

Managing the TCO of Business Intelligence

A Roadmap to Capabilities, Licensing and Deployment Methods

February 2008

Executive Summary

As companies continue to prioritize Business Intelligence (BI) initiatives, they are also becoming more concerned about the associated costs, and the impact that these costs can have on the ultimate success or failure of BI projects. Many executives have become wary of hidden costs based on prior experiences with data warehousing and other enterprise application initiatives, and are putting BI vendors to the test to disclose as much information as possible about expected costs associated with their solutions. This report has been written to provide end-user organizations with an understanding of all of the cost factors associated with BI initiatives, and how Best-in-Class organizations - those which have achieved the highest performance toward managing Total Cost of Ownership (TCO) - are addressing these challenges.

Best-in-Class Performance

Aberdeen used three key TCO performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations:

- **On-budget completion of BI projects.** 64% of Best-in-Class companies achieved improvement of on-budget completion of BI projects in the past 12 months, versus 14% of Industry Average companies and 3% of Laggards
- **Cost-per-user of BI applications.** 91% of Best-in-Class companies experienced a decrease in the cost-per-user of BI applications during the past 12 months, versus 20% of Industry Average companies and 1% of Laggards
- **Time-to-completion of BI projects.** 37% of Best-in-Class companies achieved average BI project time-to-completion of seven days or less during the past 12 months, versus 20% of Industry Average companies and 17% of Laggards

Competitive Maturity Assessment

Survey results show that the firms enjoying Best-in-Class performance shared several common characteristics:

- Best-in-Class companies are able to provide BI capabilities to more end-users. This is the top business pressure driving Best-in-Class companies to focus attention on managing total cost of ownership.
- Best-in-Class companies are 40% more likely than all other companies to have improved resolution of end-user support issues with existing support staff. This capability assists in lowering the cost of headcount associated with BI implementations.
- Best-in-Class companies are 43% more likely to have improved BI system up-time than Industry Average and Laggard companies

Research Benchmark

Aberdeen's Research Benchmarks provide an in-depth and comprehensive look into process, procedure, methodologies, and technologies with best practice identification and actionable recommendations.

"We have one of everything today, including several traditional BI systems that were brought in as best-of-breed solutions to address specific departmental projects. This has been driven by end-user groups within the organization who purchase silver bullet solutions for individual problems at the operational level. I continually find-out about all of the little projects that have started without my knowledge, while I'm simultaneously trying to rein them in and formulate an enterprise strategy. An enterprise-wide approach will need to happen sooner rather than later as competitors are also beginning to become aware of the problem of stove-piped BI and the necessity to achieve enterprise-wide BI capabilities."

~ Senior Enterprise Architect,
Large U.S. Airline

combined. This reduces the overall cost of ownership and associated on-going support and maintenance costs.

Required Actions

In addition to the specific recommendations in Chapter Three of this report, to achieve Best-in-Class performance, companies must:

- **Understand the full range of cost factors** that can increase the total cost of ownership of BI implementations. This report provides a comprehensive set of prioritized cost drivers that Best-in-Class companies are addressing.
- **Develop formal processes to address the management of costs related to BI implementations.** This involves activities such as the creation of a committee to identify and prioritize end-user needs, and the establishment of training programs to ensure end-user adoption and effectiveness with new BI tools and interfaces.
- **Seek information about new licensing, deployment, and technology capabilities** from your BI vendors. While current implementation costs may be manageable, new approaches and technologies may help you lower on-going costs even further.

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Table of Contents

Executive Summary.....	2
Best-in-Class Performance.....	2
Competitive Maturity Assessment.....	2
Required Actions.....	3
Chapter One: Benchmarking the Best-in-Class	6
Business Context	6
The Maturity Class Framework.....	8
The Best-in-Class PACE Model	9
Best-in-Class Strategies.....	9
Chapter Two: Benchmarking Requirements for Success	11
Competitive Assessment.....	12
Capabilities and Enablers.....	13
Chapter Three: Required Actions	24
Laggard Steps to Success.....	24
Industry Average Steps to Success	25
Best-in-Class Steps to Success.....	25
Appendix A: Research Methodology.....	27
Appendix B: Related Aberdeen Research.....	29
Featured Underwriters.....	Error! Bookmark not defined.

Figures

Figure 1: Technologies That Will Have the Greatest Impact on Business over the Next Two to Five Years.....	6
Figure 2: Top Pressures Respondents are Experiencing When Managing BI Total Cost of Ownership.....	7
Figure 3: Top Three Strategic Actions for Managing the TCO of BI	10
Figure 4: Automation of Report Generation.....	13
Figure 5: Best-in-Class are Formalizing a Corporate BI Culture.....	14
Figure 6: Existence of End User Survey or Polling Capability.....	15
Figure 7: Ability to Measure and Track BI Project Costs vs. Budget.....	15
Figure 8: Direct Cost Criteria Priority Ranking - Rated as "Critical" at the Time of Purchase.....	16
Figure 9: Indirect Cost Criteria Priority Ranking - Rated as "Critical" at the Time of Purchase.....	17
Figure 10: Ongoing Cost Criteria Priority Ranking - rated as "Critical".....	17
Figure 11: Best-in-Class "Back-end" BI Technology Components.....	18
Figure 12: Best-in-Class "Front-end" BI Technology Components.....	19
Figure 13: Best-in-Class Traditional Licensing Methods	20
Figure 14: Best-in-Class Volume-based Licensing Methods	20
Figure 15: Best-in-Class Subscription-based Licensing Methods.....	21
Figure 16: Best-in-Class Open-source Licensing Methods.....	22

Figure 17: Planned Licensing Approaches for New BI Implementations in the Next 12 to 24 Months22
Figure 18: Best-in-Class - Current Deployment Methods23

Tables

Table 1: Top Performers Earn Best-in-Class Status..... 8
Table 2: The Best-in-Class PACE Framework 9
Table 3: The Competitive Framework..... 12
Table 4: The PACE Framework Key28
Table 5: The Competitive Framework Key28

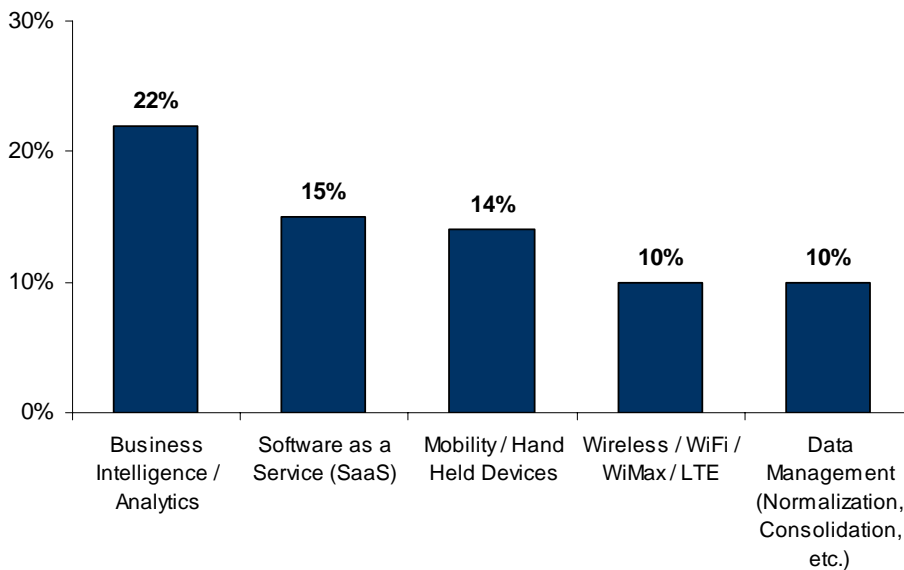
Chapter One: Benchmarking the Best-in-Class

Business Context

As companies continue to prioritize Business Intelligence (BI) initiatives, they are also becoming more concerned about the associated costs, and the impact that these costs can have on the ultimate success or failure of BI projects. As a result, CIO's and business managers are investigating new licensing, implementation, delivery, and ongoing support options for BI solutions. Many executives have become wary of hidden costs based on prior experiences with data warehousing and other enterprise application initiatives, and are putting BI vendors to the test to disclose as much information as possible about the expected costs associated with their solutions. This report has been written to provide end-user organizations with an understanding of all of the cost factors associated with BI initiatives, and how Best-in-Class organizations - those which have achieved the highest performance toward managing their total cost of ownership - are addressing these challenges.

BI initiatives continue to be a top strategic activity among companies across all industries and geographies. Research conducted in December 2007 through January 2008 from over 4,300 companies found that BI is identified as the most important technology impacting businesses in the next two to five years (Figure 1).

Figure 1: Technologies That Will Have the Greatest Impact on Business over the Next Two to Five Years



Source: Aberdeen Group, February 2008

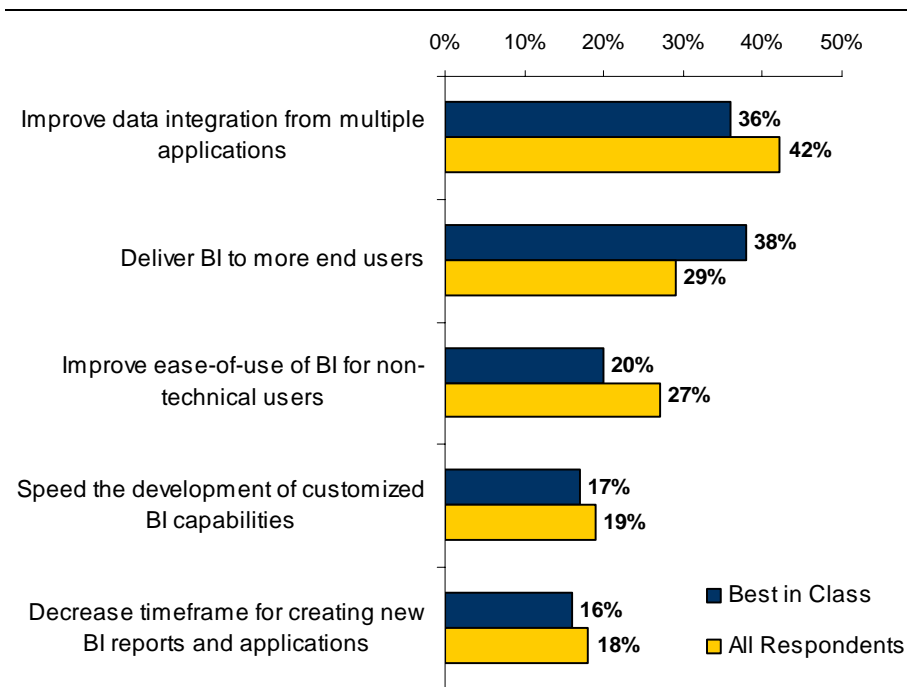
Fast Facts

- ✓ **44%** of respondents indicate that end-users have not provided well-defined information needs as a primary reason for cost overruns
- ✓ **47%** of respondents reveal that a lack of IT resources and bandwidth are a top concern related to cost

While BI holds the top spot in terms of impact, adoption still remains a challenge for many companies, particularly those that do not have the internal IT resources to tackle the complexities involved with implementation and support. This may be one of the reasons why Software as a service (SaaS) is the number-two technology that will impact business.

The top business pressures causing companies to stand up and take notice of the costs associated with BI, as identified by survey respondents, are very specific (Figure 2).

Figure 2: Top Pressures Respondents are Experiencing When Managing BI Total Cost of Ownership



Source: Aberdeen Group, February 2008

At the top of list are costs associated with data integration from multiple applications. Interviews conducted with several survey respondents revealed that this single factor alone *can* dictate the success or failure of a BI initiative, and can jeopardize the entire investment if the intricacies of data extraction from data sources, complex data manipulations, calculations, and meta-data definitions cannot be resolved.

Delivering BI to more end users is the second most important pressure overall, and is rated as the top pressure among Best-in-Class companies. This pressure is related to both the costs of supporting additional end users, as well as user adoption of BI technologies. A lack of adoption certainly leads to a difficult situation where determining TCO becomes a cloudy exercise. Delivering BI capabilities to a broader audience of non-technical users implies cost factors such as:

- License costs (if applicable - per user, per CPU utilization, per data volume metric, etc.)
- Ongoing user support to a geographically dispersed user base
- Ongoing software maintenance and technical support (provided by the software vendor, third-party, or internal resources)
- User training requirements
- Computing and networking infrastructure to handle the reporting and data query load associated with an increasing number of users

A detailed analysis of these cost factors is included in Chapter Two.

The Maturity Class Framework

Aberdeen used three key TCO performance criteria to distinguish the Best-in-Class from Industry Average and Laggard organizations:

- **Time-to-completion of BI projects.** Actual time from initial software installation to deployment of first deliverable to end-users (not pilot users) - of all BI projects in the past 12 months
- **On-budget completion of BI projects.** Percent of BI projects that are completed below, at, or above planned budget in the past 12 months
- **Cost-per-user of BI applications.** Percentage increase or decrease in cost-per-user during past 12 months

Table 1: Top Performers Earn Best-in-Class Status

Definition of Maturity Class	Mean Class Performance
Best-in-Class: Top 20% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 37% achieved average BI project time-to-completion of seven days or less during the past 12 months ▪ 64% achieved improvement of on-budget completion of BI projects in the past 12 months ▪ 91% experienced a decrease in the cost-per-user of BI applications during the past 12 months
Industry Average: Middle 50% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 20% achieved average BI project time-to-completion of seven days or less during the past 12 months ▪ 14% achieved improvement of on-budget completion of BI projects in the past 12 months ▪ 20% experienced a decrease in the cost-per-user of BI applications during the past 12 months
Laggard: Bottom 30% of aggregate performance scorers	<ul style="list-style-type: none"> ▪ 17% achieved average BI project time-to-completion of seven days or less during the past 12 months ▪ 3% achieved improvement of on-budget completion of BI projects in the past 12 months ▪ 1% experienced a decrease in the cost-per-user of BI applications during the past 12 months

Source: Aberdeen Group, February 2008

The Best-in-Class PACE Model

Establishing the ability to manage the TCO of BI initiatives and implementations requires a combination of strategic actions, organizational capabilities, and enabling technologies. Best-in-Class respondents have identified the top pressure relating to total cost of ownership - the need to deliver BI to more end users - as well as the strategic and tactical actions they are taking to alleviate this pressure (Table 2).

Table 2: The Best-in-Class PACE Framework

Pressure	Actions	Capabilities	Enablers
<ul style="list-style-type: none"> ▪ Need to deliver BI to more end users 	<ul style="list-style-type: none"> ▪ Understand end-user requirements for BI ▪ Identify data sources for BI applications ▪ Define business rules and calculations required for reports and analytic views ▪ Establish a TCO model for measuring costs of current or planned projects 	<ul style="list-style-type: none"> ▪ Data integration and cleansing ▪ Ability to measure and track project costs versus budgets ▪ Automation of report creation ▪ Committee for obtaining end-user and corporate BI requirements ▪ BI capability imbedded with ERP, CRM, or other enterprise applications ▪ Formalized end-user polling or surveys 	<ul style="list-style-type: none"> ▪ Traditional BI (historical data) reporting and analysis tools ▪ Data integration tools ▪ Data cleansing tools ▪ BI data modeling or cube building tools ▪ Dashboards ▪ Operational BI (real or near-real time) reporting and analysis tools ▪ Meta data management tools ▪ Scorecards ▪ Automated alert reporting ▪ Collaboration tools (i.e. integrated IM, commenting, etc. within reporting)

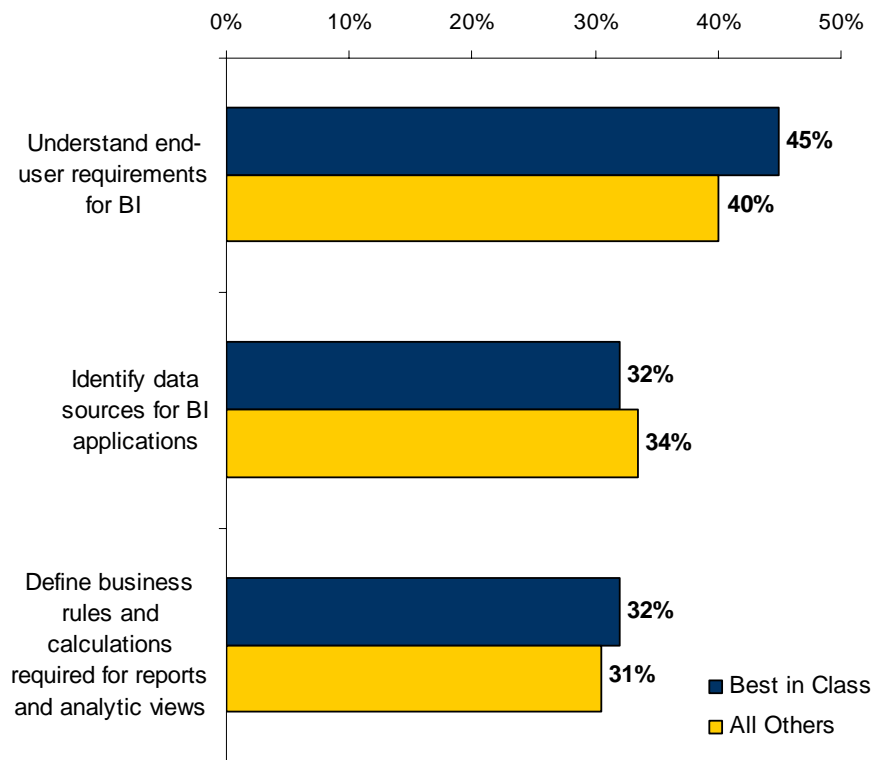
Source: Aberdeen Group, February 2008

Best-in-Class Strategies

As stated earlier, Best-in-Class respondents have identified the need to deliver BI capabilities to more users as the top pressure driving focus and attention on the TCO of BI solutions. This is also supported by findings within Aberdeen Group's July, 2007 study [Delivering Actionable Information to the Enterprise](#) in which respondents identified two main challenges dealing with user expansion as: a lack of BI skill sets and difficulty with data integration for BI applications. Now, just seven months later, Best-in-Class respondents have once again stressed the importance of scaling access to BI for more end users as a top priority. While this has been a consistent business pressure, it has also been identified with several challenges, cost of ownership being foremost in the minds of end users today.

In order to combat this challenge, respondent organizations are implementing strategies that are focused on improvement of up-front analysis and planning for BI implementations (Figure 3).

Figure 3: Top Three Strategic Actions for Managing the TCO of BI



"My role is to act as a liaison between the IT and business management teams within our company, and determine how to improve the delivery of business intelligence and operational analytics... We have several different enabling technologies, and determining the end-user needs can be tricky. It is definitely the most important aspect of the development process."

~ Business Consultant, Large Apparel Company

Source: Aberdeen Group, February 2008

Aberdeen Insights — Strategy

While all respondents agree that a three-fold focus - on user requirements, data management, and business metric definitions - are critical, Best-in-Class organizations are 13% more likely to prioritize understanding end-user requirements for BI as the foremost strategic action they are taking. This highlights the importance of planning for BI implementations based on user requirements as a primary cost management factor. Indeed, end-user respondents related this as a common thread during one-on-one conversations throughout the research process. If the end-user requirements are not well-understood up-front, a lot of time and effort ends up being wasted.

In the next chapter, we will see what the top performers are doing to achieve these gains.

Chapter Two: Benchmarking Requirements for Success

The selection of an overall approach to BI plays a crucial role in the ability to meet business requirements while managing TCO. The following case study illustrates how one company has achieved both.

Case Study — Boyne Resorts

Take, for example, the case of Boyne Resort. Based in Michigan, the largest family run four-season resort company in North America. Founded in 1947, Boyne Resorts now owns and operates numerous mountain and golf resorts throughout the US and Canada.

The legacy reporting environment was capable of delivering filtered reports to end-users, but did not provide analytical capabilities that Boyne Resorts identified as critical to advancing its competitive initiatives. Similar to Best-in-Class survey respondents, Boyne required the ability to improve integration of data from more sources into its BI applications.

Boyne Resorts has recently deployed a new BI application to provide visibility through interactive dashboards, reporting, and analysis to employees at all levels within the company. The marketing team at Boyne wanted to understand customer behavior and customer loyalty to most effectively use marketing and advertising dollars to drive revenue.

To achieve this, the BI team at Boyne put together an interactive dashboard integrated with Google Maps to visualize customer information. The integrated dashboard shows Boyne's top 50 customers grouped by city and state. Color-coded pins show the concentration of top customers in any given city, allowing business users to get immediate visibility into local market activity. When business users click on a given city, a pie chart shows total time spent at different resorts for customers in that city. Together, this information gives marketers key insight into which local markets to target, and what mix of resorts and products to promote in those areas. This application was created using an open source BI platform, and was completed in only half a day.

The Boyne Resorts food and beverage team also uses open source BI dashboards to track and understand sales and profitability. This includes immediate visibility into sales, labor utilization, and profit. The information can be viewed at the resort level, and also within the individual food and beverage outlets within the resort. Every dashboard links with context to an OLAP analysis view so that business users can explore and analyze the data in more detail. The application accesses a data warehouse that integrates information from multiple operational systems including lodging, lift ticket, tee time, and food and beverage sales systems. The warehouse is updated multiple times per hour during the workday, to give business users the most current view into operational performance.

Fast Facts

- ✓ **54%** of respondents indicate that ease of use for end users is the top criteria for solution provider selection
- ✓ **Only 13%** of respondents indicate that user training services offered is a top criteria for solution provider selection

"Boyne Resorts has a long history of being first and pursuing innovative ideas, and implementing a fully functioning business intelligence application across our network of resorts follows that tradition... We've significantly upgraded our functional capabilities for a fraction of the cost of proprietary alternatives."

~ Noah Meister, Technical Services Corporate Director; Boyne Resorts

The ability to address more data sources is a strategic action that all respondents rate as critical toward managing the TCO of BI solutions. Respondents have stated during one-on-one interviews that controlling costs and determining an ROI for their BI initiatives has been difficult due to the lack of data needed to answer end-user business questions. This is caused either by difficult integration problems, or "stove piping" of data within departmental solutions for which there are only manual extraction processes. Boyne Resorts has taken a strategic approach to solving this issue and has improved its BI TCO management through a combination of focus on data integration (a top strategic action) and through utilizing an open-source licensing approach (an enabling technology identified by Best-in-Class respondents as a top focus for the next 12 to 24 months).

Competitive Assessment

Aberdeen analyzed the aggregated metrics of surveyed companies to determine whether their performance ranked as Best-in-Class, Industry Average, or Laggard. In addition to having common performance levels, each class also shared characteristics in five key categories: (1) **process** (the approaches they take to execute their daily operations); (2) **organization** (corporate focus and collaboration among stakeholders); (3) **knowledge management** (contextualizing data and exposing it to key stakeholders); (4) **technology** (the selection of appropriate tools and effective deployment of those tools); and (5) **performance management** (the ability of the organization to measure their results to improve their business). These characteristics (identified in Table 3) serve as a guideline for best practices, and correlate directly with Best-in-Class performance across the key metrics.

Table 3: The Competitive Framework

	Best-in-Class	Average	Laggards
Process Management	Automation of report generation		
	41%	35%	24%
Organizational Management	Committee for obtaining end-user and corporate BI requirements		
	38%	33%	23%
Data/Knowledge Management	Formalized training program and documentation		
	35%	25%	19%
Technology Management	Formalized end-user polling or surveys		
	37%	30%	24%
Performance	BI capability imbedded with ERP, CRM, or other enterprise applications		
	38%	33%	22%
Performance	Data integration and cleansing		
	57%	50%	34%
Performance	Ability to measure and track project costs versus budgets		
	50%	42%	34%

Source: Aberdeen Group, February 2008

Capabilities and Enablers

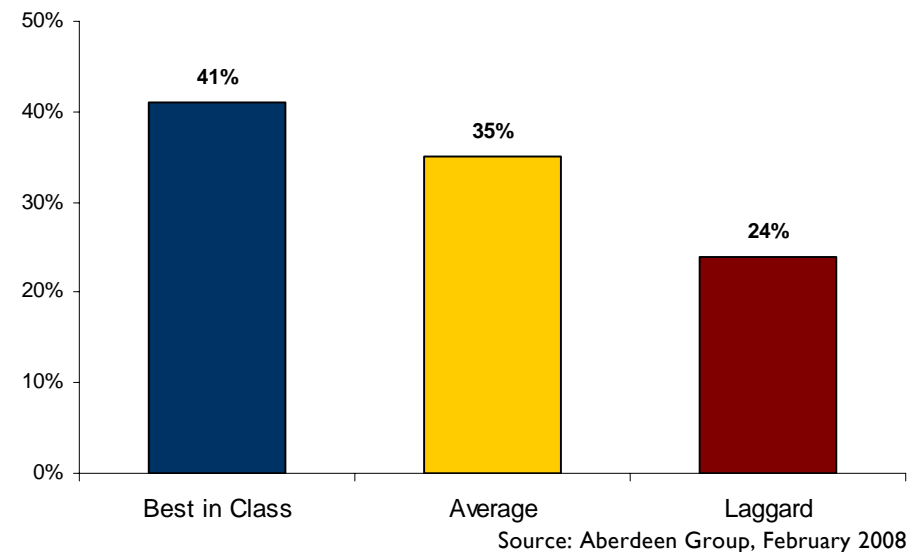
Based on the findings of the Competitive Framework and interviews with end users, Aberdeen's analysis of the Best-in-Class demonstrates that there are some definitive approaches that result in improved understanding and management of TCO for BI implementations.

Process Management

Survey respondents unanimously indicate that the time, effort, and IT resources required to generate reports and deliver them to the right end users at the right time is a major cost factor. As revealed through one-on-one conversations, this can come as an unwelcome surprise as BI implementations begin to grow in scope from pilot projects to full-production applications encompassing large data sets, complex calculations and algorithms, and a diverse set of non-technical business users. The level of technical ability among users typically pushes the job of report generation to the IT department. This not only causes additional costs in terms of IT resource utilization, but also drives the need for additional headcount to be hired to meet the demand for increasing report and analytical view requests.

Best-in-Class companies are outperforming Industry Average and Laggard organizations when it comes to the automation of report generation activities (Figure 4). The degree to which reports can be automated is dependent upon the technology enablers in place (see the "Technology" section later in this chapter).

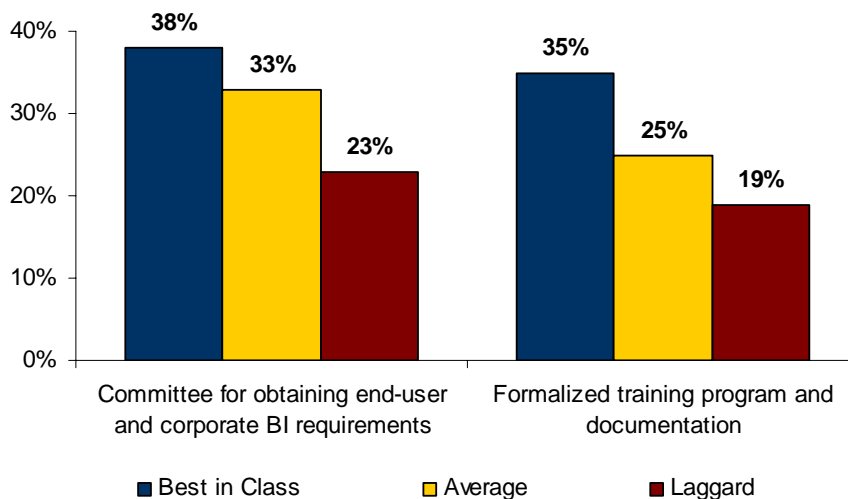
Figure 4: Automation of Report Generation



Organizational Management

Best-in-Class companies are establishing a corporate culture around their organizational capabilities. As noted in Aberdeen's July 2007 research report, *Delivering Actionable Information to the Enterprise*, Best-in-Class companies have consistently shown a greater tendency to build and support a cultural approach toward information delivery and its affect on company performance. As illustrated in Figure 5, Best-in-Class companies are outperforming Industry Average and Laggard organizations with the establishment of formal management of end-user requirements and training programs.

Figure 5: Best-in-Class are Formalizing a Corporate BI Culture



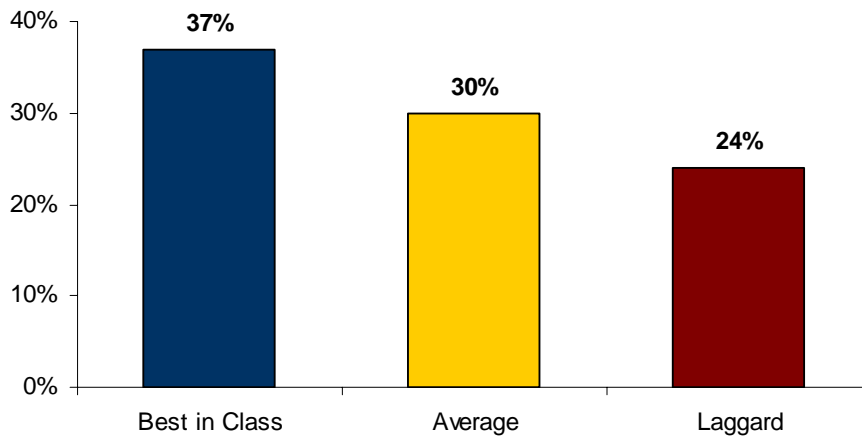
Source: Aberdeen Group, February 2008

Companies that invest in developing both of these capabilities experience improved improvement of TCO management. Based on comments made by end-users interviewed for this study, training programs are generally perceived as an investment in professional development. This supports improved user adoption and buy-in for new BI application deployments and therefore assists in limiting the timeframes and costs associated with new implementations.

Knowledge Management

It is not enough to simply form a committee to determine end user requirements, and institute training programs for their education. Best-in-Class companies are also implementing formal survey and polling capabilities in order to gain as much knowledge about requirements from end-users as possible (Figure 6).

Figure 6: Existence of End User Survey or Polling Capability



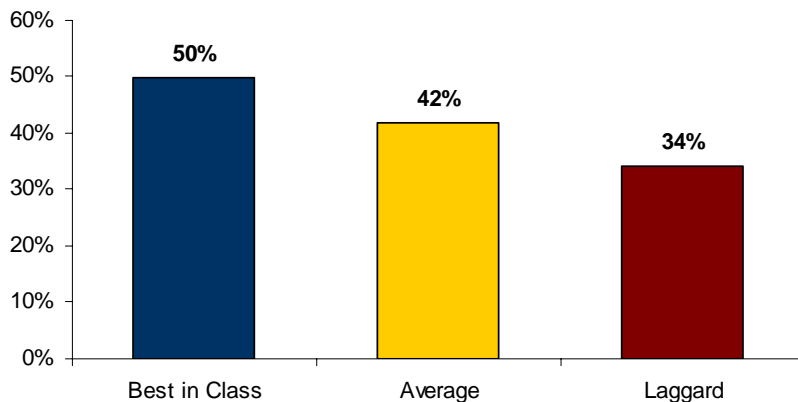
Source: Aberdeen Group, February 2008

Companies are justifying their investments in BI technology based on the belief that access to data and analysis capabilities improves business decisions. By the same token, Best-in-Class companies are more likely to take this same approach in determining how to identify and prioritize end-user requirements for BI.

Performance Management

Successful management of TCO for BI relies heavily on a company's understanding of the total range of cost factors involved, and the ability to properly budget for project costs throughout the lifetime of BI ownership. While Best-in-Class companies are more likely to possess this capability, half do not (Figure 7).

Figure 7: Ability to Measure and Track BI Project Costs vs. Budget



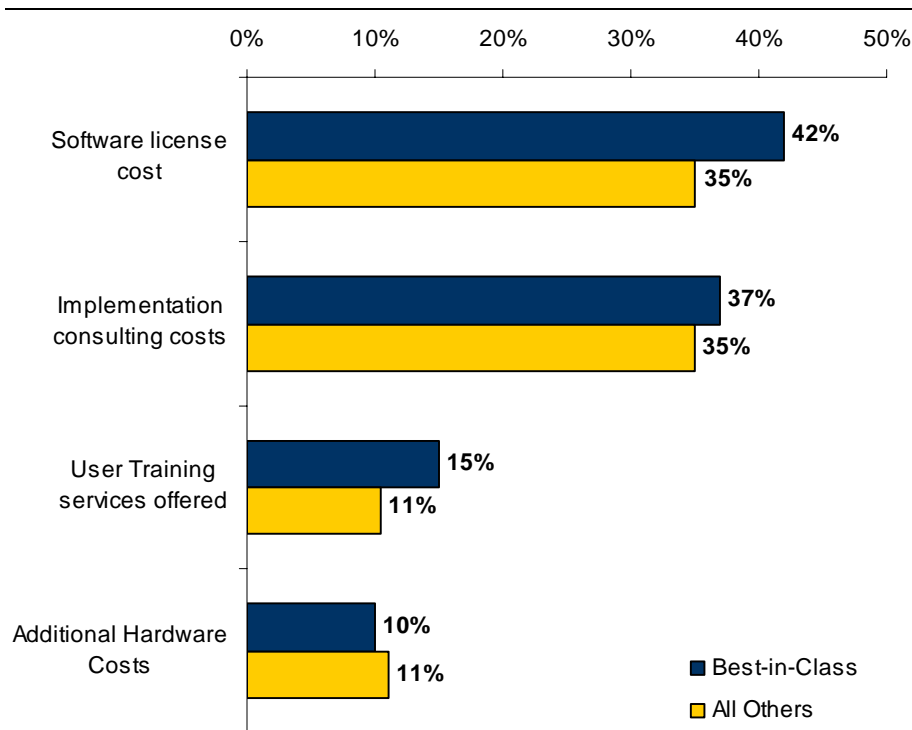
Source: Aberdeen Group, February 2008

Like many complex IT projects, success and acceptance from management are jeopardized when budget thresholds are exceeded. While a company

may be able to withstand the cost overruns, the future success of the technology and its expansion to more areas of the organization will be stymied by poorly managed budgets and a resulting lack of senior management support.

The ability to identify, track, and manage all cost factors associated with BI implementations, therefore, is critical to the success of any implementation. Figure 8, Figure 9, and Figure 10 illustrate the priority rankings of these factors broken out by the timing of cost considerations (at purchase or on-going), and whether the cost is a direct or indirect financial consideration.

Figure 8: Direct Cost Criteria Priority Ranking - Rated as "Critical" at the Time of Purchase

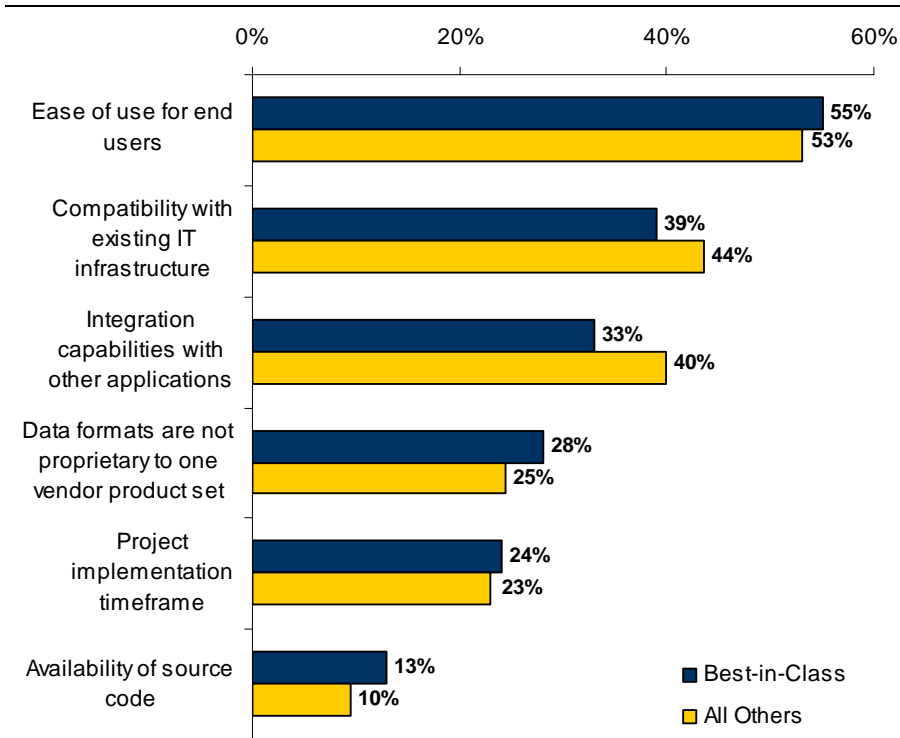


Source: Aberdeen Group, February 2008

In addition to the direct costs associated with software licensing, implementation consulting, user training, and the potential requirement of additional hardware, there are several indirect costs that come into play at the time of purchase that must be considered. The prioritized direct and indirect cost criteria are not the only factors to be considered. Much of the costs associated with BI implementations are realized over time.

Figure 9: Indirect Cost Criteria Priority Ranking - Rated as "Critical" at the Time of Purchase

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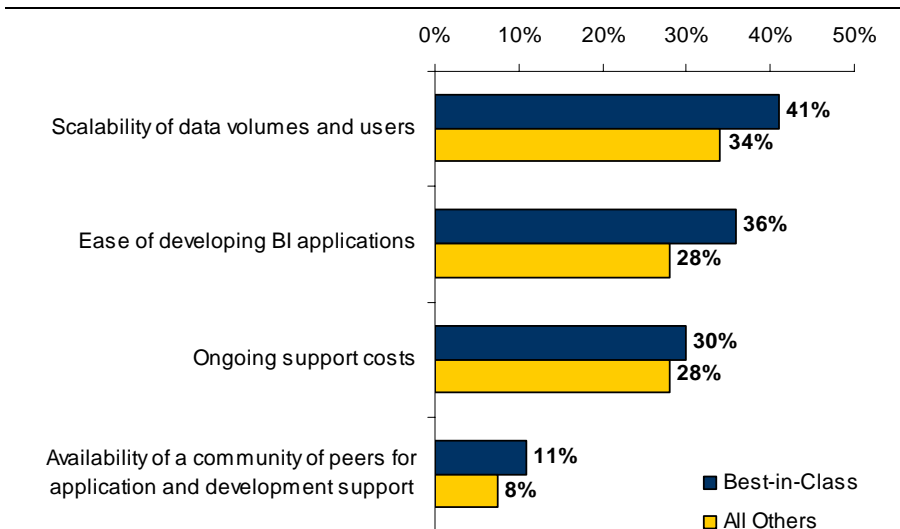


Source: Aberdeen Group, February 2008

"Our toughest challenge was related to data extraction and integration. We had migrated from a legacy **COBAL**-based reporting system to a major enterprise BI solution offered by our enterprise application provider. When we assembled the pilot team, we realized that we could not access all of the necessary data stored within the data warehouse component of the product. We found a third-party provider that had an answer to the problem – they demystified what was happening in the data warehouse tables. User training was not a problem at all. Our end users are all non-technical people not used to writing queries and reports. An internal training program was launched, and now, within a two-day class users receive a hands-on tutorial with real company data."

~ Director of Financial Systems,
Large Transportation and Logistics Manufacturer

Figure 10: Ongoing Cost Criteria Priority Ranking - rated as "Critical"



Source: Aberdeen Group, February 2008

On-going costs are often overlooked at the time of purchase, injecting unforeseen budget strains and timeframe extensions. Best-in-Class companies have prioritized scalability of data volumes and end users as a top consideration. This aligns with study findings concerning data management and integration, as well as the costs associated with supporting a diverse set of user requirements.

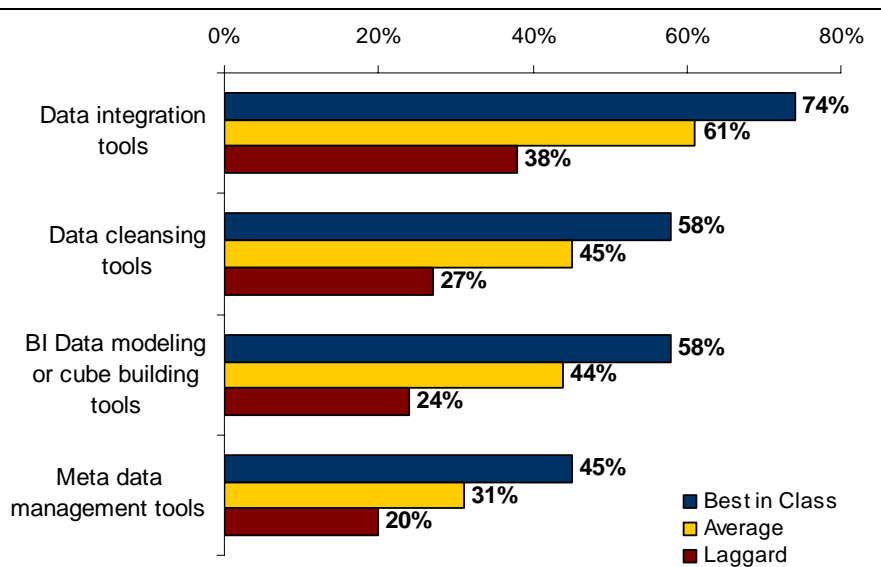
In addition, the ease by which BI applications can be developed and supported presents opportunities for cost savings over time. If new BI reports and analytic views can be developed within the parameters of existing IT skill sets, or if the development can be migrated to end users possessing BI skill sets, long-term cost management will be affected.

Technology - Best-in-Class Utilize a Mix of Components

Management of cost of ownership for BI solutions is also affected by the type of BI technologies deployed and the licensing methods by which they are sold and deployed. Aberdeen research reveals that companies are utilizing a range of technologies and purchasing them across a diverse set of licensing options.

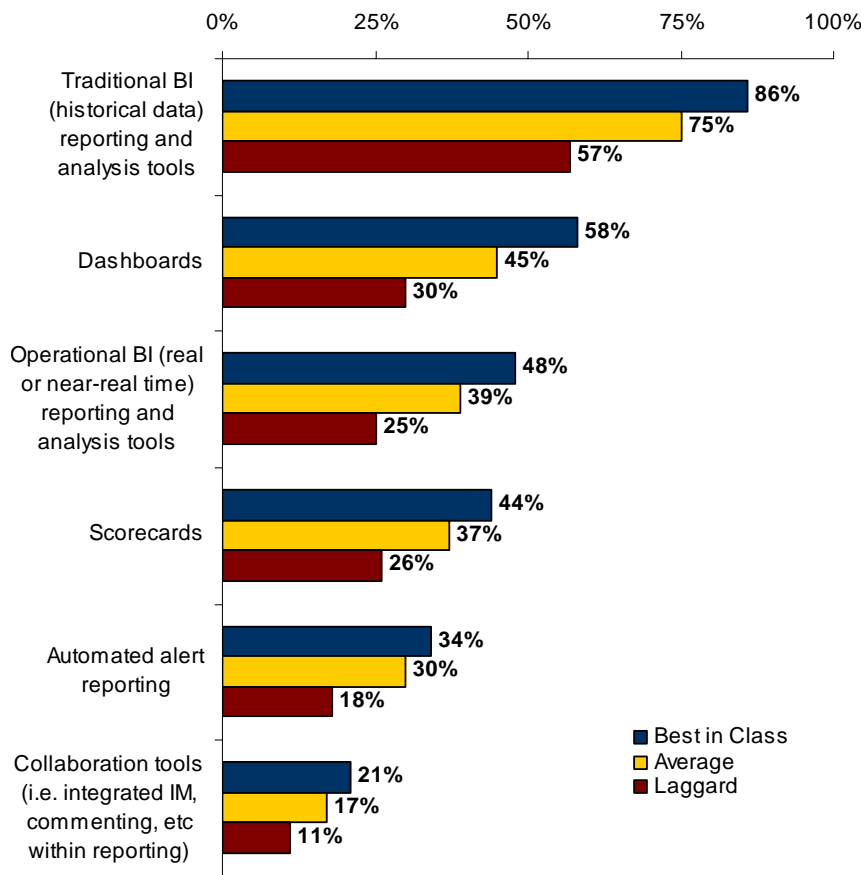
Business intelligence solutions consist of several software components that, when combined or packaged together, comprise a whole that is more powerful than the sum of the parts. These "parts" are generally grouped into "back-end" components (data extraction, integration, cleansing, model / cube development, and meta data management tools - Figure 11), and "front-end" components (reporting / query tools, dashboards, scorecards, collaboration tools, automated alerts, and other interface components designed for information delivery and analysis - Figure 12).

Figure 11: Best-in-Class "Back-end" BI Technology Components



Source: Aberdeen Group, February 2008

Figure 12: Best-in-Class "Front-end" BI Technology Components



Source: Aberdeen Group, February 2008

The importance of managing total cost of ownership is not necessarily tied to the use of one type of back-end or front-end technology versus another. Best-in-Class companies have shown that a diverse set of technologies are needed to support a BI deployment. This makes sense in light of the top business pressures and strategies that Best-in-Class companies have identified and are employing to manage TCO.

In order to meet the needs of more users, and deliver BI capabilities to a growing number of diverse end-users, it only makes sense that a diverse set of technologies be utilized. Not all users have the same information needs or technical skills. This is why Best-in-Class companies are more likely to deploy all types of both back-end and front-end technologies - because they realize that no one component or solution type will deliver all of the capabilities and options required to support all types of users.

Technology - Licensing Options May be Critical to TCO

The structure by which the components are sold and licensed has an impact on the ability to manage TCO. For almost twenty years, BI software (like most business applications) was sold under traditional licensing methods based on "per-user" or "per CPU / server" calculations. For the past decade, solution providers have also offered volume-based licensing options, such as "concurrent user" licensing based on thresholds of user volumes, or "data volume" licensing based on the level of input rows into the BI system (Figure 13 and Figure 14).

Figure 13: Best-in-Class Traditional Licensing Methods

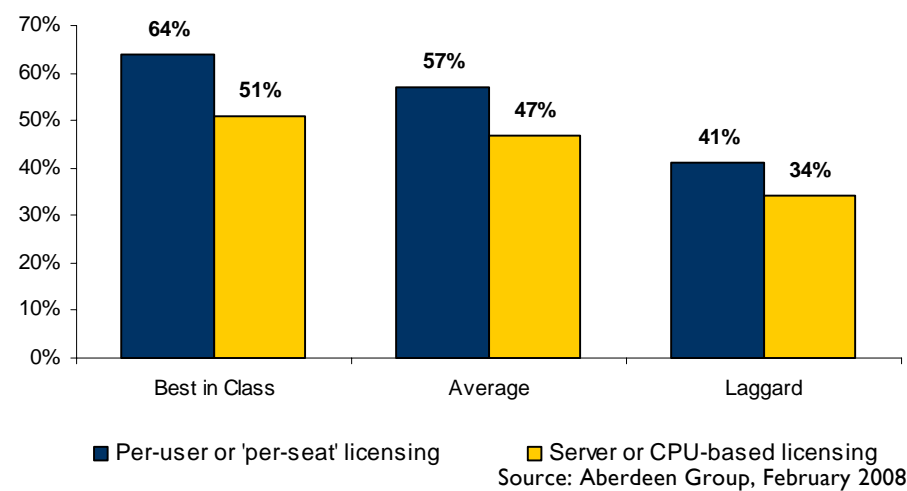
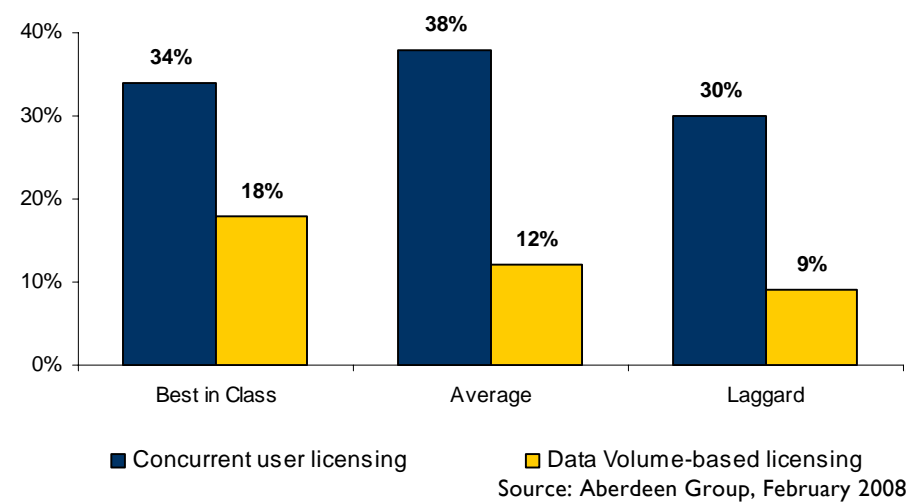


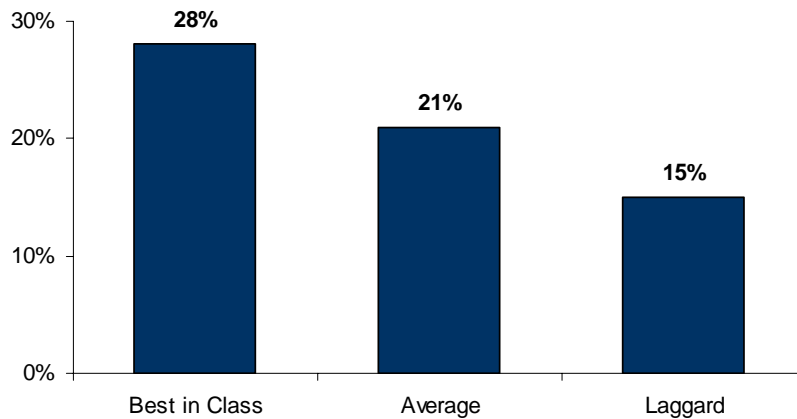
Figure 14: Best-in-Class Volume-based Licensing Methods



More recently, software providers have started to offer subscription-based and open-source licensing. Subscription licensing typically consists of a monthly fee that provides a license for all software components and

capabilities, and is associated with offerings from providers of SaaS or on-demand BI solutions; although on-premise solutions can also be sold this way. Subscription licenses often include core services such as software upgrades, bug fixes, technical support, and training (Figure 15).

Figure 15: Best-in-Class Subscription-based Licensing Methods



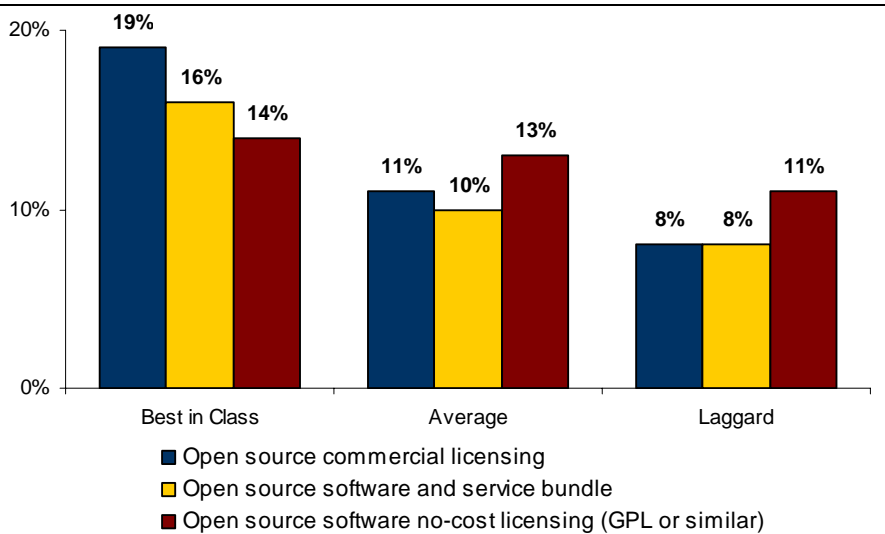
Source: Aberdeen Group, February 2008

Open-source licensing comes in a few different varieties:

- **Commercial open-source** licensing is sold similarly to traditional licensing, but offers customers the ability to access the source code. This provides the advantage of being able to alter the code to create new features and capabilities, but also requires the customer to possess programming skill sets.
- **Bundled software and service open-source** licensing combines software and on-going services, such as software maintenance, bug fixes, technical support, and training, and is typically sold on a subscription basis.
- **No-cost open-source** licensing is typically accessed via a free web download from an open-source provider or software clearinghouse. Providers of no-cost open-source typically offer on-going services for a fee that are sold on a subscription basis.

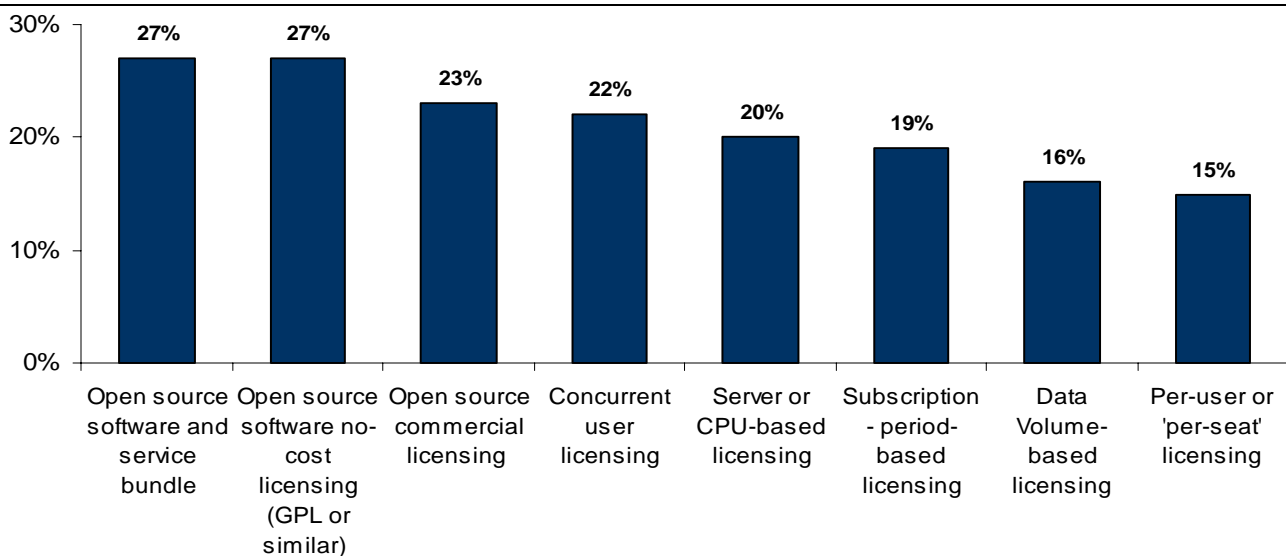
In addition to savings on license costs, the appeal of open-source software also lies in the ability to access the source code and develop custom capabilities and functionality into BI applications without having to rely on the software provider to address individual needs. This requires a higher level of technical capability on the part of the customer, but also creates a "community" of customer organizations that can develop and share customized features and capabilities. Open source providers typically do not limit access to development environments, and often help promote the new functionality created by customers. Survey respondents have started to adopt open-source BI across all three varieties of licensing methods (Figure 16), and are planning to investigate this approach more in the next 12 to 24 months (Figure 17).

Figure 16: Best-in-Class Open-source Licensing Methods



Source: Aberdeen Group, February 2008

Figure 17: Planned Licensing Approaches for New BI Implementations in the Next 12 to 24 Months



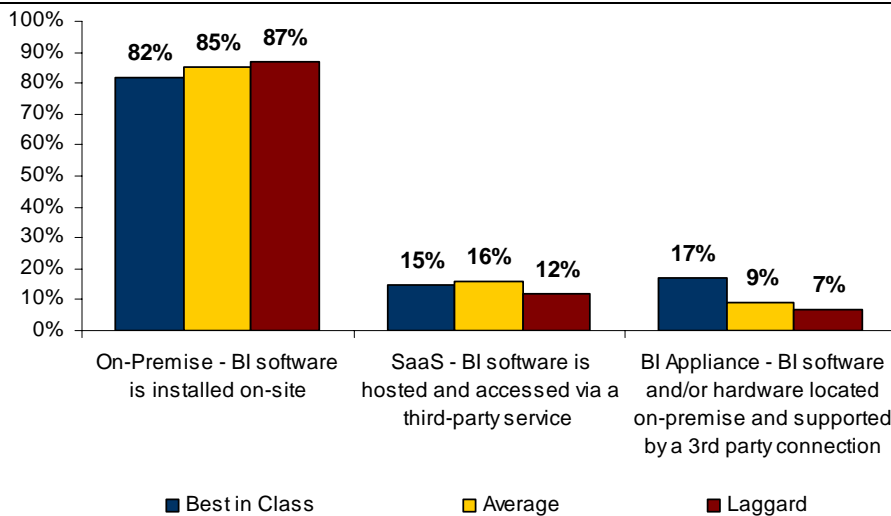
Source: Aberdeen Group, February 2008

Technology - Deployment Methods are Starting to Shift

In addition to licensing options, TCO can also be impacted by the type of deployment method selected for delivering access to BI for the enterprise or workgroup. Like the new varieties of licensing options, software providers are also beginning to offer options for deployment. Traditionally, BI solutions have been deployed as on-premise installations, managed by the internal IT departments of customer organizations. BI has also traditionally been a software category for large enterprises that have invested in IT resources and staff that are capable of handling the entire range of installation, application development, user deployment, and on-going support of BI solutions.

Now, as BI software providers are beginning to address mid-tier and smaller companies, new deployment options are becoming more popular. The new options are also proving to be popular among large enterprises. The same progression of deployment options has occurred in other software market segments, such as the on-demand or SaaS movement with CRM solutions, and the "appliance" approach that has started to catch-on with data warehousing solutions. Survey respondents have indicated their current usage of BI deployment methods, as shown in Figure 18.

Figure 18: Best-in-Class - Current Deployment Methods



Note: Chart totals add to >100%. Respondents were allowed to select all deployment methods currently in use.

Source: Aberdeen Group, February 2008

Aberdeen Insights — Technology

Managing the cost of ownership of BI is a complex task, particularly in light of the technological options available for end-user organizations. Customers must be aware of both back-end and front-end software components, the licensing options for obtaining them, and the deployment methods available for delivering access to end-users. Aberdeen research has shown that Best-in-Class companies are not focusing on just one software component, but are taking advantage of several technologies to meet end-user needs. Best-in-Class respondents are also leading the early adoption of newer licensing and deployment options such as subscription and open-source licensing, and on-demand (or SaaS) and appliance deployment methods. The ability to combine a broad set of capabilities with the right style of licensing and deployment methods is an important set of demands that Best-in-Class companies are placing on their BI solution providers.

Chapter Three: Required Actions

Whether a company is trying to move its total cost of ownership management from Laggard to Industry Average or from Industry Average to Best-in-Class performance, the following actions will help spur the necessary improvements:

Laggard Steps to Success

- **Investigate data integration enablement.** Best-in-Class and Industry Average survey respondents have rated the ability to integrate data from multiple sources as a top pressure that is driving management focus on the TCO of BI solutions. Poorly integrated data will yield erroneous results, confusion, "many versions of the truth," and ultimately a failed BI project. Laggard companies are half as likely as Best-in-Class companies to possess data integration capabilities, and the effect on cost is direct and significant. Successful BI projects rely on the availability of data from many operational and transactional business applications and databases. While data may easily be extracted from these systems, it is the ability to integrate it that yields the data sets necessary for BI applications.
- **Consider an investment in meta-data management tools.** Successful data integration is not the only step toward mitigating costly budget overruns. When data is integrated from multiple sources, the ability to manage the identification and definitions of the data dimensions and field names becomes extremely complex. Companies use multiple terms across several business applications to identify the same thing. For example, a customer may be labeled as "client," "account," "customer," or "cust." All four of these labels may refer to the same data, or one or more may actually have a slightly different meaning. Meta data management tools assist to alleviate this problem and save significant time and energy by ensuring that one set of data definitions is used during the integration and BI application development process.
- **Develop a method for measuring and tracking project costs versus budget.** Only one-third of Laggard companies measure actual project expenditure against project budgets. As the saying goes: "you can't manage what you don't measure" and Laggard companies revealed during one-on-one interviews that they did not factor in many of the drivers for cost in their initial planning. By using the cost drivers listed in Figures 8, 9 and 10, as well as costs associated with the technologies, license options, and deployment approaches described earlier, Laggard organizations will establish a more complete methodology for developing BI implementation budgets.

Fast Facts

- √ **62%** of Best-in-Class companies prioritize sales analysis as the top business function to be addressed by BI technology, versus 49% of Industry Average companies, and 31% of Laggards
- √ **79%** of Best-in-Class companies have increased access to BI capabilities for non-technical end-users in the past 12 months, versus only 37% of all other companies

Industry Average Steps to Success

- **Establish an end-user survey or polling process.** Too many BI product evaluations become mired in technical and functional comparisons. While the features and functionality are an important aspect of decision-making, the long-term cost impact can be mitigated through gaining a better understanding of end-user needs, and how best to meet them. If just half of the features and functions can accomplish this, then the decision to invest in one technology or product set versus another becomes more apparent. This starts with an end-user survey that evaluates current reporting and analytic applications to determine what features and functions are meeting the highest level of end-user requirements today, and what capabilities are missing that represent the top areas for improvement.
- **Invest in developing a formalized training program for end-users.** As with any enterprise application initiative, the level of user adoption and depth of application knowledge has a direct impact on project success and end-user productivity. The top pressure driving Best-in-Class respondents to manage TCO for BI is the need to deliver BI to more end users. This requires that the end users be proficient with BI tools, and adopt them in order to meet stated business goals for improved decision-making and more rapid time-to-information and action. Training programs also engender a "BI culture" and buy-in among end users - the very people that are to be empowered by the technology in the first place.
- **Automate the generation of reports.** Aberdeen research has consistently found that companies are striving to automate as much of the report generation process as possible (for example, see [Operational BI: Getting Real-Time About Performance](#) published in December, 2007). According to respondent comments, too many BI projects have become stymied by the level of report generation activity placed on IT departments. Successful companies have investigated the level of automation that current solution providers offer, and prioritize report automation projects over one-off report creation projects that can rapidly drain IT resources.

"A lot of our BI capability is outward facing to customers. We have been delivering information externally for a few years, but our internal capabilities with large BI vendors have not been as successful. We are planning to use a SaaS BI solution that is delivered via the Internet, and relieves some of the IT and BI skill set requirements to deliver BI projects to the enterprise. One of our staff has used a SaaS approach at a past employer with great results."

~ Chris Harris, Manager of
Business Intelligence, UTi
Worldwide

Best-in-Class Steps to Success

- **Request a review of software licensing, deployment, and service options from BI vendors.** The market for BI products and services has been evolving rapidly, and the underlying technologies supporting the delivery and access to BI capabilities is becoming more open and standards-based. The advent of new licensing and deployment options has introduced new competitive approaches, and software vendors are responding with an unprecedented number of options and flexibility for customers. While current solution providers may have been providing excellent products and services over time, it is always healthy to review all of

the new offerings they are presenting to new customers to see if there is a cost advantage.

- **Establish a committee for obtaining end-user requirements for BI applications.** Many organizations that have achieved maturity with BI applications are forming a "BI Center of Excellence" - an independent internal organization that represents both line-of-business and IT management input on BI initiatives. The top Best-in-Class pressure driving companies to focus on TCO management is the need to provide BI capabilities to more end users. Determining the requirements for a variety of end users, and prioritizing these needs are two critical steps to limiting costs of BI projects in the long run, and are activities that can be undertaken by a "BI Center of Excellence." The combination of line-of-business understanding of business requirements, and IT management's ability to translate this into application development projects often gets mired in misunderstanding. A "BI Center of Excellence" provides a forum within which end-user requirements can be discussed, defined, and established through the collaboration of both business and IT management participants.

Aberdeen Insights — Summary

As companies attempt to deliver BI capabilities to more users, and as the volumes and complexity of data continue to increase, the cumulative effect on TCO is becoming a top management concern. Best-in-Class companies understand that the predominance of TCO drivers stem from on-going costs associated with supporting and growing BI implementations to meet expanding business and end user requirements. Best-in-Class performance is achieved through a complex combination of management strategies, capabilities, and technology enablement, and no one concept or direction can provide a "silver-bullet" for lowering total costs. In order to achieve Best-in-Class TCO management performance, companies must take a formalized approach to how they license and deploy BI technologies, as well as how they build a support structure for delivering BI to more end users, and address more business requirements across all areas of the company.

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Appendix A: Research Methodology

Between December 2007 and January 2008, Aberdeen examined the management, experiences, and intentions of more than 420 enterprises using Business Intelligence (BI) technology.

Aberdeen supplemented this online survey effort with interviews with select survey respondents, gathering additional information on TCO strategies, experiences, and results.

Responding enterprises included the following:

- *Job title / seniority:* The research sample included respondents with the following job titles: Senior management/C-Level executive (22%); Vice President/Director (32%); Manager/LOB Staff (35%); and Consultant/Other (11%)
- *Job role/position:* Information technology (44%); Sales/Marketing/Customer Service (19%); Business process management (9%); Manufacturing/Logistics/Supply Chain (8%); Finance/Procurement (8%); and Other (12%)
- *Industry:* The research sample included respondents from multiple industries. Manufacturing was the largest segment with 24% of the sample. Other industry segments included High-tech/Software (18%); Heavy Industry (15%); Retail/CPG (13%); Telecommunication Equipment/services (13%); and Finance/Banking/Accounting (11%)
- *Geography:* The majority of respondents (62%) were from North America. Remaining respondents were from EMEA (26%); the Asia-Pacific region (8%); and South/Central America and the Caribbean (4%).
- *Company size:* Twenty-nine percent (29%) of respondents were from small enterprises (annual revenues below \$50 million); 37% were from midsize enterprises (annual revenues between \$50 million and \$1 billion); and 34% of respondents were from large businesses (annual revenues of \$1 billion or more).

Solution providers recognized as sponsors were solicited after the fact and had no substantive influence on the direction of this report. Their sponsorship has made it possible for Aberdeen Group to make these findings available to readers at no charge.

Study Focus

Responding executives completed an online survey that included questions designed to determine the following:

- √ The degree to which TCO management is prioritized during BI implementations
- √ The cost factors that affect TCO measurement of BI implementations
- √ Current and planned actions, capability acquisition and technology investment among respondents
- √ The benefits, if any, that have been derived from TCO management initiatives

The study aimed to identify emerging best practices for TCO management of BI initiatives, and to provide a framework by which readers could assess their own management capabilities.

Table 4: The PACE Framework Key

Overview
<p>Aberdeen applies a methodology to benchmark research that evaluates the business pressures, actions, capabilities, and enablers (PACE) that indicate corporate behavior in specific business processes. These terms are defined as follows:</p> <p>Pressures — external forces that impact an organization’s market position, competitiveness, or business operations (e.g., economic, political and regulatory, technology, changing customer preferences, competitive)</p> <p>Actions — the strategic approaches that an organization takes in response to industry pressures (e.g., align the corporate business model to leverage industry opportunities, such as product / service strategy, target markets, financial strategy, go-to-market, and sales strategy)</p> <p>Capabilities — the business process competencies required to execute corporate strategy (e.g., skilled people, brand, market positioning, viable products / services, ecosystem partners, financing)</p> <p>Enablers — the key functionality of technology solutions required to support the organization’s enabling business practices (e.g., development platform, applications, network connectivity, user interface, training and support, partner interfaces, data cleansing, and management)</p>

Source: Aberdeen Group, February 2008

Table 5: The Competitive Framework Key

Overview	
<p>The Aberdeen Competitive Framework defines enterprises as falling into one of the following three levels of practices and performance:</p> <p>Best-in-Class (20%) — Practices that are the best currently being employed and are significantly superior to the Industry Average, and result in the top industry performance.</p> <p>Industry Average (50%) — Practices that represent the average or norm, and result in average industry performance.</p> <p>Laggards (30%) — Practices that are significantly behind the average of the industry, and result in below average performance.</p>	<p>In the following categories:</p> <p>Process — What is the scope of process standardization? What is the efficiency and effectiveness of this process?</p> <p>Organization — How is your company currently organized to manage and optimize this particular process?</p> <p>Knowledge — What visibility do you have into key data and intelligence required to manage this process?</p> <p>Technology — What level of automation have you used to support this process? How is this automation integrated and aligned?</p> <p>Performance — What do you measure? How frequently? What’s your actual performance?</p>

Source: Aberdeen Group, February 2008

Table 6: The Relationship Between PACE and the Competitive Framework

PACE and the Competitive Framework – How They Interact
<p>Aberdeen research indicates that companies that identify the most influential pressures and take the most transformational and effective actions are most likely to achieve superior performance. The level of competitive performance that a company achieves is strongly determined by the PACE choices that they make and how well they execute those decisions.</p>

Source: Aberdeen Group, February 2008

Appendix B: Related Aberdeen Research

Related Aberdeen research that forms a companion or reference to this report include:

- ["On-Demand" Is Not Far Behind BI on the Technology Wish List](#) June, 2007
- [Data Management 2.0: Making Sense of Unstructured Data](#) July 2007
- [Delivering Actionable Information to the Enterprise: Does On-Demand Solve the Skill Set Shortage?](#) July 2007
- [On-Demand BI: Not Just for SMB](#) August 2007
- [Serving the Underserved: Is On-Demand BI the Answer?](#) August 2007
- [Enterprise BI: Comparing the BI Giants](#) September 2007
- [Smart Decisions: The Role of Key Performance Indicators](#) September, 2007
- [Measuring Marketing Performance: The BI Roadmap to Information Nirvana](#) October 2007
- [Operational BI: Getting Real-Time About Performance](#) December 2007
- [The Expansion and Contraction of Business Intelligence](#) January 2008

Information on these and any other Aberdeen publications can be found at www.Aberdeen.com.

Author: David Hatch, Research Director, Business Intelligence,
david.hatch@aberdeen.com

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