



Implementing Oracle BI Applications during an ERP Upgrade

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EXECUTIVE SUMMARY

Periodic Enterprise Resource Planning (ERP) upgrades are necessary to incorporate new features and to stay within the vendor's window of preferred releases. These upgrades can often be a major undertaking and become expensive as well.

Organizations regard their ERP systems as strategic assets as they contain confidential enterprise wide data. This data, if accurately reported, can provide an up-to-date status of the health of the organization at any moment. Therefore, it is imperative to consider the impact of upgrading reporting systems when embarking on an ERP upgrade.

This whitepaper provides insight into some questions you should consider when planning for an ERP upgrade and why adding an integrated BI solution during an ERP upgrade can reduce costs and drive improved business efficiency.

We will then take a moment to examine Oracle's OBIA Suite and the advantages it can provide.

PLANNING AN ERP UPGRADE?

ERP upgrades are usually performed to incorporate enhanced functionalities offered by a newer version and to mitigate risks to the current system. They are no small undertaking, requiring dedicated development time, resources and budget and taking months to years to complete. Involvement from many parts of the organization- technical, functional and business user resources are all integral to success and attaining maximum benefit.

To ensure maximum efficiency and value is brought to the ERP upgrade project, some important questions should be considered by your functional and IT teams:

- **How do we increase the organization's agility?**
- **How can we foster cross-functional collaboration?**
- **How do we push adoption of best practice KPI's?**
- **How do we increase the organization's resilience?**
- **How do we provide metrics that span functional and data silos?**
- **How can we ease the pain for the next upgrade?**
- **How do we decrease the load on the ERP system?**
- **How can we lower ongoing maintenance costs?**
- **What reporting should be implemented from the ERP system vs. data warehouse?**
- **Do changes in the vendor's technology mean we should revisit other parts of the architecture during this upgrade?**

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Other key areas which must be planned and budgeted during an ERP upgrade include ensuring smooth uninterrupted data transfer and the development of work processes and report capabilities that provide the necessary data for system functionality and decision making.

Data transfer between systems and/or ERP versions is essential and can be complex. The volume and complexity of data increases with additional ERP modules such as Supply Chain Management, Product Lifecycle Management, Resource Management, and Budgeting and Planning, and must be protected during the ERP upgrade process.

Specific work functions must also exist to ensure reporting continues and business needs are met during the upgrade project. Reports which pull data from the ERP may require modification based on data organization (known as "schema"). The systems used to populate the operational data stores, data warehouses, or data marts, (known as Extraction, Transformation, and Load, or ETL systems), may also have to be modified. The reports generated from these data stores should also be

altered to ensure a smooth transition depending on how your reporting data stores are constructed.

Also note that if your organization is skipping one or more intermediate releases (e.g. migrating from PeopleSoft 8.8 to 9.1 and skipping 8.9 and 9.0), the scale of the upgrade will need to increase to accommodate both ERP and reporting needs. As the underlying architecture and schema for the new version will significantly differ from the current version, major changes will be required to the ETL routines and external data silos to accommodate new data.

A NEED FOR SPEED

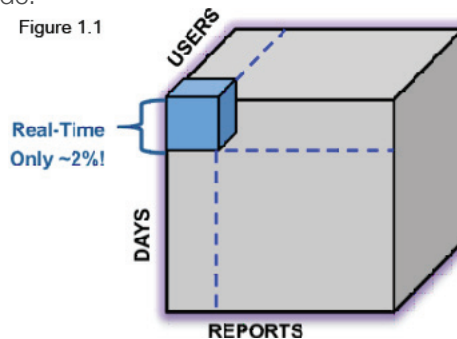
One of the big challenges that IT faces with a mature ERP system is that over time, the performance degrades. Some of the big reasons for this degradation are:

- **An increase in the number of users as the ERP system grows.**
- **An increase in the amount of data in the system.**
- **An increase in the number of reports being generated.**
- **An increase in the amount of “live data” being pulled with each report request.**

One of the major challenges with ERP performance is that the reporting tools that come with ERP systems always run against real-time data. For example, in PeopleSoft, all cyclical or ad-hoc reports, whether they are nVision, Crystal or PS Queries all run against real-time data. This is an unnecessary load on the ERP system that causes response time to degrade.

Most reports are historical and do not require real-time data. Also, not all users need real-time data for their analysis. In fact, on average only about 2-5 percent of users require real time data about 2-5 percent of the time (Figure 1.1).

Figure 1.1



Other ERP reporting tool challenges include:

- **Reporting tools provide a static view of the data without the ability to drill down to details.**
- **Multiple report types are created to obtain similar data due to a lack of customization and/or drill down capabilities.**
- **Data consumers often do not have the training and expertise needed to run these reports or create new ones. As a result, IT is heavily involved in extracting data for business users, eventually becoming a “reporting house”.**
- **Existing reports do not meet current business needs or cost too much to maintain. Older reporting functions operated independently, i.e. they were created when each functional, geographic, or product area could run with minimal interaction with other areas.**

Over time, an abundance of custom reports that were created to fulfill ad-hoc needs flood the system, making upgrades to the ERP and its reporting system difficult, expensive, time-consuming and risky.

Recognizing where and when “live data” is needed and who needs it ensures a true understanding of how the system needs to and will work on a daily basis is important. This ideology needs to be applied to all aspects of the engagement and

is essential to creating a usable, timely, efficient and cost effective solution.

Implementing a BI offering can help alleviate the reporting strain on the ERP system performance. ERP upgrade projects also offer an excellent opportunity to reevaluate your BI strategies.

IMPACT OF DATA WAREHOUSE AND ETL DESIGN BEST PRACTICES

After conducting numerous initial assessments for ERP implementations and upgrades, we have seen that all too many reporting solutions were not built according to data warehousing best practices. Because of this, upgrading to a new ERP release can be almost as costly as implementing a brand new system. If best practices are not adopted at the outset, not only will this reporting system upgrade cost more than it would otherwise but future upgrades will also become more time consuming and costly.

Data warehousing (and other) best practices are imperative to a successful ERP implementation or upgrade. The system cannot be stagnant, it must be able to adapt and grow with the business intelligence needs of the organization. The following principles should be observed:

- **Separating the extraction from the load in the ETL to simplify upgrading and minimize data extraction and load time.**
- **Using an enterprise data model, not a subject specific data model, to minimize disruption when new functionality is added to the data warehouse.**
- **Employing conformed dimensions so that, for example, one is dealing with the same definition of a vendor whether in procurement, accounts payable, or project work.**
- **Providing tools to maximize user self service.**
- **Building metrics and attributes that follow business processes so that results from several ERP's, whether Oracle's or third parties', can easily be combined to provide users consistent views across the organization.**

There are many data warehousing solutions on the market that can either be built or bought. One of the leading solutions is from Oracle.

ORACLE BUSINESS INTELLIGENCE APPLICATIONS (OBIA)

Oracle Business Intelligence Applications (OBIA) are packaged BI solutions for ERP and CRM systems that allow organizations to deploy BI on a small scale for a single department and then expand seamlessly to support other departments using the same model and platform, delivering a consistent view of enterprise information.

Prior to OBIA, technology solutions were distinct data marts built for each department's custom requirements, and lacked information sharing capabilities with other functional areas or divisions. The build-your-own approach often creates silos of information that must eventually be replaced or consolidated into a single enterprise data warehouse at a great expense.

The value of Oracle Business Intelligence Applications compared to traditional, custom in-house BI solutions is clear: quicker time to deploy, less overall cost, an enterprise view of data, role-based views for all employees, closed-loop processing, and built-in best practices.

UPGRADE TIME IS THE PERFECT TIME TO ADD OBIA TO YOUR ERP

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Implementing OBIA during an ERP upgrade offers a unique opportunity to replace many ERP reports, custom reports and data warehouses because:

- **Similar work is required for both an OBIA implementation and an ERP upgrade. Several tasks involved in ERP upgrades and OBIA implementations are common.**
- **Over 90% of ERP reports can be replaced with reports driven from the OBIA, reducing the load in the ERP system.**
- **Organizations find that OBIA are less expensive and simpler to maintain than their existing reporting solutions, saving 50 percent or more on labor.**
- **An increase in reporting capabilities provides organizations with greater quality and quantity of data, improving business outcomes.**
- **For organizations that have multiple ERP modules or add a new ERP system, OBIA provides a centralized reporting system across all ERP systems.**
- **Work completed as a result of an ERP upgrade can be leveraged when/if an organization moves to Fusion applications.**

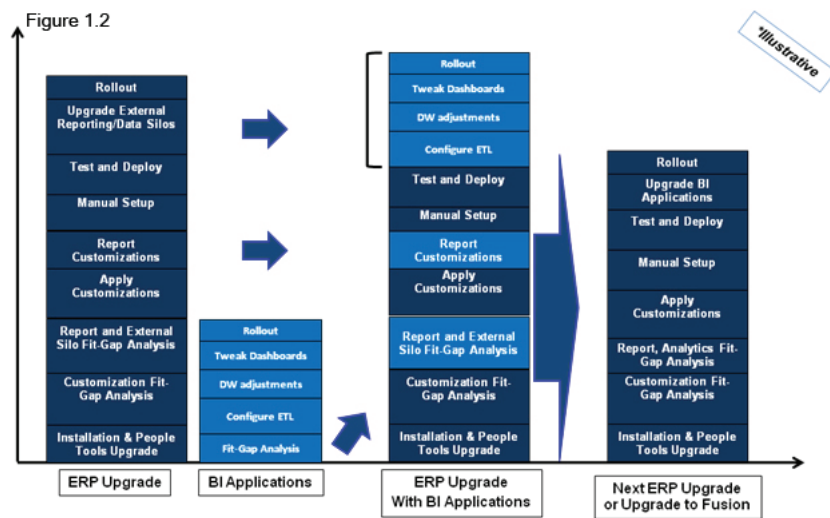
For a successful implementation of BI for ERP, it is critical to also create a project team that includes both IT and Functional expertise. The advantage of implementing OBIA during the upgrade process helps to ensure the same resources are involved

with both the ERP upgrade and OBIA implementation.

By adding OBIA to an ERP upgrade, duplicate and costly tasks can be completed once and in some cases eliminated all together, including:

- **Fit-gap analysis**
- **New report requirements**
- **Updating external data silos**

Figure 1.2 below illustrates the tasks involved in a typical PeopleSoft upgrade and how several tasks can be combined together if OBIA is implemented during the upgrade process.



ADVANTAGES FROM AN OBIA IMPLEMENTATION

Implementing OBIA during an ERP implementation or upgrade offers clients significant synergies in several areas:

- **Reduced time and cost compared to serial deployment**
- **Increased functionality compared to many custom data warehouses**
- **Reduced load on the ERP**
- **Reduced IT involvement in the ongoing support of the BI system**
- **Provide a centralized but flexible reporting architecture for the entire organization with a single version of the truth**
- **Reduced costs for future upgrades**

Organizations also typically see these benefits with an OBIA for ERP implementation:

- **A reduction in ongoing maintenance.**
- **Richer, deeper analytics that can span many functional areas.**
- **Ability to take advantage of features Oracle is building into their Fusion applications.**

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Reduction in Ongoing Maintenance

One advantage of adding OBIA when upgrading an ERP system is a decrease in maintenance labor. Once OBIA is implemented, IT does not have to build and maintain many new metrics, as they are calculated as part of the OBIA warehouse or in the prebuilt metadata provided as part of the OBIA.

OBIA is built on OBIEE, a simple to use BI tool. Users can modify or build many of their own reports, eliminating the number of IT requests for new data or reports. OBIEE reports do not require real time data like they do in tools like PS Query or nVision. Therefore reports can be built and maintained less expensively than in the past. Oracle also provides adapters to new releases of its ERP and CRM systems so the next time the ERP needs to be updated, it costs less. You simply upgrade OBIA instead of having to re-write or modify ERP reports. OBIEE is easier to use than many other tools and business users can become productive with less training, saving time for both the IT team and the ERP system.

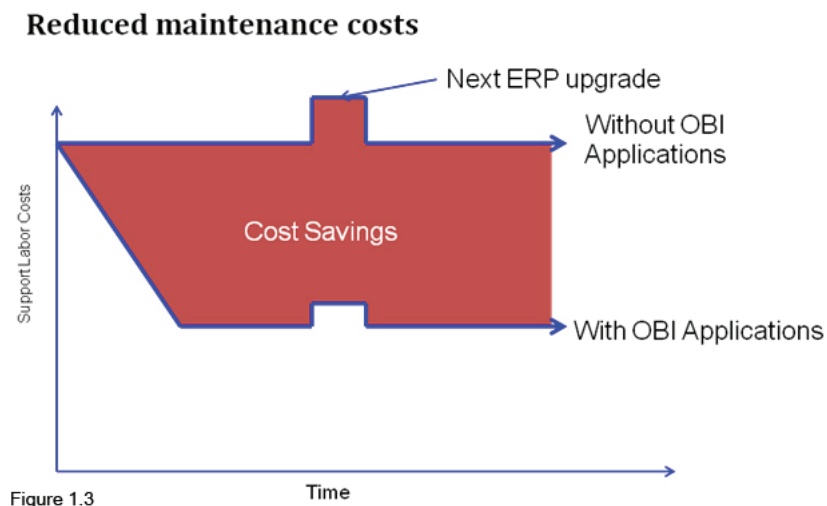
In addition to offering an easier to maintain, Oracle supported, reporting solution, Oracle BI Applications also provide many other benefits.

A. They are built on data warehousing best practices, assuring better and more predictable performance and easier capability to enhance and grow the functionality provided. Some features include:

- **An enterprise wide bus architecture data model.**
- **Automated support for slowly changing dimensions.**
- **Intelligent update and insert logic to minimize load time.**
- **Incremental extracts wherever possible to minimize load on ERP and CRM systems.**
- **Support for bulk loading tools for all supported database platforms.**
- **Support for and use of many non-additive metrics, like market shares and cycle times.**

B. Oracle understands the best place to source different metrics and attributes, minimizing the chance that a metric or attribute will be subtly different than was expected.

Figure 1.3 shows a significant decrease in maintenance cost and future upgrade efforts.



Richer, More Detailed Analytics

The Oracle BI Applications typically provide a much richer set of analytics than are seen in most custom data warehouses. These are built around industry best practices, saving IT from performing the time consuming role of becoming subject matter experts for many functional areas. The analytics provide data at the lowest level in the ERP or CRM system, removing additional workload from the ERP system. The underlying data warehouse is also designed as an enterprise data warehouse, combining metrics from different functional areas, thereby enabling business users to answer questions that pertain to multiple departments, such as “How does supplier performance affect customer satisfaction?”

Prepared for Fusion

As ERP vendors move forward, business intelligence is being further embedded into their systems, often blurring the line between ERP and BI. Oracle Fusion is an example of this, basing its infrastructure on OBIA. Implementing this allows an organization to embrace Enterprise BI now, creating an easier migration to Fusion later. With OBIA, organizations are better prepared to take advantage of upcoming Fusion functionality, and will be more accustomed to using analytics as part of a closed loop feedback mechanism to drive business processes for maximum benefit.

SELECTING THE RIGHT PARTNER

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Selecting the right partner for an ERP upgrade and OBIA implementation is imperative for a successful project. Implementing OBIA during an ERP upgrade will require a cross-functional team with the BI expertise to perform the technical implementation and both functional and technical knowledge of the ERP system to perform fit-gap analysis, perform the upgrade, define new reporting requirements and perform the data validation between ERP and OBIA.

Frequently, ERP data is exported into an Enterprise Performance Management system (EPM) for forecasting, budgeting and what-if analysis. An ideal partner should also have expertise in the key areas of ERP, Data Warehousing, OBIEE and EPM (Hyperion).

This allows for a single team to be involved from start to finish including upgrading the ERP system, implementing OBIEE and when needed integrating EPM with OBIEE to transform the transactional data from ERP into high-performance multi-dimensional cubes.

CONCLUSION

With greater demand for transparency and accountability from stakeholders and regulators, along with globalization, mergers and acquisitions, there is a greater need for inter and intra-company collaboration and improved and transparent management processes.

Executives are being held accountable for business success and failures, and therefore the imperative exists to ensure operating information is correct and consistent. They must have confidence in their process and, ultimately, in the results that they are reporting.

Implementing Oracle BI Applications during an ERP upgrade provides a centralized but flexible reporting structure for the entire organization. With less demand on the system for reporting, the ERP system can now do the job it is intended for with ease.

With a single version of truth for all reporting constituencies, an organization can now effectively utilize their data to better communicate, improve processes, and build strategies for a stronger organization.

RESOURCE LINKS

Industry Links:

- [TDWI \(The Data Warehousing Institute\)](#)

Emtec Links:

- [Emtec BI Blog](#)
- [Emtec Event Archive](#)
- [Emtec Whitepapers](#)
- [Emtec Website](#)

BIO

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Jamal is a Director of Business Intelligence at Emtec. He has been working in BI space for the past 20 years and has a keen eye for emerging technologies in this industry. Jamal has designed and implemented several large scale BI projects spanning over multiple technology stacks. Before joining the Emtec team, Jamal worked as the V.P of Consulting at 1Answer Solutions and spent the 7 years prior as an Engagement Manager at Hyperion and Brio Technologies.

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Our mission is to help our clients improve IT systems and processes – to transform IT into an investment that returns true value to their respective organizations.

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