011, only 5% said they had deployed mobile BI capabilities, compared with 40% this year. This may be an overstatement if BI is deployed via a mobile browser only.



Each of the following sections provides a brief explanation of the individual BI tool segments or modules of the BI platform. For a more detailed discussion of individual criterion within a category, consult the BI Scorecard<sup>®</sup> detailed criteria reports. Note: the term “suite” is used here to refer to multiple modules that reside on a common BI platform. The degree of integration of these modules continues to vary from vendor to vendor.

The following summary table compares vendors across each major BI functional area. Please note that for any given module, how customers weight individual criterion will impact the summary level scores.

Specialty vendors are scored only in those categories in which they compete.

BIScorecard		Product Capabilities (Q4 2013)													
		Self-Service BI						Information Delivery	Production Reporting	OLAP Viewer	OLAP Platform	Office Integration	Administration	Architecture	Public Cloud BI
		Ease of Use	Business Query	Visual Discovery	Dashboards	Interactive Reports	Mobile BI								
BI Platforms	SAP Business Objects	⦿	●	⦿	⦿	⦿	●	●	●	⦿	●	⦿	●	●	⦿
	IBM Cognos	⦿	●	⦿	●	●	⦿	●	●	●	●	●	●	●	○
	Oracle BI EE	⦿	●	⦿	●	⦿	⦿	●	⦿	●	●	●	⦿	●	○
	Micro Strategy	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Specialty	QlikView	●	-	●	●	-	⦿	-	-	-	-	-	●	●	○
	Tableau	●	●	●	●	-	⦿	-	-	●	-	-	●	●	●

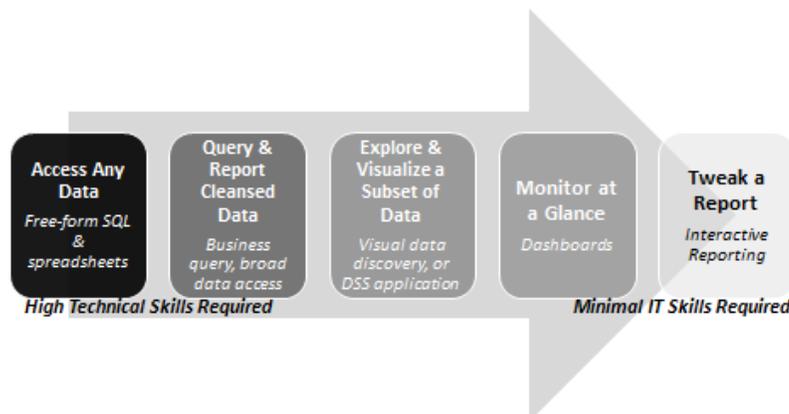
Legend: ● Excellent ● Good ⦿ Limited ○ Minimal/None  
 Weight of detailed criterion affects summary market scores. Customers are advised to apply their own importance weighting.  
 Specialty vendors are scored only in those segments in which they compete.  
 S=Scripted Demo P=Preliminary Score.

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## Understanding Self-Service BI

Self-service BI is a priority for many companies. However, the vision for self-service BI is not new and is what defined the emergence of the business intelligence tools market in the early 1990s. Some of the first BI tools on the market, such as BusinessObjects (now part of SAP) and Cognos Impromptu, enabled users to access data stored in relational database systems without the need to understand how to write their own SQL queries. Prior to these tools, IT would write the SQL and send users raw data in a Lotus spreadsheet. OLAP tools, meanwhile, allowed for faster performance, dimensional comparisons, and drill-down, with a greater use of charts. Both of these technologies, then, allowed for self-service, with varying degrees of initial IT involvement. IT is involved in the initial deployment both to make it easier for end users but also to protect source systems from being crippled from runaway queries.

### Self-Service BI Continuum



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The new category of visual data discovery tools also allows for self-service BI but, depending upon the vendor and tool, with less initial support from IT than either OLAP or business query tools. As they use in-memory engines for performance, they are less constrained than traditional OLAP cubes to enable speed-of-thought performance. The data volumes, degree of Web-based authoring, and breadth of analytic queries varies significantly from product to product. For these reasons, visual data discovery tools are just one component of a self-service BI portfolio and do not currently replace other approaches to self-service BI.

Early deployments of business query modules sometimes failed because BI administrators interpreted users' demands for ad hoc capabilities with a blank screen (see the *TDWI Top 10 Mistakes in Deploying BI Tools*, 2004). There are indeed some users that need to create new queries, but the majority of business users simply want flexibility within an existing dashboard or report. They do not want to go into a complicated authoring mode but instead want to tweak a dashboard or report by filtering, sorting, or personalizing the display. Because it seems the hype of new tools in visual data discovery is overshadowing the broader requirements of report interactivity, we have moved scores for these capabilities out of the information delivery category into their own segment.

In evaluating self-service BI capabilities, customers are encouraged to consider this spectrum of requirements, use cases, and degree of IT involvement to deploy.

## **Ease of Use**

Ease of use in BI tools is an often-cited barrier to broader adoption. With customers now considering ease-of-use more important than other technical factors, ease of use has been added to the BI Scorecard Product Summary. This score is a composite of the ease of use for the following modules: business query, dashboards, and visual data discovery. Ease of use for production reporting modules, OLAP, and Office are not considered here. In assessing ease of use, we look for how intuitive the software is, number of clicks to complete a task, and a logical workflow. In addition to assessing ease of use for individual BI modules, survey results for ease of use were considered to develop the final summary score.

## **Business Query & Reporting**

This module is often referred to as “ad hoc query,” but such terminology is misleading. Unable to wait weeks or months for IT to develop a new report, business users often demand the ability to create queries and reports themselves. The business environment changes at a rapid pace; information requirements can change as correspondingly fast. Business query tools facilitate a self-service reporting environment and allow business users to answer their own questions and do their own analysis. This module assumes, however, that the data mart or warehouse environment has been established and that IT has developed a business view to the physical tables, points of contrast to visual data discovery tools.

In some cases, a report is truly ad hoc; the report answers a one-off business question that will never be posed again. Most often, though, a report is not ad hoc; it becomes a standard report authored by a business user rather than by a central IT programmer.

In recent years, some vendors and industry analysts have viewed this segment of tools as less relevant, suggesting they fall short of providing any meaningful intelligence and lamenting that data chaos has been replaced with report chaos. It is true that customers have made missteps in deploying these tools. Overwhelming users with unconstrained data access does not add business value – empowering them with timely insights does. For these reasons, IT and BICCs in particular need to stay involved in the BI authoring process to ensure these tools are leveraged in a controlled way and with best practices. While a decision supported by information from business query and reporting may not have the same big ROI as a single insight from predictive analytics or visual discovery, this class of tools is usually the first step in offering self-service BI. Further, it is a key module for using BI for monitoring and managing the business.

It helps business users answer such questions as:

- do I have enough product on hand to ship this order? (potential subsequent ad hoc: if I'm short at my main warehouse, can I supply product from elsewhere?)
- who are my top 10 customers? (potential subsequent ad hoc: who fell off this year's list?)
- which suppliers have shipped late? (potential subsequent ad hoc: are there other suppliers that provide the same product on time?)

Many BI vendors provide basic business query capabilities. The more robust products will support the ability to query multiple fact tables, perform rankings and subqueries, and merge personal data sources with central data marts and data warehouses. In evaluating business query tools, customers should not automatically “exclude” products with a limited score, particularly if they require only basic capabilities.

## Visual Data Discovery

Visual data discovery products have experienced rapid growth in the last three years, and this module should now be considered as another way of facilitating self-service BI. Several factors have helped accelerate the adoption of these tools. First, greater use of 64-bit operating systems has made in-memory processing more scalable. At the same time, their ease of deployment has allowed lines of business to develop more flexible and appealing solutions faster than central IT has been able to deliver enterprise BI. Last, the successful IPOs of QlikTech in 2010 and Tableau in 2013 have brought excitement and mainstream attention to the category.

This software segment was pioneered mainly by pure-play vendors; larger BI platform vendors are trying to imitate.

In evaluating this module, customers must consider the need for visual data discovery, but also whether they need a fast, flexible deployment versus an enterprise solution with more robustly modeled data.

It's also important to note that vendors in this space may focus on different types of discovery and users. Some solutions, such as Tableau, MicroStrategy Visual Insight, Microsoft Power View, SAP Lumira, and SAS JMP are well suited to the individual user. QlikTech and TIBCO Spotfire are more geared to building robust applications.

## Dashboards

According to industry visualization expert Stephen Few, President of Perceptual Edge, “a dashboard is a visual form of information display, which is used to monitor what’s currently going on in the business at a glance.” Any tool that can display multiple objects from multiple data sources, then, can correctly be referred to as a dashboard. Better dashboard products, though, go well beyond these two criteria to be more interactive, visual, and supporting insight to action. A dashboard may be composed of:

- a map that color codes where sales are performing well or poorly.
- a gauge chart that shows if expenses are over/under budget.
- a trend line that tracks stock outs.
- a cross-tab of top-selling products.

Ideally, users want to assemble their own dashboards with the information relevant to their job. Not all tools allow this, though, and may require IT to build the dashboards. For BI Scorecard<sup>®</sup> to consider something a dashboard, it must enable information from multiple data sources, be highly visual, have a way of highlighting exceptions (traffic lighting or alerts), and have a degree of interactivity. Dashboard products from BI platform vendors may have integration and reusability with the BI platform.

While many of the dashboard products evaluated receive good scores at the summary level, there are substantial differences at the detailed level. Performance and suitability for a particular product as an operational dashboard that would include alerting, access to unmodeled data sources, and extensive caching varies widely. Some visual data discovery tools allow business users to create their own dashboards.

## **Interactive Reporting**

Once either IT or a power user has created a report using either a production reporting tool or a business query tool, an information consumer will initially view this report. Information consumers may want to navigate the report via a table of contents, sort within the report, filter displayed data, or change a rendering from a tabular data set to a chart. Scores in this category reflect how easily a user can do this automatically, without having to go into an authoring mode and without requerying the data source. Better tools create the interactive viewing automatically, without IT having to program capabilities into the report design.

## **Information Delivery & Access (BI Portal, Scheduling, Search)**

When BI Scorecard was first launched, this functional area consisted primarily of criteria related to report scheduling, report bursting, alerting, and BI portal integration. As vendors increasingly focus on engaging more information consumers, this functional category now also considers the integration of search (such as Google OneBox), desktop gadgets, collaboration, offline mode, and display of meaningful business meta data. In short, once customers have tackled the biggest challenge of getting to the data, the next major focus should be on putting those reports and analyses directly in the hands of more decision-makers yet in an appropriate interface that requires minimal training. Features within the category “information delivery” will enable BI to become more prevalent across the enterprise.

## **Mobile BI**

Mobile business intelligence allows users to access BI content from smartphones and tablet computers, ideal for sales personnel, field workers, and traveling executives. Mobile BI has existed for years, with support for BlackBerry devices the norm, historically supporting only static reports. More recently, vendors have broadened device support to include Apple and Android phones and to provide greater interactivity for sort, filter, change display type, refresh a report, location awareness, and offline or airplane mode.

With the release of the Apple iPad in 2010, large and small vendors alike have been racing to support the Apple iOS. The larger screen size is particularly ideal for dashboards. Smartphones have also improved with capabilities such as built-in GPS and barcode readers that BI vendors look to leverage.

The mobile market continues to be in a state of flux, with many companies moving to a bring-your-own-device (BYOD) policy. Corporate customers and BI vendors alike must navigate a fragmented market with as-of-now unclear industry standards.

In evaluating mobile solutions, BI Scorecard currently rates vendors with device-specific applications higher, as this gives users a better experience. As HTML5 gains market acceptance and functionality, this scoring may change as requirements and capabilities change. BI platform vendors must provide native Apple and Android device support, for both reports and dashboards, with device-based caching for offline or airplane mode to

receive an excellent score; with BlackBerry market share steadily declining, support for this device is no longer considered in summary scores but continues to be tracked in detailed scores.

Specialty dashboard vendors must provide native iPad device support with device-based caching to receive an excellent score. Vendors who use predominantly a Web app approach receive a limited score. While Web apps sometimes have broader BI functionality, the slower performance and limited use of the tablet and/or smartphone capabilities result in an inferior user experience.

## **Production Reporting**

“Production”-style reporting is the process of querying a transactional database, and then formatting it to create a document, perhaps an invoice, a bank statement, a check, or a list of open orders. When the reporting is not against the transaction system, it may be against an operational data store or detailed data within a data warehouse. IT usually develops these reports for the following reasons:

- The data source is an operational system that is not designed for ad hoc or analytic queries. Granting business users access to directly query the source system may impact transaction processing.
- Reports will be embedded within an application as part of a process or operational task.
- The information requirements are static, such as list-style reports or regulatory reports.

Within the industry, the terms production reporting and pixel-perfect reporting are sometimes used interchangeably; however, many business query tools support highly formatted and pixel-perfect reporting. For more discussion on this topic, consult the BI Market Segments Report.

## **OLAP**

OLAP provides interactive analysis by different dimensions (geography, product, time) and different levels of detail (year, quarter, month). For many users, OLAP has become synonymous with drill-down capabilities. Many BI vendors, though, will now provide drill-down capabilities without a full-blown OLAP engine or database on the back end. The differences in vendor OLAP capabilities are in the OLAP platform approach (MOLAP, ROLAP, DOLAP), in-memory approaches, and in the ability to handle analytic calculations (rank, percent of totals, this-year versus last-year variance analysis). In evaluating OLAP capabilities, it's important to distinguish between OLAP platform requirements and capabilities and OLAP user interface requirements and capabilities. With the rise of in-memory platforms, columnar databases, and analytic appliances, the need for a separate OLAP database purely for speed reasons should be challenged.

Among OLAP viewers, there continues to be significant variability in the intuitiveness of the drilling and pivoting, users' ability to create custom sets, ability to rank items, drill within a chart and the breadth of chart types, ability to drill and filter or to drill and expand.

## **Spreadsheet / Microsoft Office Integration**

It's often said that Microsoft Excel is unofficially the leading BI tool. Business intelligence teams have tried to ignore it and sometimes disable it, because it can wreak havoc on the one thing a data warehouse is supposed to provide: a single version of truth. Yet users are passionate about spreadsheet integration, and it is the preferred interface for power users. The issue for BI teams and businesses, then, is how to facilitate the integration while managing its use. In the past, integration was often limited to a one-time export of data from the BI tool to a disconnected spreadsheet. Nowadays, BI platforms allow Excel and the BI environment to work better together, perhaps even extending BI's reach. As well, Office integration has moved beyond just the Excel spreadsheet to include other Microsoft Office applications such as PowerPoint, Word, and Outlook. Better approaches to Microsoft Office integration allow end users to work from within the Office interface while maintaining a live connection to the BI environment; it is much more than a one-time export.

## **Architecture and Administration**

Administrative and architectural criteria span the entire set of BI product capabilities (in theory). For product suites that are not yet integrated, there may be multiple interfaces to administer the security, design the solution, and control the servers. Clearly, the more integrated the administration across the core BI platform (as well as EIM and analytic applications), the lower the cost of ownership. Administrative criteria center on several major topics: security, meta data design, development, and server administration. Architecture criteria relate to operating systems and platforms supported, depth and breadth of suite integration, and scalability features such as support for in-memory processing and Hadoop.

## **Cloud BI**

Support for cloud BI was previously tracked within the architecture category, but with its increased importance in the industry, in 2013, it was pulled into a separate summary level. Considerations here include the maturity of the BI capabilities, the robustness beyond simple file sharing, and the ability to refresh cloud and on-premise data sources.

## Vendor Strategic and Product Summaries – BI Platforms

The following sections highlight key strengths and challenges for leading vendors. BI Scorecard subscribers should consult individual vendor overview reports and product reviews for more in-depth analyses.

### MicroStrategy

MicroStrategy is one of the few publicly traded pure-play BI vendors. Its 2012 total revenues were just over \$594 million, a 6% growth rate slightly below the industry average. Its 2013 year-to-date revenues have been flat compared to 2012, which the company attributes primarily to poor sales execution. There have been a number of organizational changes to address this, including the appointment of a new company president.

MicroStrategy has one of the most integrated BI platforms and has continuously expanded its BI capabilities through innovation versus acquisition. A strategic point of differentiation versus other vendors is that MicroStrategy has remained focused on core BI, choosing not to expand into performance management or data integration. Already differentiating on its data scalability and answering more complex business questions, the company continues to improve upon these capabilities.

While the scalable, integrated architecture has been appealing to IT, more recent product improvements have been key selling points to business users including MicroStrategy Mobile with native iPad and Android support and most recently, Visual Insight, its visual data discovery solution for users to create their own dashboards. In Q3 2013, MicroStrategy released version 9.4 of Visual Insight which brings data blending, or the ability to mash together personal data sources along with enterprise data sources, a long-awaited feature. Data blending brings a degree of flexibility to MicroStrategy in which Tableau had been previously been better. Further pursuing the mainstream business user and repositioning itself for rapid deployment, MicroStrategy introduced MicroStrategy Analytics Desktop, a fully functional, free version of Visual Insight for individuals.

Dynamic Enterprise Dashboards is an extension to Reporting Services, an interface used for designing highly formatted reports. The MicroStrategy dashboards make extensive use of Flash and AJAX for animation, interactivity, and offline capabilities. Of all the BI vendors, MicroStrategy has been most aggressive in its evangelization of mobile BI, in both its messaging and product innovation. MicroStrategy takes a strong device-specific approach, supporting Apple and Android tablets and smartphones natively. With native device support, MicroStrategy Mobile provides device-based caching, multi-tasking, iOS charting, notifications, and data capture (via Transaction Services) on the iPad.

Through its OLAP Services option, MicroStrategy provides in-memory analytics to improve performance of existing reports or for explorations of personal data sets in Visual Insight. The multi-source option is well suited to companies with data stored in different data marts, but it is as an optionally priced model, in contrast to other BI platform vendors that provide the capabilities as a standard part of the BI server.

MicroStrategy Cloud was first released in July 2011, with partnerships with Informatica for data integration in the cloud and Teradata, ParAccel, and Netezza as the analytic databases. The cloud strategy now has two main editions: MicroStrategy Analytics Express (SaaS), which includes core BI capabilities, and MicroStrategy Cloud (PaaS),

which additionally includes Office and Mobile. With MicroStrategy Cloud, data can be left on-premise. In Q3 2013, MicroStrategy announced Express will be free for the first year, with no limitation on the number of users, and up to 1 GB of data storage per user.

**Key Strengths:** Industrial-strength OLAP; tightly integrated platform, with robust administrative features and interactive and appealing dashboards; device-based mobile with broad device support; full-featured cloud solutions.

**Key Challenges:** Mindshare in accounts where other BI vendors are already present; product differentiators in core BI modules are not obvious to customers until after deployment; complex pricing and packaging.

**Recent Events:**

- Q3 2013: MicroStrategy 9.4 released with data blending; MicroStrategy Analytics Desktop and Express offered as free versions.
- Q1 2013: MicroStrategy sells off Angel.com (cloud contact center), bringing greater focus to core BI and big data.
- Q4: 2012: MicroStrategy appoints new president, Paul Zolfaghari (formerly of ParAccel and VP of Sales at MicroStrategy), while co-founder and former president Michael Saylor remains as chairman of the board and CEO.

		BI Growth & Market Leadership	BI Breadth				Pricing & Packaging	Account Management	Support	BI Innovation	2013 YTD R&D Spend	2013 Services Revenue
			EIM	Performance Management	Analytic Applications	Predictive Analytics						
BI Platforms	SAP	●	●	●	●	●	●	○	●	●	14%	22%
	IBM	●	●	●	●	●	●	●	●	●	4%	27%
	Oracle	●	●	●	●	●	●	●	●	●	9%	12.5%
	Micro Strategy	●	-	-	-	●	●	●	●	●	18%	27%
Specialty	QlikTech	●	-	-	-	-	●	●	●	●	15%	9%
	Tableau	●	-	-	-	-	●	●	●	●	28%	32.5% <sup>M</sup>

Legend: ● Excellent ● Good ● Limited - Don't Compete in Segment  
M - Maintenance and services combined

		Self-Service BI						Information Delivery	Production Reporting	OLAP Viewer	OLAP Platform	Office Integration	Administration	Architecture	Public Cloud BI
		Ease of Use	Business Query	Visual Discovery	Dashboards	Interactive Reports	Mobile BI								
BI Platforms	SAP Business Objects														
	IBM Cognos														
	Oracle BI EE														
	Micro Strategy														
Specialty	QlikView		-			-		-	-	-	-	-			
	Tableau					-		-	-		-	-			

Legend: Excellent Good Limited Minimal/None

Weight of detailed criterion affects summary market scores. Customers are advised to apply their own importance weighting.

Specialty vendors are scored only in those segments in which they compete.

S=Scripted Demo P=Preliminary Score.