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# Estimating the Cost of Enterprise Software System Implementations: It's Often “Buyer Beware”

White Paper

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Introduction .....	3
Cost of Ownership.....	3
Software Price, Discounting and Maintenance .....	4
The Multiplier Estimate .....	4
Efforts Required for Successful Implementation .....	5
Assumptions .....	8
Conclusion .....	9

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## Introduction

In the ever-changing world of enterprise software systems, competitive pressures have impacted the market in many ways. As the space continues to consolidate through acquisitions and partnerships, and as newer technologies emerge, software vendors and implementation consultants are adopting varying approaches and pricing strategies in order to compete. In some cases, this trend has led to lower prices. In many instances, though, both software vendors and implementation partners have adopted a very aggressive discounting and pricing strategy — often leading to unrealistic quotes and resulting in their customers spending more money over the project life cycle than anticipated.

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## Cost of Ownership

Many buyers focus on the “entry” price of software — what it will cost to purchase the software and to complete the initial implementation. What’s more important to assess is the actual cost of the solution over its expected life, or its total cost of ownership (TCO). To determine the TCO of a particular solution, a number of cost components must be considered:

- 1. The cost of the software** — the actual cost of licensing the software, including all modules and users for all phases of deployment
- 2. The cost of the hardware / infrastructure** — all hardware and infrastructure costs incurred to run the new system
- 3. The cost of the services required** — implementation and training, plus ongoing maintenance and support (in-house resources and external resources)
- 4. The cost of software maintenance** — the right to new releases of the software, service pack releases, etc., and the estimated cost in services to upgrade the solution as new versions are released
- 5. The cost of additional software** — any desktop, operating system, database software and any third-party software required

Careful consideration should be given to all cost components to determine the TCO for each solution being considered. Over the expected useful life of an enterprise software system, the total cost of ownership can vary a great deal between packages.

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## Software Price, Discounting and Maintenance

Pricing for software is generally straightforward; vendors publish list prices for their software. While software pricing strategies may vary (e.g., pricing by named users, individual users who will have access to the system, or concurrent users, the maximum number of users the system can accommodate at a given time), determining the upfront investment required for the software itself is typically much easier than accurately estimating the time and investment required to implement the software to deliver the solution as envisioned.

To compete and offer purchasing incentives, some vendors will offer significant discounts below the published list price, while others won't. Some will offer "bundles" of functionality and free modules or users, or they will work with buyers on financing options. Whatever the pricing offer, be very careful to get details regarding exactly how the costs of ongoing maintenance or upgrade rights to the software are calculated. In most cases, even if the software price is discounted, or if modules or users are included for free, the ongoing maintenance costs are not discounted. Most maintenance costs are determined based on the list price of all modules and users that are included. Regardless of the incentives offered, potential buyers should be very careful to determine exactly how ongoing maintenance costs are calculated so that they can anticipate their ongoing financial commitment. More importantly, even though software may be discounted or "free" modules or users may be included, the actual effort required to properly implement the solution does not change as the price of the software is adjusted.

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## The Multiplier Estimate

A widely accepted method of estimating the cost of services required to successfully implement an enterprise software solution is to use a multiplier of the software's list price (e.g., the services will be "x" times the software price). The value of the multiplier varies with two factors. First, consider the software solution itself, as some systems are more difficult to configure and customize than others. Second, consider the complexity of the business processes being accommodated, as efforts to customize and configure a system to accommodate complex processes increase overall cost.

Using a multiplier for estimating is very useful early in the selection process to determine if the potential cost of a particular solution is in alignment with an organization's ability and willingness to invest what is required for that solution. Many third-party analysts publish information regarding which multipliers to use for various software solutions. As more specific information is gathered through the discovery process, a more accurate estimate can be developed based on the particular requirements discussed. Potential buyers should note that in situations where the software price is discounted, or where functionality is included for free, the effort required to successfully implement that solution doesn't change. The original multiplier of software to services, based on list price of the software, still holds true. In most instances, the services piece of a solution requires the most significant investment.

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## Efforts Required for Successful Implementation

Providing a solution that truly delivers the impact that the customer envisions requires significant effort. Beyond implementation and configuration of the solution, effort must be focused on helping the customer transition from their old systems and procedures to the new solution and resulting business processes. Failure to properly transition to the new system results in user frustration, lower system adoption, increased training costs and reduced efficiency. Effort is required in a number of areas, including the up-front work required to design the solution, the actual work to install and configure the solution, any required data conversion, integration to other systems, custom report writing and modifications, proper user documentation, appropriate training, testing and “go-live” support. Failure to perform in any of these areas can undermine the success of the new system.

When choosing a software package and an implementation partner, verifying that all of these components of effort are addressed and properly estimated can have significant impact on the accuracy of quotes. Anticipating costs accurately up front will enable an organization to determine which solution delivers the best overall value for the investment and will set the proper expectations regarding the true effort and time required to successfully implement the solution.

### ■ Up-Front Discovery and Design

Time must be taken to interview key stakeholders in all areas of the organization to determine exactly what is required of the system to accommodate all necessary business processes and user requirements. Exactly how this discovery is accomplished varies somewhat, depending on the implementation methodology employed, but an accurate detailing of the current state (the system as it is today), the future state (the system as envisioned), and the “gaps” (the differences between the two) must be developed. Only then can an accurate estimate of the effort required — and the cost of that effort — be determined. For this reason, most purchases are made based on a high-level estimate of the services, and those services costs are adjusted after the initial discovery and design phases are performed.

### ■ Installation and Configuration

Actually installing the required infrastructure for the new system, installing the software and configuring it to meet the specific customer requirements require significant effort. In some cases, the buyer’s organization can handle the infrastructure work, while in others the implementation partner will perform that work. The software installation and configuration will require effort from the implementation partner. Those costs should be clearly identified and included in any implementation estimate.

### ■ Data Conversion

Data conversion can represent significant cost in transitioning to a new system. The amount of data being converted, the quality of the data and the complexity of mapping the data from the old system to the new system play greatly on the cost of data conversion. Organizations must carefully determine what data are required in the new system and what other methods might be employed to store and access historical data. In some cases, depending on the capabilities of the organization, this work can be done internally, reducing the cost of outside services. Accurately assessing the data requirements and how they will be addressed is essential in estimating the cost of a new solution.

## ■ Integration to Other Systems

In moving to a new system, careful consideration should be given to determining exactly what integrations must be made to other systems used inside and outside of the organization. The complexity and number of integrations determine exactly how much effort will be required. In many cases, new systems offer integrated components that can replace existing systems. Employing these components is often less expensive than building custom integrations and offers an easier maintenance path for the future. In some cases, a phased approach makes sense, where other systems are replaced over time. Determining which integrations are required and how much effort each integration demands will have a significant impact on the implementation estimate.

## ■ Custom Report Writing and Modifications

Most systems include a number of standard reports. In many cases, those standard reports can prove value with little or no modification. Typical organizations, though, have reporting requirements that are not handled out-of-the-box. The reporting capabilities of different systems and the complexity of developing reports on those systems can vary greatly. Careful consideration should be given to determine the reporting requirements of users in the organization, how those reports should be delivered (over the Web, via e-mail, etc.), who should generate those reports (users or someone else) and whether or not reports can be shared to accommodate the needs of multiple users. Service estimates should clearly define what reports are to be developed and included in the initial implementation effort.

## ■ User Documentation

User documentation is critical as an organization brings on new users and works to maintain or change the system over time. The amount and quality of the documentation can vary greatly from vendor to vendor and from one implementation partner to the next. Effort must be made to determine exactly what documentation is included and to what degree that documentation will reflect the system as configured, as opposed to out-of-the-box system documentation. Appropriate documentation is essential. The effort required to develop appropriate documentation should be carefully determined and included in the services estimate.

## ■ Training

User training is critical in fostering user adoption and in developing user efficiency. In determining training requirements, careful consideration should be given to many factors — including user sophistication, varying user roles, user location, and the number of users. Various training methods can be employed — online, classroom, Web-based, etc. Sometimes, a “train-the-trainer” approach can be effective. Regardless of approach, training requirements and costs should be carefully determined and included in any estimate of services.

## ■ Testing

Testing is critical to ensuring that a new system will satisfy the needs of the organization. Proper testing requires effort that must be addressed in any cost estimate. Testing falls into two broad categories, functional and performance testing:

- **Functional Testing** includes unit testing, where each component of the system is tested to make sure that it works independently; integration testing, where each component is tested to verify that it maps to the business process of the organization; and regression testing, where each component is tested to verify that it doesn't interfere with other components.
- **Performance Testing** includes speed testing, which verifies that the system functions quickly enough, and load testing, which verifies that the system can efficiently handle the number of transactions required.

## ■ Go-Live Support

The support at go-live should be carefully considered in determining implementation costs. The number of consultants on-site and off, how long the consultants are available and how they will handle issues can dramatically affect the cost estimates for this support. Every effort must be made to clarify exactly how go-live support will be handled and what costs are associated with that support.

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## Assumptions

Determining the true efforts required in these areas is often difficult until the first phases of the methodology are conducted. All vendors must make some assumptions in estimating the effort required in implementing a solution. Sometimes vendors with aggressive pricing tactics use unrealistic assumptions and best-case scenarios in estimating the required services investment for their customers. The abuse of assumptions is a way to lower the initial services estimate, making the bid more attractive to potential customers. If the assumptions are off base, the customer may ultimately invest significantly more money and time than anticipated to implement the solution as required to accommodate the organization's business processes. A potential buyer must make every effort to identify what assumptions are made in any estimate of services and to determine if those assumptions are reasonable and accurate.

In addition to the areas of effort discussed to this point, additional assumptions are made that can have a dramatic impact on the cost of the implementation and how quickly the implementation can be completed. Other critical areas where assumptions are often employed are:

### ■ Availability of Key Functional and Technical Staff

Participation of an organization's internal staff is critical to the success of the system implementation. Key staff members hold information and experience needed for a successful implementation. Because these staff members already have full-time jobs, they often find it difficult to free up the time required to participate in the implementation as needed. If internal team members are not available to assist, the project is put at risk, resulting in delays and increased costs.

To avoid making erroneous assumptions, ask the following key questions: What work will be done by internal staff versus consultants? Can internal staff truly dedicate the required time and be available when needed? If the organization's staff is not available as planned, what costs are associated with having the consulting organization perform the work? Realistic estimates regarding internal staff availability are essential in estimating implementation costs and how long the implementation will take.

### ■ Travel Costs

Air travel, rental cars, hotels and meals can add significant cost to the implementation of a new system. Clarifying exactly where the consulting resources are actually based (not necessarily where the implementation organization's office is located) is critical in estimating these costs. Also, estimating the on-site time of the consultants and how they handle travel arrangements is critical. A reasonable estimate of travel costs should be reflected in any estimate of the total implementation cost.

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## Conclusion

Because most organizations do not buy enterprise software systems very often, they are sometimes forced to rely upon the expertise and recommendations of software and services vendors as they budget for, select and implement new solutions. In many cases, the assumptions made by the vendors as they prepare their quote do not accurately reflect the buyer's needs, capabilities and expectations. Ultimately, if the assumptions are off base, or if significant effort required in the implementation is not included in the proposal, the project is at risk of running over budget and taking more time than anticipated.

To protect themselves from unanticipated costs and unrealistic expectations, buyers should do the following:

### ■ Ask for Detail

Discuss all assumptions and tasks included in proposals and estimates to determine the rationale behind each. Ask exactly what will be accomplished, what the deliverables are, how many hours of service each task will require and what role your staff will play. Armed with these details, you can better assess whether your needs will be met as projected.

### ■ Compare Apples to Apples

When reviewing proposals and estimates from more than one vendor, compare them to determine if the assumptions made or tasks included vary significantly. If so, discuss the assumptions and tasks directly with each vendor to determine why they proposed as they did. Adjust the assumptions and required effort to a realistic level based on their feedback and your knowledge of your organization's needs, and recalculate the estimate.

### ■ Check References

Once you've done your due diligence, and have determined which solution and service provider best suits your needs, ask for references. Verify that the vendor and service provider delivered solutions that met other buyers' expectations, and that the investment and time required to deliver the solutions were in reasonable alignment with each estimate and proposal.

### ■ Seek Professional Assistance

Doing a complete "discovery" — determining the current state, the future state and the "gaps" between — is critical in every implementation project. Organizations often select a system and a services partner based on high-level discovery and proof — and make a commitment before the detailed discovery is performed. Once the solution and system are selected, the implementation partner conducts the discovery as part of the implementation. This process can confine the discovery to determining how the solution selected will accommodate the business processes, rather than allowing for an objective look at how the process should actually work.

Some consideration should be given to hiring an experienced consulting organization to do the discovery up front, before a package is selected. This discovery will be required on every implementation, regardless of the package selected. By investing in these services on the front end, the buyer arms his or her organization with the unbiased information necessary to select the best solution to fulfill its needs and to accurately estimate cost and implementation time — before commitments are made to a software and services vendor. The information is then focused on the needs of the organization, not limited by the capabilities of a particular solution.

Oftentimes, in-house teams don't have the relevant experience required to map the organization's business requirements to the newer technologies available. Consulting firms with teams experienced in this area can usually deliver great value. The information provided also offers the buyer an opportunity to compare each potential solution to a specific set of criteria that reflect the buyer's true needs.

By taking an active role in assuring that all assumptions in a proposal are valid and that all required efforts are included in every estimate and proposal, buyers of enterprise software systems can significantly enhance their ability to truly estimate the cost and implementation time required for various solutions. Armed with that information, they can choose the solution that best satisfies their organizations' needs and can limit unexpected expenditures and delays in implementing the new systems. Accurate estimates lead to realistic expectations. Proper management of expectations contributes significantly to the success of any project.

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