



Edison Group, Inc

Oracle DBI vs. SAP BW

**A Business Strategy Report for ERP
Decision Makers**

For:

Oracle

November 15, 2005

Edison Group, Inc
Oracle DBI vs. SAP BW
Business Strategy Report

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Summary

Following recent acquisitions, Oracle and SAP are now undisputedly the leading suppliers of ERP solutions to organizations with annual revenues exceeding \$100 M. For ERP decision makers either evaluating a new ERP solution or carrying out a significant upgrade of their existing solutions, the associated Business Intelligence (BI) or reporting and analysis capability that comes with the applications is **central to deriving a return on investment** and user satisfaction.

Talk to existing ERP customers; the large majority of the business users share one thing in common: the level and quality of reporting and analysis delivered with the solution fails to meet their expectations.

Over the years, both SAP and Oracle have invested heavily in addressing the need for BI. They have met with, it must be argued, mixed success. Leadership has vacillated. Up to 2000, Oracle led the way until it dropped its sales focus on reporting and was overtaken by a maturing SAP Business Warehouse (BW). **In 2005, the lead looks to have switched again, with Oracle Daily Business Intelligence (DBI) gaining the edge.**

Oracle has achieved this by executing a paradigm shift in the way that BI is delivered. Exploiting developments in both hardware technology and its own data-base design, it has managed to deliver a true BI capability on the application server hardware without compromising performance or duplicating data.

We believe this shift has had a profound impact on Total Cost of Ownership (TCO) of both BI and, by implication, the underlying ERP applications.

However, TCO is not the only measure of the success of a BI solution. BI solutions only deliver a return on investment if the intelligence they provide is used to add value to an organization's decision-making processes. We believe that the Total Benefit of Ownership (TBO), although more subtle and difficult to quantify, is an equally important measure.

In this White Paper, we examine the key differences between the solutions and explore how they impact TCO and TBO. We review the scenarios where we think the business case for Oracle DBI is compelling, where we think it is marginal, and where we think SAP BW still holds an advantage. We also look at other factors such as the impact of third-party or complementary BI technologies. We conclude by recommending key questions to ask, both of your own organization and of external parties, when evaluating a major ERP investment.

Our discussions with both SAP and, to a lesser extent, Oracle customers indicate that there is a low visibility of DBI and even more so of its impact on TCO and TBO models. We believe that DBI merits attention, and in a number of circumstances could well determine an ERP investment decision or strategy.

Our method of survey

We set out to survey around 30 users of each solution. We categorized those users as small, medium, and large with a turnover of \$100 M–\$500 M, \$500 M–\$2,000 M and \$2,000 M upwards, respectively. We left out the lower end of the marketplace because it is an area that neither party can claim to dominate. We looked for a cross-section of ERP environments, from vendor-centric to heterogeneous. We did not set out to achieve any particular industry split.

We asked Oracle and SAP customers questions about their:

- ERP environment — e.g., whether it was heterogonous or “wall to wall.”
- Technical environment — e.g., database, size, analytics, third-party BI tools.
- Technical progress and status — e.g., size of BI team, when project started, when software purchased, when implemented, referencability, costs, and key issues.
- Business progress and status — e.g., type of business case, the number of users, level of satisfaction, business benefits achieved.
- Involvement of third-party consultants — e.g., level, size, type, cost, and satisfaction.
- Strategy — e.g., whether they had an approved BI strategy, what it covered, whether or not there was a business case and, if so, what type.

We used **independent** industry consultants and vendor partner consultants as our sources to identify target customers and to endeavor to get a balanced sample.

We ensured that we talked to both the technical owners of the solution **and the business users** to get a balanced view of success.

We do not claim that the survey is scientific, and it is not as scientific as we’d at first intended, but we have made a particular attempt to keep it objective. We used the feedback of tests reviewers to mold how we presented the data and, as one succinctly put it, “if I had to compromise between scientific vs. useful, I would go for useful every time.” Another comment was, “The real value of this document lies not in the conclusions but in highlighting the areas I need to thoroughly investigate.”

We have included anecdotal comments in our content where we felt they were typical. Reviewer feedback indicated that these add real life to the text and make it easier to relate to.

If there is a need to investigate this subject further, the reader could do worse than look at the OLAP Survey 4. It is much broader in terms of product, more technical in its scope, comes at a cost, and is a far from quick read. However, it is independent, thorough and — on several occasions — points to similar conclusions.

Background

Traditionally ERP systems have focused on streamlining and integrating transaction processes such as order processing and finance. The data within the systems was organized into silos to support these processes. Any reporting in the solutions was usually confined to these silos and was strictly limited by the demands and constraints of the transaction processing environment.

All suppliers of ERP systems were guilty of claiming that their ERP solutions could meet reporting needs from “the many hundreds of pre-built reports delivered with the system” and that “the few” that were not available “could easily be developed.” Unfortunately, it took customers some time to realize that what they wanted were not simply reports, but a reporting capability that could evolve to meet the changing needs of the business. What was needed was a reporting environment that was fast, cost effective, easy to use, and that could readily accommodate data from different sources.

The answer to these requirements was to take the data out of the underlying transaction system(s), transform it where necessary and place it on a separate server dedicated to the function of reporting and analysis. This, in its most simplistic form, is data warehousing — a discipline by no means invented by ERP vendors, but one that offered the promise to users of unrestricted access “to the one version of the truth” in which they had invested so much.

The key advantages of data warehouses are that they:

- Take the reporting load off the transaction server
- Dramatically increase the quantity of reports
- Reduce the time needed to deliver reports
- Enable data from multiple sources to be consolidated for reporting
- Unleash the full potential of On-Line Analytical Programming (OLAP) tools that enable a wide range of users with differing skills to access and, where appropriate, navigate their way through information

Experience has shown that the potential drawbacks of data warehouses are that they can:

- Prove very complex and require specialist skills
- Take a long time to implement – some never make it!
- Be expensive to deliver and, just as importantly, to maintain
- Struggle to keep up with changes within organizations — though how much this comes down to poor change management is debatable

The differing Oracle and SAP BI Architectures

In this white paper we do not dwell on the details of the respective architectures but we do put them into context of an ERP selection and highlight the key differences that impact TCO.

What Oracle BI and SAP BI are, and are not, is sometimes difficult to unravel as both parties tend to use common terms to describe brands, products, and price packages. In general Oracle BI is more loosely packaged and can (but does not have to) be purchased in component form. It is also more widely used to implement BI solutions in non-Oracle ERP environments. SAP BI, on the other hand, is more tightly packaged, is usually sold as part of an ERP package and, reflecting its intimate relationship with SAP, is very rarely found running in exclusively non-SAP environments.

At their core, both are mature offerings though, as to be expected from technology leaders investing heavily in new functionality, some components are more mature than others.

SAP BI

At the heart of SAP BI is Business Warehouse (SAP BW). BW is a separate instance, i.e., it must run on a separate server. It is independent of the underlying database, which it accesses through an abstraction layer. It is essentially a packaged data warehouse and comes with:

- Administration tools.
- A selection of Extraction of Transformation and Load (ETL) tools.
- Pre-built business content which, for SAP applications, is very comprehensive.
- A tightly integrated OLAP tool called Business Explorer (BEx), which in its V3.5+ incarnation is now well regarded in many (but not all) respects. BEx is an analysis and reporting tool unique to BW, i.e., it will not operate without BW. SAP transaction systems use different reporting tools, including SAP Report Writer and SAP Query.

Oracle BI

Oracle DBI is logically similar to SAP BI in that it, too, includes:

A data warehouse; Oracle Warehouse Builder (OWB) which provides administration tools, ETL tools, and pre-built business content and an Analysis and Reporting tool: Discoverer.

The key differences

Oracle BI differs from SAP BW in the way it can be physically deployed:

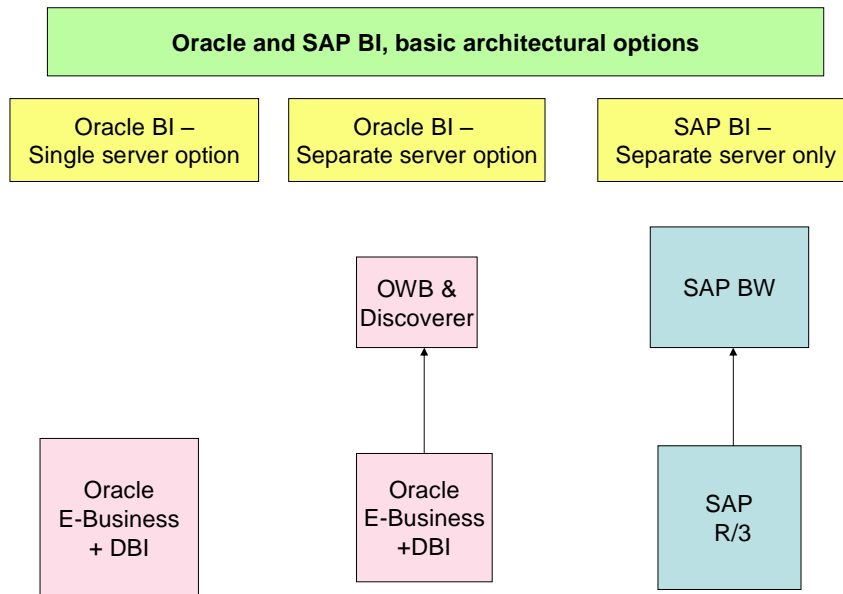
- Unsurprisingly, Oracle BI talks directly to the underlying Oracle database, i.e., it does not have to work through an abstraction layer. Sales talk
- Oracle Discoverer is used as the analysis and reporting tool across the Oracle landscape, i.e., it can be used on top of **all** Oracle-based and non-Oracle (E.G. MS SQL Server, IBM UDB DB2) data sources and is not dependent upon a data mart being implemented.
- Oracle BI includes a package called Daily Business Intelligence (DBI) that can run on the E-Business Suite application server hardware; i.e., it does not have to be implemented as a separate instance. (See Figure 1, Page 6)

In this White Paper we focus on the differences between Oracle DBI and SAP BW. The primary reasons for this are:

- It is these elements of the respective BI solutions that are generally **implemented first** by customers and **provide the foundations for nearly all other BI tools** in the portfolios.
- It is where we found the most significant impact on TCO between the two offerings.

It is also worth noting that DBI offers much more than “daily” business intelligence; like SAP BW it can and does handle data from any timeframe and provides the ability for end users to navigate their way through information.

Figure 1



Maturity

There are differences in maturity between SAP BW and DBI. SAP BW was released in late 1998 and has gone through a steady series of upgrades. It has between 5,000-10,000 customers, depending on how they are counted. DBI was released in mid 2003 and has between 300-500 customers, again depending upon counting methods.

While clearly a newer product, DBI is based on some very well-established BI technology and is in its second major release. We believe it is now mature enough for buyers to dismiss the risk of being an early adopter. However, in investigating the market place, it is important to:

- Be prepared to dig harder to find Oracle DBI reference sites, particularly in smaller countries.
- Compare DBI with a version of SAP BW that is, as a minimum, post version 3.2, as this will reflect the major advances in SAP BW after this release.

Out of scope

Questions on analytics were included in the customer interviews but have been omitted from the survey findings for the following reasons:

- We found that the variety and source of analytics provided little direction or additional clarity for BI TCO.

- We found considerable confusion amongst customers as to what was and what was not included in their BI solution. For example there were different views as to whether Strategic Enterprise Management (SEM) was part of SAP BI or not, or which components belonged to which.
- We found more usage of Oracle analytics than SAP analytics, but there was also considerable use of third-party analytics.
- BI offerings from both parties also included Portals and a level of Knowledge Management software. We found no evidence that these impacted the relative TCO.

Total Cost of Ownership (TCO)

In writing this paper we decided not to deliver a full TCO model, as we felt there were too many variables and costing methods that could be employed. Instead, we present the components and factors that make up TCO to enable readers to develop their own model.

A number of components make up BI TCO, none of which should be surprising; see Table 1 below. Talking to customers, what *is* surprising is how difficult it is to ascertain what some of these components actually cost. In our deliberations we have not necessarily spelled out what they cost but, based on survey feedback, highlighted their relative impact on TCO and why.

Table 1

BI Cost Component	Vendor with better TCO	Factors that impact TCO
Hardware	Oracle	Oracle between 76% and 20% cheaper. The larger the organization, the narrower the relative gap
Software		
Vendor BI Software	No clear leadership	Buying software unbundled
Database	SAP	If SAP customer uses Oracle DB, then difference is nil
Third Party	No clear leadership	Oracle appears more open
Implementation & Support Services		
In-house	Oracle	Oracle leverages existing skills more effectively
Third Party	No clear leadership	The type and size of third-party services supplier engaged
Implementation Time	Oracle	Oracle DBI takes less than half the time to implement. Reduces with increase in size of BI program

Hardware Costs

We found compelling evidence that the Oracle solution is less hardware-intensive. This is driven by three factors:

- The lack of an abstraction layer in the Oracle solution takes away a level of complexity and exploits the capabilities of the underlying database.
- The option **not** to implement a separate server to deliver reporting can cut out an entire level of development, test, and production hardware. *"We have had to increase the storage on our system by less than 10% and have added no additional memory."* Oracle customer

- When a separate BI server is implemented, the ability to keep Operational Reporting on the applications server reduces the size and complexity of the BI server.

Vendor BI Software Costs

The bundling of BI software and the ever changing scope of the packages offered by both vendors made it impossible to determine the exact cost of licenses. Customers that did have a cost for their BI solutions generally attributed between 10–15 percent of the broader package costs (after discounts) to BI, which ranged from \$250–\$400 per user depending upon order size, discounts, and user mix. We concluded that the costs of the base BI offerings are very similar.

Database Software Costs

We would argue that this area favors SAP. The costs of database software differ across the SAP solution. SAP customers purchasing a database to support their SAP BI solution will pay between 2 (IBM) and 4 (Microsoft) less percentage points for their database engine than the Oracle equivalent. These differences apply when the database is bundled with the SAP solution and not necessarily when it is part of a separate agreement.

However, these savings in TCO have to be put into context. The vast majority (75 percent) of live sites we spoke to ran Oracle. Additionally, if the option to implement DBI on a single server is taken or the purchase of a BI server is delayed, then the TCO sums can tilt strongly in Oracle's favor.

Third-Party Software Costs

As we discuss later, introducing third-party tools to the solution will often add to the TCO total. There are circumstances, however, when third-party tools will be part of the respective solutions: typically when they are part of a broader strategy, when existing licenses are available, or when functionality determines it.

We found no evidence that third-party tool costs were cheaper on SAP or Oracle, even where there was an OEM agreement such as with SAP and Crystal Decisions. We placed Oracle in the lead in this area, as evidence shows that it is more open to leveraging the existing investment in third-party reporting tools. One SAP Customer disagreed with us in that they felt *"(SAP's) relative lack of openness forces the use of BEx, supports standardization, and thus reduces TCO."* — SAP customer

In-house BI Skills Costs

Evidence we gathered indicated that organizations found it easier and cheaper to maintain an Oracle DBI in-house team than an SAP BW one. The primary reasons appeared to be that, with the exception of a limited amount of configuration support,

they could leverage existing in-house Oracle skills more effectively and that these skills were more readily available in the recruitment market. *“DBI is more an extension of Oracle applications skills; it hides the complexity of delivering a BI environment.” “We found we needed little traditional BI experience.” – Oracle customer*

The rates for Oracle BI experts were typically 10 percent cheaper than those for SAP BI experts, and more available on the open market.

The option to implement DBI on a single server cuts the cost and skill level of staff required to manage the system. It also facilitated the development of in-house skills. *“Our load takes under half an hour each evening which is an order of magnitude less than before and the process is more error free into the bargain.” – Oracle customer*

There were also indications that in-house SAP teams needed a larger critical mass to cover the greater breadth of specialist, SAP specific skills, required. *“SAP BW requires a range of skills to implement it; you will not find these skills in one individual.” – SAP customer*

Third-Party BI Skills Costs

This factor echoes the in-house findings above. Rates for Oracle BI experts were typically 10 percent cheaper than those for SAP BI, although DBI Oracle sites were more likely to have used Oracle as a services provider. Feedback indicated there was a broad range of difference in costs and experience between the different types of third-party suppliers, i.e., between the Product Vendors, the major consultancies, and the boutique consultancies. There was some evidence too, that the abstraction layer that exists between SAP and the underlying database can lead to additional support costs **when there are major performance issues** and primary suppliers need to become involved onsite. *“We have spent a considerable effort establishing where the root causes of, and responsibility for, our performance issues sit.” – SAP customer*

Implementation and Support Costs

We found clear evidence that the overall cost and quantity of personnel required for implementing and supporting DBI was less than that of SAP BW. This was largely because the total effort necessary to implement DBI was lower. The skills mix to implement DBI seemed to favor a greater use of in-house resources, as well.

This was mitigated in small part by the fact that DBI projects were more likely to use Oracle personnel (more expensive than an SAP Partner), as opposed to an Oracle Partner (cheaper than an SAP Partner).

Support costs generally seemed to be in proportion to overall spending, with 20 percent per annum being the rule- of-thumb figure guiding both types of solution.

Implementation Time

There were distinct differences in the time taken to implement DBI and SAP BW. These included:

- The time taken to start implementing the BI solution
- The time taken to implement the BI solution

DBI projects tend to start sooner and finish quicker than their SAP BW cousins.

Time to start implementation

Less than 30 percent of SAP projects implemented BW in parallel with, or immediately after, their SAP R/3 roll out. A sizeable group had not got BW live “in any meaningful way” a full year after going live. *“We have concentrated on the ERP program and suffered the ‘BW will come later’ disease.” “We are paying the price for constantly doing the quick win, which means adding bits to our legacy reporting system and results in BW gathering dust.” — SAP customers*

All the Oracle Customers we had spoken to had implemented DBI in parallel or immediately after their implementation. *“We no longer have a clear distinction between transaction and BI reporting; BI is an automatic part of an application rollout.” “Now the users are staring to expect BI as an automatic byproduct of any new application.” — Oracle customers*

Time to Implement

One of the most profound differences we came across in talking to customers of the solutions was in initial implementation timescales.

DBI customers talked of implementing the solution in weeks rather than months, with three months being a maximum. SAP customers talked in months rather than weeks, with three months being an absolute minimum and several projects running into years.

Some Oracle customers surveyed were defensive about their initial implementations taking more than two months. *“We proceeded very cautiously at first as we wanted to be sure there were no performance issues.” — Oracle customer* Most SAP Customers took much longer, *“we went live in under six months which is significantly better than most we have spoken to.” — SAP customer*

BI TCO Influencing Factors

A number of factors outside the basic cost components impact the relative TCO of the Oracle and SAP BI offerings. These include:

- The architecture of the solutions
- The size and culture of the organizations which they serve
- Influencing considerations such as:
 - Attitudes to operational reporting
 - The presence of third-party BI tools
 - Timing of investments

The Impact of the Architectures on TCO

Our investigations showed the TCO of the respective architectures is influenced by the size of operation, the complexity of analysis and reporting required, and the type and cohesiveness of the existing applications.

That said, we found some common factors that tipped the TCO balance of the solutions in Oracle's favor. These included:

The lack of an abstraction layer takes a level of complexity and workload out of the Oracle solution. It reduces stress on the system and exploits the features of the underlying database, and evidence indicates that it reduces demand for hardware, as well. Feedback showed that many more SAP BW customers had serious performance issues than did Oracle customers, though it should be borne in mind that many other factors can influence performance, including data volumes and the skill of the team designing and implementing the solution.

The ability of DBI to be implemented on the existing applications server obviates the necessity for an additional server, which in turn cuts down the need to duplicate data, and results in savings on initial and ongoing hardware costs. The option to run reporting on a single server also reduces the skill and effort required to manage and maintain the system.

The Oracle solution has a common reporting tool, Discoverer, which (unlike BEx) runs across the BI, application, and other platforms — thus reducing user training and familiarization costs.

The Influence of Organization Size and Culture on TCO

Organization size would appear to affect the relative differences in TCO between the solutions. This was particularly true if they had **and were executing** an Enterprise Data Warehousing (EDW) Strategy.

It is worth re-iterating the particular definition of small, medium, and large sites used in this White Paper differs from many. One could argue that it is medium, large, and very large. It ranges from organizations with a turnover from \$100 M–\$500 M, \$500 M–\$2,000 M and \$2,000 M upwards. While there were factors common across all sectors, some distinct trends emerged within the categories.

Additionally, when assessing the impact of organization on BI TCO, it is also important to consider in parallel the impact of organization culture — particularly the impact that culture has on BI sponsorship, funding, and usage. We came across some large- and medium-size organizations that were in reality a conglomerate of smaller ones.

Additionally, we found organizations with IS departments that had a corporate strategy and vision which the business departments did not share. The following sections should be read in context with the above. *“One of the lessons I have learnt in delivering BI is you have to be realistic about the business environment you are in. There is no point in implementing a centralized (BI) strategy if your customers behave like a loose group of small businesses.”* — Oracle customer

In this section we introduce charts by organization size, outlining the relative median costs for the basic cost components that make up TCO. They include:

- Incremental hardware costs.
- Attributed BI license costs.
- Attributed database license costs.
- In-house implementation and support costs (U.S. rates) for a typical project.
- Third-party implementation and support costs (U.S. rates) for a typical project.

Smaller Organizations

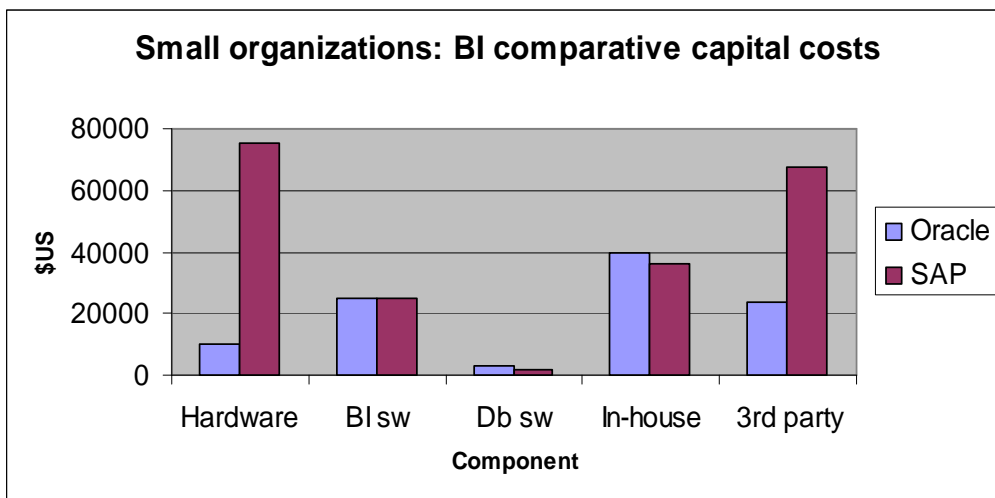
Within smaller organizations a distinct difference emerged between the Oracle sites and SAP BW sites. Oracle sites were much more likely to have implemented their DBI solution and used the business content. *We found the drill-through capability the biggest single success factor of DBI. Where a user finds a perceived anomaly, they can drill straight through to the transactions and supporting documents and get an answer; in the past it may have required hours or even days of investigation.”* *“We use only 10 percent of the business content but that 10 percent meets 90 percent of our needs.”* — Oracle customers

SAP sites were much less likely to have implemented BW, despite having pre-purchased the software. SAP sites were more likely to have stuck with the existing tools within the

organization (typically Business Objects and Cognos), even if they were marked for retirement. It would appear that the cost, speed, and – within reason – simplicity of the challenge favored the Oracle solution.

Our investigations in this category resulted in our having to carry out a much wider search for SAP BW sites that had gone live. Those that we did find were much more likely to have used standard SAP business content and been disappointed with it. They also had trouble funding and maintaining skills to support the system. *“We have been disappointed with business content; it is clearly extremely comprehensive, but it is also very difficult to find the gems and a long way from the switch- on-and-go solution we were sold.”* – SAP customer

Figure 2



Medium-Sized Organizations

There were distinct differences between the experiences of Oracle and SAP in medium-sized organizations.

SAP customers were more likely to have implemented BW than they were in smaller organizations, but were more likely to be having trouble developing and maintaining it. *“It has not been easy to grow and maintain our BW system; we are having considerable trouble finding and keeping people with the right skill sets.” “It is on my current risk register.”* – SAP customer

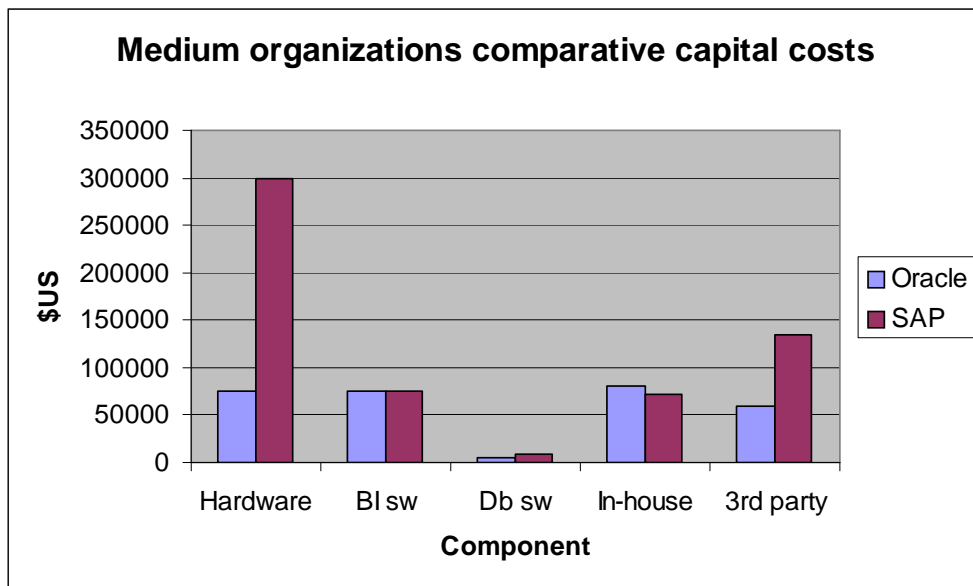
We also came across sites where BW was falling into disuse through lack of support, and sites that had considerable discrepancies between the perception of the IT department and the business users. *“The reason they (IS) do not get many complaints is because we’ve given up using it!”* – SAP customer

Oracle DBI sites were much more likely to have felt they had achieved their business goals and were more likely to have implemented a second or third phase of their solution. They were, however, more likely to have trouble controlling usage. *“We*

underestimated the need to manage how we qualify and prioritize new reporting requirements; we are in danger of being undone by our own success.” — Oracle customer

Within the group, customers of both solutions were less likely to have an EDW strategy than were their larger peers.

Figure 3



Larger Organizations

Larger organizations were much more likely to have taken an EDW approach and much more likely to have a multi-technology approach to BI.

SAP customers were much more likely to have implemented SAP BW. They also made less use of SAP business content, but were happier with what they achieved from it.

“The value of SAP business content is very comprehensive and saves considerable time and effort in developing and maintaining interfaces to the underlying data; the standard queries and reports are less useful.” “The audit trail that BW offers makes managing change much easier.” — SAP customers

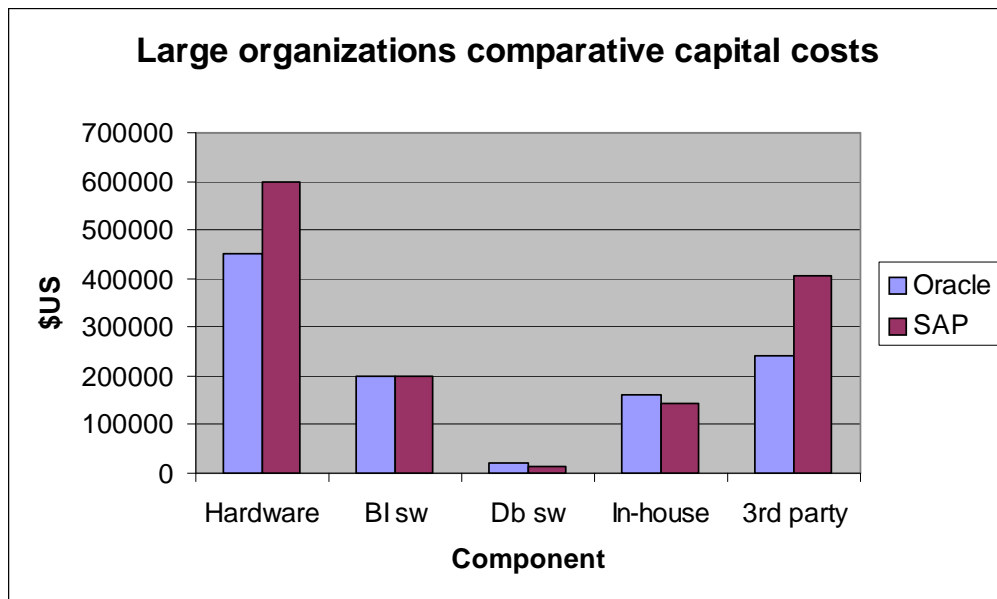
Oracle DBI customers were much more likely to have implemented BI on a separate server, although all continued to perform operational reporting using DBI on the Oracle application platform.

Performance of the BW solution was the major issue for SAP customers and in some sites; this was the primary factor undermining business confidence. *“Performance is our number one priority and it is forcing us to take a very conservative approach to BI; my CIO does not want to be ramping up user expectations that we cannot deliver.”* — SAP customer

We came across little evidence that performance was an issue for DBI, though caution was a watchword for larger operations. *“Initially we implemented a pilot and carried out thorough testing of the DBI refreshes but we are now rolling out DBI to 1,000 sales managers.”* — Oracle customer

Managing the balance between the business demand for BI and scarce IS resources was the major issue for Oracle Customers. *“Our BI solution is starting to grow arms and legs where it should not; we are struggling to ensure that the divisions use what we have delivered and do not go off and reinvent the wheel.”* — Oracle customer

Figure 4



Other Factors Influencing TCO

In discussing TCO with Customers, it became apparent that other factors could, under some circumstances, have a significant influence on the TCO of the respective BI solutions. These include:

- Other third-party tools that may form part of an organization’s BI or reporting tools strategy
- How operational reporting is viewed and managed
- Timing of investments

Third-Party Technology

This White Paper does not focus on non-Oracle and non-SAP BI tools, but the subject merits discussion as the majority of larger organizations commented on the subject and had BI strategies that either included them or planned to include them.

We found evidence that both the Oracle and SAP solutions worked well with third-party ETL (extraction transformation and load tools), typically from suppliers such as Ascential and Informatica.

When it came to working with third-party reporting tools, distinct differences emerged.

A significant proportion (40%) of Oracle BI sites used Business Objects/Crystal Decisions or Cognos as a reporting tool to access their Oracle Data Warehouse. The main reason stated for selecting a third-party tool was that it was part of an existing broader strategy.

“Business Objects is our preferred Analytics tool, we have significant investments in it from the perspective of both applications and user experience.” — Oracle customer

Conversely, few SAP BI customers utilized third-party reporting tools. Of the 10 percent we found, all had significant issues with performance and interfaces. We came across evidence of one third-party tool (Business Objects) attempting to directly access the database tables in BW to improve performance. *“While this improved performance no end, it destabilized the solution by bypassing the SAP security layer. We would not recommend it.”* — SAP customer

We also found sites that had abandoned Business Objects and Cognos on BW in favor of BEx. These sites typically retained use of their third-party tools for off-line analytics and legacy BI. Despite the high profile of Crystal Decisions within the SAP marketing messages, we found very little evidence of its being adopted.

From a TCO perspective, logic would indicate that it is cheaper to use the bundled OLAP tool included with the respective Oracle or SAP solution. Where there is a broader reporting tools strategy across the organization and licenses may already exist for a third-party tool, this may not be the case. Additionally, the familiarity of the user community with an existing reporting tool and the ability to deploy a common tool across a number of different solutions (including application systems) can serve to improve the chances of a BI solution being adopted. This may have to be factored into your BI TCO model.

In conclusion, both solutions have good interfaces with ETL tools. However, if an organization has a non-packaged reporting tools strategy, then Oracle looks a much safer bet. It is demonstrably more open.

Operational Reporting or BI?

Our investigations revealed differing views as to what constituted operational reporting and what was BI. While this might be expected, there was also a differing view as to how Oracle and SAP sites handled operational reporting within their overall reporting strategies.

Our view is that operational reports are reports that are required on a regular and predictable basis (hourly, daily, weekly etc.) and are delivered in a consistent format,

usually to a wide range of users. They may or may not require navigational facilities. BI can (but does not have to) encompass operational reporting, but also includes ad hoc reporting, analytics, and data mining.

The Oracle philosophy seemed to be to maximize the amount of operational reporting and closely associated BI in the transaction system. The SAP philosophy seemed to be, minimize the level of Operational Reporting in the transaction system and place as much as is possible in the SAP BW system. The differing reporting strategies appeared to be reflected by the supplier's content strategies. Oracle is investing in DBI business content that targets the transaction system. SAP appears to be targeting the vast majority of new reports as business content in their BW system, e.g., Supplier Relationship Management (SRM) reports.

The differences in how operational reporting is handled have, we believe, a very significant influence on TCO. Clearly, if you can keep operational reporting on the transaction server, then there are savings to be made **but with a proviso that taking this approach does not compromise the performance of the base applications**. It would appear that Oracle is on the road to achieving this, whereas SAP has recognized that their abstraction layer, which delivers the advantage of "database openness," means that this cannot be achieved in the foreseeable future.

We found SAP BW sites whose major focus was delivering operational reporting; this was particularly true of larger sites. *"Our number one priority is the weekly reporting pack. We have had major performance issues in delivering this and have had to draft in specialist expertise to fine-tune the system."* *"We cannot focus on empowering the business with analysis capabilities until we have met our commitment to deliver bread-and-butter reporting solutions, we are not there yet."* — SAP customers

Conversely we found Oracle sites that were placing as much operational reporting and BI as possible on the transaction server. *"If we end up putting operational reporting on an EDW we're losing something."* — Oracle customer

Timing of Investments

When examining TCO, three customers stressed how important it is to consider **when** costs are incurred and **when** value is delivered in making calculations. To put it another way, "Do you calculate a five-year TCO from the day investments are made or do you count TCO from the day the solution is live?" If you apply the latter method, then how do you attribute costs that have been incurred over six years from a solution that has been operational for five years?

It would appear that a feature of many BI investments is they are made well in advance of the BI projects starting. This can have a significant impact on TCO. For example, a BI project taking two years to go live should incur the costs of the first two years' maintenance fees (nearly 20 percent of list price per annum). When initial license

discounts are taken into consideration, this can amount to as much as an additional 60 percent of capital cost before the solution has delivered any value!

If timing is taken into consideration, then this can push TCO models in favor of Oracle, as results showed that Oracle installations were quicker to go live and appeared to have a lower percentage of shelf-ware.

BI Total Benefit of Ownership

Amidst the drive to achieve the best TCO, organizations can often overlook the fact that **a Return on Investment is the ultimate goal of a BI system**; i.e., the best TCO does **not** automatically translate into the best **Total Benefit of Ownership**. In talking to customers, we not only asked what the solutions cost them, but asked the key end users what they thought of them, whether they used them, and whether they achieved planned or unplanned business benefits. We also recorded how long the solutions took to deliver and how many users went live when they did.

It was in the area of TBO that we found the greatest gap between the respective solutions. The reasons stated for this varied, but had two common threads.

DBI had a lower cost of entry; pilots and proofs of concept were generally much cheaper. *“With DBI we were able to start delivering value to departments in very modest chunks; for \$10k we can get a business area moving and achieve a quick win. We use this as a basis to work our way forward in bite-size chunks, demonstrate value, and then get our overall budget.”* *“This is the easiest BI project I have ever worked on.”* — Oracle customers

DBI business users were much more likely to express enthusiasm about how quickly the solution delivered value. *“DBI has a nifty little expenses analysis suite that delivered a return almost immediately!”* *“Management really appreciated the tight links to the transaction data.”* — Oracle customers

Conversely, for the majority of the SAP BW, sites getting traction with the business was a major challenge. We came across several sites that had failed to get their BW shelf-ware operational more than a year after purchase. *“We have invested significant amounts in creating a base BW and failed to deliver to our target end-user base a single report. The IS department is trying to recover costs by distributing them to new requests. In the meantime the legacy Oracle/Business Objects solution is continuing to be invested in.”* *“We are struggling to gain traction with BW; in the short term it always seems cheaper to enhance the old system.”* — SAP customers

A frequently cited challenge for the owners of SAP BI solutions was that of building a solid **business case** for BI and obtaining (and sometimes keeping) the associated budgets.

Other Findings

Other findings from our survey have not been specifically referenced in the other sections, but we feel they serve as interesting context for the paper or else point to areas where further investigation by the reader might be worthwhile.

- Industry spread

- Obtaining a balanced industry spread was not a goal of the survey. Nearly two thirds of customers surveyed came from manufacturing (with a bias towards consumer goods) or retail. Noteworthy was that fact that during our investigations, we contacted 10 local government SAP users (whom we classified as small, medium, and large by the number employees, who had purchased SAP more than 18 months ago. They showed a very low rate of adoption, with only two citing they had “done anything tangible with BW” and none claiming a full rollout. Further investigations showed that this was fairly typical. The two Oracle public sector sites we interviewed had both implemented DBI within three months.
- ERP environment (e.g., was it heterogonous or “wall to wall”?)
 - A surprising number (over 25 percent) of “wall to wall” SAP sites retained Oracle BI solutions running on top of “legacy” applications some several years after having purchased SAP BI.
 - Less than 10 percent of SAP ERP customers used Oracle as their main provider of BI on top of SAP.
 - We came across no SAP BW sites that were running the reporting for other ERP platforms though the vast majority (90 percent) loaded elements of non-SAP data.
- Technical environment (e.g., database, size, vendor, analytics, third-party BI tools)
 - Oracle was the most popular DB for SAP BW with over 70 percent of sites surveyed running it. DB2 was the alternative for the larger organizations, and SQL Server for smaller organizations.
 - SAP organizations had a strong tendency to adopt the same database as the underlying application for BI, but we came across two examples in larger organizations where this was not the case. One had adopted SQL Server and then dropped it in favor of Oracle “performance.” Another used DB2 for applications and Oracle for BI “because of cost.” Both sites were examples of successful SAP BI customers.
- Technical progress and status (e.g., when purchased, solution installed, referencability, costs, key issues)
 - An anomaly was the number (15 percent) of SAP BI sites surveyed that were reference sites from the technical perspective, but not from the business perspective. *“We really like BW but getting the business engaged is proving to be a struggle.”* – SAP customer
- Business progress and status (e.g., type of business case, the number of users, level of satisfaction, business benefits achieved)

- Just less than 40 percent of SAP sites surveyed had built a formal business case for their BI (implementation). Less than 20 percent of Oracle sites had done so.
- Involvement of third-party consultants (e.g., size, type, cost, satisfaction)
 - All SAP BW sites had used some external effort, with only 10 percent claiming they had done the large majority of work in-house.
 - There was a very strong correlation between SAP BW “successes” and the type of third-party deployed. In all but one of the cases where the customer classified themselves as successful, a partner with a specialist BI practice was the primary provider to the project. *“Choose your BW partner with care; SAP BW skills are not simply R/3 skills with whistles.”* – SAP customer
- Oracle sites were much more likely to have done the majority of work in-house and more likely to have used the vendor (i.e., Oracle) as a third-party consultant. *“DBI is largely an extension of Oracle Apps skills, which we have in-house. The solution is fairly new so we used Oracle to help us configure.”* – Oracle customer

Recommendations

The following section outlines a far from all-inclusive set of questions to consider, and pitfalls to avoid, when investigating the TCO of an Oracle or SAP BI solution.

Ensure that you are evaluating the latest operational version of the software. This may sound obvious, but we came across organizations that had made decisions based on feedback from what would appear to be non-independent third party sources.

Examine business content thoroughly. It may be pivotal in adjusting a TCO model. Check that **business** and technical personnel see it demonstrated and ensure that you are not evaluating mockups with data loaded from a flat file, which simply shows what the reporting front-end **might** look like in its best light.

Visit reference sites, but also use your own network to find customers and implementation partners you can talk to more informally.

Make sure the visited site is a **business as well as a technical reference**. Talk to business users as well as technical owners of the solution, if possible separately. Ask objective questions including:

- The number of users live on the system
- The types of user and their level of usage
- The time taken to implement
- The growth (**or decline**) in usage
- The costs of the components

- The resources (internal and external) utilized to implement and support
- The type and size of third-party employed
- Whether they had a business case and if so how it was constructed
- Examples of business benefits achieved

Calculate the cost per **current** user (it may throw up surprises)

Consider employing an **independent** third-party that has exposure to both sets of solutions. They are not common but can help mitigate risk in an evaluation and save time.

Ensure that you have a BI strategy developed before you start implementing operational BI systems. If possible, ensure that the “change management and reporting culture elements” of the strategy are thoroughly investigated before investing in BI technology.

Conclusion

The relative simplicity and agility of Oracle DBI gives it a TCO superior to SAP’s BI in many scenarios. This is particularly true where the demand for BI is volatile or difficult to manage and where the business case is yet to be proven. By delivering business value in small increments, **Oracle DBI is better equipped to meet the requirements of dynamic and rapidly changing organizations.**

Depending upon the environment, in comparison to SAP BW, Oracle DBI can be implemented:

- For between 33 percent and 80 percent of the cost
- In less than half the time

Perhaps more significantly, it would also appear to deliver superior end user satisfaction.

While SAP BW offers what looks like a tempting, all encompassing package, it masks the requirement for a relatively big-bang approach to BI. For the smaller organization, this approach is unrealistic; for the larger organization, the time to delivery can be much longer than anticipated. Additionally, while SAP BW’s more comprehensive business content has its benefits, for the vast majority of customers it is a very long way from a “switch-on-and-go” solution.

BI has become a key part of the ERP decision-making processes. Although we still believe that application functionality is the most important aspect of an ERP decision, increasingly there is little to distinguish between the vendors. **This is when BI can become pivotal.** We strongly recommend that, in evaluating ERP, organizations pay

close attention to the environment in which BI will be deployed and the impact that elongated rollout times will have on the realization of benefits and user satisfaction.