



Open Source BI

A Ventana Research Primary Research Study

White Paper



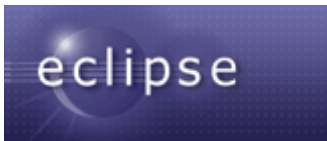
V E N T A N A
R E S E A R C H

Aligning Business and IT to Improve Performance

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San Mateo, California
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Ventana Research performed this research for a fee to examine Open Source BI. This document is based on our research and analysis of a quantitative survey administered via the Web to qualified respondents. Qualification was based on involvement with the use, deployment and maintenance of business intelligence systems.

This research was designed to investigate companies' attitudes and actions toward the use of open source BI systems. This research is not intended for use outside of this context and does not imply that organizations are guaranteed success by using only these results to improve overall corporate performance. Moreover, gaining the most benefit from any performance alignment technology begins with an assessment of your organization's unique needs.

We certify that Ventana Research wrote and edited this report independently, that the analysis contained herein is a faithful representation of our evaluation based on our research and our experience with performance management techniques, and that the analysis and conclusions are entirely our own.

Ventana Research

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EXECUTIVE SUMMARY

Open source software is more widespread today than ever before. In general, unlike companies that develop proprietary software and control it for profit, developers of open source software make its source code available for use and/or modification from its original design free of charge. After changes, users can distribute their versions of it for free. Open source is now taking market share from commercial software in key product categories, including operating systems (Linux), application servers (JBoss), Web servers (Apache), programming languages (perl and php) and databases (mySQL, PostgreSQL).

In the realm of business intelligence (BI) software, open source projects have emerged over the last 18 months. They include BIRT, JasperReports, Pentaho, Mondrian and Jreports. Some of these Open Source BI projects are supported and developed by software vendors such as Actuate, JasperSoft and Pentaho. The Open Source BI movement has reached a point at which many organizations are asking themselves whether they might use this software to replace custom-coded BI systems (such as reports or dashboards), commercial BI software deployments or both.

For open source projects, questions always arise about viability and adoption on a large scale. The following are particularly pertinent:

- Can Open Source BI software successfully challenge commercial BI software?
- What factors will affect success or failure for Open Source BI software?
- What is the current state of adoption for Open Source BI software?
- What are the future trends for adoption of Open Source BI software?
- Does the overall open source movement affect the success of Open Source BI software adoption?

This research report explores in depth and attempts to answer these and other pressing questions.

The data analyzed for the study comes from a quantitative survey Ventana Research conducted via the Web between November 2005 and January 2006. We solicited participants in roles having both IT and line-of-business (LOB) titles. Various managerial levels participated. Our aim was to get a broad overview of the intentions, perceptions and trends of the market regarding Open Source BI. Of 552 participants who entered the survey, 320 completed it. Of those who finished it, 67 percent of the respondents had IT roles and the remaining one-third had business roles. Most (72%) were from the United States. Industry representation was broad, with the greatest representation from a single industry – computers – being only 18 percent. In terms of size, 22 percent of participants were from large companies (having annual revenue of \$1 billion or more), 20 percent from midsize companies (\$100 million to \$1.0 billion in annual revenue) and 45 percent from small companies (having less than \$100 million in annual revenue); 13 percent did not declare their company's size.

Interest in and early adoption of Open Source BI is widespread and growing. Our research shows that 21 percent of organizations involved with Open Source BI have already deployed applications, 19 percent are in development and 43 percent are considering deployment. The findings suggest that the number of large deployments (more than 1,000 users) will grow two to three times within the next 12 months. The majority of respondents said they would deploy more Open Source BI projects within their organizations. Further, there was no "glass ceiling" limiting Open Source BI deployment; a majority also stated that there were no future projects for which they would not consider Open Source BI.

Users of current deployments of Open Source BI were mostly operational users and not midlevel managers or senior executives. Over time, though, we expect senior and middle management to use Open Source BI also, as organizations have time to broaden access to include these other types of users.

Open source BI technology is not yet a standard, in the sense of being the only BI platform for most organizations. Few respondent organizations had standardized on using a top-down plan for deployment, and the largest group evaluated Open Source BI use project by project. Yet numerically significant groups of respondents had deployed Open Source BI enterprise-wide, for extranet use or for mission-critical situations. Further, 84 percent of organizations that already had deployed Open Source BI intended further deployments, whereas only 48 percent of organizations still considering Open Source BI software intended further deployments.

Cost is a primary factor driving consideration of Open Source BI software. The largest segment (48%) of respondents expected Open Source BI to be half the price of equivalent commercial BI software; one-fourth expected it to cost the same as commercial BI software. However, the majority of respondents also stated that Open Source BI was sufficiently feature-rich to satisfy their requirements. At the same time, most of the respondents who were considering or using Open Source BI software already licensed commercial BI software. Ventana Research concludes that Open Source BI is used for different purposes than is commercial BI, has lower cost and potentially fewer features, but is no less adequate for users. It is noteworthy that slightly less than half of respondents were from small companies, which implies that open source BI adoption may be led by agile organizations that have fewer resources than larger companies.

It also is important to note that current and future users of Open Source BI software want it to continue to develop. Respondents cited improved security support, more data source adapters, improved administration and a metadata layer as leading features they wanted to see added. Organizations that had deployed Open Source BI also cited a need to render data in PDF files.

While rather small numbers of respondents said they had purchased support (18%), maintenance (17%), consulting (12%) or indemnification services (11%) from Open Source BI vendors, larger portions of each (28%, 26%, 24% and 14%, respectively) reported they intended to do so. In fact, organizations that had deployed Open Source BI software had a proportionately larger percentage of respondents that had purchased one or more of these services than those that were only considering Open Source BI. Ventana Research believes that these investments in supplementary services indicate a commitment by organizations to Open Source BI.

We also asked respondents how involvement with Open Source BI benefited them individually. The primary personal (as opposed to organizational) benefits that they credited to use or development of Open Source BI were fulfilling organizational objectives and improving the ability to meet management's needs. Respondents cited that open source community participation and improvement of their own personal marketability were much less important.

ABOUT THIS STUDY

Open Source BI technology is business intelligence software available to the market under an open source license. Some of this technology has been developed by individuals, and some has been developed by companies. As with other open source technology, Open Source BI is made available as a “project”; this means that the technology is under continual development, with contributions made by a community of developers (including the companies cited above).

Ventana Research undertook this study to determine the market for Open Source BI technology. Several Open Source BI software development projects have been launched within the last two years, including by the sponsors of this research study: Actuate, JasperSoft and Pentaho. In collaborating with Ventana Research, these organizations are seeking to understand the state and rate of change of Open Source BI adoption in detail.

This research also evaluates the business conditions and need driving demand for and migration to this new technology, as well as barriers to adoption. We assessed demographic patterns in respondents’ preferences for open source projects, examined users’ interest in services to support open source software (such as indemnification, maintenance, support and upgrades), and evaluated the state of corporate governance in acquisition and usage of open source software. We also identified the integration capabilities respondents deemed most important for Open Source BI software. And we ranked the impact of the following factors on adoption of Open Source BI:

- use with other open source technologies (for example, Eclipse, PHP and Java)
- completeness of the BI offering
- commercial backing (if any)
- size of the project for which Open Source BI software will be used
- size of the organization that will use Open Source BI
- testing and quality of Open Source BI software vs. commercial BI software
- license cost and total cost of ownership of Open Source BI vs. commercial BI
- ease of evaluating capabilities of Open Source BI vs. commercial BI
- modularity of the Open Source BI technology
- options to upgrade functionality via a commercial version of the Open Source BI.

Methodology

The data analyzed for this study comes from a quantitative survey Ventana Research conducted via the Web between November 2005 and January 2006. We solicited survey participation via e-mail, newsletter and Web-site invitations. We targeted roles with IT and line-of-business (LOB) titles. Various managerial levels participated. Our aim was to get a broad overview of the intentions, perceptions and trends of executives and managers at organizations regarding Open Source BI.

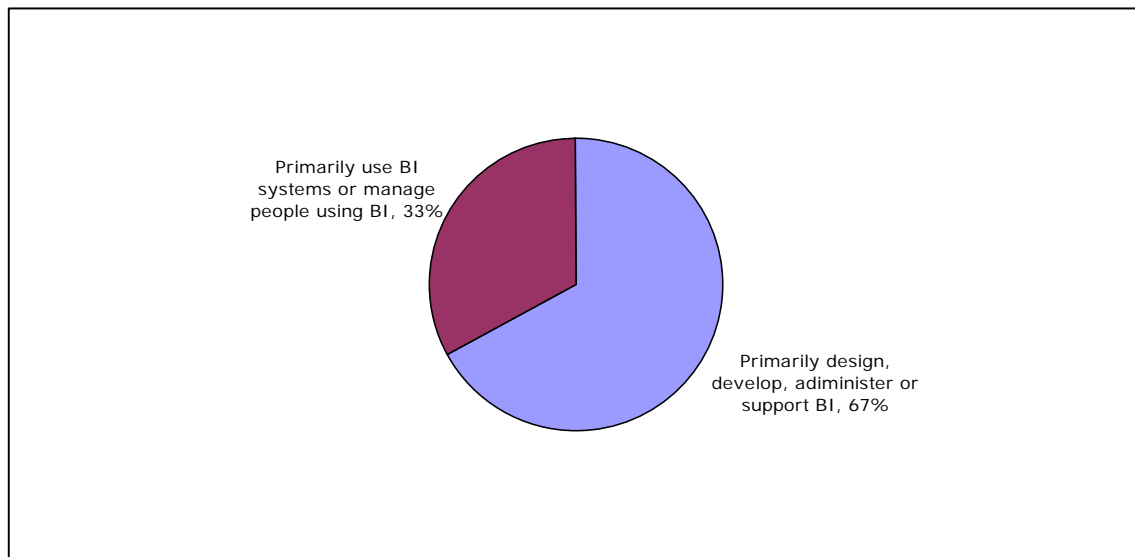
Solicitations were done by Ventana Research directly and by media publishers that presented invitations on our behalf on their Web sites and in their e-mail newsletters, as well as by sending targeted e-mail invitations. They are businessintelligence.com, datawarehouse.com, Directions Magazine, Intelligent Enterprise and TechTarget. We targeted roles with IT and line-of-business (LOB) titles. Both Ventana Research and its media partners identified above originated the e-mail blasts. We offered the following incentives to respondents who completed the survey:

As a token of thanks for your time, the first 50 qualified participants will receive a \$5.00 Starbucks gift certificate. All qualified participants will receive a \$125.00 quarterly membership to the Ventana Research Performance Management Community and a research report on the findings and will be entered in a drawing for an iPod Nano.

Demographics

The following charts depict detailed demographic data for respondents involved with Open Source BI who completed the survey. A total of 2,837 Web users clicked through to the survey. Of these, 553 were directed to the question thread for Open Source BI. Among them, approximately 232 were from midsize or large businesses. Of the 553 respondents that started the question set concerning BI applications, 288 completely answered all questions. Abandonment increased linearly throughout the set of questions.

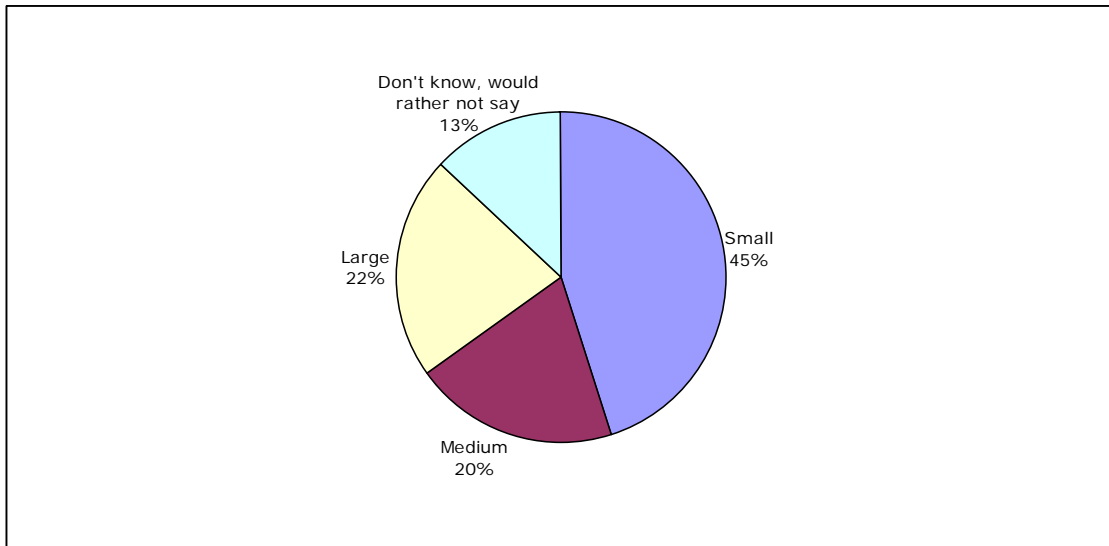
Figure 1
Respondents by Role



Source: Ventana Research

Respondents fell into two basic categories, users and those providing support. Two-thirds of those completing the survey (67%) indicated they work in IT and thus play a support role, while the remaining third of the final qualified survey population – the users – were business managers and executives.

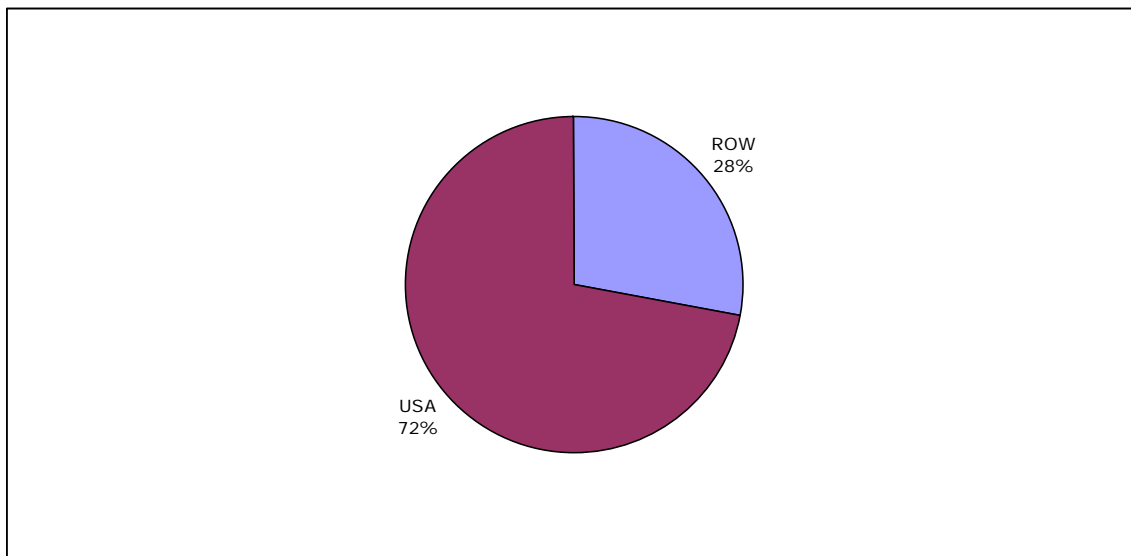
Figure 2
Respondents by Company Size



Source: Ventana Research

Of the respondents, 22 percent work for Global 2,000 companies, and 20 percent were with midsize businesses. The remainder (45%) were from small companies. Ventana Research defines “medium-size business” as one having annual revenue between \$100 million and \$1 billion and “small-size business” as one having annual revenue up to \$100 million.

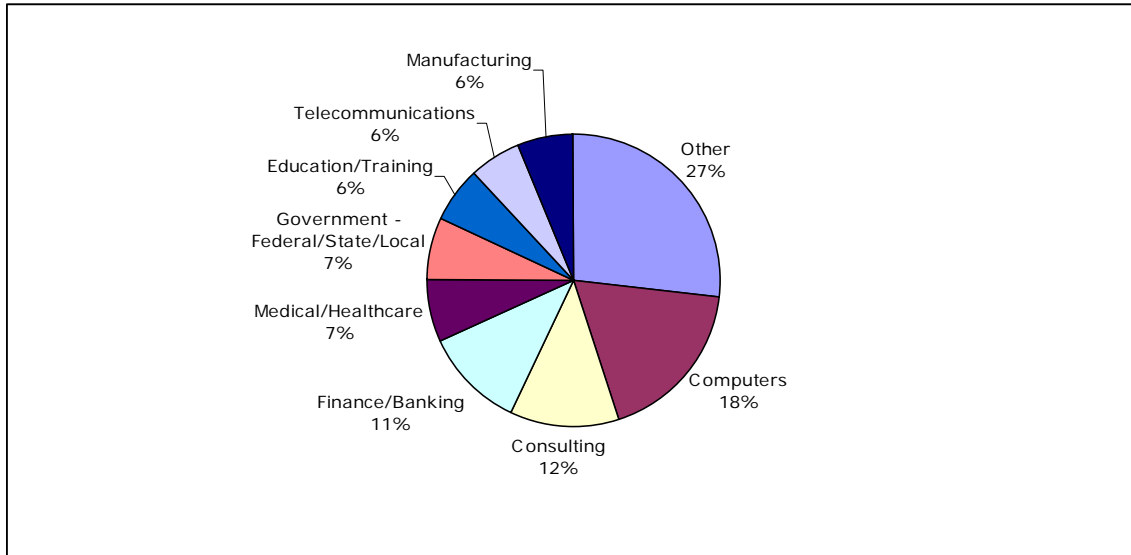
Figure 3
Respondents by Geographic Region



Source: Ventana Research

North America (72%) was by far the largest geographic segment represented in the support group. Other support respondents (28%) came from the rest of the world (ROW).

Figure 4
Respondents by Industry



Source: Ventana Research

Industry representation was broad, but no industry had a large enough sample to analyze individually.

KEY INSIGHTS

Note: Parenthetical references beginning with Q indicate that the percentages noted are derived from responses to that question.

Interest in and early adoption of Open Source BI are widespread and growing.

Open Source BI has widespread visibility, with 83 percent of survey respondents having deployed, currently deploying or considering deployment. Deployment sizes are predominantly small (up to 200 users; 79%). However, when these projects are fully deployed, almost one-quarter (24%) will have between 200 and 1,000 users, and more than one-third (37%) will have from 1,000 to more than 20,000 users. Further, the number of deployments larger than 200 users will grow 100 percent or more when final deployment occurs (Q5). The fact of large deployments indicates that companies are not dabbling in Open Source BI but building enterprise-wide – albeit application-specific – deployments. For many companies, the first deployments are just the beginning.

Adoption of Open Source BI as a standard is still in an early phase.

Despite all of this adoption, it's clear that Open Source BI has a long way to go before being an enterprise standard; 49 percent of the respondents stated that they evaluate Open Source BI use project by project (Q9). Yet 20 percent said that their organizations had a top-down plan approved by upper management for deployment throughout the enterprise for open source adoption. And organizations with full deployments and top-down deployment plans were twice as common as organizations with top-down plans that were only considering Open Source BI. This finding suggests that as more deployments are completed, top-down plans for adoption will increase, moving Open Source BI closer to being a standard, commonly used BI technology.

Cost is important – but not everything.

Some respondents considered the lower cost of licensing Open Source BI software versus commercial BI (16%) or custom-coded applications (12%) the top reason to consider Open Source BI software (Q8). Yet even more (20%) of the respondents cited as their leading reason for considering Open Source BI software the interest in it shown by an internal opinion leader – a lead developer, for example, or a systems architect. Easy support played a role as well: Organizations that had completed deployment were about twice as likely as organizations still considering it to cite ease of supporting users or advocacy by an opinion leader as a primary consideration factor. The data also showed a reverse trend for cost as a leading selection factor; that is, cost diminished as a leading factor once organizations had experience with the technology. We conclude that low license costs may get Open Source BI software through the organization's door, but its functionality is a larger factor in continuing or expanding its use.

Users want vendor support for Open Source BI.

Respondents felt that vendor support of OS BI projects was important: 20 percent said that was extremely important, 35 percent said very important, 24 percent important and only 3 percent not important (Q23). Companies do not want to be left on their own with Open Source BI technology.

As deployment progresses, demand for vendor services increases.

Even so, only a fraction of the respondents have purchased support (18%), maintenance (17%), consulting (12%) or indemnification (11%) services for their Open Source BI projects (Q7). Significantly more said they plan to purchase these services, though: support (28%), maintenance (26%), consulting (24%) and indemnification (14%). Respondents who had deployed Open Source BI were twice as interested in purchasing these services as those who were only considering Open Source BI. Thus, as systems are deployed, needs for services become more apparent and drive acquisition of them.

Users plan to deploy more Open Source BI.

Nearly two-thirds (65%) of respondents indicated that they would deploy more Open Source BI systems, whereas only 4 percent said they would not (Q6). Similarly, 51 percent said there were no future BI projects from which consideration of Open Source BI would be excluded, while 12 percent said they would not consider Open Source BI for some BI projects (Q10). Systems deployed were largely to assist operational users (37%) rather than executives (19%) or senior executives (23%; Q13). When these respondents launch future deployments, they'll add seats for middle and senior managers. This operational use of Open Source BI software competes directly with operational use of commercial BI, a target market for many commercial BI vendors today. Operational deployment of BI technology is often mission-critical, supports large user communities and is strategically important. The commitment to Open Source BI for operational use leads us to believe that Open Source BI is not a marginal or a passing technology, but is instead a technology approach upon which businesses are placing significant bets.

Companies are deploying Open Source BI widely, even outside the enterprise.

Java (52%) was the leading technology for development projects in which respondents used or considered Open Source BI software (Q21). (This is not surprising, as three of the leading Open Source BI technologies are written in Java.) Other technologies mentioned included Eclipse (24%), php (13%), perl (6%) and python (3%). For applications in which Open Source BI was currently being used, 22 percent of respondents said it was deployed broadly within their enterprise (Q11). This implies that they trust the technology enough to deploy it across a large part of their business, touching many users. Nineteen percent of respondents cited their intention to deploy Open Source BI to users external to their organization. This also indicates a significant amount of trust, as the technology represents the organization for those external users. Nine percent of respondents said it was used within software that would be resold. As to the importance of the applications in which Open Source BI was included, 16 percent said they were mission-critical applications. The range of use revealed in the study indicates that Open Source BI use is not restricted to any particular part of or role within an organization. Of note, 12 percent to 20 percent more of the organizations that had completed deployments cited broad deployment, external, customer-facing applications and mission-critical applications than of the group of organizations only in the consideration phase. This indicates success and suggests greater uptake of Open Source BI.

Users expect Open Source BI to cost less than commercial BI.

We asked respondents how much less the total cost of Open Source BI would need to be than commercial BI to get them to use it. While 27 percent of the respondents stated that they required no cost reduction, 46 percent said they would require a 50 percent lower cost (Q12), indicating an expectation that Open Source BI software cost less than commercial BI software. However, another view of the result is that those 46 percent of respondents feel

that Open Source BI software provides only half the current value of commercial BI software. This expectation of a smaller price tag is significantly lower for organizations that have deployed Open Source BI software than for organizations only considering it, suggesting that experience with the technology increases appreciation of it. Ventana Research believes that this expectation of lower cost will continue, fueled by awareness that open source has no licensing cost.

Open Source BI has enough features for most users.

A majority (54%) of the respondents stated that Open Source BI does not need to have more features (Q16). While 38 percent said the opposite, this result, when combined the view of pricing cited above, indicates that Open Source BI currently occupies a lower-cost, fewer-function niche than commercial BI. When queried about why they acquired Open Source BI, respondents most often said (23%) their leading reason was that it was a complete BI suite that included reporting, ad-hoc query, OLAP, dashboards and other functionality (Q14). This response supports the view that today's Open Source BI alternatives offer enough functionality to meet many organizations' BI needs.

However, respondents cited a number of important improvements they wanted to see. Tops among them were improved security support (16%), more data source adapters (16%), improved administration (13%) and a metadata layer for query development (11%; Q15). How these needs are prioritized evolves with experience with the technology. Organizations that had already deployed Open Source BI placed less importance on completeness of the BI suite but more upon GUI development, open report file templates and PDF file support. Organizations that deployed Open Source BI were more satisfied with its completeness than organizations only considering it.

Open Source BI is being adopted by organizations that already have commercial BI.

All organizations responding to this study used some commercial BI product(s). The product vendors most often cited were Business Objects (13%), Microsoft (13%), Oracle (8%) and Cognos (7%; Q18). When queried about satisfaction with their commercial BI software, as range of respondents from 39 percent to 69 percent depending upon attribute said they were satisfied or very satisfied with it. A minority of respondents did cite dissatisfactions. The most common were maintenance expenses (29% dissatisfied or very dissatisfied), license expenses (27%) and software customizability (20%).

Against this satisfaction baseline, respondents were asked to compare the capabilities of Open Source BI with those of similar commercial products. Cost and openness were two capabilities in which Open Source BI held a significant advantage over commercial BI. Predictably, 59 percent stated that cost of ownership was better or significantly better than with commercial BI (Q19); clearly, the market perceives that Open Source BI is a less expensive deal. A similar number – 58 percent – stated that Open Source BI was more capable of openness and flexibility than was commercial BI software. When it came to the other categories (reliability, metadata support, manageability, scalability, performance and ease of use), Open Source BI and commercial BI were rated roughly equivalent – each had a slight advantage in three of those six categories. Organizations that had already deployed Open Source BI thought that it was more capable than did organizations only considering it.

It is highly unlikely that many organizations will throw out their commercial BI investments, especially if the investments are significant, and replace them with Open Source BI. On the other hand, for new BI projects where cost and flexibility are significant factors and no

predisposition toward an existing commercial BI investment exists, Open Source BI software may well be selected over commercial equivalents.

A complete Open Source BI product has other positive qualities.

Respondents were queried about factors other than functionality that would contribute to adoption of Open Source BI. The top-ranked were a large and active user community (22% of respondents), the quality of the software code (21%), affiliation with other popular open source projects (20%) and adoption by large enterprises (16%; Q17). So just being highly functional is not sufficient. Users also want Open Source BI to have an active community, be of high quality and be part of the larger open source environment.

We see these other considerations as proxies for Open Source BI software's longevity and rate of maturation. Organizations and their IT representatives want to choose software products they see as winners that will prove their choice was right. While many an Open Source BI project is considered because an influential individual within the organization endorses it, the software must be a success, both internally and in the market, to merit further adoption.

To users, personal wins matter less than organizational gains.

One of the primary premises of the open source model is that individuals will be inspired to contribute voluntarily to a community project. Rationales for doing so range from personal fame to a sense of shared achievement to plain old getting the job done. Ventana Research queried respondents concerning the personal benefits they realized from using Open Source BI. They cited having low-cost productivity tools (44%) and being better able to meet their employer's requirements (24%) significantly more often than other reasons; for example, opportunity to collaborate received only 7 percent, improved personal marketability the same, and contributing to open source community a mere 3 percent (Q22). We conclude that today's open source users and developers see the technology more as a means of meeting organizational objectives and less as a means of meeting personal objectives. Thus, adoption of Open Source BI will be driven neither by selfless community involvement nor by personal enhancement, but rather by business objectives.

WHAT TO DO NEXT

Choosing an Open Source BI product

The results of this research show that most organizations involved with Open Source BI expect support from a commercial enterprise involved with advancement of the technology. Ventana Research believes that this will become more important as organizations commit more resources to Open Source BI. We therefore urge that when choosing an Open Source BI product companies consider the availability of support from vendors as well as the developer community.

In addition, community support should be evaluated in terms not just of the frequency of downloads but of other, more important factors. Our survey respondents reported that popularity, as indicated by download volume, was not a key factor for choosing an Open Source BI product. More important were the size of the community actually using the technology and the activity associated with it. Characterizing this is difficult at the moment because statistics on usage are sketchy. This will change with time, and we expect to quantify this in future research studies. However, factors such as timeliness of response to questions in chat groups, participants' organizational titles and employers and frequency of postings in user groups can serve as proxy indications of a community's vibrancy.

Study respondents also cited quality of code and affiliation with other open source projects as important. The best ways to determine the quality of code are by investigating customer references and performing evaluations in-house. We advise that vendors be asked about their quality assurance processes, including automation and code coverage. Affiliation with other projects may be relevant if the possibility of integrating them with existing systems exists. Review support within Open Source BI for other open source project-specific features that could offer attributes such as improvements in system performance improvement and ease of use, reductions in cost and risk and overall increases in productivity for users and/or developers.

Operational Use of Open Source BI

The fastest-growing segment of the business intelligence market is Operational BI. Organizations now see business intelligence technology as critical for delivering information that their front-line workers need for daily decision-making. Technical challenges related to this use of BI are different than for departmental or management use. User communities within corporations can be quite large, in the thousands or tens of thousands. These users generally are not technically adept and require their BI systems to meet their needs without a lot of fuss. Deployment of operational BI most often occurs in the form of a highly customized system that is usually described as an "application." These customizations emphasize intuitive ease of use, no need for training, guaranteed performance and ready access.

Open Source BI is now in use as a platform for Operational BI applications. Organizations considering it for operational decision-making should not use traditional departmental or managerial BI evaluation criteria, but instead should reframe their evaluation for the specific needs of operational deployment. The lead evaluators should be less sophisticated operational users rather than power users. However, developers should work in concert with these operational users to assure that the technical capabilities they provide match the operational needs.

Standardization of BI and Open Source

Many IT organizations now seek to reduce support costs for business intelligence technology by standardizing and consolidating their BI technology portfolio. This has both the advantages and limitations of a one-size-fits-all approach. Certainly cost reduction via rationalization of technology infrastructure is a worthy strategy. But organizations should also consider its impact on the end users, especially if their needs vary widely, and the potential sacrifices of useful product features to pursue a rationalized BI technology portfolio.

We recommend that for the near term organizations seeking to standardize on one or a few BI technologies to reduce cost and streamline IT responsiveness balance their use of commercial BI and Open Source BI.

TCO for Open Source BI

A commonly held belief is that Open Source BI has a lower total cost of ownership than commercial BI. The results of this study support that notion. Nevertheless, just as with selecting a commercial BI platform, Ventana Research recommends “running the numbers” for the total cost of ownership of Open Source BI. Since this calculation will be done for a future project, estimates should be made for areas of specific risk. These include:

- transition costs if the organization decides to switch technologies
- maintenance, support and consulting costs from vendor(s) supporting the Open Source BI project
- costs for license management related to Open Source (such as indemnification)
- costs to build required functionality not found in the Open Source BI software
- costs to train developers, administrators and users on the new software.

Ventana Research recommends applying a structured approach that assures equivalent comparisons between alternative approaches to deploying BI (whether Open Source or commercial).

Upgrading to a Commercial Version of Open Source BI

The decision to upgrade to a commercial version of Open Source BI should be based on a need for particular features or functions and on return on investment. Commercial vendors of Open Source BI may be strongly motivated to continue to develop their products, but they often make independent decisions as to which capabilities they upgrade. As stated above concerning Operational BI, organizations should evaluate commercial upgrades based on the value they provide in improvements in system performance and ease of use, decreases in costs and risks and increases in productivity.

Capabilities to Evaluate Carefully

Our research showed that the primary areas where respondents thought additional development was needed were:

- security integration
- data source adapters
- administrative capabilities
- metadata management and use
- dashboard capabilities.

Organizations should apply a weighted approach to prioritizing their own needs against the existing capabilities of Open Source BI systems. For additional needed functionality, determine whether it can be easily developed on the fly and estimate the cost of that development.

HOW VENTANA RESEARCH CAN HELP

Competitive and profitable companies in the next decade will focus their business and IT investments on improving performance. Business Intelligence (BI) is a critical component to provide an organization the information required to optimize business results. There are challenges ahead. Business user demands for timely and relevant information are increasing while IT resources are constrained. IT portfolios are consolidating, the vendor landscape is more fluid than ever and strict IT governance requires a stated business return and TCO calculation for approval of each technology investment. To address these challenges, you need to leverage your resources effectively and build a solid BI strategy that aligns people, process and technology.

Ventana Research can help. We are the leading Performance Management research and advisory services firm. Our analysts and consultants have extensive BI experience combined with an ongoing research foundation into business and technology trends, vendor solutions and best practices. Serving as an objective extension to your team, we can help you create a roadmap addressing business and technology issues to improve performance.

Through our **Business Intelligence Strategy and Technology Assessment** service, we will:

- Profile your business user community based on their role, level, and process ownership (or business activity) within the organization.
- Assess challenges and desired improvements to current activities as they relate to performance improvement initiatives.
- Evaluate your current BI technology investments.
- Perform a TCO audit to capture all related costs to existing BI investments.
- Conduct a gap analysis and build a targeted, profile-based BI strategy based on the desired performance improvements and the associated business user community.

You'll Get:

- **BI Strategy and Roadmap** – Your BI Strategy will serve as a foundation to accelerate and ensure the success of ongoing, multi-year initiatives.
- **Industry Benchmarks and Best Practices** – We will deliver education through industry business and technology benchmarks and help you leverage best practices like project assessment and TCO.
- **Increased User Adoption** - We will help you align profile-based business requirements with the appropriate BI technology to enable organizational adoption of technology.
- **Decreased Project Risk** – Through our understanding of the vendor landscape and a proven methodology for mapping requirements with solutions, we will streamline the vendor selection process to guarantee optimal results.
- **Reduced Costs and Increased ROI** – By instituting a rigorous methodology to align your people, processes and technology you gain assurance you'll get it right the first time and decrease costs while reaping the benefits of BI for an increased ROI.

This service is customizable to meet your specific needs. Please contact us to learn more about Ventana Research proven methodologies, research and results at clientservices@ventanaresearch.com.

About Ventana Research

Ventana Research is the leading Performance Management research and advisory services firm. By providing expert insight and detailed guidance, Ventana Research helps clients operate their companies more efficiently and effectively. These business improvements are delivered through a top-down approach that connects people, process, information and technology. What makes Ventana Research different from other analyst firms is a focus on Performance Management for finance, operations and IT. This focus, plus research as a foundation and reach into a community of over two million corporate executives through extensive media partnerships, allows Ventana Research to deliver a high-value, low-risk method for achieving optimal business performance. To learn how Ventana Research Performance Management workshops, assessments and advisory services can impact your bottom line, visit www.ventanaresearch.com.