

# Lowering the Total Cost of Ownership for Business Intelligence in Midsize Companies

Appliances and software as a service deliver  
value from BI

White Paper

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R E S E A R C H

*Aligning Business and IT To Improve Performance*

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## **Alternative Approaches to BI**

Business intelligence (BI) has become a strategic tool by which organizations access and analyze both internal and external data. Many businesses use BI to measure and monitor performance or to determine the state of business activities, processes or organizational functions. Over the last decade, many large organizations have made BI a strategic technology investment both locally and globally. Now midsize organizations that are maturing from using spreadsheets to analyze data in isolated silos are looking for cost-effective ways in which to take advantage of BI as a means to use customer, operations, finance and even HR information assets to improve the quality of business decisions.

However, until recently vendors of BI, like those of most other business software, targeted large enterprises and sold their products only through the traditional approach in which customers purchase the software and find their own IT resources to install and configure it and maintain it on their premises. Doing this requires knowledgeable technologists in all phases. These demands often kept midsize companies that lack extensive IT resources from utilizing BI to their full benefit.

Recognizing these challenges of expertise and expense, some vendors of BI software now provide alternate methods for customers to acquire and deploy it. Two alternatives have become especially popular. The first is to offer BI as what is called an appliance. In this model the software is preinstalled and configured on server hardware that can be plugged into the organization's network environment and run almost at once. In the second case, the supplier makes BI available on demand, in a model called software as a service (SaaS). Here the customer subscribes to use the software on a monthly or an annual basis. The supplier manages the software on its own network, so the customer is not responsible for installing or configuring it, merely for administration and loading of its data into the remotely managed environment, which users typically access over the Internet.

These approaches to purchasing and deploying BI offer midsize organizations choices in how they address the costs associated with utilizing this critical set of capabilities. Ventana Research recommends that before making assumptions about what approach to take, organizations learn about the business potential and costs of each. In particular, we advise focusing the evaluation on the potential business value of BI and the costs of the approaches to acquiring and using it. By doing this, midsize organizations can find the return on investment (ROI) that best meets their needs.

## **Finding Business Value in BI**

Corporate value is driven by growth, which comes through effective competition and innovation and in the end results in the profitability by which

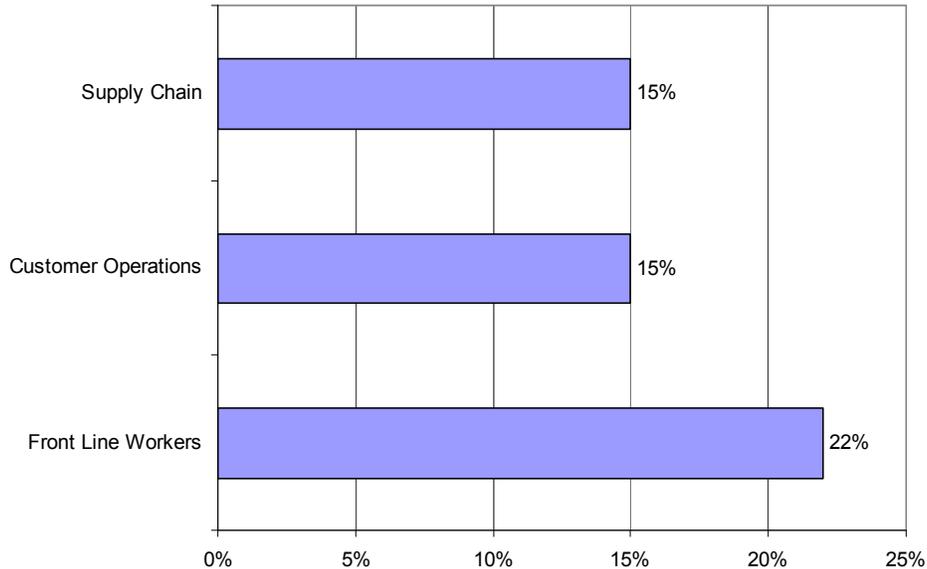
markets and shareholders judge executives and their organizations. Business intelligence capabilities contribute to growth and profit by helping companies identify and overcome obstacles, hold down costs, build and expand relationships, differentiate themselves from competitors and quickly capitalize on opportunities. BI can help an organization, regardless of size, achieve these key objectives by enabling access, analysis and presentation of data in forms that all business users can apply.

BI in any form provides benefits through a technology foundation that helps companies improve organizational and business processes, including the following areas:

- **sales**, including product availability, inventory control and identification of successful selling behaviors
- **marketing analysis** of new products and marketing opportunities, media spending and marketing efforts, and timely execution of promotions
- **supply chain and fulfillment**, such as production planning, workforce scheduling, shipping, order fulfillment and quality control
- **customer processes**, such as segmenting customers and markets, identifying new sales opportunities and improving interactions to satisfy customers
- **call centers**, which also must satisfy customers by providing superior customer service in responding quickly to their needs and buying patterns
- **operations**, such as planning, forecasting and measuring operations across customer and manufacturing and fulfillment areas.

To improve these processes, organizations must expand the availability of business intelligence to workers in all departments including the user community of technically adept business analysts or IT workers. Such broader deployment has been on management agendas of large enterprises for several years now, yet it has been out of reach for most midsize companies still deploying BI to only a small percentage of employees, mostly those same analysts. Ventana Research's benchmark research found that less than one-fourth of companies have deployed BI to front-line workers and less than one-sixth have deployments in the supply chain or customer operations, as shown below.

### BI Deployment Rates Beyond Traditional Users



Source: Ventana Research, "Performance Scorecards and Dashboards: A Performance Alignment Research Study," 2006

Part of the deterrent for midsize companies has been the expense of computer hardware, software and personnel to support BI deployments. For midsize organizations, the costs of licenses for BI, of supporting databases and middleware such as the application server and the operating system and of configuring and tuning them can deter them from launching or expanding BI. And because many BI applications still aren't easy for everyone to use, IT staff has to spend time figuring out which reports must be maintained and updated to meet business needs. These factors put pressure on proponents to demonstrate before adoption that expanded BI can deliver significant business value.

Yet more is involved in fully determining that value. Ventana Research has found that fewer than one-third of companies know the ongoing IT costs of maintaining and updating reports, let alone the costs of broadening BI deployments to keep up with evolving needs in the lines of business. The upshot is that organizations that do not establish and track real metrics as a basis for reviewing and evaluating their BI costs likely are not managing their investments and not receiving full benefit from what they are buying. Let's examine the costs of BI and consider methods to manage them effectively.

### The Costs of Business Intelligence

The complete cost of BI is a key metric that midsize organizations must manage if they're to maintain BI implementations and deployments efficiently. Unexpected costs can negatively impact the return on investment from BI, cause variances in planned business and IT budgets and undermine the credibility of a deployment.

The complete cost to adopt and deploy BI involves many factors, some of them less than obvious. Ventana Research has found that BI deployments are at particular risk to underestimate hardware, software and personnel costs, and that it is hard to anticipate the diversity of needs that exist in an organization.

The price of purchasing the software can be the most straightforward; in contrast, budgeting accurately for the knowledge and skills to install and configure it in your IT environment can be complex. Deciding on the right hardware capacity for the initial deployment and later can be puzzling, since it is rarely documented or provided in best practices; buying unused capacity is of course a waste of money, and buying more later to supplement too little can be more expensive, as well as disruptive. Most software and hardware suppliers do not maintain technology benchmarks or trained experts who can help you decide how best to make all the parts of a BI deployment work efficiently.

Often, cost assessments for business intelligence projects focus on only a portion of a project's total costs, exposing project managers and cost centers to unmeasured, budget-busting overruns. To prevent such mistakes, Ventana Research advises companies to consider the total cost of ownership (TCO) for BI initiatives. TCO encompasses all costs relating to the development, deployment, support and usage of an IT project. An organization can use this versatile metric to achieve the following benefits:

- eliminate sources of unacceptable ongoing costs
- select the most cost-effective approaches
- factor cash needs into overall budgets
- project costs over time to assist in key project decisions
- forecast BI ROI by comparing its TCO to the total expected returns.

As suggested above, calculating the true total cost of BI can be difficult because some costs may not be explicitly stated or easy to assess. In fact, IT managers often dismiss TCO assessments as impossible to achieve or not worth the effort they require. But determining BI TCO is neither impossible nor prohibitively expensive. We recommend that IT evaluate costs for various usage scenarios that take account of how intensively the organization may use BI.

## **BI Appliances and Software as a Service**

In an on-premises BI deployment, the organization purchases software licenses and installs and maintains the software. But today, as already mentioned, there are alternative methods that can be more cost-effective for midsize companies. BI as an appliance or as software as a service usually offers value in terms of reduced costs, but of more importance to midsize

organizations is that it offers a way to gain BI capabilities without having to invest in all the resources or capacity usually required to do so.

A BI appliance makes it feasible for organizations to deploy BI software to business users without having on-staff IT experts to install and configure it, not to mention handling other tasks such as maintenance, upgrades and performance tuning. A BI appliance consists of server hardware preconfigured with all the necessary software components; it is sold as a package for a single price. From an IT perspective, a BI appliance can help serve the needs of business users while minimizing and regularizing IT costs. Relieved of much technical support when an appliance is in place, IT can devote more of its time and budget to delivering capabilities to access information and ensure that the business can garner fuller value from its data and business processes. Many midsize organizations that do not have the budget or IT staff find the appliance an effective path for BI. Another alternative can be even simpler and less risky to acquire and deploy. Software as a service allows an organization essentially to rent software instead of purchasing it. And since the software is being managed by a third party, the organization is not responsible for its installation and configuration – only the importing and administration of the data and user accounts. For organizations that want flexibility and have limited IT resources for managing technology such as BI themselves, this approach can provide many benefits. Well-known in the customer relationship management (CRM) and sales force automation (SFA) application markets, the SaaS approach is now widely available as an option for BI.

BI appliances and SaaS offer a number of cost and resource advantages that potential adopters should consider. Let's look at the most compelling of them.

### ***Licensing***

With a BI appliance, customers pay for a package that includes the preconfigured hardware server, the BI software and necessary supporting software to make it work in their organization. This fixed price applies regardless of the number of reports, dashboards or data sources, so the business value increases with the number of active users. (Eventually, of course, an appliance could reach its capacity, in which case another would be needed to give access to more users.)

In the software-as-a-service approach, organizations rent only the software, on a per-user basis. In analyzing the price per user, potential adopters should include costs that otherwise they would have to take on internally, such as support and maintenance. We recommend assessing the amortized license costs per user over three to five years to gain an accurate comparison of outright purchase of the software or of an appliance. SaaS includes with the software and hardware rental the behind-the-scenes IT management of the technology. For many midsize organizations, this is a lower-risk approach

to gaining access to capabilities for business analysis they need to compete effectively.

These two approaches present valuable options for organizations for which purchasing BI and installing it on-premise is not the best option. Many organizations do not have the trained IT resources to understand the technical elements of servers, CPUs and configuring systems for optimal performance. Licensing the software in an integrated BI appliance or as software-as-a-service represent options that will simplify adoption.

### ***Installation and Configuration***

A BI appliance is preconfigured and tuned to support a particular user deployment, which limits the amount of technology integration required. Companies often can complete implementations in less than a week, significantly reducing IT costs and resources. A BI appliance can be placed in a secure location and simply plugged into the network for integration with the organization's data sources.

The software-as-a-service approach to BI is even simpler. Hardware and software are already installed and configured, so all that is required is to define the users and rights to use the software and then specify the data to be imported into the system. By eliminating the tedious installation and configuration tasks, SaaS can dramatically simplify access to BI.

A successful and effective on-premises BI deployment requires the organization to have the ability to administer and manage the deployment, not only to ensure secure access to the software and data but also to integrate it with hardware and other required software components. However, BI has become critical for midsize businesses, and with a BI appliance or the software-as-a-service approach, organizations can significantly reduce or eliminate the need for those installation and configuration resources.

### ***Deployment and Maintenance***

A BI appliance is a single, integrated product designed with self-service features that enable nontechnical business users to create and modify their own metrics and reports. These capabilities help reduce costs of user training and IT maintenance. Bringing in a new BI appliance to access existing data can be accomplished in a day or two. And in many appliances, the default user application is a dashboard, with which business people likely will find it easier to navigate to their required metrics.

Using software as a service can bring the costs and resources for deployments and maintenance even lower. Deploying the application to any number of users is as simple as defining the users, and maintenance is usually a basic set of administration tasks that business analysts or IT can

handle. In this approach, more extensive maintenance and support by the supplier usually are covered under some type of service level agreement.

### ***Scalability and Performance***

In BI appliances hardware is configured to meet the user organization's scalability and performance requirements. Many use a memory-resident architecture in which a 64-bit memory resident data store is optimized with previously aggregated data for ease of access to and fast retrieval of information that has integrated a variety of data sources. Efficient resource utilization means BI appliances often can support the same number of users with fewer hardware servers than on-premises BI deployments.

Software as a service for BI addresses scalability and performance requirements in two ways. First, the provider is responsible for supporting levels of both as outlined in a service level agreement. Second, the chances of not configuring the software and hardware optimally are greatly reduced since the provider employs experts to meet these requirements and they do not share resources with other applications. Of course, there is always some uncertainty in this type of approach, because you are depending on a third party to meet your expectations. Therefore, quality of service is a factor in whether your organization should choose a single-tenant or multiple-tenant environment. In the former, you have exclusive use of the hardware for your deployment; in the latter, which is more economical, you share the system with other clients.

BI is designed to manage a variety of data- and query-related tasks. To do so, it requires hardware servers and operating systems, most of which are configured for multipurpose computing. As the amount of data and the number of concurrent users increase, query response time can degrade seriously, to the point where additional hardware may be required to ensure acceptable response times. BI appliances and software as a service make new paths available to ensure high performance and scalability for deployments in midsize companies that are concerned with incurring additional cost or effort.

## **Taking BI to the Next Level**

Ventana Research asserts the strategic importance of BI for business. To ensure that organizations can adopt BI regardless of circumstances, an array of purchasing and deployment approaches are available. For some organizations a single approach will work best; for others, it will be a combination of on-premises, appliance and software-as-a-service approaches. No matter how it is approached, it is critical to get BI deployed cost-effectively to all the people in the workforce that need it. Time to deployment and availability of information for decision-making should be top priorities for your organization.

For midsize organizations that analyze total cost of ownership and regularly evaluate the hardware, software and personnel costs of business intelligence, examination of these options can make it possible to realize greater business benefits from their investments. For midsize companies considering deploying BI, we recommend evaluating all the approaches to BI discussed in this paper:

- purchasing the BI software and installing, configuring and maintaining it for on-premises deployment;
- the appliance approach of hardware and software integrated and preconfigured in a package
- software as a service, renting the use of software that is managed by the supplier.

Whether you choose one of these approaches or a combination of them, make sure it enables your organization to deploy and use BI to its full potential. Midsize businesses need a clear understanding of the costs in each approach.

Look long and hard at your particular organization and identify the benefits you need; doing so should put you on the path to achieving actionable business information and the ROI that you require. The opportunity to maximize the potential of BI is available today; are you doing what is required to be successful? Develop a program and plan that lowers your total cost of ownership for BI and reap the benefits for your organization.

## **About Ventana Research**

Ventana Research is the leading BI and Performance Management research and advisory services firm. By providing research benchmarks, expert insight and detailed guidance, Ventana Research helps clients operate their companies more efficiently and effectively. We deliver these business improvements through a top-down approach that connects people, processes, information and technology. What makes Ventana Research different from other analyst firms is our focus on BI and Performance Management for finance, operations and IT. This focus, plus research as a foundation and reach into a community of more than 2 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 BI and Performance Management workshops, assessments and advisory services can impact your bottom line, visit [www.ventanaresearch.com](http://www.ventanaresearch.com). For more information, e-mail [clientservices@ventanaresearch.com](mailto:clientservices@ventanaresearch.com).