ERP Software Selection: Getting It Right

Finding, configuring and implementing best-fit enterprise software requires a methodical approach that starts with custom vs. packaged evaluations and includes a searching assessment of organizational needs, vendor strengths and weaknesses and competitor strategies.

Executive Summary

Manufacturing organizations embark upon enterprise system implementation or development programs for multiple reasons. The primary motivations include:

• **Business transformation:** Top management decides to undertake a program to significantly raise the top line or bottom line.

• **Business process harmonization:** Similar to a business transformation exercise but at a scale where the objective is to generate process benefits and harmonize activities across the organization.

• **Technology upgrade/replacement of legacy system:** Initiated by the IT organization to replace an end-of-life product or service with similar functionality and reduce application management costs (AMC) and total cost of ownership (TCO).

The primary question that decision makers often face is whether to develop a custom solution or implement a packaged solution. While there are complex and unique business scenarios that merit the development of custom solutions, most organizations will benefit from a packaged enterprise systems solution for various reasons:

• Shorter implementation timelines.

• The opportunity to adopt industry best practices.

• Packaged ERP solutions are well proven and stable.

• Better systems documentation.

• Established upgrade roadmap.

• Easier and cheaper to maintain.

• Availability of skilled resources.

However, ERP package selection is a complicated exercise. There is a myriad of ERP application packages available in the market with a range of deployment options. Moreover, most ERP packages claim to offer comprehensive, but similar, functionality.

The objective of this paper is to outline key issues faced by organizations selecting ERP packages and present a set of guiding principles that increase the odds of a successful implementation.

When ERP Package Selection Goes Wrong

Selecting an inappropriate ERP package can result in a plethora of problems. An ERP system that is not a right fit tends to weigh down the entire organization. There is the tendency on the part of people to generate alternative manual approaches and work around ERP system ineffi-
ciencies. This can compromise security and audit requirements and have a debilitating effect on employee morale.

The financial consequence of selecting a wrong ERP is significant. There are examples of manufacturers spending substantial amounts of time and money on ERP implementations only to realize that a different ERP system would have been a better fit.

Figure 1 provides a snapshot of key issues associated with selecting the wrong ERP package.

Benefits of Getting It Right

On the brighter side, there are benefits of getting it right. When implemented effectively, ERP can improve alignment of processes with organizational strategy, reduce costs and improve productivity. An Aberdeen group study estimated that best-in-class ERP implementations reduced inventory by as much as 22% and operating costs by as much as 20%. Figure 2 provides a snapshot of benefits of a successful ERP implementation based on a 2011 Aberdeen report.

Why ERP Selection Is Difficult

The ERP software space is crowded with multiple vendors and represents a worldwide market size of more than $45 billion in annual revenue.

What makes it even more complicated for an organization evaluating ERP options is that there is a shift in the ERP market itself. Forrester reports three key trends shaping the ERP market:

Figure 1

The Outcome of Bad ERP Selection

Figure 2

• More choice in how to consume ERP apps – e.g., hosting, partner hosting or pure software as a service (SaaS).
• Increased flexibility in tailoring ERP apps by incorporating graphical workflow/business process management tools.
• More access to data held in ERP apps by making these apps user-friendly and adding advanced analytics capabilities.

These developments mean a mind-boggling amount of choice for the ERP buyer. ERP package selectors now grapple with issues such as:

• How to evaluate packages?
• What selection criteria should be used?
• How to ensure the ERP product complements the organizational business strategy?
• What is more important to assess – process breadth or depth?
• How to minimize the impact of change on the ground staff and ensure business as usual continues?
• How to manage change?
• How to ensure the project stays within the overall budget?
• How best to approach the executive decision committee with a proposal for the new ERP package?

Guiding Principles for ERP Package Selection

Figure 3

Key Guiding Principles for ERP Package Selection

The following sections of this paper offer a unique perspective gained from assisting multiple organizations to select ERP packages across different industries facing various business imperatives. While every package evaluation is unique, what follows are key guiding principles buyers should consider to bolster ERP package selection success (see Figure 3 for a consolidated view).

• **Combine package selection with business transformation.** When asked in an Aberdeen Group survey about the top reasons for replacing the current system with an ERP system, respondents revealed some clear trends. All companies were concerned about “feature fit,” with well over half of all companies listing this as a top reason for system replacement. The second most common reason was the need for “technology modernization.”

Given this background, it is easy for companies to fall into the trap of treating package selection as a “technology” project. By doing so, we believe, organizations miss a great opportunity to transform their business processes. Organizations that base the package selection exercise on proposed future-state processes – incorporating process improvements, rather than current-state processes – are better positioned to reap maximum benefits from an ERP implementation. In addition, by realizing that technology is a means to a business “end,” companies increase the odds that the ERP implementation will not only address true business needs but will gain greater user acceptance within the organization.

A critical question to ask before selecting an ERP system is “What is my organization’s strategic motivation for the ERP project?” As previously mentioned, most ERP initiatives tend to be driven by either business or IT motivations. If the strategic motivation stems from process or organization issues, and not just IT concerns, this more comprehensive approach to package evaluation will greatly benefit the organization. Also, it is imperative to define a business case to quantify the cost benefits of implementing an ERP system.

• **Don’t boil the ocean.** When embarking upon a package selection process, it is tempting to consider a wide array of packages for the baseline list. Apart from more than a dozen mainstream ERP packages, there are numerous industry-specific variants.
Shortlisting more than four or five ERP solutions for detailed analysis, however, has the adverse effect of reducing the focus on specific package functionality. Selecting a package based on a high-level assessment might result in a wrong ERP package selected and configured.

We recommend that package selection teams conduct a preliminary exercise to determine a few key ERP vendor candidates for in-depth consideration. To determine this baseline list, consider the following:

- **Industry fit:** Do you have unique requirements? Are you weighing generic ERP vs. industry-specific packages? Do the vendors have reference customers of the same size as you are?

- **Core strengths:** What are your core strengths? How best can you enable these via the ERP package? Does the package complement your production and delivery systems (i.e., made to order or made to stock)?

- **Industry norms:** What ERP packages are generally popular within your industry?

- **Vendor sustainability:** Does your organization have an existing relationship with the vendor? If not, can one be created?

- **Establish what makes your organization different.** It is easy to fall into the trap of evaluating potential solutions based on organization-wide processes. This approach has two issues associated with it; one, the effort involved in evaluating solutions is much greater, and two, the solution might not necessarily support the organization’s most critical processes.

We recommend that an organization make a list of all critical processes that differentiate itself from its competitors (e.g., mixed model planning for an automotive manufacturer, or timber processing for a wholesale building material distributor). A detailed analysis of these processes and their associated requirements will ensure that the package evaluation is done on the basis of processes that are most critical to the organization.

While the process of identifying critical processes for an organization needs to be tailored to each organization, there are some common starting points. If the organization has documented business processes in a past study, this can be used as a starting point for the list of processes. If processes have never been documented in the past, industry standard process frameworks like APQC and SCOR can be useful for creating a base list of critical business processes.

In addition to the above, several other factors need to be considered in ensuring that the ERP has the proper “fit.” These include:

- Ability to reskill existing staff, if needed.
- Process maturity.
- Aversion to change within the organization.
- History of past ERP successes/failures.

- **Usability is important too!** It has been documented in surveys that manufacturing professionals don’t view enterprise applications as very easy or intuitive to use (see Figure 4).

### ERP Usability Assessment

![Percent of survey respondents](image)

Source: Usability and Agility of ERP Solutions, IFS North America. 
Figure 4
Only 10% agree that when dealing with complex business issues, enterprise applications are very easy and intuitive. Another 37% say enterprise applications are somewhat easy for straightforward tasks but more difficult for advanced usage. The other half of respondents view enterprise applications as being difficult to use.

It should be clear then that the evaluation process for ERP systems must consider usability as a critical success factor. In order to assess the usability of a system, the organization should set various evaluation parameters based on factors such as:

- **Ease of use and intuitiveness**: Transactions should be designed to lead the user through a procedural flow—prompting for data entry rather than relying on the user to know that data entry is required.

- **Common navigation techniques**: Use of mouse-independent support with configurable function and navigation keys.

- **Access to information**: Ability to display relevant information supporting the type of transaction on-screen and the availability of options to drill down into granular levels of detail on demand.

- **Coherence**: Coherent look and feel across various areas/modules within an ERP. For example, similar screens for sales and purchasing that enable consistency between functions.

- **Customizability**: Flexibility to customize content and flow to suit varying business scenarios without having to interfere with the core software product.

Other aspects that require consideration while evaluating usability are:

- **End-user profile**: The needs of an IT staff member will be very different from that of a sales till operator.

- **Size of user base**: If the user base is small, it might be possible to train the users in a more complex system without compromising the overall benefit of the implementation.

- **Frequency of use**: Usability will not pose as significant a factor when a sparingly used application is concerned.

- **Business criticality**: In the case of very business critical functions, even if an application may be sparingly used—by, say, one individual—sufficient focus must be given to usability.

- **Place of application**: The same business functionality may require different usability requirements based on the place of application (e.g., entering a sales order across the counter vs. creating an order while standing in the yard).

- **See, touch and feel the solution**: It is not sufficient for organizations to just analyze software solution brochures or obtain a high-level assessment of requirements by the vendor. It is important that the vendors participating in the evaluation are able to present their capabilities in these required areas. Ideally, vendors must be provided with sample scenarios based on real-life situations, to present their capabilities. ERP package vendors should be asked to demonstrate these scenarios through demos/workshops. These demos should be assessed by a cross-functional team of IT and business experts.

While such an assessment requires investment in the form of time and money, this is insignificant compared with the business costs and risks of getting it wrong!

- **Lifecycle TCO**: A *Harvard Business Review* study of budgets of 1471 enterprise system projects found that the average cost overrun was 27%.

This underscores the importance of estimating costs when selecting an ERP package. The evaluation process must result in quantifiable and comparable measures. The assessment process should evaluate the fit of each vendor’s solution to functional requirements and usability parameters and translate the same into effort required and associated with monetary value. A dipstick assessment of the vendor’s analysis of the effort by evaluating demonstration scenarios is recommended. This will help in determining whether the vendor’s evaluation is over- or underestimated so necessary corrections can be made.

The total cost calculation must include parameters such as:

- Hardware cost.
- Software cost.
- Licensing cost (both hardware and software).
- Training and change management cost.
Cost of allocation of internal resources.

Cost due to business disruption (e.g., days or hours of stoppage, loss of trade due to implementation, etc.).

Application management costs.

Integration costs.

Costs should also be split into one-time and recurring costs. Recurring costs must be calculated for the expected usable life of the software.

- **Business case along with package selection.**

  In 2011, Ingram Micro, a distributor of systems hardware and software, reported two consecutive quarters of profit shortfalls which it blamed on problems incurred during an ERP implementation in Australia. There are other instances of ERP implementations not yielding expected results. Most of these problems indicate a failure in identifying the associated costs and the potential benefits from an ERP implementation.

  Two fundamental approaches can be used to create a business case for ERP — qualitative and quantitative assessment. These represent the two ends of a spectrum. Qualitative assessments are usually based on instincts and gut feel, whereas quantitative assessments are methodical and based on available data. While the former approach can be conducted quickly and cover a larger scope of processes, the latter will provide greater insight into actual benefits. It is a good practice to use both approaches as a filtering process, starting with qualitative assessment and then proceeding towards quantitative assessment for a select few areas that are deemed high benefit.

  **Envision, Measure and Execute**

  Taking a strategic view of the package evaluation engagement is a prerequisite to achieving the desired results from such an exercise.

  This means outlining the vision of success for an ERP during the package evaluation exercise and realizing that things can never be perfect. As long as the solution can be adapted, there is merit to proceeding with an implementation. Outlining the vision needs to be followed by effective execution to ensure organizational goals are met.

  **Envision: Outlining the vision of success.** It is critical to identify baseline parameters to be used as success measurement criteria post implementation. This is especially important in large, multisite ERP implementations where there is scope for fine-tuning future rollouts based on measurements of success.

  According to the previously cited Aberdeen report, best-in-class companies are almost twice as likely as other companies to use quantifiable benefits to measure an ERP implementation. Those same companies are also more likely to measure a return on investment on an ERP system.

  **Measure: Benchmark and measure KPIs.**

  Once the success measurement criteria have been defined, it is recommended that organizations keep track of KPIs that may be impacted when the system goes live and have a measurement process to ensure that success is reported. If the impact on metrics is above or below expectation, then corrective action should be taken. For instance, if the goal of an organization is inventory reduction, corrective action might be needed in other areas that influence inventory management (e.g., better supplier relationships for achieving lead time reduction that would reduce safety stocks).

  KPIs measured should include business and technology gauges from a customer and internal perspective. Examples on the customer-facing side include perfect order fulfillment, delivery lead times and customer satisfaction scores. Internal KPIs include metrics such as inventory days, total supply chain management cost and outbound logistics costs — all of which provide great perspective on how the ERP implementation impacts organizational efficiency. On the technology side, implementation costs, AMC, number of resources supporting niche technologies, etc. are useful to measure costs and risks.

  **Execute: There is a cost to not doing anything!** Considering the complexity involved in selecting ERP solutions, it is not surprising that many ERP selection decisions are stalled for want of more information.
The dimension that is often overlooked is the cost and risk associated with business delays. If the organization is currently running an outdated system, lost sales, excess inventory and high system maintenance costs can and often do result. Organizations must realize that no ERP system is perfect. The goal of the ERP selection exercise is to select a system that can be successfully adapted to the business in time to generate business value.

Footnotes
1 ERP Selection: Starting out on the right foot, Aberdeen Group, 2011.
3 ERP Selection: Starting out on the right foot, Aberdeen Group, 2011.
4 http://www.apqc.org/
6 Usability and Agility of ERP Solutions, IFS North America.
7 Why Your IT Project May Be Riskier Than You Think, Harvard Business Review.
8 ERP Selection: Starting out on the right foot, Aberdeen Group, 2011.

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